



World Class Cleaning Solutions®

Natural Solution™ Programmable Dispenser

Model #4203: Operation & Maintenance

Programmable dispensers are battery operated peristaltic pumping systems (convertible to A/C-power) which run automatically at preset times as programmed with an electronic timer / control mechanism.

This guide contains instructions for installing, programming, and troubleshooting the Natural Solution™ Dispensing System. Throughout the guide, the following icons are used to indicate the model(s) to which each step pertains.

Models:



Mounts:

Wall Mount

Power:

8 D-cell batteries

This package should contain:



One Natural Solution™ dispenser

INSTALL PACKAGE CONTAINING:



Ceramic weight and strainer for inlet tubing



Polyethylene tubing (10 ft)



Cable ties



Mounting Bracket (Some Models)



AC Adapter (Some Models)



Injection Fitting

Natural Solution™ Dispenser Specifications:

PUMP

Flow Rate	Approx 3.5 oz / min
Tube Material	EPDM
Inlet Vacuum	20+ in Hg
Outlet Pressure	20 psi

SYSTEM CABINET

Material	Polypropylene and ABS
Size Model 4203	4 3/4" X 6 3/4" X 8 1/3"

PROGRAMMABLE TIMER / CONTROL

Program Duration	Daily / Weekend / Week Days/Special
Maximum # of Events	24
Dispense Amount per Event	.5 oz – 30 oz (dispensed in .5 oz increments) or 15 – 900 ml (dispensed in 15 ml increments)



Please use this equipment carefully and observe all warnings and cautions.

ALWAYS observe safety and handling instructions of the chemical manufacturers.

ALWAYS direct discharge away from you or other persons or into approved containers.

ALWAYS dispense cleaners and chemicals in accordance with manufacturer's instructions. Exercise CAUTION when maintaining your equipment.

KEEP equipment clean for proper operation.

WEAR protective clothing and eyewear when working in the vicinity of all chemicals, filling or emptying equipment, or changing tubes.

ALWAYS re-assemble equipment according to instruction procedures. Be sure all components are firmly screwed or latched into position. Ensure that hoses and electrical wires are properly placed and not kinked or pinched.

ONLY USE ALKALINE BATTERIES.

Tube life will vary depending on the type of treatment product used. To prevent emergency service, schedule replacement at least once per year.

NOTE: The batteries should be scheduled for periodic replacement. Using a total of 40 running (pumping) hours, create a schedule for servicing the unit and changing the batteries. Maintaining the power source as such will help to provide the proper dosing by providing a more consistent pumping rate.

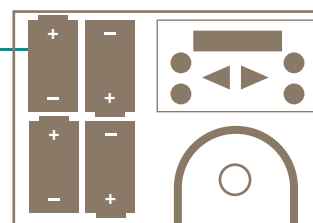
Installation

STEP 1A: Install the Batteries

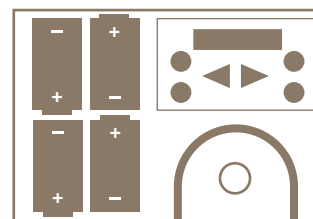
4203

- Loosen the battery door screw.
- Open the battery compartment.
- Place eight, fresh alkaline D-cell batteries into the holder as shown in the battery compartment—and in the diagram on right.

Battery life is typically 40 running hours. A “low battery” indicator will alert you to a low voltage condition indicating battery change. Program settings will be maintained if dispenser is disconnected from power source.



Upper Level Placement



Lower Level Placement

After installing batteries correctly you will see “Batt OK” displayed on the unit.

Batt OK

If a problem with the battery placement is detected “Batt Err” or a blank screen will be displayed on the unit and the red led for Low Battery will be flashing.

Batt Err

Correct battery placement using the diagram shown above.

STEP 1B: Mount the Dispenser

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For Models 4203 you'll need to mount the dispenser before attaching the power cord (if supplied).

- Choose a location near the pipe or grease trap into which it will be dosing. In kitchens, the unit may be mounted beneath the dish machine work tables or on the wall.
- Use the mounting bracket to mark the appropriate locations for the mounting hardware.
- Drill the holes accordingly and insert the anchors (if necessary) and screws provided.
- Affix the mounting bracket to the wall.
- Mount the dispenser onto the mounting bracket.
- Secure the dispenser with the remaining screw provided.



