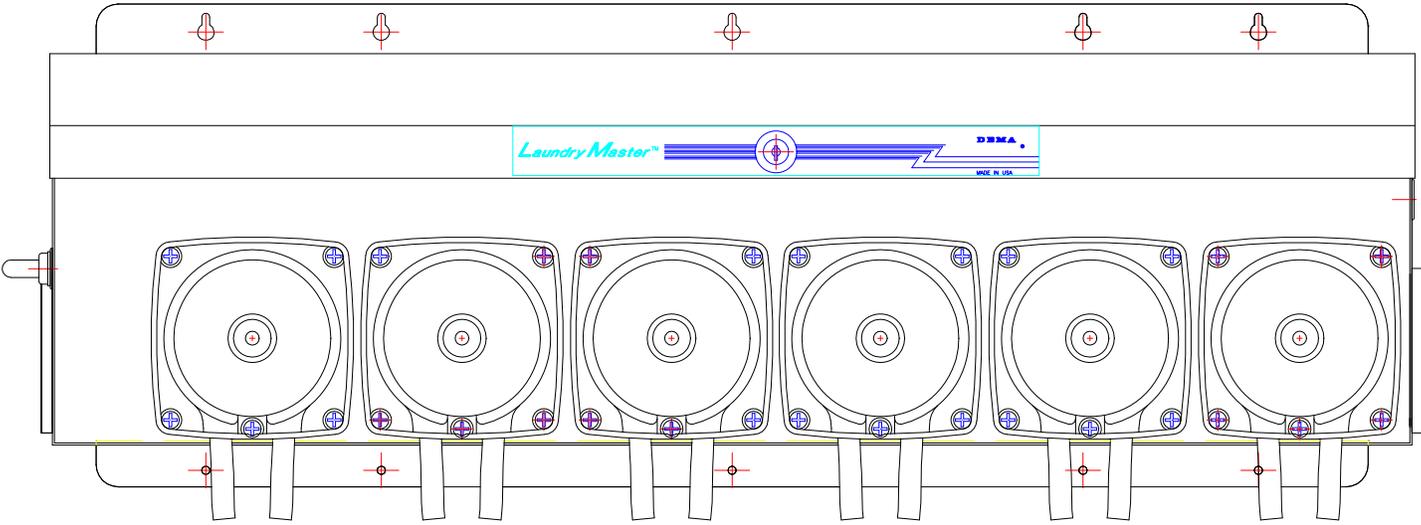# DEMA™ 846 & 846E LAUNDRY MASTER
INSTALLATION INSTRUCTIONS

Introduction

The DEMA 846 Laundry Master dispensing system has been designed to accurately deliver chemical product to commercial laundry machines. The 846 uses the proven DEMA C2 , C4 and QC peristaltic pumps to deliver the chemical product to the laundry machine pocket. The pumps and main control are mounted in a durable stainless steel enclosure designed to provide easy access to the various components inside.

The various electronic components of the DEMA 846 Laundry Master use a "plug and play" concept to provide easy setup. The heart of the 846 is the IQ-81 AC electronic control board that provides multi wash formula capability. The IQ-81 AC is mounted in the stainless steel enclosure. Along with the IQ-81 AC is the self-contained Signal Transfer Unit (STU), which can be mounted at the laundry machine to receive trigger signals. Additionally, an optional handheld can be used to select formulas (USM). Both the STU and the USM are connected to the IQ-81 AC via low voltage communication cable.

The 846 comes in two different configurations:
- **846 (9 Formula Capability) - Requires on board programming directly on the IQ-81 AC control board.**
- **846E (30 Formula Capability) - Requires the EDSM handheld for all programming and setup. See supplement instruction manual for direct usage of the EDSM.**

846 Laundry Master Contents

The DEMA 846 Laundry Master includes the following:

- 846 Dispensing System, which contains the pumps, the power supply, and the IQ-81 AC electronic control board.
- Hook Up Kit, which contains communication cable, Velcro, various strain reliefs, and wire ties.
- Signal Transfer Unit (STU), for receiving trigger signals and sending commands back to the IQ-81 AC
- Optionally the 846 or 846E can use a handheld formula selector.
  - USM formula select handheld for selecting formulas, defeating bleach, and emergency stop remotely – used with either the 846 or 846E.
  - EDSM formula select handheld for selecting formulas, defeating bleach, emergency stop and program/setup – used only with the 846E.
- Optional Kits:
  - Tubing and pickup probe kit can also be provided which comes with 20ft of LDPE tubing per pump, one pickup probe per pump, and wire ties to secure the tubing.

Before installing the 846 Laundry Master it will be helpful to read through the instructions to become familiar with the system and its options concerning the installation and setup.

Laundry Room Survey

A complete survey of the laundry room or sight installation should be completed in advance of starting the Laundry Master installation.

1. Locate a 120VAC electrical wall outlet for easy main power installation.
   a. If hardwiring the main power to the laundry machine, locate power connection points on the laundry machine. The main power to the Laundry Master must either be 120V or 230V 50/60Hz (+10%/-15% for voltage is acceptable).
2. Select location to mount the stainless steel Laundry Master enclosure on a wall that will allow access to the chemical product containers and the chemical product feeds points on the laundry machine. The Laundry Master should be kept away from moisture releasing machinery and from water being splashed on the unit.
3. Mount the Laundry Master on a wall by use of appropriate screws and wall anchors.

