Installation and operating manual

Efficient Dosing System

Thinking of you

Electrolux

Installation and operating manual in original language

438 9196-50/EN
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Contents

1. ED Dispenser

1.1 Introduction

The Efficient Dosing System (ED) is capable of connecting and synchronizing directly to the washer compass programmer via a data cable and RS232 data port on the back of the machine.

No high voltage trigger connections are required when connecting to the ED dispenser.

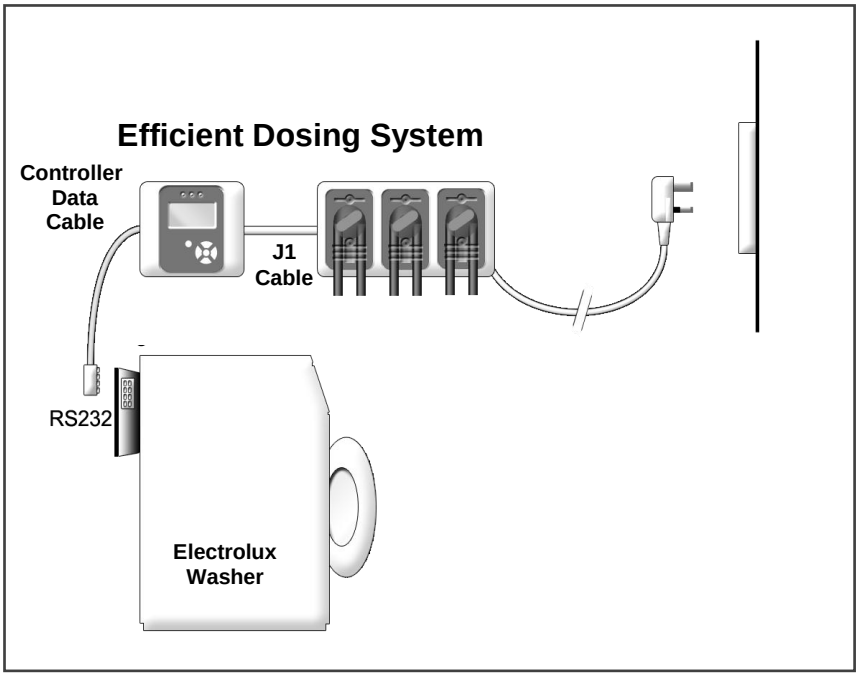
The “ED” automatically adjusts the chemical dosage rate up or down based on the weight instruction from the washer. This system will optimize the wash process, reduce chemical and energy costs and deliver a total cost solution to the customer.

1.2 System Diagram

Up to 50 formulas may be programmed with the ED Controller. The image shows the components described below.

The ED Controller receives a signal from the RS232 connection port on the Electrolux washer at predetermined times in the wash formula.

Once a signal is received the ED injects specific product(s) at that time in proportion to the weight of linen as determined via the AS system.



1.3 System Summary

The Pumpstand operates on 115VAC / 60 Hz, 220VAC / 60Hz, or 230VAC / 50 Hz. It also supplies low voltage power to the Controller and provides an interface for the optional Flush Manifold.

The Controller mimics the screen of the washer and in real time shows the stage of the wash process and the efficiency of the wash load in process.

The Optional Flush Manifold (not shown) provides an alternative means of chemical transfer to the laundry machine. In flush configuration, the ED is an integrated water flush chemical dispensing system.

The Controller’s easy-to-understand, plain text LCD display (available in English & another language of your choice) make operator training simple. Installation time and cost is significantly reduced with the computer based Formula Editor programme that allows an off-site technician to create sets of formulas that are loaded onto the ED controller via a standard USB flash drive. (16GB or smaller)

Summary reports can be created in Excel or HTML.

2. ED Installation

2.1 Site Survey and Installation Requirements

Before an installation takes place it is advisable to complete a site survey to ensure the ED can be installed in a position that meets all of the requirements listed below.

1. Unit must not be installed near areas that suffer excess temperature changes, frost or precipitation of any kind.
2. Ensure the unit can be mounted in an accessible position above the height of the required discharge location.
3. Typically locate the Pumpstand within 3 metres of the laundry machine and close to product containers and at a convenient height for pump tube servicing, typically 1–1.5 metres
4. For flush installations, allow room underneath Pumpstand for a Flush manifold, water valve, and related plumbing.
5. Verify that there is access to the appropriate power source for the unit.
6. The input tubing run from the chemical container to the pumpstand should ideally be no more than 2 metres in length. A short inlet tube will ensure longer maintenance free periods for the peristaltic tube.
7. The Controller must be mounted securely to the laundry washer or other convenient location.
8. The location should allow easy access for machine operators to read the display. The controller may be mounted to a horizontal surface, such as the top of the washer, or on a vertical surface, such as the front of the washer.
9. Unit must not be used or installed in an ATEX environment.
10. Ear protection must be used in surrounding area.

