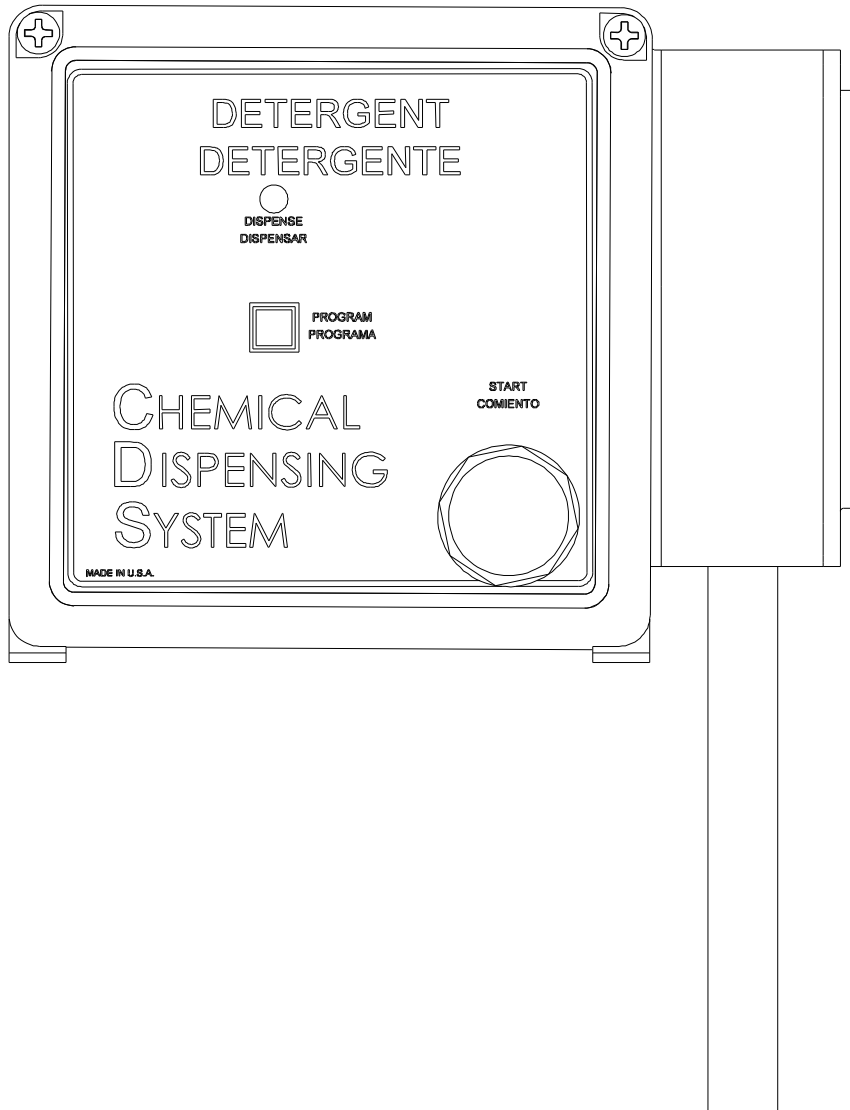


# DEMA DC830 TMP-I (Timed Metering Pump) Installation Instructions

DairyClean DC830 TMP-I



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## Installation Instructions

### SYSTEM OVERVIEW

The DEMA DC830 TMP-I (Timed Metering Pump) is based on reliable components that have been used in the field for over ten years. The unit has the following features:

- 40 oz/minute pumps
- EPDM Tubing
- Activates by either button or direct wired signal from wash control
- Delay time up to 255 minutes
- Run time up to 4 minutes 15 seconds
- Lockout time up to 75 minutes

