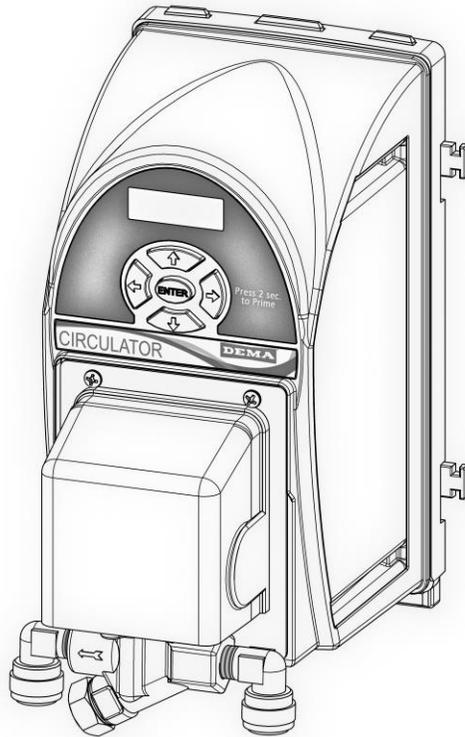


# Circulator

## 2509A.02

### Programmable Solenoid Circulator/Dispenser



## Overview

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The DEMA® Circulator is an electronically controlled solenoid valve to circulate or dispense potable water or chemicals. The system is designed to operate with an included wall mount, 12VDC power supply.

## Warnings

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Installation of DEMA products must meet all applicable electrical codes and regulations established by national, city, county, parish, provincial or other agencies. It is possible that electrical codes and regulations require that a certified electrical contractor or engineer perform the electrical installation. For questions, contact a certified electrician.



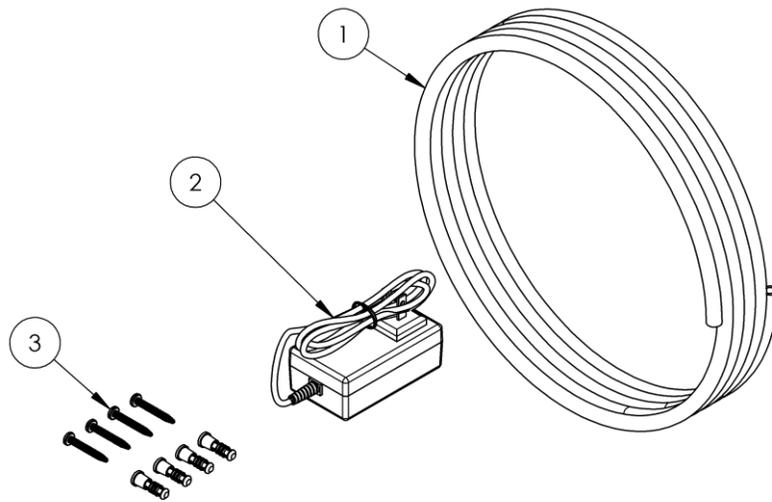
All installations must conform to local plumbing codes and use approved backflow prevention devices. A pressure indicating tee is to be installed with existing faucets according to local plumbing codes in the state of Wisconsin and any other state that requires the use of a pressure indicating tee.



ALWAYS WEAR PROTECTIVE CLOTHING AND EYEWEAR WHEN WORKING WITH CHEMICAL PRODUCTS.