2.2 Warning

These installation, operation and servicing instructions are for use by qualified competent personnel only. The ED must be installed in accordance with all applicable electrical and plumbing standards. All laundry machine and dispenser power must be disconnected and the units isolated during installation and/or any time the dispenser is maintained or serviced.

- Always verify all voltage sources with a meter.
- Do not mount Pumpstand under plumbing fittings that could potentially leak.
- Ensure installer has ability to carry and lift unit, if necessary install using lifting equipment
- Do not pick up unit by supply cord

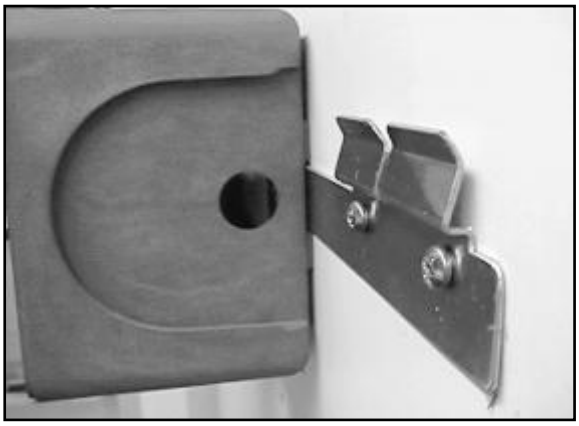
2.3 Pumpstand Installation

1. Ensure wall is of a quality to support wall anchors, and is flat and is perpendicular to the floor

2. Mark mounting surface screw hole locations using the wall mounting bracket as a template. See right

3. Drill marked locations and install suitable wall anchors for the surface, e.g. metal anchors in cement or cinder-block.

4. Install screw through mounting bracket into wall anchors. Tighten screws.



5. Hang Pumpstand on wall mount bracket, pressing downwards until Pumpstand locks in place.

2. ED Installation

2.4 Controller Installation

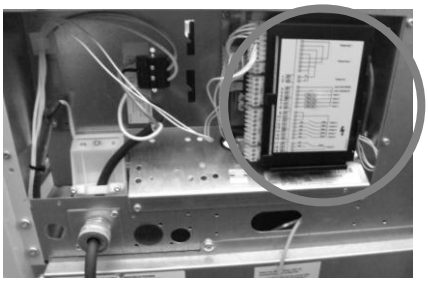
1. Utilising the mounting plate provided mount the ED controller in a suitable location with self-adhesive Velcro hooks or nuts and Allen bolts provided.

2.5 Controller data port installation

- **WARNING - Disconnect power to the wash machine before proceeding.**
- **Keep the communication cable away from high voltage wires and relays. NEVER parallel the cable with high voltage lines.**

1. Working from the rear of the Electrolux washer first remove the retaining screws and then lift off the electrical back panel (fig 1) to expose the I/O board as shown in fig 2.


Fig 1



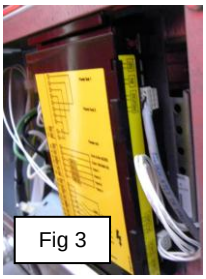


Fig 3

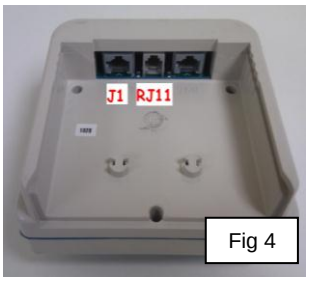


Fig 4

2. Route the RS232 end of the Controller data cable through a suitable strain relief gland and connect to the I/O board as shown in fig 3.

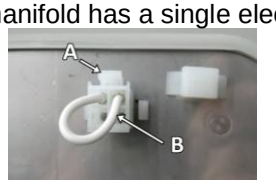
3. Replace the back panel.

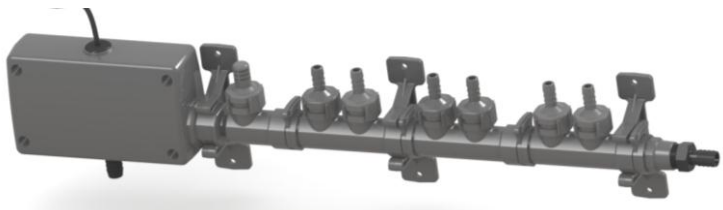
4. Connect the opposite end of the Controller data cable to the RJ-11 port on the back of the EDS controller. (Fig 4)

5. Connect the J1 cable from the pumpstand to the J1 connection port on the back of the controller. (Fig 4)

2.6 Flush Manifold Connection (optional)

The Flush manifold has a single electrical connector specifically designed to connect to the EDS Pumpstand.



