ECOLAB®

Aquanomic EU ™
Solid Laundry Dispenser

Installation Manual

Retain this manual for installation information

Materials Ordered Separately for Installation

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- 10mm O.D. flexible copper tubing or G3/8 stainless steel braided hoses.
- 1/2-inch O.D., 3/8-inch I.D., Polyflo (PolyEthylene, PE) tubing used for product delivery from the Pump Cabinet to the laundry machine(s). This rigid tubing withstands higher temperatures than soft EVA.
- The 5/8-inch I.D. Mayon tubing used for the overflow is not included in the installation kit.
- 1/2-inch conduit or Seal-Tite with connectors and fittings (hardwired power source and supply signals).
- Electrical plug for power cord must be sourced and installed separately.
- A main switch (EBS Nr. 10010678) or non symmetric plug is mandatory.
- Proper wall anchors or toggle bolts should be used on sheetrock walls.
- Water Tempering Valve Kit if the account hot water temperature is greater than 60°C.
- Optional 15m (50-feet) RS-485 communication cable are available.
- Optional L-brackets for mounting Condor Controller or FS modules.

1.0 System Introduction

1.1 Preface

This manual has been written and illustrated to present the basic installation and servicing instructions of the Aquanomic EU solids dispenser. This manual applies to current units. Future versions may have additional features; check unit packing for the latest revision.

Guidelines will be suggested in reference to the preferred method of installation. However, the variety of equipment and the surrounding environment will dictate the actual installation of the Aquanomic EU unit.

> **⚠ WARNING**
>
> These installation, operation and servicing instructions are for use by qualified personnel only. The Aquanomic EU system is intended to be installed by an experienced, qualified technician. The installation must be made in accordance with all applicable and local plumbing and electrical codes. The dispenser must be properly plumbed to a laundry washer / extractor. The washer extractor must have a properly installed drain system or overflow protection system.

The remarks WARNING, CAUTION and NOTICE have the following meanings in this manual.

> **⚠ WARNING**
>
> This heading refers to a hazard or unsafe practice which can result in severe personal injury or death.

> **⚠ CAUTION**
>
> This heading refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

> **NOTICE**
>
> This heading is used when a particular piece of information needs to be highlighted.

1.2 System Features

The Aquanomic system is a solid laundry chemical dispensing system with capability to add liquid pumps. The system provides for flexible installation to service up to (3) laundry washing machines.

- Service up to (3) washing machines
    - 22 – 135 lbs. or 10 – 61 kg (dry linen weight)
    - Total system capacity = 270 lbs. (122 kg)
- Capable of programming/selecting up to 15 different wash formulae per washer
    - Each formula may be programmed with up to 6 washer signals / steps
    - Each step can be programmed for up 3 solids (4th Solid or 1 liquid is optional)
    - Enter the desired solid product amounts directly in grams
    - Enter the desired liquid product amounts directly in ounces (or milliliters)
    - Automatic Product Dose Scaling for washer size
- Machine Signal Interface (MSI) automatically adjusts for 24 – 240VAC and 22 – 24VDC signals.
- Integrated Chart Stop with programmable delay start and stop length – No add-on equipment required.
- Chart Stop timers and delays may be programmed for any formula.
- MicroMode feature provides automatic formula control from the washer.
- Automatic recording – the number of times each formula has been used (load counter).
- Queue Tracking.
- Selectable operating logic allows the unit to be used with all washer styles.
- Multiple user language options with region-specific weights and units of measures.
- Icon-based display for ease of training and use.
- Visual & audible system alarms.
- Backlit display on Formula Select (FS) module for ease of program selection.
- Dispenses (3) solid laundry products from their respective capsules (Detergent, Bleach, and Sour/Softener).
- Each product is electronically measured while dispensing into the laundry machine for accuracy.
- Additional 4th Product Solid dispenser is available.
- Optional 4th Liquid System utilizes safe, accurate diaphragm pump technology for low maintenance operation and long life.

1.3 Principle of Operation

The Aquanomic system works by communicating between 4 main modules: Condor Controller, Pump Cabinet (with I/O board), Machine Signal Interface (MSI), and Formula Select (FS). There is always 1 Condor Controller (the brains of the system) and 1 Pump Cabinet (where products are dispensed). There can be up to 3 MSI and up to 3 FS (depends on the number of laundry machines being serviced). All of these modules communicate using the RS-485 cables running between them in series or "Daisy Chain." Therefore, each module has 2 RS-485 cable ports, both need to be used for cables or with an end plug.

The Pump Cabinet dispenses 3 solid products, but you can add a 4th solid product or a liquid product using optional equipment.

NOTICE

Do not plug or unplug RS-485 cables when power is applied to the system. Do not apply power to the system until all modules are properly addressed and all RS-485 cables and plugs (dongles) are properly connected to the modules.