4. Select a location to mount the Signal Transfer Unit (STU). The STU should be mounted close to, or on, or possibly inside the laundry machine. The STU will need to be wired to the various trigger signal sources on the machine. The trigger wires that are coming out of the STU are 12 inches in length and are used to receive the trigger signals. The STU can be mounted by use of the self-adhesive Velcro that is included in the hook up kit. Keep in mind that the STU is wired to the IQ-81 via the supplied communication cable.
5. If using the USM, select a location to mount the FSM/DSM where the laundry machine operator can easily access the buttons on the front of the FSM/DSM module. Again it can be mounted with the self-adhesive Velcro that is included in the hook up kit. The FSM/DSM can be connected to the IQ-81 or the STU by use of the supplied communication cable. See the FSM or DSM instruction manual for more information.
6. If using the DEMA 951 flush manifold or any other flush manifold , select a location that will allow all the electrical (power for solenoid valve and pressure switch) and tubing connections. It should be noted that the flush output on the IQ-81 is a 24VDC signal. The solenoid coil for the flush valve will need to match this output signal.

846 or 846E Pump Configurations

Before going any further, it is helpful to understand the arrangement of the pumps or valves on the 846 or 846E. The 2 illustrations below describe the possible configurations. The illustrations show the pump numbers. These numbers match the numerical identifications listed on the IQ-81 and the STU. If the unit has 5 or less pumps/valves mounted on the case than the pumps will be in numerical order from left to right. If the unit has 6 pumps/valves then the 2 pumps/valves on the sides or 1 (left side) and 2 (right side), 3-6 are on the front side from left to right. Again examine the illustrations below.

PUMP NUMBERS FOR 5 OR LESS PUMP UNITS

PUMP NUMBERS FOR 6 PUMP UNITS
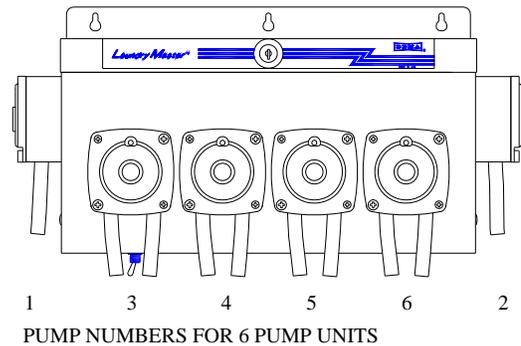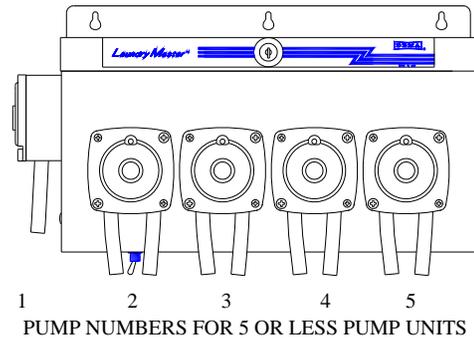
Installation/Outline Check List
☐ Read instruction sheets
☐ Survey installation site and determine the setup and operation mode.
☐ Perform main power hookup as described under the Electrical Installation below
☐ Perform STU-II installation as described in the Stu-II instruction sheet (I-1036)
☐ Install 951 Flush manifold if necessary
☐ Install pump tubing and connections as described below
☐ Prime pumps as described in priming pumps section.
☐ Program 846 or 846E Laundry Master as described in programming section
☐ Test system to assure proper operation

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

Before the electrical installation, it is important to understand the various modes that the 846 or 846E Laundry Master has to offer. The following describe 3 main modes of operations; however there are sub-options that can be setup within these 3 modes. See setup section for additional information.

Formula Select
Mode: This is where the unit can be programmed with up to 9 different formulas. Each formula is driven to operate by individual trigger sources that are generated by the laundry machine.

Sequence Mode: This is where the unit can be programmed to count a single event from the laundry machine. A good example of this is using the drain valve on the laundry machine as a trigger source. The IQ-81 will count the drain valve operations and will operate pumps based on these counts. Up to 9 formulas can be programmed in this mode as well.

Relay Mode: There is only one programming variable to set on the IQ-81. The flush can be set to run with the pump with the "flush with" DIP switch in the on position. Additional flush time after each pump operation can also be programmed. Otherwise the IQ-81 is not programmed, but instead the laundry machine is programmed to provide various formulas. The IQ-81 acts like a relay board and will only operate pumps for the length of time that the STU receives a trigger signal from the laundry machine.

One sub-option to become familiar with before wiring the STU is Auto Formula Select. This feature allows the formula to be selected based on a trigger signal that is received from the laundry machine. It is necessary to have a separate programmable input from the laundry machine to correctly use the Auto Formula Select. For more information, see Auto Formula Select in the Setup section of this instruction manual.