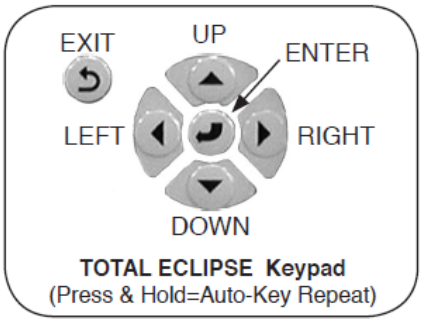


1. Depress the locking tab (A) and remove the jumper harness. (B)
2. Now the jumper harness is removed connect the Flush manifold connector.
3. The Flush Connector (with water flow in the Flush manifold) or the flush jumper harness must be installed to enable pumps to operate.

CAUTION
DO NOT connect any voltage other than 24VAC/DC to the solenoid coil

3. Programming

3.1 Language setup



Each ED controller is shipped with English and Spanish languages installed. Additional languages may be downloaded from the ELS website directly to your flash drive (16GB or smaller).

If changing from one of the pre-installed languages, the language-enabled USB flash drive must be connected **before** applying power to the controller.

With the controller off install the language enabled USB flash drive. Power up the controller, select the language of your choice and push the “Enter” key.

3.2 Time and date setting

After the language is set the Date & Time menu appears as **YYYY-MM-DD (**Year-Month-Day) and **HH:MM** (Hour - Minute) with the first number of the year selected as the active digit.
Set all digits to the current date and time and press “Enter” to save.

3.3 Priming the pumps

1. Press enter to access the installer menu and select “Installer Service”. (Fig 5)
2. From the “Installer Service” menu screen select “Service Pumps”. (Fig 6)
3. From the “Service Pumps” menu screen select “ Prime Pump” and then select the pump to be primed. (Fig 7)
4. Pressing enter from the “Set Prime Pump” screen will start and stop the pump. (Fig 8)

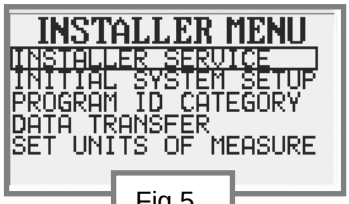


Fig 5

Fig 6

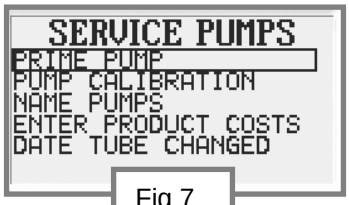


Fig 7

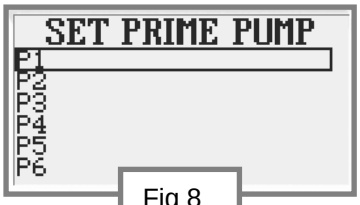


Fig 8

3.4 Calibrating the pumps

1. After priming the pumps select “Pump Calibration” From the “Service Pumps” menu. (Fig 7)

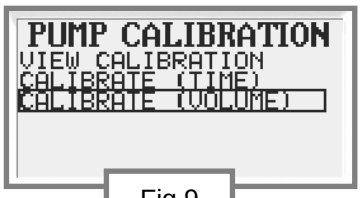


Fig 9

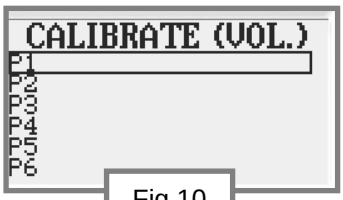


Fig 10

2. **Place a jug or suitable container capable of holding a minimum of 300 mls under the outlet tube.**
3. Select “Calibrate Volume” (Fig 9) and press enter.
4. Select the first pump to be calibrated (Fig 10) and press enter.
5. Press enter to start; collect exactly 250 mls and press enter to stop. Repeat this process for all pumps. (Fig 11)

Fig 11

If the pumps are not calibrated they will not run even if there is an amount programmed.

