D3000

Troubleshooting Guide

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Safety

Always wear the required Personal Protective Equipment (including gloves and goggles that must be worn when potentially exposed to any hazardous materials and when carrying out hazardous work tasks). Turn the dispenser off during cleaning and note that parts may be contaminated with product. If possible, flush tubing out with water prior to carrying out any maintenance. For information on products that are used in this dispenser, please carefully read the product label and Material Safety Data Sheet (MSDS).
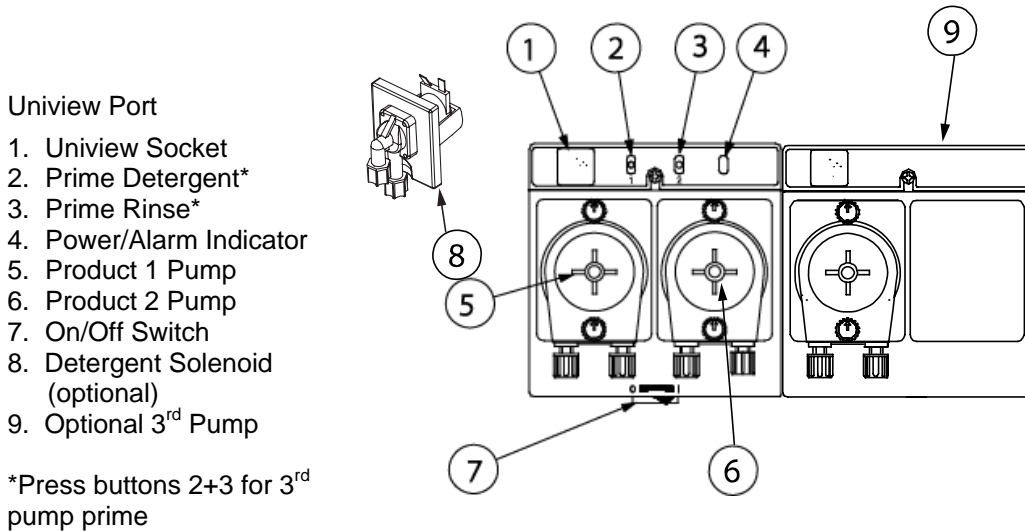
Electrical installation of this dispenser should only be performed by trained personnel in accordance with local electrical wiring regulations. Before working on this dispenser, isolate it from any electrical source and lock out/tag out.

Introduction

The causes of the D3000 not operating correctly are usually related to the setting up and programming of the unit. Confirm that it is the correct mode for setting up i.e either Uniview or potentiometer. If it is a new installation, check that it is in the correct mode, the electrical trigger signals are correct and wires have not fallen off the motors as the unit has been installed.

After installation issues, the main causes of problems are motor failure and probe scaling/contamination. The circuit board is very reliable so always consider other causes before changing the circuit board.

Before leaving the installation always check that the D3000 is left switched on.

Uniview Port

1. Uniview Socket
2. Prime Detergent*
3. Prime Rinse*
4. Power/Alarm Indicator
5. Product 1 Pump
6. Product 2 Pump
7. On/Off Switch
8. Detergent Solenoid (optional)
9. Optional 3rd Pump

*Press buttons 2+3 for 3rd pump prime

Standard External Controls, Indicators and Normal Alarm Conditions

LED	Status	Cause
Green	On solid	Power on, condition OK
	Slow flashing	One or more of the pumps are feeding
	Rapid flashing	Pump feeding delay
Red	Rapid flashing & alarm	Low level/depletion input triggered
	Pumps either stopped or still feeding depending upon programming option menu 14　　Detergent pumps keep rotating	Long feed alarm ie set point not reached x 5 feeds
	Detergent pumps stop feeding　　On solid and alarm	Long feed stop alarm ie set point not reached after 10 feeds, (unit reset at next wash signal)

Troubleshooting Table

The following table identifies a number of problems which can be encountered with installations. The possible causes and solutions have been provided below.

Uniview or Potentiometer

The D3000 can operate with a Uniview or using the potentiometers to set up the operating settings. If in potentiometer mode, it is possible to use a Uniview to view all the settings but they cannot be changed apart from alarm volume menu 10 and menu 23. If programming is tried when in potentiometer mode then EE is displayed.

Before troubleshooting starts ensure that the programming mode is known or it will confuse the investigation.