1. **CAUTION: All electrical power must be turned off to the laundry machine and any other circuit that is to be used for this installation. Lockout and tag procedures must be observed when installing this device. Never open the DEMA Laundry Master while power is applied. Signals may be active from laundry machine, even with the DEMA Laundry Master power turned off. Use appropriately rated insulated wiring, electrical fixtures and other materials that meet all applicable electrical and building codes.**
2. See step 2a for wall plug main power, see step 2b for hardwiring main power.
    a. Plug the main power cord for the 846 or 846E into 120VAC wall outlet for main power.
    b. Connect the power to the Laundry Master. The power requirement will either be 120VAC or 240VAC 50/60 Hz (+10%/-15% of these voltages is acceptable). Locate the 115/230VAC switch on the power supply and switch it to the appropriate selection. Power should be applied to Laundry Master anytime the laundry machine is on. Some laundry machines have a terminal block setup for power, see schematic or owner's manual for the specific machine being used. Locate the power terminal block inside the Laundry Master enclosure. Connect "hot" or "live" wire to the terminal labeled "L1".   Connect the "return line" to the terminal block position labeled "L2". An "earth ground" wire must be connected to the terminal block position labeled "GND". The power line should be secured by use of proper electrical fitting through access hole in Laundry Master enclosure. The access hole is sized to accept a ½" conduit fitting. The power line must also be secured properly between the laundry machine or power source and the Laundry Master according to any electrical codes that apply.
3. Connect the flush manifold. See note labeled flush switch below if a flush manifold is not being used.   If using a flush manifold, the solenoid valve that supplies the manifold must be rated for 24V DC. The valve should be connected to the output terminal position labeled "flush" on the IQ-81 control board. In addition, a manifold flush switch must be wired to the terminals labeled "Flush + and GND" on the IQ-81 control board.

Tubing Connections

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

An optional installation kit may be ordered with the 846 or 846E Laundry Master. The kits includes a 20ft of LDPE tubing per pump to connect from the chemical container to the DEMA 846 or 846E pump, and from the DEMA 846 or 846E pump to the fittings on the machine and 18" pickup tubes designed to accommodate 5 gallon buckets. For identification purposes, the pumps are identified starting with 1 and up to a possible 6 depending on the model. In all cases pump number 1 is the pump that is furthest left, count up as you see pumps to the right of this position. Included with the 846 or 846E Laundry Master is a sheet of product labels that can be adhered to the front of the Laundry Master or any other useful locations to identify the product that each pump is supplying.

Measure the length of tubing needed for the suction side from the chemical container to the inlet of pump and cut tubing to proper length. The 18" pickup tubes may be used with 5-gallon buckets of chemical products. Feed the LDPE tubing through the compression nut and sleeve and into the pick-up tube until LDPE tubing is about a ¼" from the bottom of pickup tube (LDPE tubing should not stick out through the bottom of pickup tube). Tighten the compression nut to secure LDPE tubing. 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 tube and route the LDPE tubing to the injection feed points of the laundry 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 Laundry Master installation is complete. See IQ-81 OPL Laundry Control Board instructions for setup and programming.

Priming Pumps

1. While the user screen is displayed (not in programming), press LEFT button until the prime pump screen is displayed.
2. Use the UP and DOWN buttons to select the pump.
3. Press ENTER to run the pump that is displayed.
4. Press ENTER to stop the pump that is displayed.
5. Press the RIGHT button to exit pump priming. The system will automatically exit priming after 30 seconds of no activity (no button pushes).

Programming

1. Press RIGHT button and hold for 3 or more seconds. The LANGUAGE screen will appear.
2. A different language can be selected by pressing he ENTER (center) button. A cursor will appear. Use the UP and DOWN buttons to move to a different language. Press Enter when the desired language is displayed.
3. Press the DOWN button to move to the ENTER CODE screen. Press ENTER to enter the pass code. Use the LEFT and RIGHT buttons to move cursor to the four different character positions. Use the UP and DOWN buttons to adjust the numeric value for each character position. When correct passcode is displayed press ENTER to gain access to programming.
   a. Note: When entering programming on a new system out of the box or a system that has had the factory defaults reset. No passcode will be required to enter programming. When setting up a new system, it is recommended that a passcode be setup in programming.

Important - The remaining programming instructions below have 3 different sections based on a specific operation mode. The sections (operation modes) are:
Formula Select – Pump and formula programming. Formula select remote (USM) or Auto Formula Select can be used to select formulas for usage.

Sequence – using the drain or fill valves on the laundry machine to interface and trigger pump operations. This uses formula/pump programming as Formula Select mode.

Relay – No pump and formula programming, pumps run with active trigger signals from the laundry machine. This requires programmable laundry machine.