COMMUNICATION CABLE EXAMPLE (2-WASHER)

CONDOR CONTROLLER

RS-485 PLUG (DONGLE)

DISPENSER

FORMULA SELECT (FS)

MACHINE SIGNAL INTERFACE (MSI)

RS-485 PLUG (DONGLE) OR CABLE TO WASHER #3

RS-485 CABLES

IO BOARD CONNECTIONS

WASHER #1

WASHER #2

1.3.1 Condor Controller

The Condor Controller is the main controller for the system. This module is the interface between the user and the system. All of the programming features, report data, and diagnostic tools are available here. The Condor Controller can also be used to select wash formulae. A wash formula selection made on the Controller will be shown on the corresponding Formula Select module. If the Formula Select modules are not installed on the laundry washer, the formula selections must be made using the Condor Controller when MicroMode is not in use. The Condor Controller should be mounted in a location that is accessible to the customer and service technician. The communication connection for a tablet or other mobile device is located on the front of the Condor Controller. Audible and visual alarms come from this module.

1.3.2 Machine Signal Interface Module (MSI)

The MSI module is installed at the laundry machine control wiring area, typically on the back of the washing machine. It receives the laundry machine supply signals and automatically converts them from machine voltages (24 - 240VAC or 22 - 24VDC) to dispenser signal voltages (24VDC). Once a signal is received and validated, the system will dispense products based on the selected formula. Chart Stop output wiring connections are available at the MSI.

1.3.3 Formula Select Module (FS)

The FS module is typically mounted on the front of the laundry machine. It is used to select the wash formula on the dispenser when a new cycle is started. The selected formula is displayed on the screen. Any active alarms will be displayed on the screen of each FS as well as the Condor Controller.

If MicroMode is in use, the wash formula does not need to be manually selected on the Formula Select module. The formula will be automatically communicated from the washer to the dispenser via the washer MicroMode signal. In this mode, the FS is optional, but can still be used to convey system's information to the user.

This module is optional for accounts where MicroMode is in use or if wash formula selection will only be made using the Condor Controller.

1.3.4 I/O (Input/Output) Circuit Board

The I/O circuit board is found inside the plastic enclosure, inside the Pump Cabinet. The board INPUTS signals from the Condor Controller to turn on valves and pumps then OUTPUTS information as to amount of product dispensed (using conductivity probes) and temperatures (thermistor). The Pump Cabinet dispenses products when the I/O board receives a request from the Condor Controller after the MSI receives a signal from the machine. The I/O board within the pump cabinet processes the request based on the product requested, gram amount, delay time, and chart stop time.

1.3.5. Pump Cabinet

The Pump Cabinet is the product dispenser that sprays hot water into 3 solid product capsules. The product solution gravity drains into the pump, then the pump pushes the solution through a washer selection manifold and 1 of 3 valves will open to determine which washer the product goes to. The system delivers product(s) to the correct washer based on the programmed values. The system continuously measures the product and will notify the operator when the capsule is empty. The empty alarm consists of an audible alarm and icon on both the Condor Controller and the Formula Select. Before each product spraying, there is a pre-flush and post-flush of water only- to clear out the sump and pump's tubing to prevent products from mixing.

Hydraulic Diagram inside Pump Cabinet
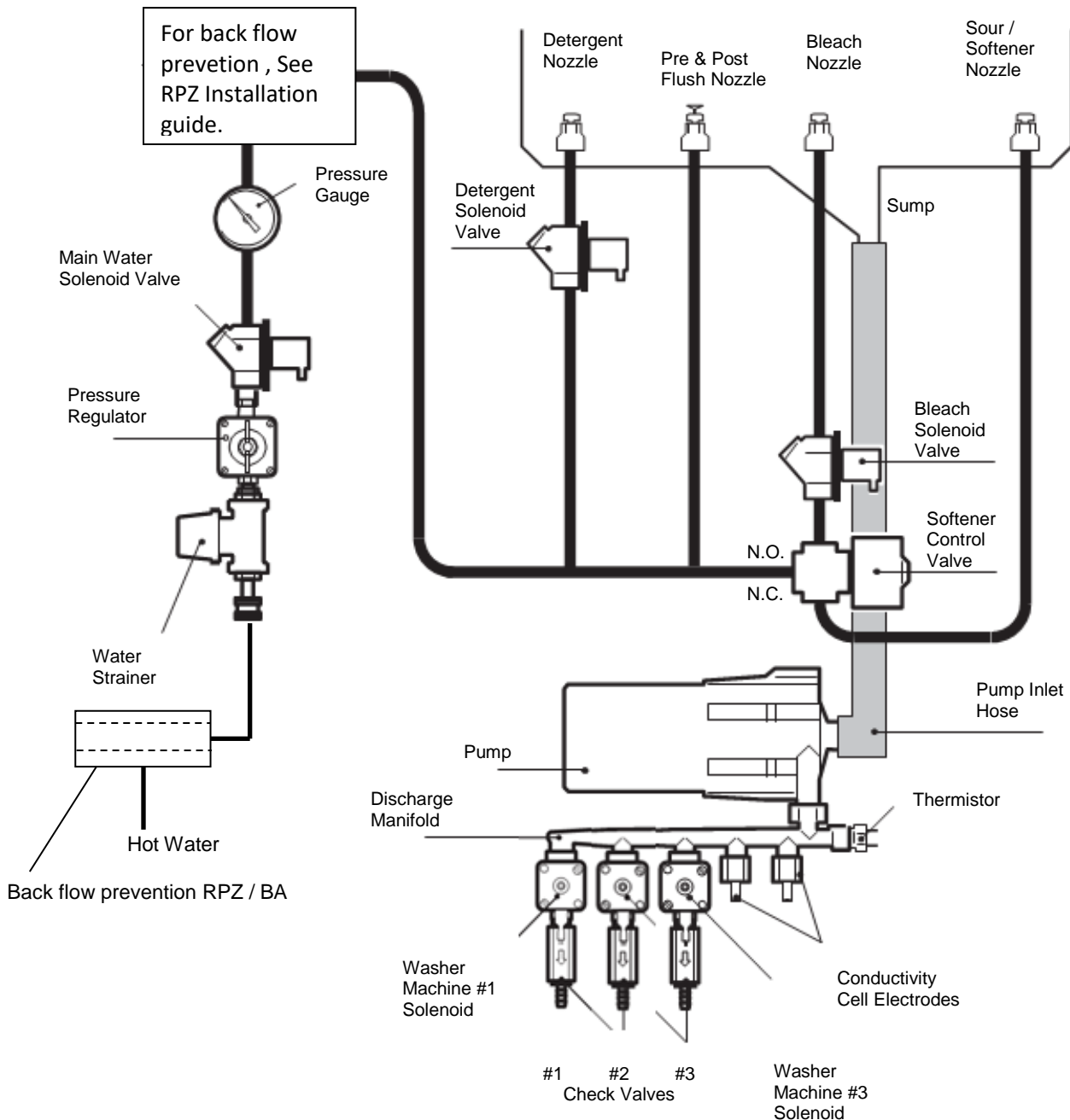
2.0 REQUIREMENTS/SPECIFICATIONS