# Packing Kit List

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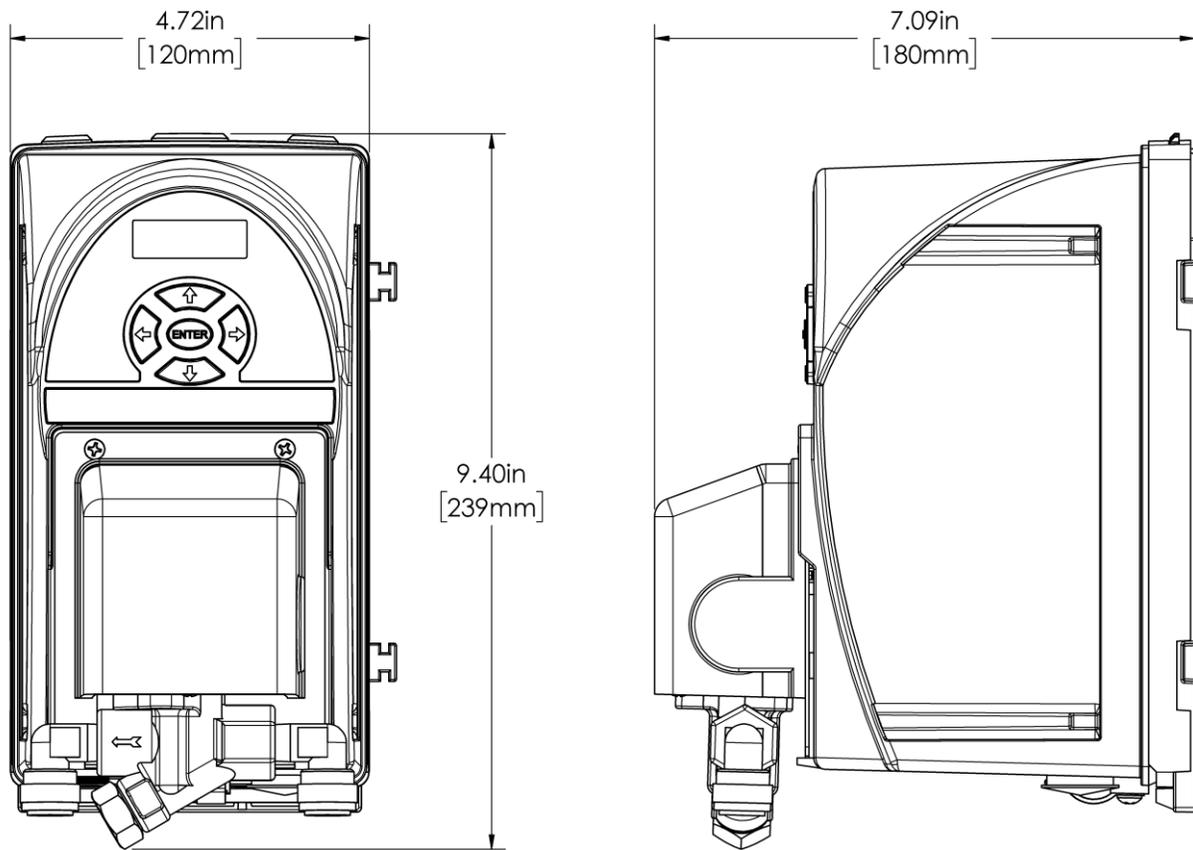


Item No.	DEMA Part No.	Description	Qty.
1	25-68-20	1/4" LDPE Tubing 20 feet	1
2	25-236-01	AC Adapter U.S.A. 120 Volt	1
	25-236-02	AC Adapter International 120-240 Volt	1
3	66-123	#8 Screw & Anchor Kit (4 pack)	1

# Operational Requirements

FOR INDOOR USE ONLY		
Main Power	12 VDC - 2.0A min 115 VAC or 100-240 VAC wall adapters	
Solenoid Coil Rating	12VDC – 10W	
Valve	¼" NPT, 125 PSI, CV = 1, #60 MESH SCREEN	
Enclosure Material	ABS	
Shipping Wt. (AC)	2.3 kg	5.0 lbs.
Installed Wt. (AC)	1.3 kg	2.7 lbs.