3. Programming

3.5 Electrolux Setup Screen

1. With the power on, verify communication is established via the presence of an asterisk at the bottom right hand side of the ED controller screen. (Fig 12)

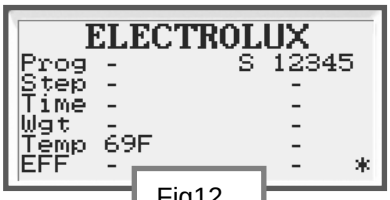


Fig12

2. **The ED controller is preset to address 0 (Zero). If the Electrolux washer machine address is not set to 0, communications will not be established.**

3. Please note the machine address in the ED controller can be changed to match the Electrolux washer address.

4. Press “enter” from the Home screen to access the Main menu screen. (Fig 13).

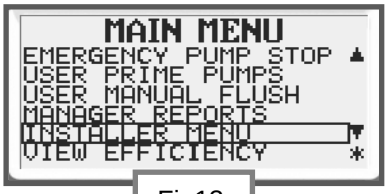


Fig13

5. The Electrolux settings are accessible through the “Installer Menu” as shown in Fig 13. Press the down arrow key and select the “Installer menu” item. Press the “Enter” key to take you into the security password screen.

Fig 14

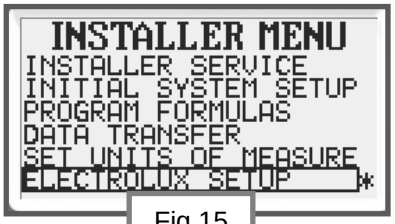


Fig 15

6. Using the arrow keys enter the default password “01234” and press enter. (Fig 14)

7. Scroll down to “Electrolux setup” within the Installer menu and press enter. (Fig 15)

8. The Electrolux machine, address and weight can be modified from the Electrolux Setup screen. (Fig 16)

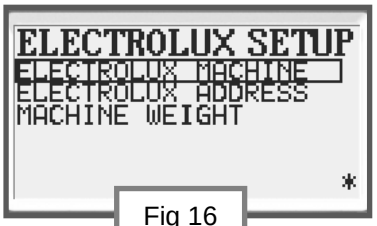


Fig 16

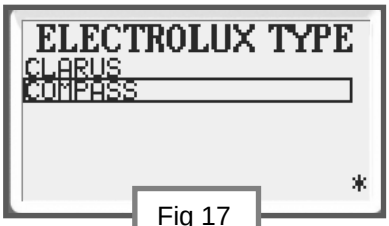


Fig 17

9. Select and enter any of these menu screens to view or change the parameters.

10. The Electrolux machine screen should be set to “Compass”. (Fig 17)

11. The default machine address is normally set to “000” but can be changed. (Fig 18)

Fig 18

Fig 19

12. The machine weight screen should be set to the Electrolux washer capacity weight as indicated on the washer label on the back of the machine. (Fig 19)

3.6 Operation Notes

1. When priming each pump observe the pump tube for any bulging or pulsing on the outlet side (indicating that excessive back pressure is present).

- **NOTE - Pump calibration times longer than 52 seconds for 250mls (or 50 seconds for 8 oz.) indicate that the pump output is 25% below rated flow rate. In this case, we strongly advise you to increase the supply tube ID size to reduce pump tube wear.**

2. Select a formula, start the washer, and observe a test load to ensure that all products dispense only when they are supposed to dispense.

3. Programming

3.7 Programme Formula setup

The set of screens under the PROGRAM FORMULA menu allows the installer to create, edit and save formulas.

- Up to 50 ED controller formulas may be created within the controller
- Each ED controller formula can be assigned to any six of the multiple Electrolux washer programs available in the machine
- If utilised correctly the ED controller can be utilised for up to 300 Electrolux washer programs

Note that the formula programming and setup can easily be configured with the Formula Editor program on a windows based PC. The setup is then saved to a .SUP file that can be loaded to the controller via a USB flash drive.

3.8 Upload a setup programme to the controller

1. From the “Installer menu” select “Data transfer” and press enter. (Fig 20)
2. Insert your USB drive and from the “Data Transfer” menu select **“Read Setup”** and press enter.(Fig 21)
3. Select the setup file of your choice as Programmed on your PC with the Formula Editor programme and press enter. (Fig 22)
4. You will see a warning sign before uploading. Press enter and the file will upload. The controller is now programmed. (Fig 22 & 23)

Fig 20

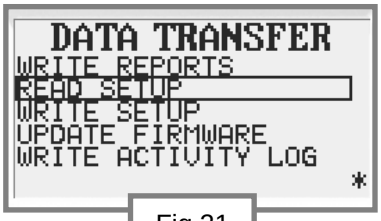


Fig 21

Fig 22

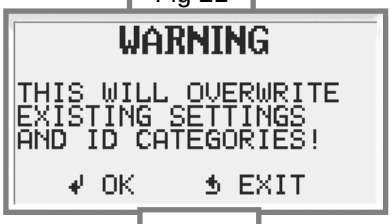


Fig 23

3.9 Download a setup programme to a USB drive

1. Insert your USB drive and from the “Data Transfer” menu select **“Write Setup”.** (Fig 24)
2. Input a file name for reference using the keypad and press enter. (Fig 25)
3. You will see a warning sign as per (Fig 23) before uploading. Press enter and the file will be uploaded to the USB drive.
4. This USB drive can be now be used for uploading to multiple machine installations.