2.1. Utility Requirements

2.1.1 Electrical Supply Requirements

- A constant 230 VAC / 50 - 60 Hz. power source is required.

- The Pump Cabinet is shipped with a 2.7m (9-foot) power cord.

    - A main switch (EBS Nr. 10010678) or non symmetric plug is mandatory.

- The ON / OFF circuit breaker switch is rated at 3.0 amps.

- Total amperage draw during normal operation is less than 1.8 amps.

2.1.2.Water Supply Requirements

- Water temperature should be between 49°C – 60°C (120°F – 140°F).

- Water supply pressure: 1.5 – 1.8 bar (22 - 26 psi) (during dispense mode).

- Water flow rate is 3.0 – 4.5 liters/min (0.8 - 1.2 GPM).

⚠ **WARNING**

Risk of Injury
- Contact with contents can cause skin burns and serious eye injury.
- Wear eye and skin protective equipment.

Refer to Product Safety Data Sheets for further information.

NOTICE

Complex Requests from different washers will be dosed in a FIFO (First In, First Out) basis and do not have the ability to be split up (unlike the case of one complex request with multiple simple requests) so use caution when setting up Product Delays to prevent the system from sitting idle waiting for different Product Delays to expire.


⚠ **CAUTION**

To avoid operator exposure to chemical products, the queue system will automatically cancel the final step of a wash formula if it is in queue (waiting) for longer than 3 minutes. If the final washer step includes a chemical dose, it is important that the washer step programmed length is greater than 3 minutes.

2.2. Pump Cabinet Specifications

Dimensions

The dimensions of the Pump Cabinet are shown below:

- Height (H_1):   56 cm
- Height (H_2):   20 cm
- Width (W):   58 cm
- Depth (D):   25 cm
- Weight: 27 kg (35 kg with products)