Formula Select Mode Programming

1. Enter programming - see Enter Programming section.
2. Move cursor to CONFIGURATION and press ENTER.
    a. Operation Mode (FORMULA SELECT, SEQUENCE and RELAY, one of these will be displayed) – This should be set to FORMULA SELECT.
        i. Press ENTER to select operation mode.
        ii. USE UP and DOWN buttons to scroll thru the 3 different operation modes.
        iii. Press ENTER when Formula Select is displayed.
    b. Pumps – how many pumps are being used? This can be set from 1 thru 8.
        i. Press ENTER and adjust the number of pumps using the UP and DOWN buttons.
        ii. Press ENTER when the desired amount of pumps is displayed.
    c. AFS – Auto Formula Select On or Off? If 8 set to OFF, the number 8 input (AFS) on the STU-II can be used to trigger the number 8 pump. Additionally, any pump including number 8 can be programmed to trigger with another input from the STU-II, thus allowing AFS to be used with an 8 pump system.
        i. Press ENTER and adjust to on or off.
        ii. Press ENTER when desired selection is displayed.
    d. Flushes – Choices are 0, 1 and 2. How many flushes?
        i. Press ENTER and adjust to 0, 1 or 2 using the UP and DOWN buttons.
        ii. Press ENTER when the desired selection is displayed.
    e. Bleach Pump – Choices are "-" which is "no bleach pump selected" or 1 thru PUMPS setting. Which pump number is the bleach pump?
        i. Press ENTER and select the pump number to be the bleach pump or no bleach pump (--) using the UP and DOWN buttons.
        ii. Press ENTER when desired selection is displayed.
    f. Press LEFT button to back out to main menu list.
3. Formula Lockout – Each formula can be programmed to have a lockout time. Press ENTER to modify.
    a. Use UP and DOWN buttons to select desired formula.
    b. Press ENTER to save the desired setting at each formula.
    c. Press LEFT button to back out to main menu list.
4. Program Formula – Program formula pump run and delay times. Press ENTER to modify.
    a. Cursor is next to the FORM
    b. Press ENTER button to change the formula or Press the RIGHT button to move to levels and delay, LEFT will move back towards level 1.
    c. Move cursor to each pump and press ENTER to modify the pump run and delay times in seconds.
    d. Note: Observe the top line on the display for the formula number and level 1, 2 or delay as times are entered to assure desired programming. Also only the pumps that have been configured will be displayed for programming.
    e. Press LEFT button to back out to main menu list.
5. Assign Triggers – Allows the system to assign a specific trigger signal to a specific pump. Press ENTER to modify.
    a. MOVE cursor to the pump and press ENTER to modify the trigger signal.
    b. Note – It is possible to program 2 or all pumps to one trigger signal. However, the system will only operate 3 pumps simultaneously. Remaining pumps would run as the first pumps in discontinue operation.
    c. Press LEFT button to back out to main menu list.

6. Load Count Pump – Select the load count pump for each Formula (default is Pump 1). Press ENTER to modify.
   a. Use UP and DOWN buttons to move through formulas.
   b. Press ENTER at desired formula.
   c. Use UP and DOWN to move through the pump choices.
   d. Press ENTER to save the desired load count pump.
   e. Press LEFT button to back out to main menu list.
7. Flush Time – Program the amount of post flush time. Will apply to all formulas and pump runs. Press ENTER to modify.
   a. Use RIGHT and LEFT and UP and DOWN buttons to adjust the time.
   b. Press ENTER when desired time is displayed.
   c. If one flush is being used, the flush time programming is complete. The following steps are required if 2 flushes are being used.
   d. If 2 flushes are being used move the cursor from flush 1 to flush 2 and repeat the process directly above.
   e. If 2 flushes are being used move the cursor to the bottom of the screen to assign flush 1 or 2 to each pump.
   f. Press ENTER and move to each pump and adjust to a 1 or 2 using the UP and DOWN buttons.
   g. Press ENTER when the desired setting is displayed.
   h. Press LEFT button to back out to main menu list.
8. Test Formulas – Any programmed pump value at any formula can be tested for accuracy. This function will run the pump for the programmed amount so that the actual pump output can be measured using a measuring cup or graduated cylinder. Press ENTER to test a pump /formula.
   a. Use the UP and DOWN buttons to move cursor from Formula to Pump.
   b. Press ENTER to enter a selection of Formula or Pump.
   c. Use the UP and DOWN buttons to change the Formula/Pump
      i. Note that Pump will scroll through the pump numbers and RT 1 & 2. The RT 1 & 2 are level 1 & 2.
   d. When the desired Formula and Pump number is displayed move the cursor next to Start (bottom line of display).
   e. Press ENTER to start the pump. Allow the pump to run its programmed time, collecting the output of the pump in a measuring cup or graduated cylinder.
   f. Press LEFT button to back out to main menu list.
9. Enter New Code – Program a unique 4 digit numeric pass code that allows access to programming. Press ENTER to program a passcode.
   a. Press ENTER again to program a new pass code.
   b. Use the LEFT and RIGHT buttons to move cursor to each of the 4 characters.
   c. Use the UP and DOWN buttons to scroll through the numbers (0-9) for each character.
   d. When desired pass code is displayed, make a written note of the pass code for reference.
   e. When desired pass code is displayed, press ENTER to save. The new pass code will now need to be entered when accessing programming.
10. Set Defaults – This will restore the programming and setup to factory defaults. This is recommended when the laundry dispenser is being refurbished or when the control board is being replaced. Press ENTER to set factory defaults and follow prompts on the display. At any time the LEFT arrow button can be used to back out.
   a. Press LEFT button to back out to main menu list.
11. Press LEFT button to exit programming.

Sequence (Drain) Mode Programming

1. Enter programming - see Enter Programming section.
2. Move cursor to CONFIGURATION and press ENTER.

a. Operation Mode (FORMULA SELECT, SEQUENCE and RELAY, one of these will be displayed) – This should be set to SEQUENCE.
   i. Press ENTER to select operation mode.
   ii. USE UP and DOWN buttons to scroll thru the 3 different operation modes.
   iii. Press ENTER when Sequence is displayed.
b. Pumps – how many pumps are being used? This can be set from 1 thru 8.
   i. Press ENTER and adjust the number of pumps using the UP and DOWN buttons.
   ii. Press ENTER when the desired amount of pumps is displayed.
c. AFS – Auto Formula Select On or Off? If 8 set to OFF, the number 8 input (AFS) on the STU-II can be used to trigger the number 8 pump. Additionally, any pump including number 8 can be programmed to trigger with another input from the STU-II, thus allowing AFS to be used with an 8 pump system.
   i. Press ENTER and adjust to on or off.
   ii. Press ENTER when desired selection is displayed.
d. Flushes – Choices are 0, 1 and 2. How many flushes?
   i. Press ENTER and adjust to 0, 1 or 2 using the UP and DOWN buttons.
   ii. Press ENTER when the desired selection is displayed.
e. Bleach Pump – Choices are "-" which is "no bleach pump selected" or 1 thru PUMPS setting. Which pump number is the bleach pump?
   i. Press ENTER and select the pump number to be the bleach pump or no bleach pump (--) using the UP and DOWN buttons.
   ii. Press ENTER when desired selection is displayed.
f. Press LEFT button to back out to main menu list.