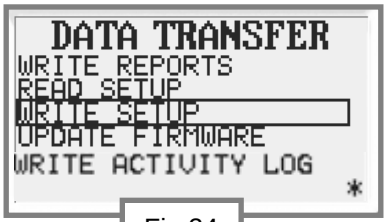


Fig 24

Fig 25

3. Programming

3.10 Download reports to a USB drive

1. Insert your USB drive and from the “Data Transfer” menu select **“Write reports”.** (Fig 26)
2. Enter the current date for your report and press enter. (Fig 27)
3. Enter a name for your report using the keypad and press enter. (Fig 28)

Continue to Step 4 if you want to reset the data log.

Note: Resetting the data log will not affect the main programme settings.

4. Press the exit button to return to the installer menu. (Fig 29)
5. Select “Installer Service” and press enter.(Fig 30)
6. Select “Clear Data Log” and press enter. (Fig31)
7. You will see a warning sign as per (Fig 23) before uploading. Press enter and you will be prompted for a zero date. (Fig 32) Press enter and the reporting data log will be zeroed.

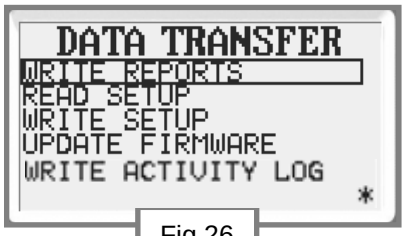


Fig 26

Fig 27

Fig 28

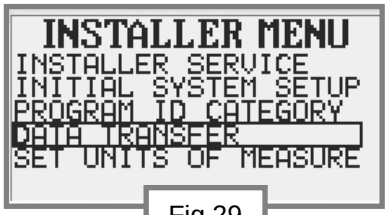


Fig 29

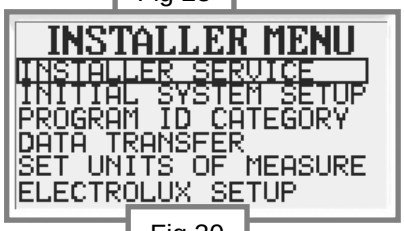


Fig 30

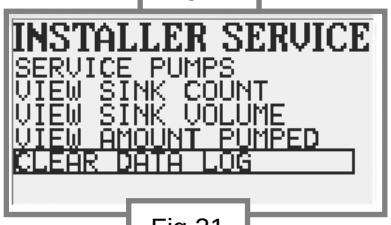


Fig 31

Fig 32

Fig 33

3.11 Electrolux washer programme allocation

The “Program Select” menu allows the installer to assign an ED controller formula to any 6 of the multiple Electrolux washer programs available in the machine.

1. From the “Installer menu” select “Program Formulas” and press enter.(Fig 33)
2. Select a Formula from the list and press enter.(Fig 34)
3. Select “Program Select” from the menu options and press enter. (Fig 35)
4. Select a formula from the program list and press enter.(Fig 36)
5. Assign your selected Formula to the machine Formula of your choice. This Formula can be assigned to 6 different Electrolux washer programmes. (Fig 37)

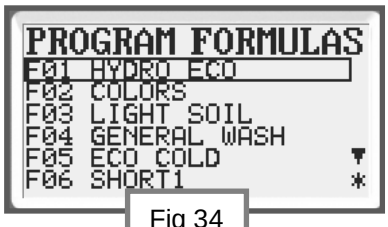


Fig 34

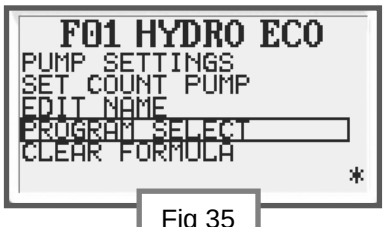


Fig 35

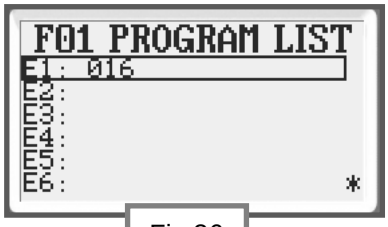


Fig 36

Fig 37

4. Troubleshooting

Warning

- **Before carrying out any maintenance or cleaning you must disconnect water and power supplies from the unit.**
- **Do not adjust/rework items not listed in the troubleshooting guide below without guidance from Hydro Systems Europe.**
- **All electrical work must be carried out by a qualified electrician and competent person.**
- **If supply cord is damaged, replace, do not repair.**

Circuit Breaker

ED Pumpstands have a resettable circuit breaker that is next to the power cable on the underside of the Pumpstand. In the event of a dead unit, always check the circuit breaker first (push to reset).