Product Capsule
Clearance
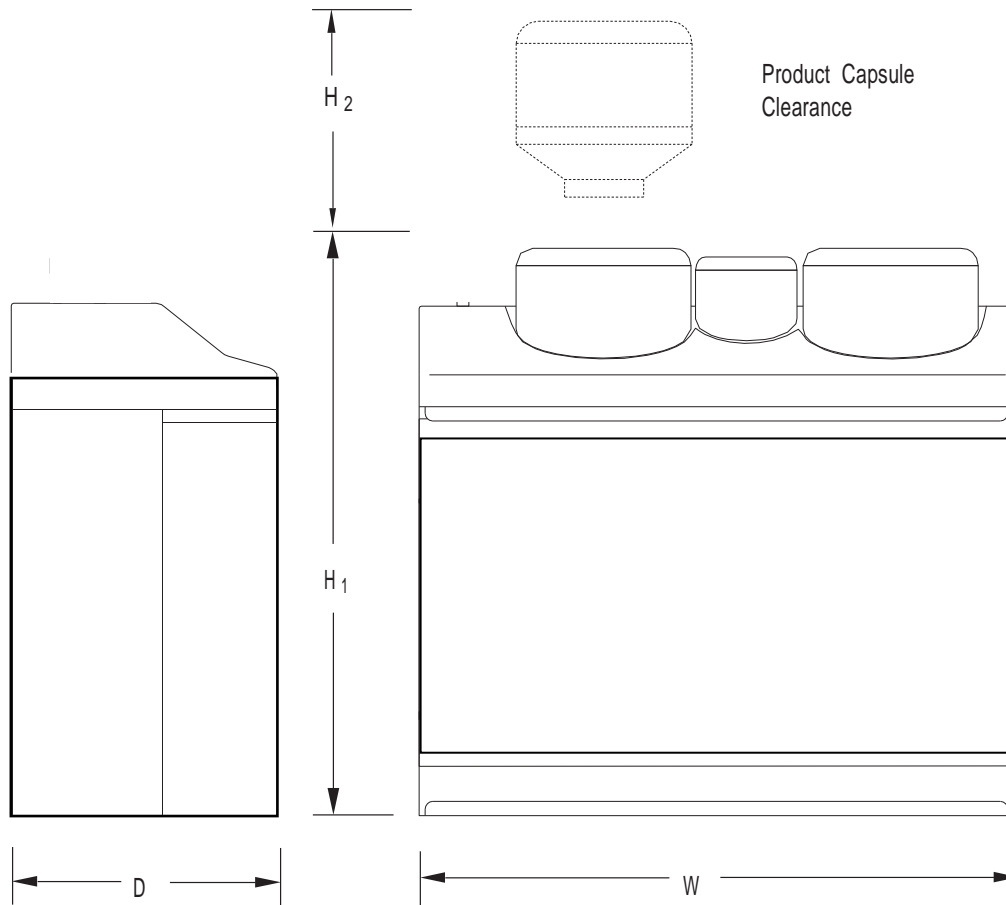
Service Access

The removable, metal front cover is held in place by a key lock, located under cabinet, front and center.
Hold the front cover on the sides and lift up, then tilt bottom forward to disengage bottom groove.

A minimum clearance of 20 cm is required above the dispenser in order to facilitate changing capsules.

⚠ WARNING

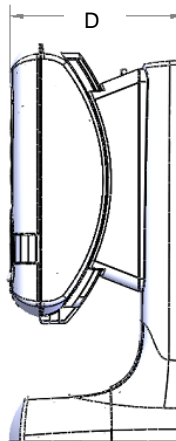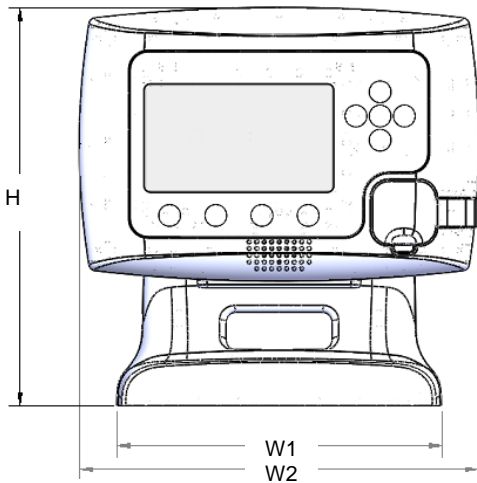Turn off all power to the Pump Cabinet before servicing.

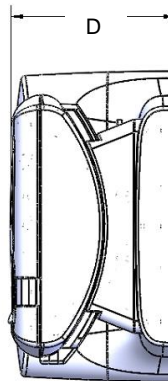# 2.3. Condor Controller
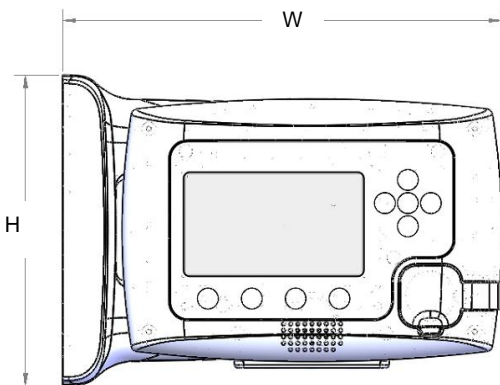
Condor Controller mounted directly to flat wall.
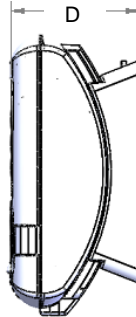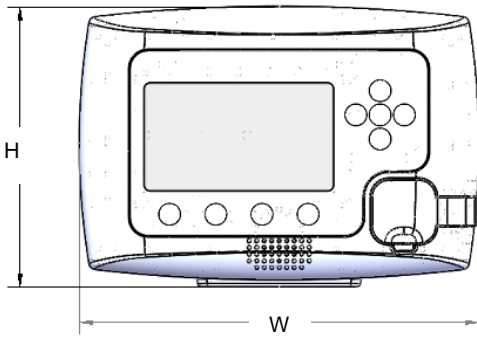
Dimensions	
W	20 cm
H	14 cm
D	7 cm
Mounting Clearance (bottom)	7 cm