# Overall Size



# Installation

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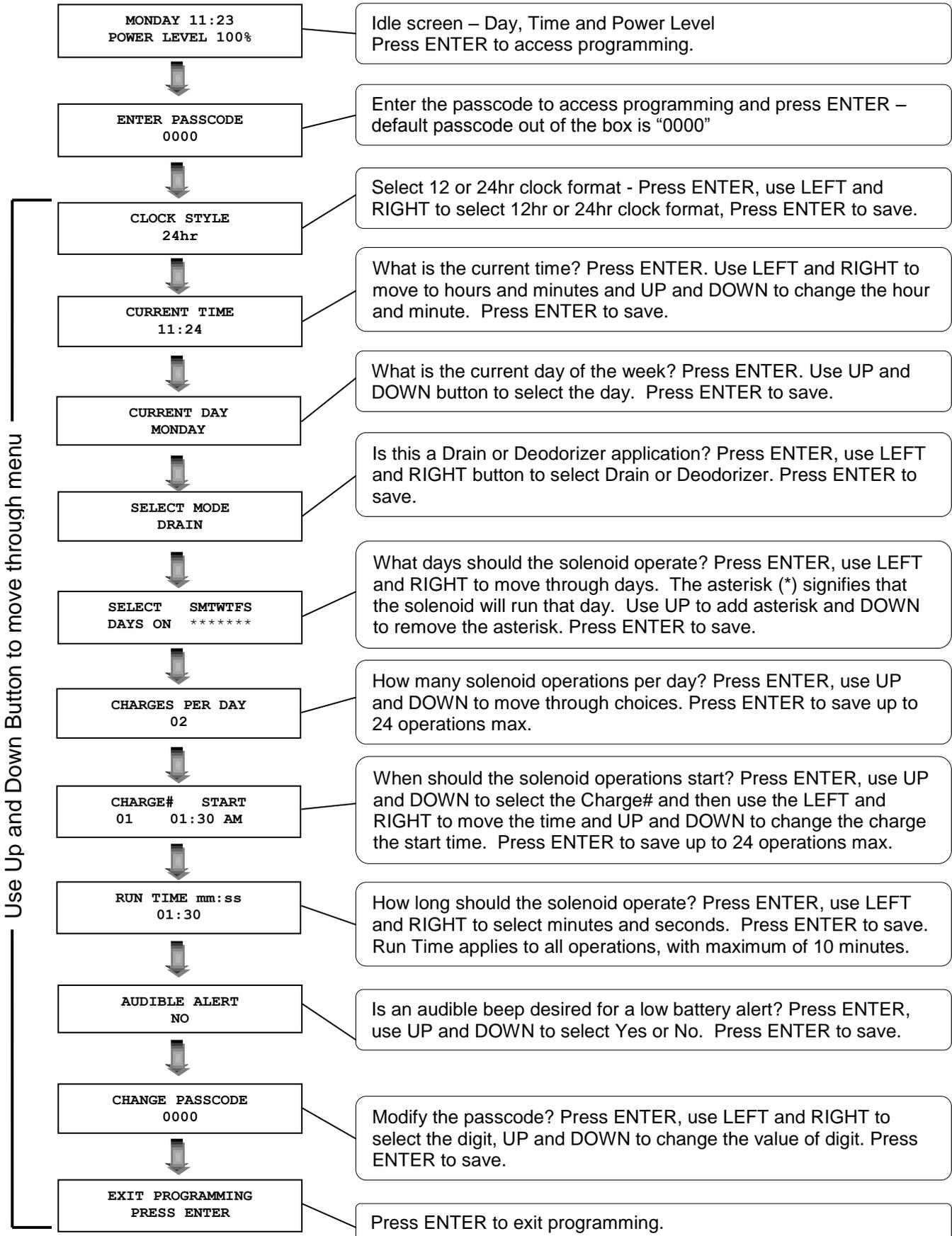
**WARNING: INSTALLATION OF DEMA PRODUCTS MUST MEET ALL APPLICABLE ELECTRICAL CODES AND REGULATIONS ESTABLISHED BY NATIONAL, CITY, COUNTY, PARISH, PROVINCIAL OR OTHER AGENCIES. IT IS POSSIBLE THAT ELECTRICAL CODES AND REGULATIONS REQUIRE THAT A CERTIFIED ELECTRICAL CONTRACTOR OR ENGINEER PERFORM THE ELECTRICAL INSTALLATION. FOR QUESTIONS, CONTACT A CERTIFIED ELECTRICIAN.**