Installation

STEP ②: Install the Inlet and Discharge Tubing

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- From the tubing supplied, cut a section long enough to reach from the pump inlet (left side port) to the bottom of the pail to be used. Slide the ceramic weight onto the end and insert the strainer into the end of the tube.
- Route the tube properly and insert into the inlet compression fitting.
- Hand tighten the nut to secure.
- Connect remaining tubing to the exit side port and tighten.
- Route and secure the tubing with cable ties provided so that the product is dispensed directly into the intended drain to be treated.
- If connecting to an existing facility drain piping, drill and tap the drain pipe or trap cover for the 1/8" NPT injection fitting supplied. When the product should be dispensed into a trap, but the trap is inaccessible, feed the tubing down the inlet pipe to the trap. In these cases, the fitting can be drilled through to allow the tubing to pass into the pipe. Wrap the injection fitting once with sealing tape or thread compound and screw in the injection fitting. Tighten to provide a positive seal.

NOTE: Be sure the tubing will be out of the way of traffic and will not impede motion required in the area. Creating a low place in the run of tubing near the fitting will minimize drainage from the tubing.



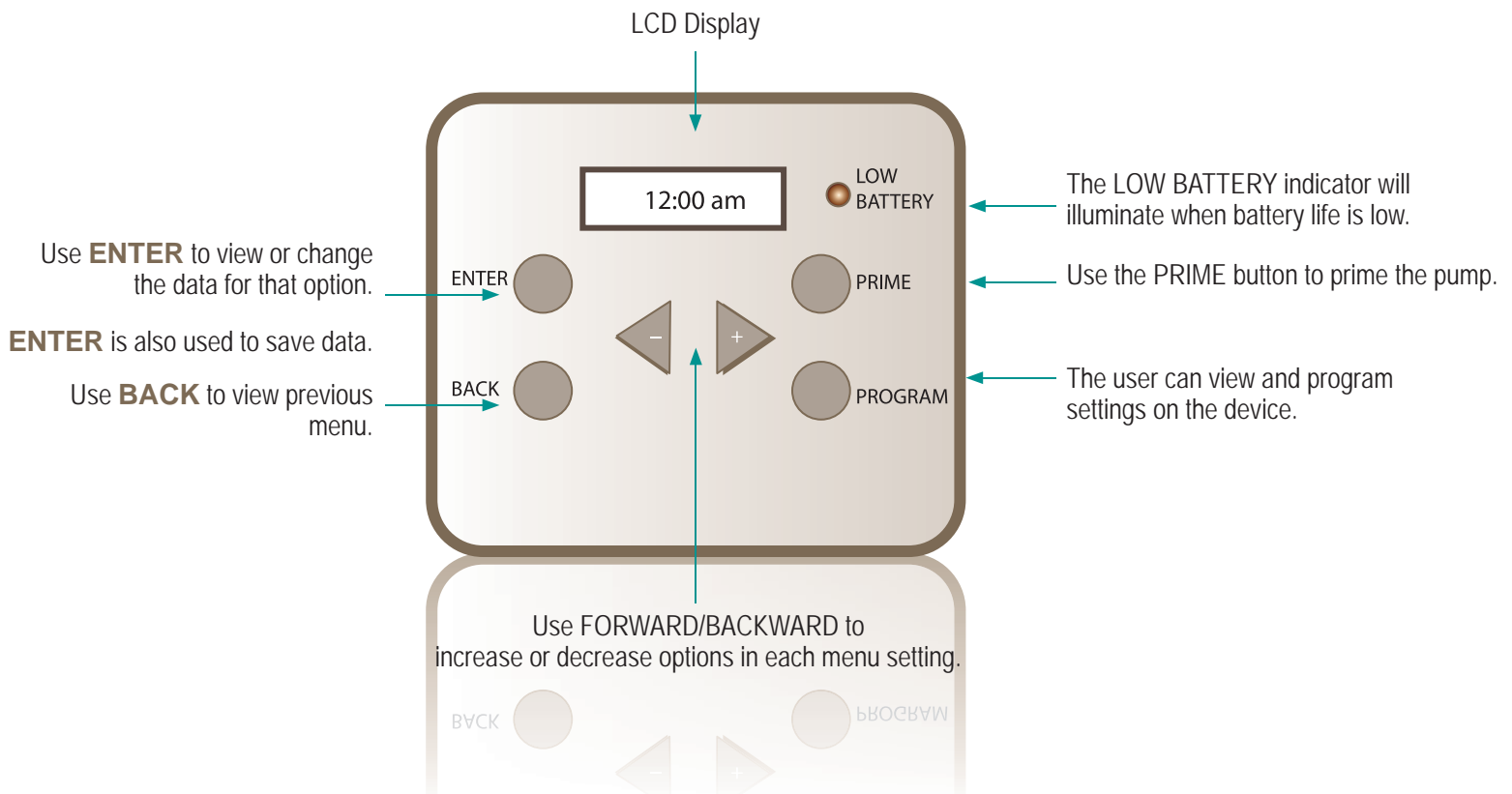
STEP ③: Prepare/Prime the Dispenser for Use