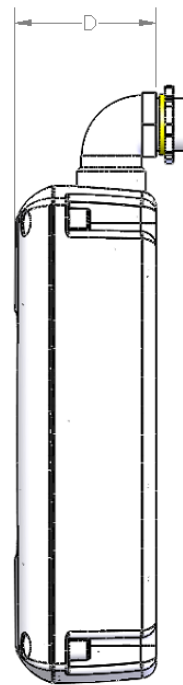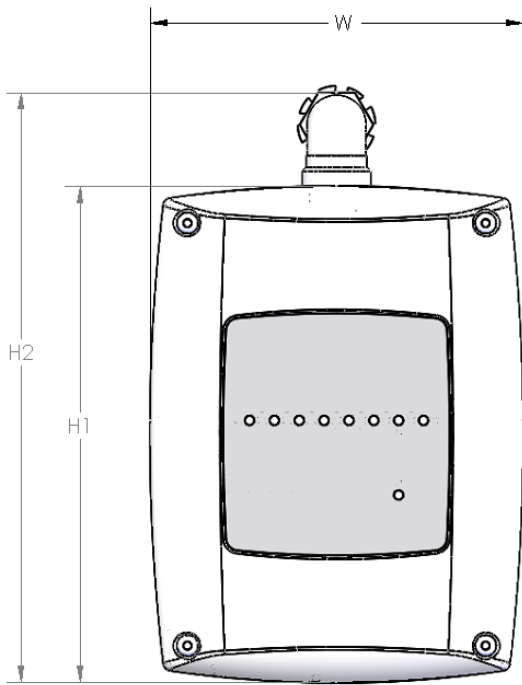Condor Controller mounted to table surface, using optional L-bracket 9200-2132.

Dimensions	
W1	16 cm
W2	20 cm
H	20 cm
D	9 cm

Condor Controller mounted to opposite wall surface, using optional L-bracket 9200-2132.

Dimensions	
W	24 cm
H	16 cm
D	9 cm
Mounting Clearance (bottom)	7 cm

2.4. Machine Signal Interface Module (MSI)

Dimensions	
W	15 cm
H1	20 cm
H2	24 cm
D	6 cm
Weight	1.7 lbs
Mounting Clearance (bottom)	7 cm

2.5. Formula Select Module (FS)

The FS module can also use the optional L-bracket (9200-2132) for additional mounting configurations.
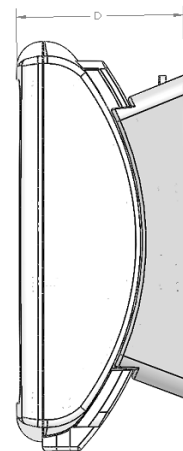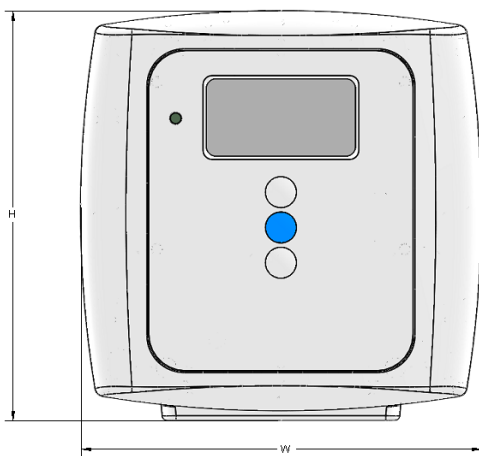
Dimensions	
W	14 cm
H	14 cm
D	6 cm
Mounting Clearance (bottom)	7 cm

3.0 SYSTEM INSTALLATION

3.1 Preplanning

There is no substitute for planning the installation prior to beginning the work. Several minutes in planning may save an hour or more during the installation. The following is a list of factors to consider before the installation of the system begins.

Under normal installation procedure the Pump Cabinet MUST BE located within 50-feet (15 meters) of all 3 laundry machines. Outlet tubing should not exceed 50-feet in length under normal operation. This is important to know when positioning the Pump Cabinet. A shorter distance is preferable to help reduce post-flush times. Long dispense distances require extended flush times.

The dispenser system comes with (5) 4.2m (14-feet) long and (2) 7.6m (25-feet) long RS-485 communication cables. Optional 15m (50-feet) communication cables are available. This is important to know when positioning the modules.

The Pump Cabinet MUST BE mounted at or below the operator's eye-level. Ease of capsule replacement is important.

Pump Cabinet's wall mounting bracket MUST BE securely anchored to the wall. On sheetrocked walls, align the center mounting hole to a wall stud or separately order toggle bolts (see below).

Allow sufficient space around the perimeter of the cabinet for capsule replacement and servicing. It is recommended to allow 20 cm (8-inches) above Pump Cabinet.