1. Determine a suitable location to mount Circulator. The following should be considered:
  - a. tubing going to and from the solenoid
  - b. water source location
  - c. point of use locations
  - d. electrical outlet for AC power
2. Attach the mounting bracket (included) for the Circulator using appropriate screws and wall anchors.
3. Mount the Circulator solenoid enclosure on the mounting bracket.
  - a. Install and connect the fluid supply to the inlet end of the valve. Circulator is setup to use ¼” LLDPE tubing (Linear Low Density Polyethylene).
  - b. Install and connect the solenoid outlet to the tubing where flow is required.
4. Apply power to the Circulator by plugging the 115/230VAC wall power plug to the round electrical power connector on the bottom of the Circulator.
  - a. There is a plastic clip near the power connector to retain the power cable. This will help prevent the power line from coming disconnected.
5. Program the Circulator (see programming section in this instruction manual).
6. Prime the line (manual rinse)
  - a. Press any button 1 time to wake up the control.
  - b. With the display on, press and hold the right arrow for 2 seconds to start priming/rinsing.
  - c. Press again to stop priming/rinsing.
7. Determine the type of event scheduling the installation needs and program using the instructions below.
  - a. The Circulator has two operating modes to choose from: Drain and Deodorize. It is recommended to use the Drain mode.
  - b. Drain Schedule: Set specific times of day for the solenoid to operate. The length of time the solenoid operates is adjustable. The length of time is the same for all specific times of day.
  - c. Deodorize Schedule: The amount of time between recurring solenoid operations is adjusted. A start time and end time are chosen to create a window of time where the solenoid operations occur (this can be all day or just several hours). Length of time of solenoid opening is adjustable and is the same for each operation.