No Product on Signal

When troubleshooting for no product on signal, always confirm pump calibration and make sure that formula amounts are correctly programmed in the Controller.

Spare Parts Inventory

We advise that you keep an inventory of the following new or "known good" spare parts to use for substitution purposes when troubleshooting. For part numbers see Replacement Parts Diagram and Chart (Section 6)

- Controller
- Pump Interface PCB
- Wiring Harness Plate Assembly
- J1 Cable

J1 and RS232 Cable Integrity

Always ensure that all data connection cables are clean and corrosion free. Examine cables for cuts or kinks which can indicate broken wires. Always replace, not repair, any damaged cables.

Flush Manifold Operation

When using the ED with the optional Flush Manifold Kit, water flow is sensed whenever the Controller calls for water flush. If no flow is sensed, or water flow falls below 2.5ltr/min, all pumps will shut down. This provides a safety interlock in the event of low water flow or other water flush system failures.

Refer to the Flush Manifold Installation & Operation Manual for more information.

- **A flush jumper harness is present at the flush connector on the Pumpstand. For flush operation, remove this jumper and connect the Flush Manifold Connecting Harness in its place. (Retain the flush jumper harness for possible future use.)**
- **Pumps will not run without either the flush jumper harness or a functioning Flush Manifold connected.**

4. Troubleshooting

Symptom	Observation	Cause	Fix
Dead or no display	No power to unit	No power at source	Restore power
	No power to PI PCB	Tripped or defective circuit breaker	Reset or replace circuit breaker
	Power ok, no controller display	Defective PI PCB, J1 cable or controller	Substitute components one at a time
No pumps run on prime or on signal	Check flush connector	No contact closure at flush connector	Reconnect flush jumper (Non flush) or troubleshoot flush system flow switch
	Check J1 cable connections	Damaged J1 cable	Replace J1 cable
		Defective PI PCB, J1 cable or controller	Substitute components one at a time
Some pumps (not all) do not run on prime or on signal	Check motor wire connections	Loose motor wire connection	Reconnect loose motor wire connection
	Check J1 cable connections	Damaged J1 cable	Replace J1 cable
		Defective PI,PCB, J1	Substitute components
One or more pumps do not run on signal, but all pumps prime ok	Confirm pump calibration	Pumps not calibrated	Calibrate pumps
	Confirm supply signal is reaching the controller	Washer not sending signal, or RS232 wire loose	Repair washer, reprogram washer, reconnect signal wires
	If pump interlock is on, is this the first signal set for this pump?	Pump interlock only allows dispenser to recognize first signal for each pump in a load	Reset controller (Turn power off, then on
	Check data cable connections	Damaged data cable	Replace data cable
		Defective controller	Replace controller

Maintenance, Parts and Specifications

Routine Maintenance

Pump tubes should be replaced on regular maintenance intervals based on your judgement and experience of tube life with your products. Initially, some trial and error may be required. Many different factors affect tube life, including: chemical compatibility; pumping pressures (size of supply tubes and distances pumped); and time. Try to always replace pump tubes prior to failure to avoid product leaking into the pump housing.

Pump Tube Replacement

1. Loosen 2 captive thumbscrews and remove pump front cover.
2. Remove old pump tube. Clean any chemical residue with a damp cloth if tube was ruptured.
3. Position the spinner so that the rollers are at a 1:00 o'clock / 7:00 o'clock position.
4. Starting on the left side of the pump, place the pump tube into the pump. Rotate the spinner clockwise as you push the tube into the pump.
5. Replace pump front and tighten captive screws. Ensure front is correctly seated