3. Formula Lockout – Each formula can be programmed to have a lockout time. Press ENTER to modify.
   a. Use UP and DOWN buttons to select desired formula.
   b. Press ENTER to save the desired setting at each formula.
   c. Press LEFT button to back out to main menu list.

4. Program Formula – Program formula pump run and delay times. Press ENTER to modify.
   a. Cursor is next to the FORM
   b. Press ENTER button to change the formula or Press the RIGHT button to move to levels and delay, LEFT will move back towards level 1.
   c. Move cursor to each pump and press ENTER to modify the pump run and delay times in seconds.
   d. Note: Observe the top line on the display for the formula number and level 1, 2 or delay as times are entered to assure desired programming. Also only the pumps that have been configured will be displayed for programming.
   e. Press LEFT button to back out to main menu list.

5. Invert Trigger – will allow the system to work with a normally closed drain valve on the laundry machine. Press ENTER to modify.
   a. Use UP and DOWN buttons to select 'not inverted" or "inverted."
      i. Not Inverted – normally open drain valve, this is the most common
      ii. Inverted – normally closed drain valve
   b. Press ENTER when the desired setting is displayed.
   c. Press the LEFT button to back out to main menu list.

6. Enter Sequence – each formula can be programmed to coordinate pump operations with drain or fill valve operations on the laundry machine. Press ENTER to modify.
   a. Use UP and DOWN buttons to move cursor to Formula.
   b. Press ENTER to change the formula.
   c. Use UP and Down buttons to move through formula numbers.
   d. Press ENTER when desired formula is displayed.
   e. Use the DOWN button to move cursor to Sequence number. The sequence number is the drain or fill event on the laundry machine.
   f. Press ENTER button to change the sequence number.

g.   Use UP and DOWN buttons to scroll through the sequence numbers.

h.   When desired sequence number is displayed press ENTER.

i.   Use the DOWN button to move the cursor to the pump selection row. This is the row of numbers 1-6, F at the bottom. This will program pumps to be triggered on for the given sequence number displayed above.

j.   Press ENTER to add or deselect pumps.

k.   Use the RIGHT and LEFT buttons to move the cursor over the various pumps.

l.   Use the UP button to add a pump. Use the DOWN button to deselect a pump.

    i.   An asterisks (*) will appear for selected pumps.

    ii.   A dash (-) will appear for deselected pumps.

    iii.   The "F" at the right end of the row of numbers represents the final event on the laundry machine. This should be selected for the final event (drain or fill valve) operation on the laundry machine.

m.   Repeat the above steps f thru l t complete a formula.

n.   Repeat all steps for each formula.

o.   Press LEFT button to back out to the main menu list.

7.   Load Count Pump – Select the load count pump for each Formula (default is Pump 1). Press ENTER to modify.

a.   Use UP and DOWN buttons to move through formulas.

b.   Press ENTER at desired formula.

c.   Use UP and DOWN to move through the pump choices.

d.   Press ENTER to save the desired load count pump.

e.   Press LEFT button to back out to main menu list.

8.   Flush Time – Program the amount of post flush time. Will apply to all formulas and pump runs. Press ENTER to modify.

a.   Use RIGHT and LEFT and UP and DOWN buttons to adjust the time.

b.   Press ENTER when desired time is displayed.

c.   If one flush is being used, the flush time programming is complete. The following steps are required if 2 flushes are being used.

d.   If 2 flushes are being used move the cursor from flush 1 to flush 2 and repeat the process directly above.

e.   If 2 flushes are being used move the cursor to the bottom of the screen to assign flush 1 or 2 to each pump.

f.   Press ENTER and move to each pump and adjust to a 1 or 2 using the UP and DOWN buttons.

g.   Press ENTER when the desired setting is displayed.

h.   Press LEFT button to back out to main menu list.

9.   Test Formulas – Any programmed pump value at any formula can be tested for accuracy. This function will run the pump for the programmed amount so that the actual pump output can be measured using a measuring cup or graduated cylinder. Press ENTER to test a pump /formula.

a.   Use the UP and DOWN buttons to move cursor from Formula to Pump.

b.   Press ENTER to enter a selection of Formula or Pump.

c.   Use the UP and DOWN buttons to change the Formula/Pump

    i.   Note that Pump will scroll through the pump numbers and RT 1 & 2. The RT 1 & 2 is level 1 & 2.

d.   When the desired Formula and Pump number is displayed move the cursor next to Start (bottom line of display).

e.   Press ENTER to start the pump. Allow the pump to run its programmed time, collecting the output of the pump in a measuring cup or graduated cylinder.

f.   Press LEFT button to back out to main menu list.