Unable to program settings with Uniview. It displays EE when program is pressed

Cause	Solution
D3000 is in potentiometer control and not Uniview	Look at the setting on menu 23 with Uniview. 0=potentiometer, 1= Uniview. Change setting as required

Unit fails to run

Cause	Solution
Unit switched off	Switch on unit. Location of switch is on the bottom of the unit. Check LED is on when dish washer is operating.
Plug in connectors on circuit board loose or incorrectly located.	Check that the push-in connectors are fully pushed in. If the cables loom is tight they may pull out when the door is closed.
Fuse blown on circuit board.	Replace with fuse of same rating but look for cause. Expect it to fail again if root cause is not found. If it does blow immediately disconnect motors and see if it blows again. If it does, replace circuit board. If not, connect motors one at a time to see if they are faulty. Replace as necessary. (See Reference Guide)

Properly rated fuse repeatedly blows

Cause	Solution
Mechanical problem with motor or gearbox eg jammed rollers/tubing, gears or gearbox.	Temporarily disconnect the pump cartridge and see if it runs OK. Switch on unit to see if motor tries to turn/stalls. Replace cartridges or motor gearbox as necessary (See Reference Guide).
Electrical failure of motor eg short circuit.	Replace motor gearbox. (See Reference Guide) Note: It is possible that the failed motor may have damaged the circuit board.
Failed circuit board. The cause of the failure may be a motor going short circuit.	Replace circuit board with a new one. (See Reference Guide) Connect the motors one at a time and check if the board fails or parts become very hot.

Detergent feeds too often (Conductivity Control)

Cause	Solution
Dishwasher problem e.g. fill valve stuck on and freshwater keeps entering the tank. Open drain valve causing fresh water to keep entering. Wash motor faulty and solution not being agitated	If it is certain that it is definitely a dishwasher problem, inform customer to arrange the repair of the dishwasher.
Use the Uniview to confirm the correct concentration is programmed in and to check that the actual concentration is within a couple of BU.	Re-program as necessary to correct the set point.
Dirty/contaminated probe	Check actual tank concentration by titration compared to the BU set point. Compare the BU reading of Mode 1, Menu 3 with the BU reading of Mode 1, Menu 22. If there is a large difference, the probe requires cleaning. In this case, drain the tank then remove and clean the probe. (See Reference Guide)
Probe wires loose or disconnected	Check tank concentration reading on the Uniview. If it reads "Lo" and water/product is present in the tank, then the probe is not connected. Check wire connections to the terminal block on the D3000. If the unit will not stop feeding, then temporarily short across the probe wires and the unit should stop. If not change circuit board. (See Reference Guide)

Detergent concentration too low, probe clean (Conductivity Control)

Cause	Solution
Conductivity range setting is incorrect on mode 1, menu 21.	The normal setting on Mode 1, Menu 21 should be 1 ie high range.

Detergent Usage too high (Timed Dosing)

Cause	Solution
The pump runtime/speed is too high.	Re-program the dosage to reduce quantity.

Detergent does not feed at all (Conductivity Control)

Cause	Solution
Probe wires are shorted together.	Check tank concentration reading on the Uniview. If it reads "Hi" it is likely that the wires are shorted. Disconnect a wire from the probe connector on the circuit board and the tank reading should drop to "Lo". If it does not replace circuit board. (See Reference Guide) Replace probe/wiring as necessary.
Unit does not receive a wash power or trigger signal	Check that the power on LED is lit when machine is washing or rinsing. Look for breaks in cable, supply fuse failure or wire fallen off. Also consider transformer failure.

Detergent does not feed at all – Timed/Speed Control

Cause	Solution
Unit programmed incorrectly for runtime	Check all the settings to ensure that the runtime is programmed correctly. Check correct power / trigger signals are connected.

Detergent/Rinse does not feed – All modes of operation

Cause	Solution
Power not reaching motor	Check both wires are still connected to the motor. If they are connected, press PRIME and the motor should run. If not the circuit board needs to be changed. (See Reference Guide)
Rinse Delay Programming	Review rinse delay setting and adjust as necessary.

Conductivity Control is erratic and BU reading is unstable

Cause	Solution
The D3000, when in conductivity mode, is receiving a feedback signal from the probe via the wash solution. This electrical interference is often caused when there is no isolating transformer for the 24V supply. Do not use any 24V AC power supply from the dishwasher.	Install a power supply transformer and do not use any 24V supply from the dishwasher. Electrical noise can also be generated from a faulty heater in the dishwasher. It is very difficult to prove that this is the cause and should the problem persist, changing to a timed dosing configuration will eliminate the problem.

Product is not pumping when roller in pumphead is rotating.

Cause	Solution
Leak in pickup tube or fitting.	Look for air bubbles in the pickup and delivery tube and try to see where the air ingress point is. Tighten or replace as necessary.
Product pickup tube is not in product or the end of the pickup tube is blocked.	Inspect the pickup tube and ensure that it is in the product and ensure it is not blocked.
A securing pin on the pump cartridge has become loose and the tube is not being compressed correctly.	Loosen off the cartridge leaving the tubes connected and perform a visual check to ensure that the tube is in order. Reconnect the cartridge or replace as necessary.