**Please read all instructions before proceeding with the TMP-I installation.**

### FACILITY SURVEY

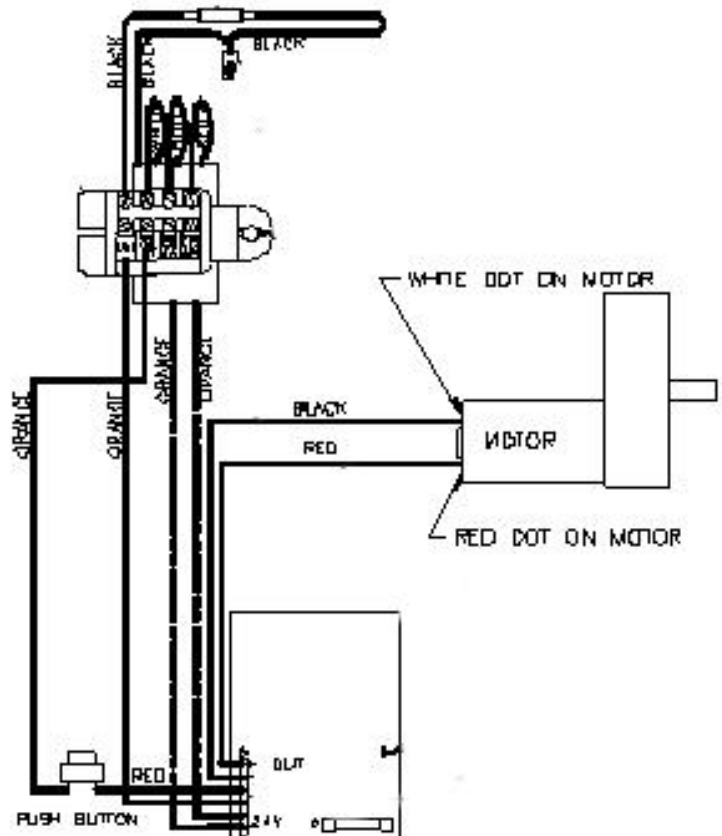
A complete survey of the facility or installation site should be completed in advance of starting the TMP-I installation.

1. Locate the power connection points on the CIP. This power must be between 95 and 250 volts 50/60Hz.
2. Select a location to mount the TMP-I on a wall that will allow access to the chemical product containers and the *chemical injection points on the CIP vat/vessel. The TMP-I should not be placed where steam vapor will condense on the unit.*
3. Mount the TMP-I on a wall by use of the supplied hanger kit and screw and anchor kit.

### ELECTRICAL INSTALLATION

All installations must be in accordance with city, county, state, parish or provincial electrical codes and be performed by a certified electrician. For questions, please contact a local licensed electrical contractor.

1. Before going any further, all electrical power must be turned off to the CIP and any other circuit that is to be used for this installation. Lockout and Tag procedures should be observed when installing this device. Never open the TMP-I unless power has been turned off. Signals may be present from the CIP wash controller, even with the TMP-I power turned off. Only use electrical code approved insulated wiring and electrical fixtures with this installation.
2. **CONNECT THE POWER TO THE TMP-I** - This may be 120V, 208V or 240V 50/60Hz. Power should be applied to TMP-I anytime the CIP is on. Some CIPs have a terminal block setup for power (see the owner's manual for the specific machine being used). Locate the power terminal block inside the TMP-I enclosure. Connect the "hot" or "live" wire to the terminal labeled "line". Connect the "return line" to the appropriate terminal block position based on supply voltage.



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## Installation Instructions

The “earth ground” wire must be fastened to the terminal block bracket by use of the supplied grounding clip. The power line should be secured by use of proper electrical fitting through access hole in TMP-I enclosure. The power line must also be secured properly between the power source and TMP-I.

3. **CONNECT THE TRIGGER SIGNAL OUTPUT TO THE TMP-I** - The **trigger signal** may be between **24V and 240V AC or DC**. Some CIP’s are equipped with a terminal block that is designed to feed this signal. Locate the trigger connection points on the circuit board inside the TMP-I enclosure. Run appropriate wiring between the Wash Controller trigger connection points and the TMP-I trigger connection points. Trigger lines should be properly secured by use of a proper electrical fitting through an access hole in the TMP-I enclosure. The signal line must be properly secured between the CIP system and TMP-I enclosure. Note: When using a DC trigger source it is necessary to wire the positive lead to the trigger terminal pin that is identified with “+” symbol for proper operation. The positive pin can be identified by removing the modular connector from the board and observing the “+” symbol printed on the board.