4203

- Open the container of treatment product.
- Drop the strainer end of the inlet tube into the container.
- Prime the pump: Press **ENTER** to wake the display and push and hold the Prime button until product is evident at exit to drain.
- Review the program and adjust if necessary.



User Interface Definition





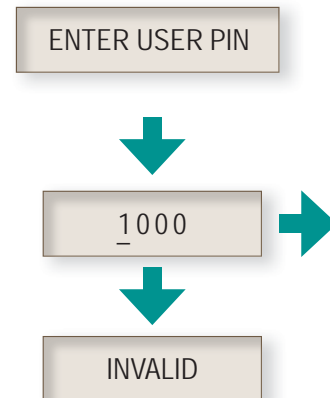
NOTE: To conserve power, the display will not be visible during normal operation.

Reviewing Set Program







- Press **ENTER**.
- Press **PROGRAM**.
- Press **ENTER** to step through settings.

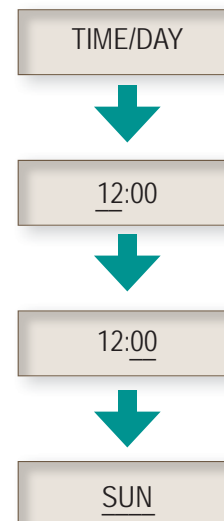
Unlocking Device

- Press **ENTER** to wake controller.
 - Press **PROGRAM** and hold for 2 seconds.
 - Press **ENTER** twice and enter PIN, using using   to change each number, then press **ENTER** to move to the next number.
- NOTE:** The default password is 1000. You will have an opportunity to customize the pin in a later step.
- After the 4th number has been entered, press **ENTER**, and the system will validate the number.
 - If the number is correct, the user will enter Program Mode. If incorrect, "INVALID" will appear on the display and the unit will exit programming mode.
 - When entering programming mode, the **Low Batt LED** will flash rapidly to signify that the device is momentarily inactive during programming.



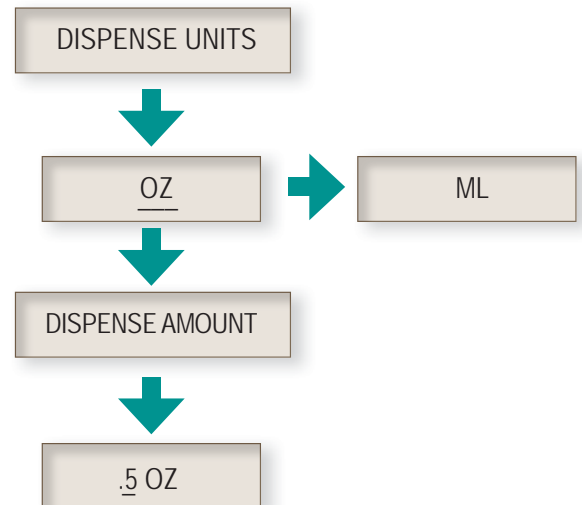
Setting Time/Day

- Press **ENTER** to set hours.
- Press **ENTER** and set hours. Use   to adjust hours.
- Press **ENTER** to set minutes. Use   to adjust minutes.
- Press **ENTER** to save and continue with day.
- Use   to adjust the day.
- Press **BACK** to edit hours if needed.