10.   Enter New Code – Program a unique 4 digit numeric pass code that allows access to programming. Press ENTER to program a passcode.

a.   Press ENTER again to program a new pass code.

   b. Use the LEFT and RIGHT buttons to move cursor to each of the 4 characters.

   c. Use the UP and DOWN buttons to scroll through the numbers (0-9) for each character.

   d. When desired pass code is displayed, make a written note of the pass code for reference.

   e. When desired pass code is displayed, press ENTER to save. The new pass code will now need to be entered when accessing programming.

11. Set Defaults – This will restore the programming and setup to factory defaults. This is recommended when the laundry dispenser is being refurbished or when the control board is being replaced. Press ENTER to set factory defaults and follow prompts on the display. At any time the LEFT arrow button can be used to back out.

   a. Press LEFT button to back out to main menu list.

12. Press LEFT button to exit programming.

Relay Mode Programming

1. Enter programming - see Enter Programming section.

2. Move cursor to CONFIGURATION and press ENTER.

   a. Operation Mode (FORMULA SELECT, SEQUENCE and RELAY, one of these will be displayed) – This should be set to RELAY.

     i. Press ENTER to select operation mode.

     ii. USE UP and DOWN buttons to scroll thru the 3 different operation modes.

     iii. Press ENTER when Relay is displayed.

   b. Pumps – how many pumps are being used? This can be set from 1 thru 8.

     i. Press ENTER and adjust the number of pumps using the UP and DOWN buttons.

     ii. Press ENTER when the desired amount of pumps is displayed.

   c. AFS – Auto Formula Select On or Off? If 8 set to OFF, the number 8 input (AFS) on the STU-II can be used to trigger the number 8 pump. Additionally, any pump including number 8 can be programmed to trigger with another input from the STU-II, thus allowing AFS to be used with an 8 pump system.

     i. Press ENTER and adjust to on or off.

     ii. Press ENTER when desired selection is displayed.

   d. Flushes – Choices are 0, 1 and 2. How many flushes?

     i. Press ENTER and adjust to 0, 1 or 2 using the UP and DOWN buttons.

     ii. Press ENTER when the desired selection is displayed.

   e. Bleach Pump – Choices are "-" which is "no bleach pump selected" or 1 thru PUMPS setting. Which pump number is the bleach pump?

     i. Press ENTER and select the pump number to be the bleach pump or no bleach pump (--) using the UP and DOWN buttons.

     ii. Press ENTER when desired selection is displayed.

   f. Press LEFT button to back out to main menu list.

3. Formula Lockout – Each formula can be programmed to have a lockout time. Press ENTER to modify.

   a. Use UP and DOWN buttons to select desired formula.

   b. Press ENTER to save the desired setting at each formula.

   c. Press LEFT button to back out to main menu list.

4. Assign Triggers – Allows the system to assign a specific trigger signal to a specific pump. Press ENTER to modify.

   a. MOVE cursor to the pump and press ENTER to modify the trigger signal.

   b. Note – It is possible to program 2 or all pumps to one trigger signal. However, the system will only operate 3 pumps simultaneously. Remaining pumps would run as the first pumps in discontinue operation.

   c. Press LEFT button to back out to main menu list.

5. Flush Time – Program the amount of post flush time. Will apply to all formulas and pump runs. Press ENTER to modify.

a. Use RIGHT and LEFT and UP and DOWN buttons to adjust the time.
b. Press ENTER when desired time is displayed.
c. If one flush is being used, the flush time programming is complete. The following steps are required if 2 flushes are being used.
d. If 2 flushes are being used move the cursor from flush 1 to flush 2 and repeat the process directly above.
e. If 2 flushes are being used move the cursor to the bottom of the screen to assign flush 1 or 2 to each pump.
f. Press ENTER and move to each pump and adjust to a 1 or 2 using the UP and DOWN buttons.
g. Press ENTER when the desired setting is displayed.
h. Press LEFT button to back out to main menu list.

6. Enter New Code – Program a unique 4 digit numeric pass code that allows access to programming. Press ENTER to program a passcode.
   a. Press ENTER again to program a new pass code.
   b. Use the LEFT and RIGHT buttons to move cursor to each of the 4 characters.
   c. Use the UP and DOWN buttons to scroll through the numbers (0-9) for each character.
   d. When desired pass code is displayed, make a written note of the pass code for reference.
   e. When desired pass code is displayed, press ENTER to save. The new pass code will now need to be entered when accessing programming.

7. Set Defaults – This will restore the programming and setup to factory defaults. This is recommended when the laundry dispenser is being refurbished or when the control board is being replaced. Press ENTER to set factory defaults and follow prompts on the display. At any time the LEFT arrow button can be used to back out.
   a. Press LEFT button to back out to main menu list.