### **TUBING CONNECTIONS**

**Always wear protective clothing and safety eyewear when working with chemicals.** Included in the installation kit is a 20ft roll of LDPE tubing to connect from the chemical container to the pump and from the pump to the fittings on the machine.

### **LIQUID DETERGENT (PUMP)**

Measure the length of the tubing needed for the suction side from the chemical container to the inlet of pump and cut the tubing to the proper length (add 10% to the length as a margin of error). Install LDPE tubing into pickup tubes (gray PVC) through compression nut until the tube is within ¼” of the other end of pickup tube. Tighten nut to secure. When properly installed the LDPE tubing will not stick out the open end of pickup tube. Route the tubing to the suction side of the pump and insert into squeeze tube approximately ½”. Secure the tubing together by tightening a cable tie around the squeeze tube. Use the same procedure on the outlet of the squeeze tubing and route the LDPE tubing to the injection feed points of the machine. Cut off all excess tubing and keep tubing away from hot surfaces and sharp edges to prevent damage or leakage.

**At this point the TMP-I installation is complete.**

### **PROGRAMMING, OPERATION AND SET UP (JUMPERS AND LOCKOUT TIME)**

When a trigger signal is received from the CIP *Wash Controller*, the control will run its program. A two-second delay will occur to make sure the trigger is not a false signal. The control will then delay operation for the programmed delay time. This allows the CIP time to fill with water before adding chemical. At the end of this delay the pump will run for the programmed time. The control will then lock out, preventing re-triggering for a programmed period of time.

### **Jumper Installation**

When the jumper is in the off position the board is set up for receiving triggers from the CIP (See Fig. 2). When the jumper is in the on position, the control board is set up to operate using the Front Button (See Fig. 1).

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JUMPER SHOULD BE ON THESE 2 PINS WHEN USING THE FRONT BUTTON

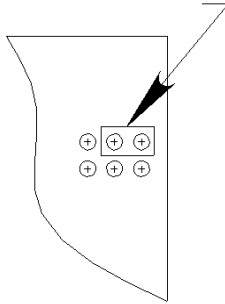


Figure 1

JUMPER SHOULD BE ON THIS PIN WHEN USING A TRIGGER SIGNAL FROM A LAUNDRY MACHINE

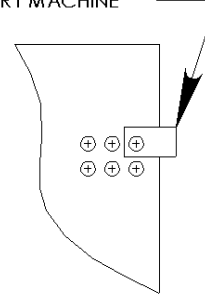


Figure 2

## PROGRAMMING

It is helpful to know the amount of chemical product to be dispensed before programming the TMP-I. It is recommended that the output rate of the specific chemical product be measured by use of a graduated cylinder. *The programming function will set the delay time and the amount of time that the pump will run when a trigger signal is received from the CIP Wash Controller.*

- Note that the front face of the TMP-I has a button labeled “PROGRAM” and a round window labeled “DISPENSE”.
- Press and hold the “PROG” button to activate the programming function. The “DISPENSE” light will illuminate. Continue holding the button for **8 seconds** until the light begins flashing indicating the programming function, then release the button.
- The “DISPENSE” light will continue to flash. The delay time is now being recorded. This time can be set between 0 and 255 minutes. Press the “PROG” to stop the delay time. The pump will begin to run. The pump run time is now being recorded up to a maximum amount of time of 4 minutes and 15 seconds. Allow TMP-I to pump for the desired amount of time. Push the “PROG” button to set that amount of time and exit the programming function.

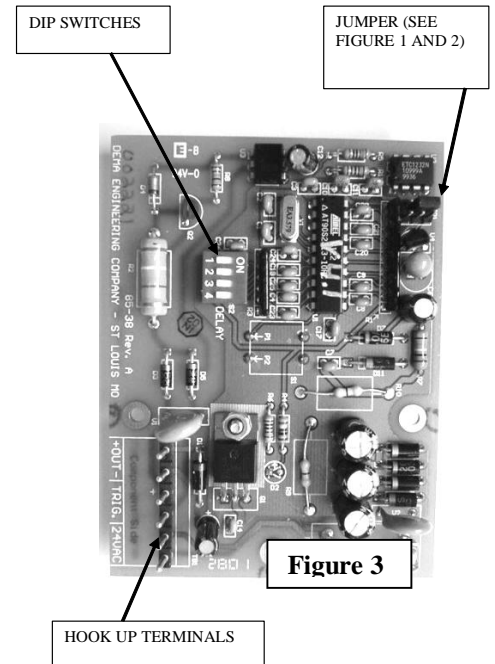


Figure 3

## Lockout Time

The lockout time is set via four DIP switches found on the control board (See Fig. 3).