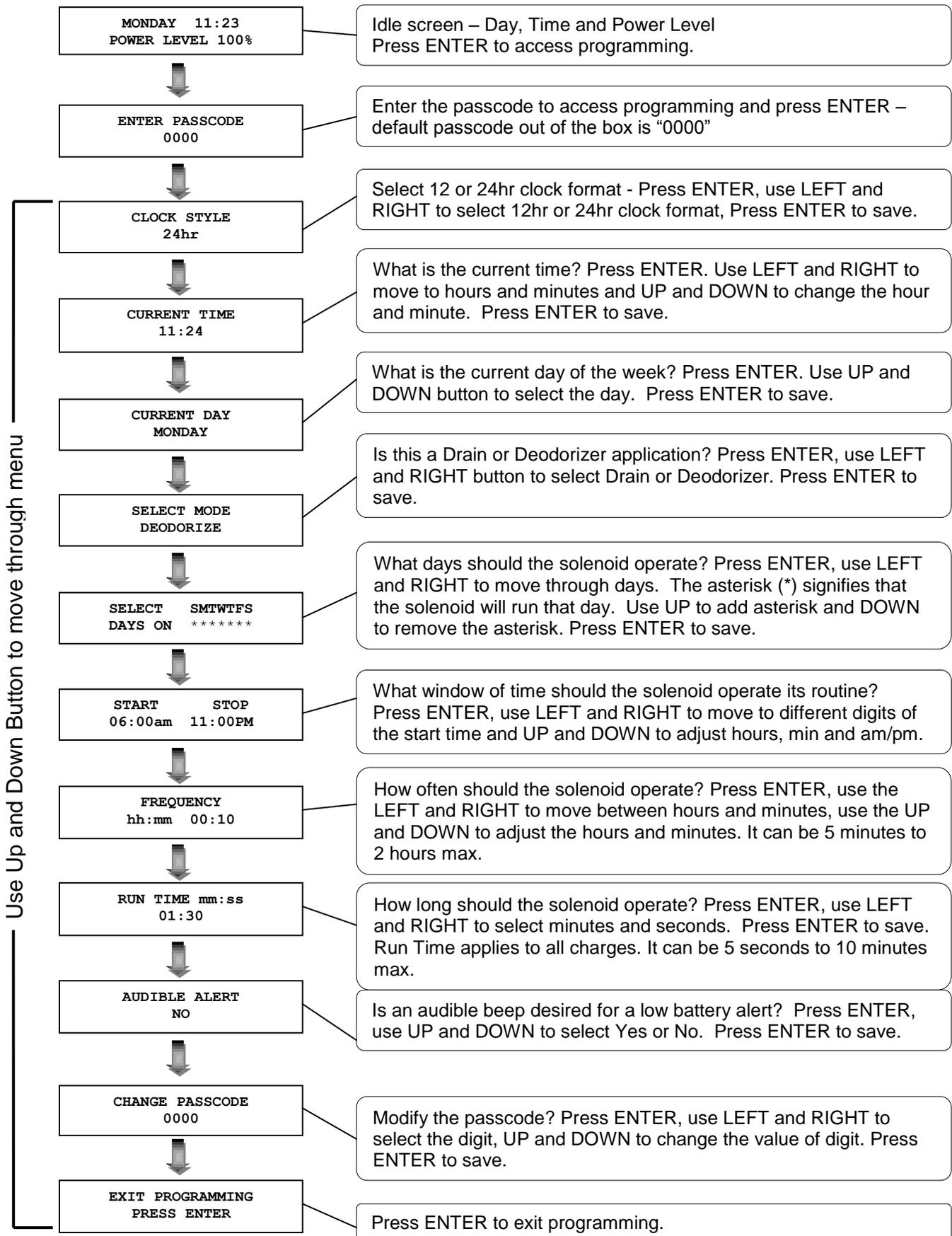


**IMPROPER PLUMBING MATERIALS AND INSTALLATION CAN RESULT IN WATER DAMAGE FROM LEAKS OR FAILURE. DO NOT PLACE THE INLET OR OUTLET TUBING/PLUMBING UNDER STRESS AT THE FITTINGS. DO NOT SUPPLY THE VALVE WITH FLUID AT TEMPERATURES ABOVE 140°F (60°C) OR PRESSURES ABOVE 55PSI (379KPa)**