3.2 Materials Ordered Separately

- Backflow Prevention Code 10004965 ; 10002009 and 10000440.
- 1/2-inch O.D., 3/8-inch I.D., Polyflo (PolyEthylene, PE) tubing used for product delivery from the Pump Cabinet to the laundry machine(s). This rigid tubing withstands higher temperatures than soft EVA.
- The 5/8-inch I.D. Mayon tubing used for the overflow is not included in the installation kit.
- 1/2-inch conduit or Seal-Tite with connectors and fittings (hardwired power source and supply signals).
- Electrical plug for power cord must be sourced and installed separately.
- A main switch (EBS Nr. 10010678) or non symmetric plug is mandatory.
- Proper wall anchors or toggle bolts should be used on sheetrock walls.
- Water Tempering Valve Kit if the account hot water temperature is greater than 60°C.
- Optional 15m (50-feet) RS-485 communication cable are available.
- Optional L-brackets for mounting Condor Controller or FS modules.

3.3 Hanging the Equipment

3.3.1. Pump Cabinet Installation

1. Position the wall mounting bracket against the wall at eye level. On sheetrock walls, align the center mounting hole to a wall stud. Wall Mounting bracket MUST BE securely anchored to the wall. Proper wall anchors or toggle bolts should be used.
2. Using a pencil, outline each of the holes in the offset mounting wall bracket.
3. Drill the outlined hole with a 1/4-inch masonry bit and place a wall anchor (supplied in the installation kit) into each hole.
4. Secure the wall bracket to the wall using the supplied wall anchors.

> **⚠ CAUTION**
> Be careful when lifting the Pump Cabinet. It weighs 27 kg. If you must lift it by yourself, hold it close to your body.

> **NOTICE**
> On sheetrocked walls, align mounting holes with wall studs wherever possible.

5. Lift the Pump Cabinet up and onto the mounting bracket, utilizing the mating bracket on the back of the cabinet.
6. With the Pump Cabinet on the wall, use a pencil to outline the center hole on the bottom flange.
7. Remove the Pump Cabinet from the wall.
8. Drill the outlined hole with a 1/4-inch masonry bit and place a wall anchor (supplied in the installation kit) into the hole.
9. Lift the Pump Cabinet back up and onto the mounting bracket.
10. Secure the bottom flange of the Pump Cabinet to the wall using the wall anchor.
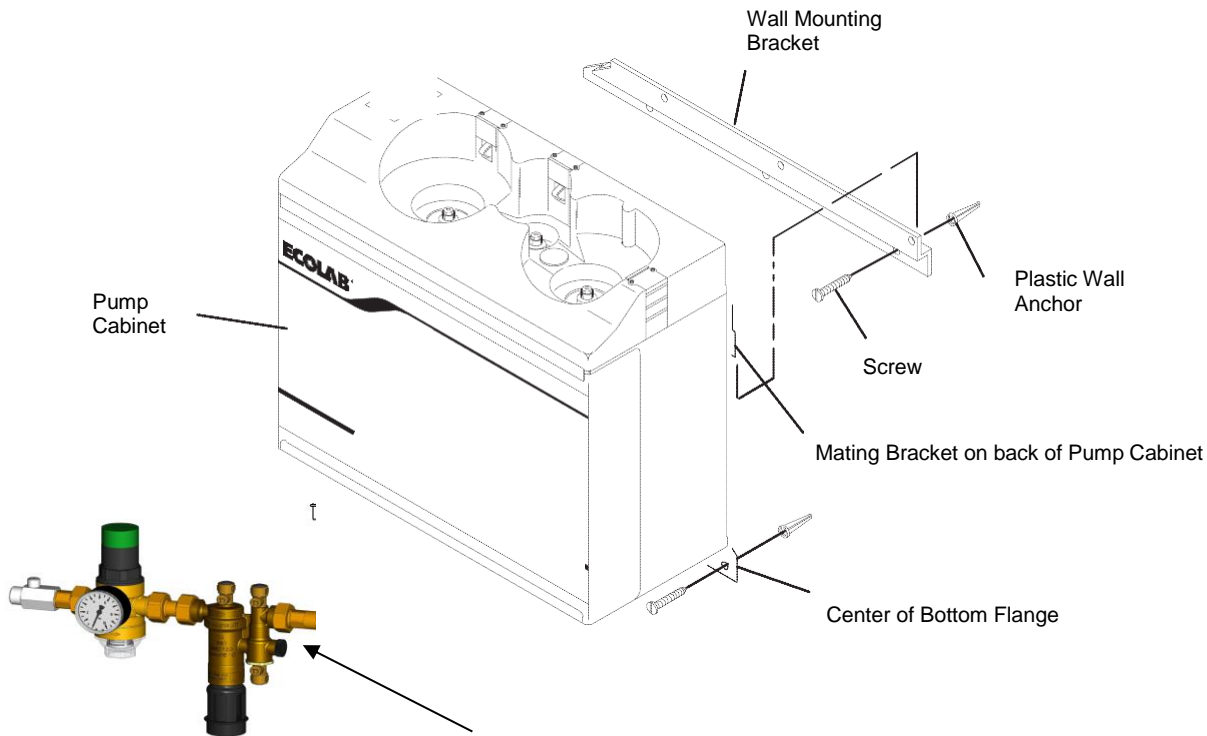
Backflow prevention to b e installed as close as possible to the Dispenser

3.3.2. Condor Controller Installation

Select a location as close as possible to the Pump Cabinet but also access for programming. This will allow for easier operation and maintenance. The visual and audible alarms comes from the Condor Controller.

