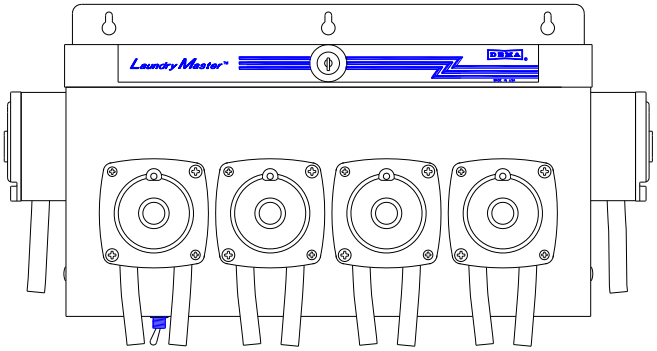
DEMA 844 Laundry Master
Laundry Chemical Dispensing



Overview

The DEMA® Laundry Master is a digital laundry dispenser designed to dispense chemicals when signals are received from commercial laundry machines. The Laundry Master is programmed via the front panel display and programming keys found on the main control board.

Warnings

Please read these instructions carefully before proceeding to install/operate the unit

Keep these instructions in a safe place for future reference.

DEMA does not accept any responsibility for damage or harm caused by not (strictly) observing the safety requirements and instructions in this manual. DEMA cannot be liable for damage, injury, or consequential loss resulting from installation or servicing by unqualified personnel. DEMA will also not be liable for damage, injury or consequential loss resulting from incorrect operation or modification of the equipment.

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.

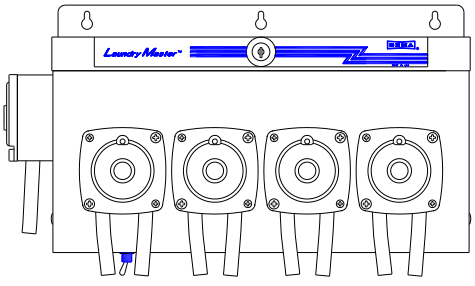
Laundry Room Survey

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

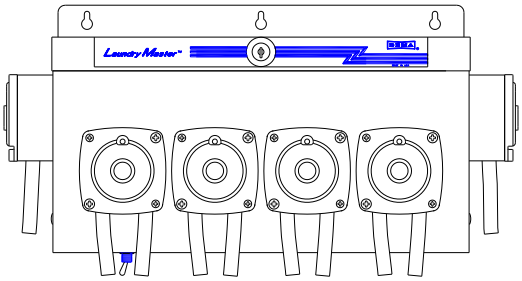
1. Locate a 120VAC electrical wall outlet for easy main power installation.
    a. If hardwiring the main power to the laundry machine, locate power connection points on the laundry machine. The main power to the Laundry Master must either be 120V or 230V 50/60Hz (+10%/-15% for voltage is acceptable).
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.

844 Pump Configurations

Before going any further, it is helpful to understand the arrangement of the pumps or valves on the 844. 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 844 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 844 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. There are two methods to supply provide power to the 844 Laundry Master.
    a. For most North American installations, simply plug the main power cord for the 844 into 120VAC wall outlet for main power. The system can be plugged into 230VAC power as well. The use of an

appropriate plug adapter or replacement of the 115VAC plug will be required. If the 115VAC plug is replaced, the following should be observed;

i. *Power can be 115/230VAC 50/60Hz*
ii. *The Brown wire is for the "Line" connection*
iii. *The Blue wire is the "Return" or "Common" connection*
iv. *The Green/Yellow is the "Earth Ground" connection.*

b. The 844 Laundry Master can be hardwired by cutting off the molded 115VAC plug and stripping insulation off of the conductors properly. The following is required when hardwiring the DEMA 844 Laundry Master:

i. *Power can be 115/230VAC 50/60Hz*
ii. *The Brown wire is for the "Line" connection*
iii. *The Blue wire is the "Return" or "Common" connection*
iv. *The Green/Yellow is the "Earth Ground" connection.*
v. *Installation may require the use of appropriate conduit equipment. See local electrical codes.*
vi. *Connection should not affect the operation of the laundry machine or other equipment at the application site.*
vii. *A certified or licensed electrician should be consulted and may be required based on government established electrical codes.*