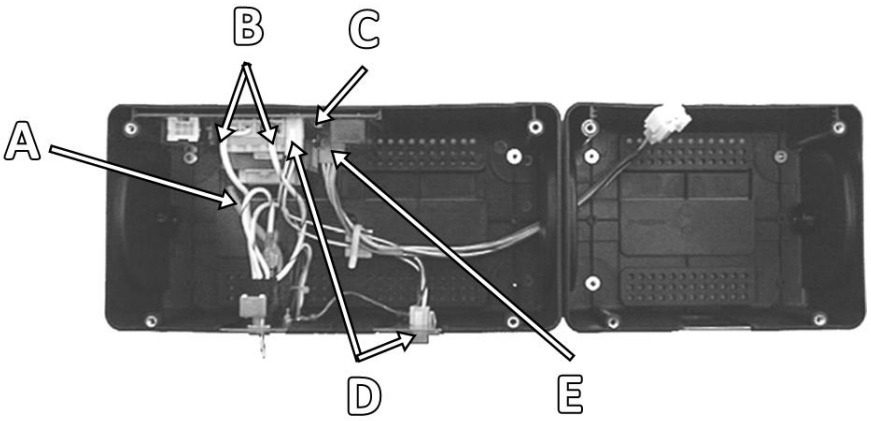
Pump Tube Lubrication

Lightly lubricate new pump tubes with the following lubricants. Excessive and/or incorrect lubricants can cause premature pump tube wear or failure.

TUBE MATERIAL	LUBRICATION
Santoprene, EPDM, Viton	Silicone Lube
Silicone	Petroleum Jelly Lube

5. Pumpstand Disassembly ⚠

CAUTION - Disconnect all power to unit prior to opening unit



1. Remove pump fronts by removing two captive thumbscrews per pump front. Remove pump tube. Remove pump spinner (pulls off, friction fit).
2. Remove cabinet front by removing four Phillips head screws, one at each corner (bottom two located under pump tube), and lifting away.
3. Remove Pump Interface (PI) printed circuit board (C) by sliding it out. Remove 2 Molex type wiring connectors by depressing the locking tabs.
4. Remove power wiring (B) by loosening the power terminal screws.
5. Remove J1 Cable (A) by depressing locking tab. Make note of all connections.

Pump Motor Replacement

Leave the wires connected to the Molex plug and splice new motor wires in when replacing a motor.

Pump motors are secured to the cabinet front by four Phillips head screws. To add a new motor (add a pump to an empty pump location), plug the motor wires into the appropriate locations in the Molex motor plug for that pump position.

Pumpstand Motor Plug

Locking Tab (press toward connector to release)

Remove these screws to install / remove motor wire pins from Molex housing.

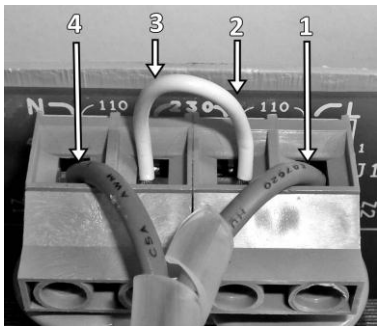
Right Side Cabinet
Pumpstand Motor Plug Pin-Outs

2 Pump Cabinet, on a 4 Pump System

3 Pump Cabinet on a 5 or 6 Pump Cabinet

Power Wiring

Incoming power wiring from the Wiring Harness Plate Assembly connects to the Pump Interface Printed Circuit Board power terminal block (Found on Item 1, Replacement Parts List).



115 VAC power—The live wire goes to terminal 1. The neutral wire goes to terminal 4.
Black jumper between terminal 1 and terminal 2. White jumper between terminal 3 and terminal 4.

208/230 VAC: White jumper from terminal 2 to terminal 3.

CAUTION

- **Motor voltage rating of installed motors MUST match power wiring configuration**

6. Replacement Parts


1


2


3


4


5


6


7

Item	Description	Hydro Part Number	Electrolux Part Number
1	ED Controller	01-03532-00	432930010
2	ED RS232 Data cable	90093030	432930015
3	Pump motor 230 VAC	13-06118-08	432930021
	Pump motor 115 VAC	13-06143-01	432930022
4	Pump spinner	13-06094-00	432930025
5	Pump Tube EPDM (350 mls per min)	41-03109-642	432930031
	Pump Tube Silicon (350 mls per min)	03-03109-142	432930032
	Pump Tube EPDM (500 mls per min)	41-03109-662	432930033
	Pump Tube Silicon (500 mls per min)	03-03109-192	432930034
6	Pump Interface 230 VAC	13-05980-02	432930040
	Pump Interface 115 VAC	13-05980-01	432930041
7	Pump cover & screws	13-06139-35	432930045

7. Technical Specification

Item		ED Pumpstand
Description		Peristaltic Pumpstand
Dimensions (6 Pump)		192mm H X 597mm W X 160mm D
Weight		14kg
Operating Power	**115v**	115 VAC (+/- 10%), 60 Hz. 9.4 amps.
	208v	208 VAC (+/- 10%), 60 Hz. 5.2 amps.
	230v	230 VAC (+/- 10%), 50 Hz. 4.7 amps
Operating Temperature		49°C Maximum