1. Choose a location allowing visible display of the controller with the keypad accessible. Please avoid locations where steam and splashing water occur.
2. To remove Condor Controller from mounting bracket, pull up on center tab and slide parts apart.
3. Using the wall mounting bracket as a template, mark 2 holes on the wall using a pencil.
4. Drill (2) holes using 1/4-inch drill bit and insert plastic wall anchors.
5. Using a screwdriver, mount bracket to wall.
6. Remove back cover to access RS-485 cable connections.
7. Tilt Condor Controller's top forward and slowly guide Controller onto bracket.

For Dual Lock (Tape) Installation
1. Cut (4) 3-inch Dual Lock strips (provided in installation kit).
2. Squeeze (2) pieces of the Dual Lock strips together.
3. Apply the Dual Lock strips to back of Condor Controller bracket by removing the adhesive backing.
4. Remove the adhesive backing and stick unit to desired mounting location- on wall or machine.

For L-Bracket Installation - Optional
1. Mount L-bracket to top or side of washing machine. You may also use the Dual Lock tape.
2. Twist and lock Condor Controller's bracket into the L- bracket.

3.3.3. Formula Select (FS) Installation

The FS is intended to be mounted to the front of the laundry washer as an operator accessible location using the wall bracket or Dual Lock tape (provided in installation kit). The optional mounting L-bracket (ordered separately) can also be used, similar to the Condor Controller Installation- see above.
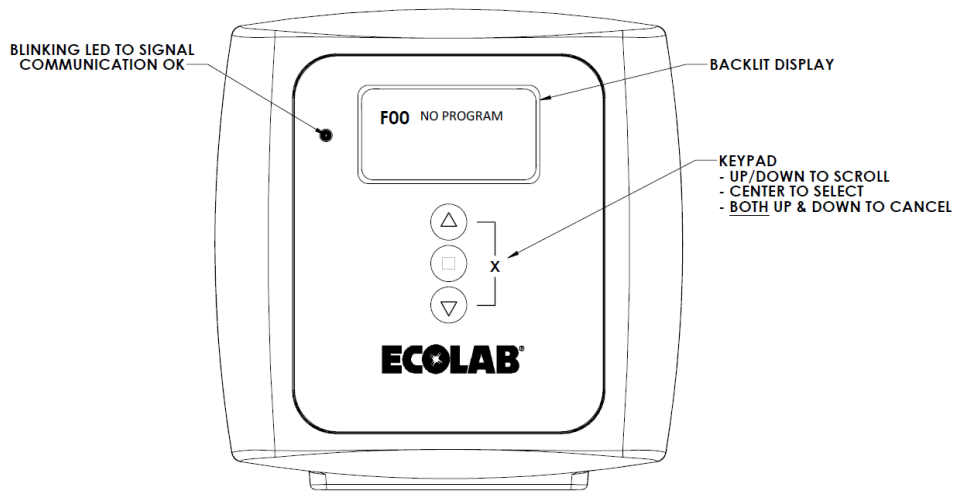
3.3.4. Machine Signal Interface (MSI) Installation

> ⚠ **WARNING**
>
> Disconnect electrical power supply to the washer, and follow lockout/tag-out procedures before installing or performing service on the system. High voltage will be present.

Mount the Machine Signal Interface box to the laundry machine's controller box using the Dual Lock tape provided on the MSI module. Then run wires through conduit. The MSI module is installed typically on the back of the machine. If receives the laundry machine supply signals (24 to 240 VAC or 22 to 24 VDC).

1. If no rear knock-out in machine controller box is present, drill a 7/8-inch hole in appropriate location on chassis.
2. Remove Dual Lock adhesive backing on MSI module.
3. Route MSI washer signal wires and conduit elbow through 7/8-inch hole to the inside of the laundry machine's control box.
4. Apply pressure to MSI module to engage Dual Lock adhesive and secure conduit.
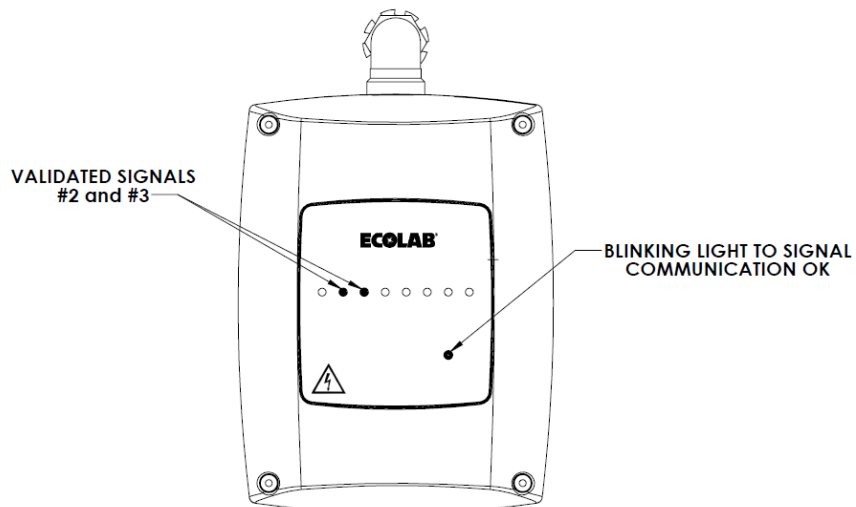
3.4 Installation Wiring