8. Press LEFT button to exit programming.

846 or 846E Laundry Master Operation

- Formula Selection
  - Manual formula selection can be performed at the USM or the control board. The USM is recommended for manual formula selection.
  - Auto Formula Selection – is driven by the laundry machine. See STU – II instructions for the appropriate wiring and setup.
- Bleach Defeat can be activated at the USM. This requires that a bleach pump be selected in the programming of the system. Bleach defeat is not available in relay mode.
- Load Counts are displayed on the main control board (IQ-81) and which includes the load counts for each formula and the total load counts for all formulas.
- If any problems occur with the 846 or 846E the power switch at the bottom should be turned off and the main power should be disconnected if possible.
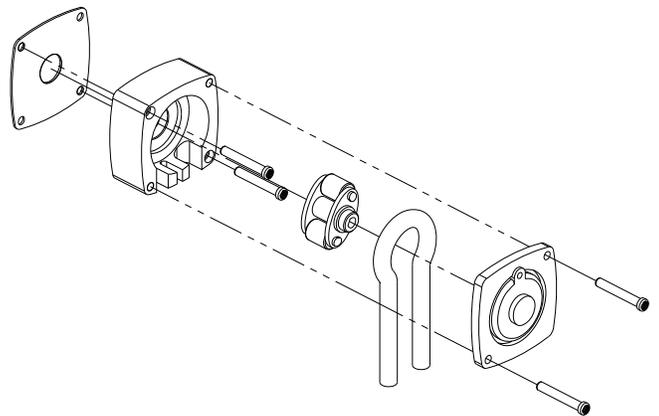
Replacement Parts
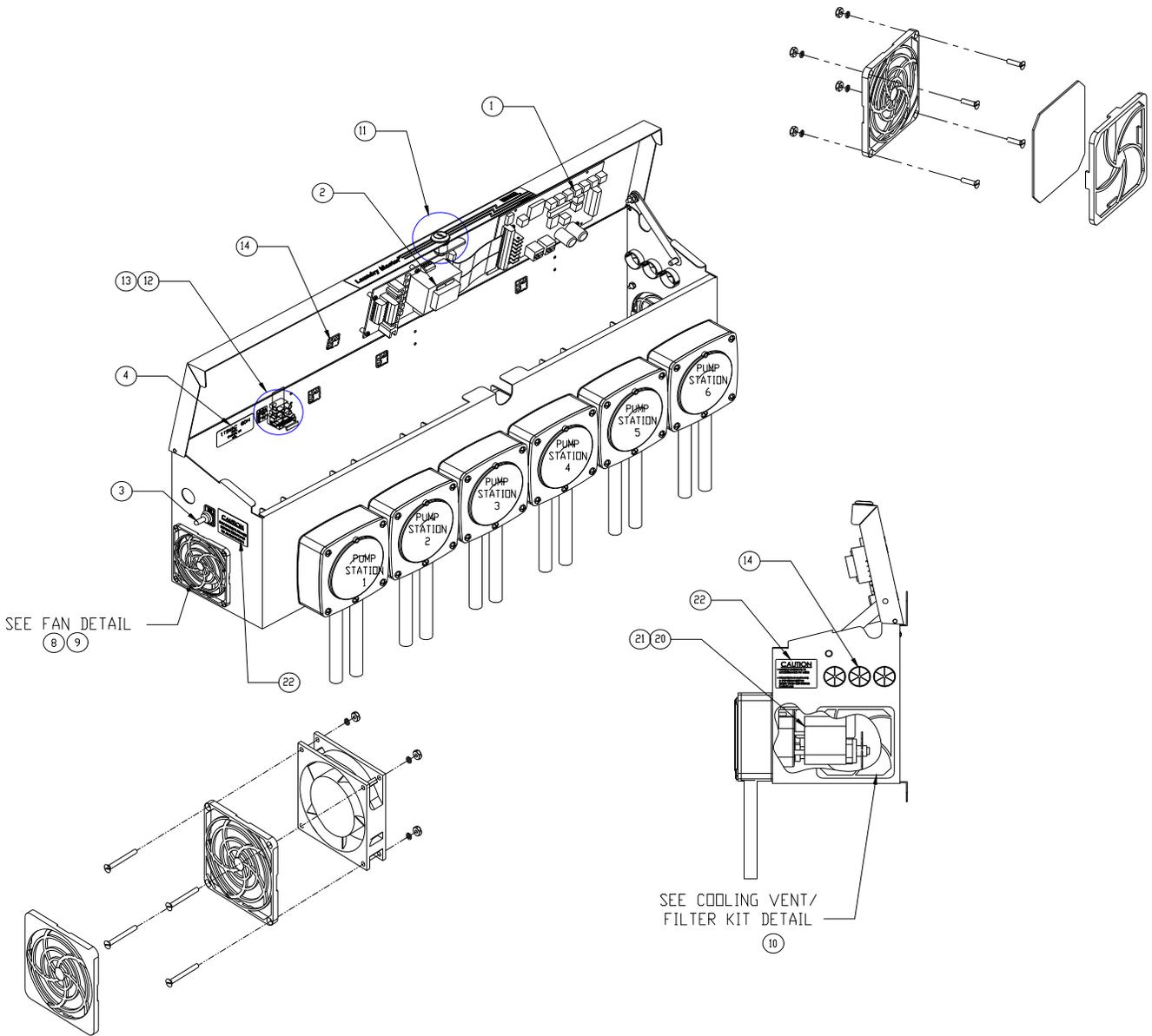
Fan Kit Detail (Note: no filter (this end of unit)