- Number of pumps which may run at one time:
  - Non-Flush = all
  - Flush = 1 at a time (pumps will queue when more than one is triggered at the same time)

- Maximum Pump Amount = 995mls.
- Maximum Pump Delay Time = 999 seconds.
- Maximum Flush Time = 999 seconds.
- Maximum Pump Prime Time = 5 minutes.
- Load Count Pump = Highest pump number in each formula with a nonzero amount programmed.
- Maximum J1 Cable Length = 22.8 meters

This unit complies with the following directives;

- 2006/95/EC Low Voltage Directive (LVD)
- 2004/108/EC Electromagnetic Compatibility (EMC)

CE

And has been designed and manufactured to the following specifications

EN 60370-1, EN 61000-6-2:, EN 61000-6-4:2001, EN 61000-3-2:2000, EN 61000-3-3:1995/A1:2001

Safety

- Please use this equipment carefully and observe all warnings and cautions.
- Wear PPE when dispensing chemicals or other materials or when working in the vicinity of all chemicals, filling or emptying equipment.

- 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.
- Always exercise caution when maintaining your equipment.
- Always re-assemble equipment according to instruction procedures. Be sure all components are firmly screwed or latched into position.
- Keep equipment clean to maintain proper operation.
- You must follow all precautions as advised on the product safety data sheet

8. WEEE Regulations

Waste Electrical and Electronic Equipment (WEEE)

WEEE Regulations apply to companies who Manufacture & Distribute electrical or electronic equipment

WEEE Classification – 10. Automatic dispensers.

The WEEE Regulations apply to importers, producers, retailers and users of EEE, and to businesses that treat or recover WEEE. The EDS unit is a product placed onto market POST 13.08.05, therefore called 'future WEEE'.

As a producer Hydro Systems Europe have the option to take responsibility for the EEE placed on the market. If Hydro Systems Europe chooses to receive WEEE they must make sure that it is disposed of in an environmentally sound way, including the treatment, reuse, recovery and recycling of the components where appropriate.

Responsibility as a producer of EEE

Hydro Systems Europe as a producer of EEE is registered with a producer compliance scheme who registers them with the relevant environmental regulator. Through the regulator they become part of an approved producer compliance scheme (PCS).

The PCS supply a unique and permanent producer registration number.

If disposal is outsourced it (the product) must be taken to an appropriately licensed site (approved authorised treatment facility - AATF) where it can be treated safely.

The environmental impacts of the substances in EEE and waste electrical and electronic equipment (WEEE)

The main environmental concerns in the EEE sector stem from soil and water contamination, resource depletion, energy use and waste. At the production stage, obtaining raw material for EEE production consumes a large amount of energy, especially the process of extracting resources, which can also lead to degradation of the surrounding environment.

For instance, when raw material is shipped to a plant, it goes through a complex, high energy-consuming process as it is converted into a finished product. Moreover, as demand for fuel and raw materials increases with the increase in exports, the environmental impact of these factors is also likely to increase.

The reasons for separating WEEE from other waste

Failing to separate waste properly can be very expensive as the majority of discarded products are shredded into small pieces of material and re-sold as raw material – much of which ends up in the Far East and goes back into manufacturing. If the hazardous components were not separated first the entire batch could be contaminated. This significantly increases the risk of environmental damage and could lead to legal action under hazardous waste regulations.

The meaning of the crossed out wheeled bin symbol

The crossed out wheeled bin symbol is not intended to indicate to you that WEEE is banned from being disposed of as general waste. Moreover, the intention behind the symbol is that, when coupled with information supplied by distributors as to the availability of recycling facilities, you will be reminded that these facilities exist.

How they can safely dispose of WEEE for proper treatment

When the product is at its end of life, either contact the Local Authority in charge of electrical disposal, or contact Hydro Systems Europe who will either take the item back from yourself or supply you with relevant information for a local WEEE treatment facility. If asked, Hydro Systems Europe must provide yourself business with:

- Contact information for the EEE producer within Hydro Systems Europe. The producer's compliance scheme is responsible for the end-of-life handling of EEE.
- Records that will help producers to supply their producer compliance scheme with accurate information, for example numbers of sales of EEE to non-household users.

Hydro Systems Europe
Unit 3, The Sterling Centre
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RG12 2PW
UK

As a distributor Hydro Systems Europe have no legal obligation to take back WEEE from business users

Thinking of you
Electrolux

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www.electrolux.com/laundrysystems

Share more of our thinking at www.electrolux.com