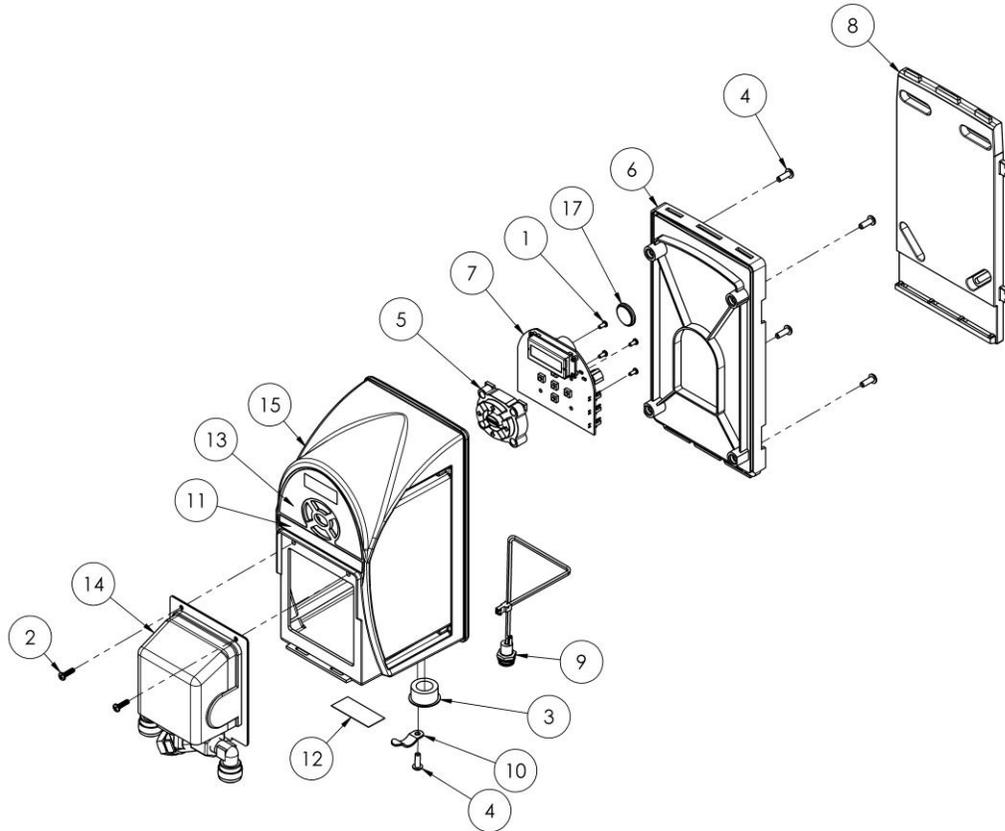
# Programming for Drain Application



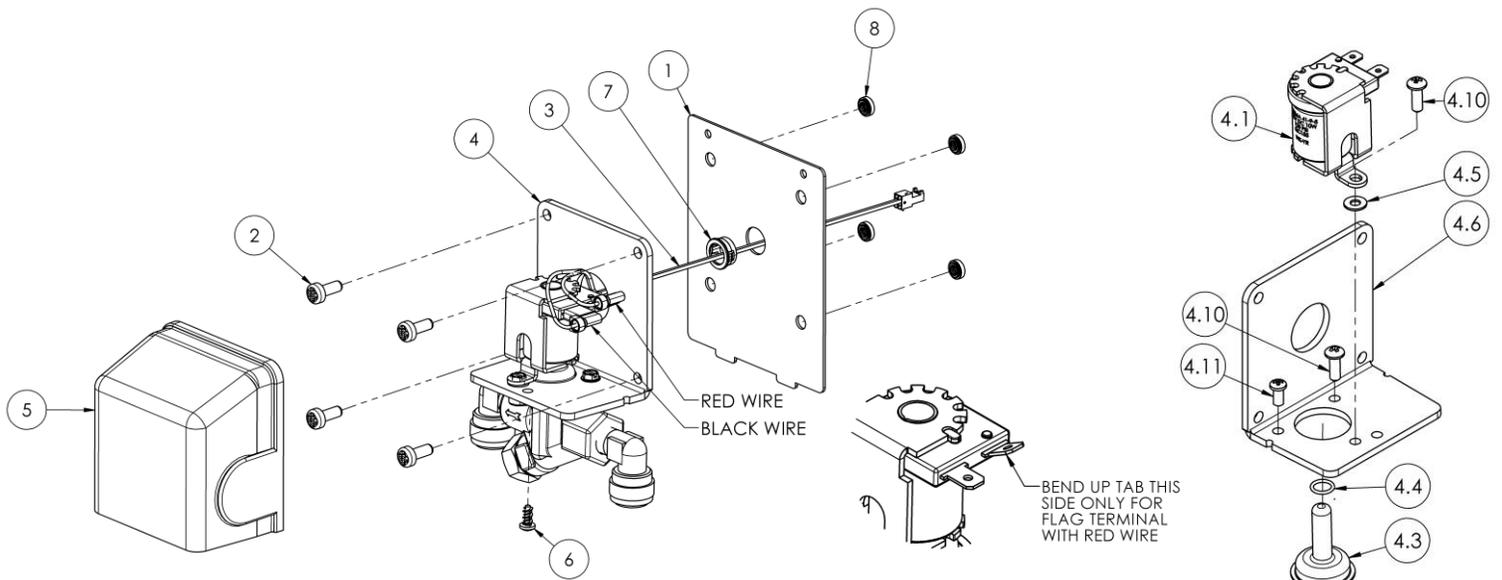
# Programming for Deodorizing Application (Deodorizer Mode not Recommended)