3. *Connect the STU-II (trigger signal interface module) – see STU-II instruction sheet I-1036*
4. 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 844 Laundry Master. The kits includes a 20ft of LDPE tubing per pump to connect from the chemical container to the DEMA 844 pump, and from the DEMA 844 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 844 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. Programming Guide – DEMA Number I-1076

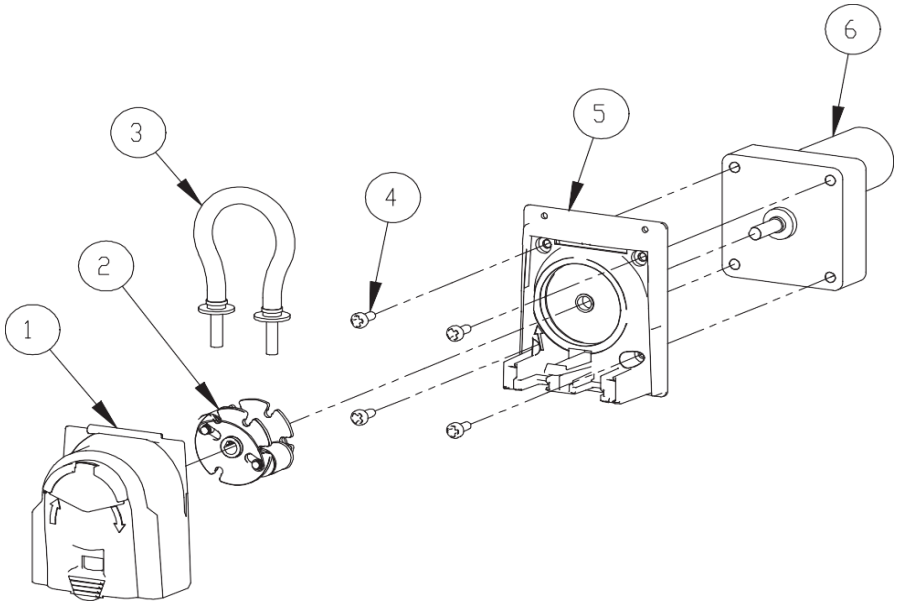
Priming Pumps

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).

844 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 844 the power switch at the bottom should be turned off and the main power should be disconnected if possible.

REPLACEMENT PARTS	
PART #	**DESCRIPTION**
84.65.54	IQ-81 CONTROL BOARD
84.65.90	POWER SUPPLY
84.125.10	POWER SUPPLY CABLE (POWER SUPPLY TO SWITCH)
84.298.1	24VDC ADAPTER CABLE (POWER SUPPLY TO THE BOARD)
84.65.4	TOGGLE SWITCH (INCLUDES ON/OFF PLATE AND BOOT)
66.21	LOCK AND KEY SET
66.21K	KEYS ONLY



KIT #	DESCRIPTION
81.173.9	COMPLETE KIT (ITEMS 1-7 DETERGENT/105 RPM MOTOR JG FITTINGS)
81.173.10	COMPLETE KIT (ITEMS 1-7 DETERGENT/105 RPM MOTOR BARB FITTINGS)
81.173.22	COMPLETE KIT (ITEMS 1-7 DETERGENT/60 RPM MOTOR JG FITTINGS)

ITEM #	PART #	DESCRIPTION
1	81.174.1	PUMP BORE ASSEMBLY (COVER WITH WINDOW)
2	81.118.28.1	2 ROLLER BLOCK ASSEMBLY (SPRING LOADED)
3	81.177.1	DETERGENT SQUEEZE TUBE (WITH JG FITTINGS # 81-176-1)
	81.177.6	DETERGENT SQUEEZE TUBE (WITH BARB FITTINGS # 81.188.2)
4	25.85.2	#10-32 X ½" SCREW (4 NEEDED)
5	81.128.2	PUMP BASE
6	80.59.105MK	105 RPM GEAR MOTOR (DETERGENT)
	80.59.60MK	60 RPM GEAR MOTOR (DETERGENT)
7	81.17.5	SILICONE LUBE PACKET (NOT SHOWN)