Lockout Time	Switch 1	Switch 2	Switch 3	Switch 4
0 Minutes	OFF	OFF	OFF	OFF
5 Minutes	ON	OFF	OFF	OFF
10 Minutes	OFF	ON	OFF	OFF
15 Minutes	ON	ON	OFF	OFF
20 Minutes	OFF	OFF	ON	OFF
25 Minutes	ON	OFF	ON	OFF
30 Minutes	OFF	ON	ON	OFF
35 Minutes	ON	ON	ON	OFF
40 Minutes	OFF	OFF	OFF	ON
45 Minutes	ON	OFF	OFF	ON
50 Minutes	OFF	ON	OFF	ON
55 Minutes	ON	ON	OFF	ON
60 Minutes	OFF	OFF	ON	ON
65 Minutes	ON	OFF	ON	ON
70 Minutes	OFF	ON	ON	ON
75 Minutes	ON	ON	ON	ON

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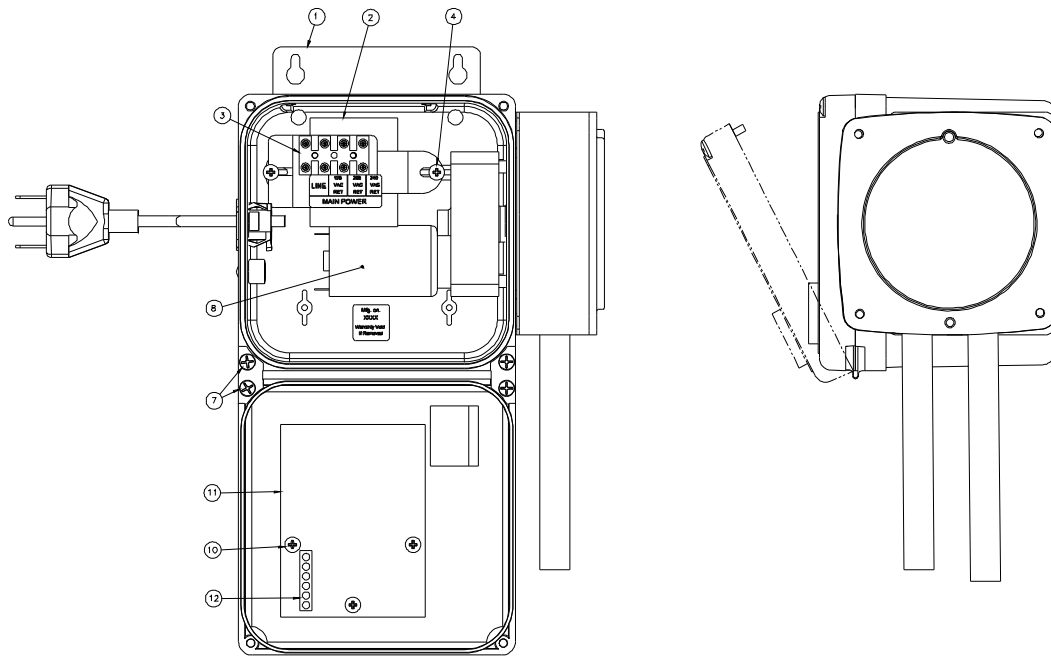
### TESTING THE PROGRAM

Testing the program can be done one of two ways. Either press the color coded button in the lower right hand corner of the label and the unit will run the programmed amount of time or press and hold the “PROG” button, this activates the test function. The “DISPENSE” light will illuminate. Continue holding the button for about five seconds until “DISPENSE” light goes out. Release the button. Then press and release “PROG” button within ½ second. The “DISPENSE” light will illuminate indicating the program is running. It will stay illuminated for the delay time. The light will be illuminated and the pump will run for the programmed time. The lockout time will be ignored at the end of the test.