Program Dispense Units

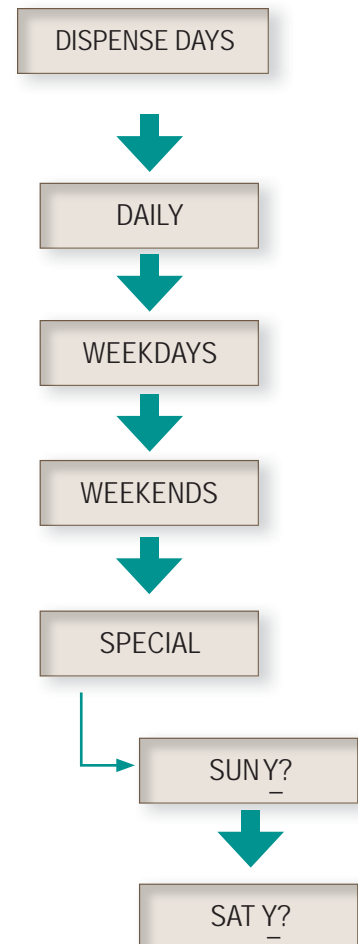
- Press **ENTER** to begin setting the dispense units.
- Select OZ or ML.
- The dispense amount applies to the amount of chemical dispensed each time the Drain Treater is scheduled to run.
- Program dispense amount.
- Use ◀ ▶ to adjust the amount in .5 oz. steps (units can be changed to mL in a different menu).





Program Dispense Days

- Press **ENTER** to begin setting the Dispense Days.
- Use ◀ ▶ to pick a preset number of days, or choose "SPECIAL" to program each day individually.
- "DAILY" applies to every day of the week.
- "WEEKDAYS" applies to Mon-Fri.
- "WEEKENDS" applies to Sat-Sun.
- "SPECIAL" applies to a unique set of days during the week.
- Press **ENTER** to save and go to the next menu option.

Note: When using "SPECIAL" to select a particular day to program, deselect the days not desired using ENTER to navigate Sunday through Saturday.



Program Dispense Times



- Press **ENTER** to begin setting the Dispense Times.
- Event 1 (up to 24 total) will automatically be selected. If acceptable, press **ENTER** to accept and move to event 2.
- Press **ENTER** to begin with setting the hours. Use   to adjust the number up and down. The AM/PM function will automatically change.
- Press **ENTER** to save and continue with minutes.
- Minutes will be in increments of 10 minutes.

Continue programming events as needed remembering each event will dispense the amount selected earlier. When finished, press **PROGRAM** when next event is displayed. Press **ENTER** at "Done"

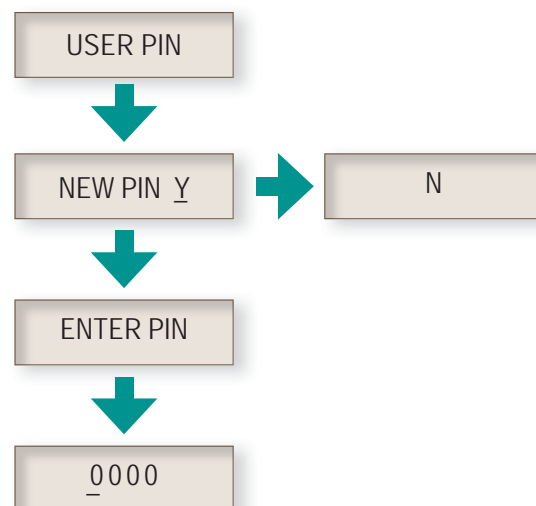
NOTE: To eliminate an event, reprogram desired events, then when "EVENT N" is visible, exit by pressing **PROGRAM**, and then **ENTER** to exit programming as normal. Review programming and EVENT N to EVENT 24 will show "NONE."



Program User PIN

- Press **ENTER** to begin entering PIN.
- Use   to change each number, then press **ENTER** to move to the next number.
- After the 4th number, press **ENTER** to save and complete programming. The time of day should be displayed.

NOTE: Controller will "go to sleep" after 30 seconds and display will be blank until awakened by pressing **ENTER**.