SEE FAN DETAIL

SEE COOLING VENT/
FILTER KIT DETAIL
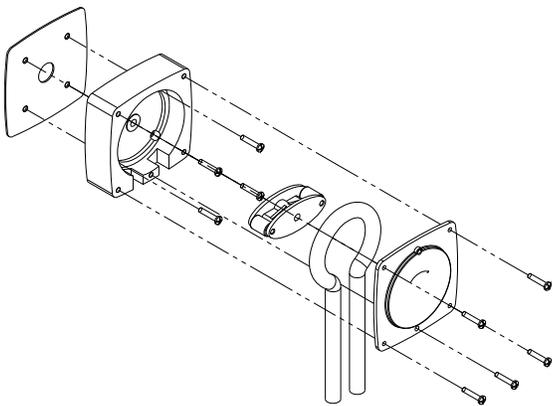
C4 Pump Head Kit
Item no. 16
Does not include squeeze tube item no. 19

C2 Pump Head Kit
Item no. 15
Does not include squeeze tube item no. 17 or 18

Item No.	Part No.	Description
1	84.65.58	IQ-81AC Control Board Kit
2	84.65.3	AC Laundry Board Adapter Kit
3	84.65.4	Toggle Switch Replacement Kit
4	84.65.5	AC Laundry Label Kit
5	84.65.6	STU Replacement Kit
6	84.65.31	USM Handheld Formula Selector Kit (not shown)
8	84.65.15	115VAC 60Hz Cooling Fan Replacement Kit
9	84.65.11	230VAC 60Hz Cooling Fan Replacement Kit
10	84.65.12	Cooling Vent/Filter Kit
11	84.65.13	Lock Kit
12	84.65.14	3 Position Fused Terminal Block Kit
13	84.48.2	12.5A 250VAC 5x20mm Fuse Kit (5 fuses)
14	84.65.16	Grommet/wire tie/wire anchor kit
15	25.C2D	C2 Pump Head Kit
16	25.130.1	C4 Pump Head Kit
17	25.65CE.11	C2 Squeeze Tube 1/2" OD X 1/4" ID EPDM
18	25.65CV.11	C2 Squeeze Tube 1/2" OD X 1/4" ID Viton
19	25.89CE.14	C4 Squeeze Tube 5/8" OD X 3/8" ID EPDM
20	84.65.17	115VAC 60Hz Pump Motor Replacement Kit
21	84.65.18	230VAC 60Hz Pump Motor Replacement Kit
22	84.65.19	Chemical/Electrical Caution Label Kit

Accessory Replacement Parts	
DEMA Part No	**Description**
25-68-20	20 ft. of ¼" O.D. LDPE Tubing
25-68-40	40 ft. of ¼" O.D. LDPE Tubing
25-68-60	60 ft. of ¼" O.D. LDPE Tubing
25-68-80	80 ft. of ¼" O.D. LDPE Tubing
25-68-100	100 ft. of ¼" O.D. LDPE Tubing
25-68-120	120 ft. of ¼" O.D. LDPE Tubing
25-115	20 ft. of 3/8" O.D. LDPE Tubing
25-115-40	40 f.t of 3/8" O.D. LDPE Tubing
25-115-60	60 ft. of 3/8" O.D. LDPE Tubing
25-115-80	80 ft. of 3/8" O.D. LDPE Tubing
25-115-100	100 ft. of 3/8" O.D. LDPE Tubing
25-115-120	120 ft. of 3/8" O.D. LDPE Tubing
80-66	10" PVC Pick-up Tube Assembly (for ¼" LDPE tubing)
80-66-2	18" PVC Pick-up Tube Assembly (for ¼" LDPE tubing)
81-16-1	8" Tie Wrap (for securing wiring or tubing)
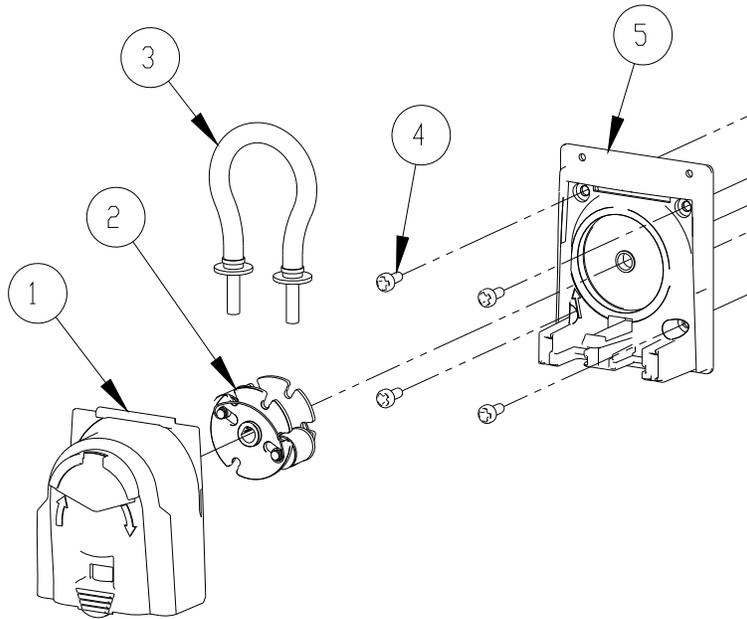
Quick Change Pump (Blue Pump)

NO.	QTY.	DEMA NO.	DESCRIPTION
1	1	81-174-1	PUMP COVER
2	1	81-172-1 (Detergent)	ROLLER ASSY.
3	1	81-177-1 (Detergent)	SQUEEZE TUBE (includes stem fittings)
4	4	25-85-2	SCREW
5	1	81-128-2	PUMP BASE
1 oz.		81-17-1	SILICONE LUBE

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.