# Replacement Parts and Reference Information



<b>Valve/Control Module Replacement Parts</b>			
<b>Item No.</b>	<b>DEMA Part No.</b>	<b>Description</b>	<b>Qty.</b>
1	81.20.1	#4 x 1/4" Stainless Steel Screw	4
2	41.40.2	#6-32 x 1/2 Stainless Steel Screw	2
3	81.47.4	7/8" Hole Plug	1
4	44.116.1	#8 x 1/2" Stainless Steel Screw	5
5	81.147.1	5-Button Rubber Keypad	1
6	25.228.1	Housing - Rear	1
7	25.231.1	Control Board	1
8	25.227.1	Wall Mounting Bracket	1
9	25.252.1	Power Inlet, DC	1
10	25.232.1	Retainer Spring Clip - Nylon	1
11	L1733.3	Label, Banner (Circulator)	1
12	L1710.1	Rating Label	1
13	L1719.1	Upper Label - Control	1
14	SEE TABLE (next page)	Valve Assembly (with bracket & wiring)	1
15	25.229.1	Housing - Front	1
16	81.16.1	Tie Wrap (not shown)	3
17	80.99	Battery	1



### Valve Assembly Replacement Parts

Item No.	DEMA Part No.	Description	Qty.
1	84.263.1	Pump Plate (white powder coat) (must include 4 pem nuts)	1
	84.263.2	Pump Plate (stainless steel) (must include 4 pem nuts)	
2	25.85.2	Screw #10-32 x 1/2	4
3	25.253.2	Power Cable	1
4	44.123.21B	Valve Assy. (metal body, 1/4" John Guest elbows)	2
	44.123.21	Valve Assy. (Celcon plastic body, 1/4" John Guest elbows)	
5	44.125	Solenoid Cover	1
6	44.116.2	#8 x 3/8" Stainless Steel Screw	1
7	61.14	Bushing -1/2"	1
8	40.918.1	Pem Nut, #10-32 (installed to pump plate in field)	4
4.1	41.9.5.2	Coil, 12VDC, 10W	1
4.2	61.78	Spring/Plunger/Diaphragm Kit	1
4.3	41.7.25	Enclosing Tube (Stem)	1
4.4	41.34	Spacer Ring	1
4.5	41.41	Nylon Washer	1
4.6	44.135.1	Solenoid Bracket	1
4.7	41.36.1	Strainer Screen	1
4.8	41.5.8	O-ring Seal	1
4.9	41.35	Screen Cap	1
4.10	41.16.7	#8 x 32 X 3/8" Stainless Steel Hex Screw (for metal valve)	2
	41.116.1	#8 x 1/2" Stainless Steel Ph. Pan Head Screw (for Celcon valve)	
4.11	41.16.7	#8 x 32 X 3/8" Stainless Steel Hex Screw (for metal valve)	1
	41.116.2	#8 x 3/8" Stainless Steel Ph. Pan Head Screw (for Celcon valve)	

# Warranty

## Merchandise Returns

*No Merchandise will be Returned for Credit Without DEMA'S Written Permission. Returned Merchandise Authorization Number is Required in Advance of Return.*

## Product Warranty

DEMA products are warranted against defective material and workmanship under normal use and service for one year from the date of manufacture. This limited warranty does not apply to any products that have a normal life shorter than one year or failure and damage caused by chemicals, corrosion, physical abuse, or misapplication. Rubber and synthetic rubber parts such as "O"-rings, diaphragms, PVC tubing, and gaskets are considered expendable and are not covered under warranty. This warranty is extended only to the original buyer of DEMA products. If products are altered or repaired without prior approval of DEMA, this warranty is void.

Defective units or parts should be returned to the factory with transportation prepaid. If inspection shows them to be defective, they will be repaired or replaced without charge, F.O.B. factory. DEMA assumes no liability for damages. Return merchandise authorization number must be granted in advance of returned units for repair or replacement (See "Merchandise Returns" above).