Maintenance: Changing the Pump Tubing

NOTE: You may want to work over old newspapers or other discardable material to protect floors or other areas from the possibility of spilled treatments.

Remove the Old Tubing

- Loosen and remove tubing from compression fittings.
- Loosen screw on pump cover and remove.
- Lay aside the supply and discharge tubing.
- Remove the old squeeze tube assembly from pump housing and discard it.

NOTE: If drain treatment leaks on pump housing, it can be washed in soapy water. If the rotor assembly has been wetted, wipe it with a dry cloth. It is not necessary to wipe the grease from the pump housing if the grease is clean.

Inspect the Pump

- While the pump is disassembled, inspect all parts for foreign matter.
- Clean the parts as necessary.
- Check the rollers to ensure they turn freely.
- Inspect the rotor.



CAUTION/CUIDADO:

If the rotor needs service, replace the entire rotor.

Install the New Tubing

- Replace the rotor and put a small amount of tube lubricant on each end of the rotor assembly shaft (bearings).
- Position the pump inlet port as shown.
- Bend the new tube in half and insert without twisting the tube and place the outlet port fitting in as shown.
- Replace the rotor over the motor (blade) shaft and use a screwdriver to twist the rotor as it is inserted.
- Replace cover and tighten screw.
- Reattach the inlet and exit port tubing.
- Prime the product to ensure the fittings are tight and unit is ready for operation.

NOTE: A small amount of tube lubricant in each channel will make this process easier.



CAUTION/CUIDADO:

Be sure the tube is not twisted during installation. Twisting the tube will greatly reduce tube life.



Troubleshooting

ISSUE	If the motor is turning:	If the motor won't turn:
Unit is not pumping fluid: Wake and push PRIME button.	<p>Check level of drain treatment supply.</p> <p>Check for air leaks in the supply tubing connection to pump tube.</p> <p>Check for clogs in inlet and outlet tubes.</p> <p>Ensure pump tube is not twisted.</p> <p>Check pump tube (as it wears out, the amount of fluid pumped decreases); change if necessary.</p> <p>Are springs broken on rotor?</p>	<p>Ensure programmer is functioning: Try to run pump manually (see "Prime" Function, page 4 Step 4).</p> <p>Check program: ensure times for dispense are correct.</p> <p>Check battery orientation.</p> <p>Check battery condition; install new batteries. Is "Low Battery" light illuminated?</p> <p>Replace tube binding rotor.</p>

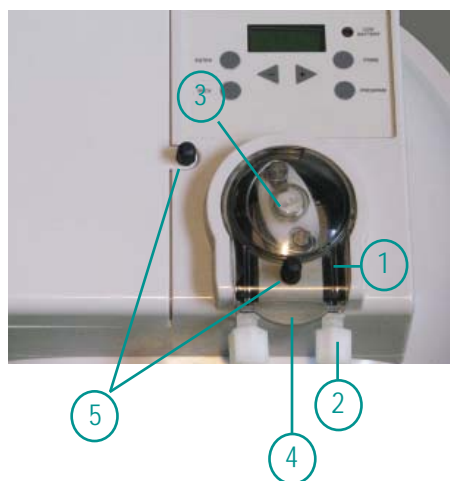
Unit is pumping improperly:

Check the programmed dispense amount and adjust as necessary.

Ensure programmer is turning on and off at set times. Check for improper tube installation. Replace tubing with proper size.

Replacement Parts

National Chemical Laboratories cares about your satisfaction. Please contact our customer service department for technical assistance. For all of your replacement parts and maintenance needs, contact your distributor.



	Part Number	Part Description
1	15-06959-04	Pump Tube Assembly (EPDM)
2	41-05567-00	Compression Nuts
3	03-06281-02	Rotor Assembly
4	90090430	Pump Cover
5	27-08008-00	Thumb Screw
6	509100	Injection Fitting
7	609600	Strainer
8	509900	Weight
9	10094781	AC Adapter
10	10012301	Tubing 20 Ft. Roll
11	13-06647-00	Mounting Bracket Kit
12 (also available)	10095411	Pump Tube Assembly Viton
13	03-07708-04	Pump Tube Assembly Silicone