### PRIMING

Priming can also be performed by pressing the color coded button. The prime function will run the pump for the length of time that the “PROG” button is pressed. This function is used to prime an empty suction and discharge tube. Pressing and holding the “PROG” button activates the prime function. The “DISPENSE” light will illuminate. Continue holding the button for about five seconds until charge light goes out then release the button. Then press and hold “PROG” button for as long as needed to prime the pump and tubing.

### REPLACEMENT PARTS

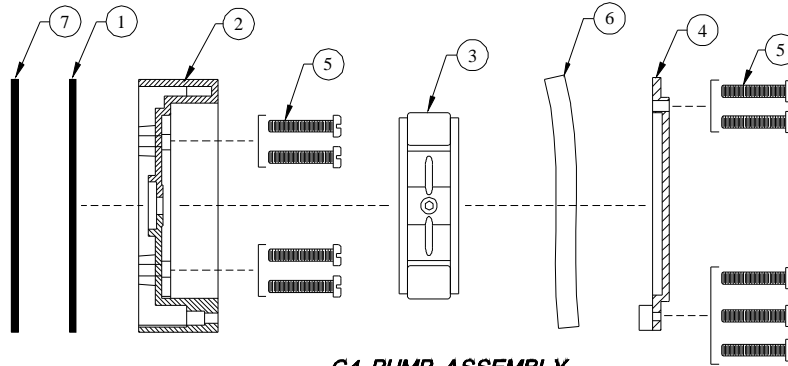


No.	DEMA Part Number	Description
1	81-1	Mounting Bracket Kit
2	80-70	Transformer (40VA)
3	81-10-4	Terminal Block and Bracket Assy
4	44-116-2	#8 X 3/8" Hi-Lo Screw (for mounting transformer)
5	81-41	TMP-I box lid with captive screws
6	81-40	TMP-I box with gasket and threaded inserts
7	81-6	Hinge and Screw Kit
8	80-59-60	60 RPM Gear/Motor
10	81-20-2	#4 Hi-Lo Screw (used for mounting circuit board)
11	85-38-7	Single Product Laundry Control Board (circuit board)
12	81-13-6	Modular 6 Pole Terminal Block (used on circuit board)
13	81-35	Fuse Holder

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## Installation Instructions

14	81-34-16	Fuse 1A 250V
15	81-36-2	Wire Nut
16	81-32-1	Black Cable Assembly (motor hook up)
17	81-32-2	Red Cable Assembly (motor hook up)



**C4 PUMP ASSEMBLY**

DEMA C4 Pump Parts		
No.	DEMA Part No.	Description
1	81-63	C4 Adapter Plate
2	25-114C4	C4 Pump Head Gasket
3	25-129-1	C4 Pump Head Assembly
4	25-86C4	C4 Roller Block Assembly
5	25-87C4	C4 Face Plate
6	25-85-5	#10-32 X 1" Machine Screw
7	25-89CE-14	Squeeze Tube for C4 Pump
8	25-130-1	C4 Pump Head Kit (kit includes C4 Pump parts listed above)

DEMA Tubing Accessories	
DEMA Part Number	Description
25-115	20 ft 3/8" O.D. LDPE Tubing (used on C4 Pump)
25-115-40	40 ft 3/8" O.D. LDPE Tubing (used on C4 Pump)
25-115-60	60 ft 3/8" O.D. LDPE Tubing (used on C4 Pump)
25-115-80	80 ft 3/8" O.D. LDPE Tubing (used on C4 Pump)
25-115-100	100 ft 3/8" O.D. LDPE Tubing (used on C4 Pump)
25-115-120	120 ft 3/8" O.D. LDPE Tubing (used on C4 Pump)

**Return Policy:** No merchandise may be returned for credit without DEMA Engineering Company's written permission. Return Merchandise Authorization (RMA) number required in advance of return.

**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 which have a normal life shorter than one year or failure and damage caused by chemicals, corrosion, improper voltage supply, physical abuse or misapplication. Rubber and synthetic rubber parts such as "O"-rings, diaphragms, squeeze 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 will be 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 to return units for repair or replacement must be granted in advance of return.

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