3.4.1 Pump Cabinet Wiring

The dispenser requires constant 240 VAC to operate. The Pump Cabinet comes with a pre-installed 2.7 meter (9-foot) electrical cord. An appropriate electrical plug must be installed on the cord.

A main switch (EBS Nr. 10010657) or non symmetric plug is mandatory. This will avoid changing the polarity, because some internal wiring is not subjected to 230 VAC, as it is for 110 VAC only.

Brown – line

Blue – neutral

Yellow/green – ground

NOTICE

Do NOT use power from a laundry machine to operate the dispenser.

This dispenser must remain powered constantly. Do not use outlets that may be shut off manually (GFI outlets are OK).

If the electrical cord can not be used, you must use a minimum cable wire of 14 gauge.

If a condition exists where the cord cannot be used (for example, distances greater than 2.7 meters) the following procedure should be used.

1. Remove the existing BROWN and BLUE wires off of the terminal posts on the back of the ON/OFF circuit breaker (BROWN is hot, BLUE is neutral).
2. Remove the GREEN wire with the YELLOW tracer from the ground lug (GREEN is ground).
3. Remove the 2.7 meter power cord from the Pump Cabinet.
4. Field wire a new HOT, NEUTRAL and GROUND WIRE within the Pump Cabinet.
5. Attach the HOT and NEUTRAL wires to the terminal posts on the back of the ON/OFF circuit breaker. Use the same polarity as the cord installation. Brown is hot, blue is neutral.
6. Attach the GROUND wire to the grounding lug located on the front of the electrical box.

3.4.2. RS-485 Communication Cables

Each module has two communication ports (6-position white connectors). They are identical and completely interchangeable. You may connect the communication cables to either port. When making the connection, ensure the cable snap-locks (audible click) into the connector on the circuit board.
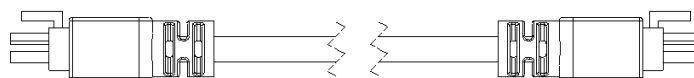
NOTICE

Do not plug or unplug RS-485 cables when power is applied to the system. Do not apply power to the system until all modules are properly addressed and all RS-485 cables and plugs (dongles) are properly connected to the modules.

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1. Mount all modules on the wall or machine.
2. Route cables from one module to the next module in a daisy chain sequence.
3. Now with all modules cabled together, go to the first and last module in the daisy chain sequence and install a RS-485 plug or dongle in the (2) remaining ports. (The Condor may already have a dongle pre-installed.)
4. Secure cables with zip ties for a clean installation.

If communication is lost at any point in the sequence, all modules following this connection will also lose communication. For example, if communication is lost or a communication cable is accidentally severed (unplugged or cut) at Washer #1, communication will be lost to Washer #2 and Washer #3 and these machines will not be serviced by the dispenser.

3.4.3. I/O (Input/Output) Board Cable (inside Pump Cabinet)

1. After Pump Cabinet is securely hanging on the wall, remove metal front cover, using keylock.
2. Remove plastic cover from plastic enclosure with (4) screws, the I/O board is inside.
3. Remove white plastic split strain reliefs in bottom of enclosure. The RS-485 cable will run through these.
4. Connect RS-485 cable to board and run cable over to closest module. Make sure to use the white plastic split strain reliefs to capture cables.
5. Repeat step 4 or place Plug into port, if this module is the first or last in the chain of cables.

3.4.4. Condor Controller Cable

1. Remove Condor Controller from mounting bracket and remove back cover by loosening (2) retaining screws.
2. Inside the Condor Controller only, you will find a termination plug already installed. If you wish this module to be the first or last in the daisy chain, keep installed. Otherwise, remove the plug and place into a different module that needs a terminating cable plug.
3. Connect either (1) or (2) communication cables of suitable length to make up the daisy chain of cables. Replace back cover.
4. Attach Condor Controller back to mounting bracket.

### 3.4.5. Formula Select (FS) Cable and Address Setup

For cable wiring, see above the Condor Controller Cable and follow those directions.

1. Identify the washers and assign each of them an address (#1 - #3). The addresses must be unique and cannot be duplicated, or a system communication error will occur.
2. Remove rear access cover on Formula Select module by first removing module from provided mounting bracket and loosening the (2) back cover screws.
3. Locate the dial on the lower edge of the FS circuit board as shown below and set it to the appropriate address of the assigned washer.
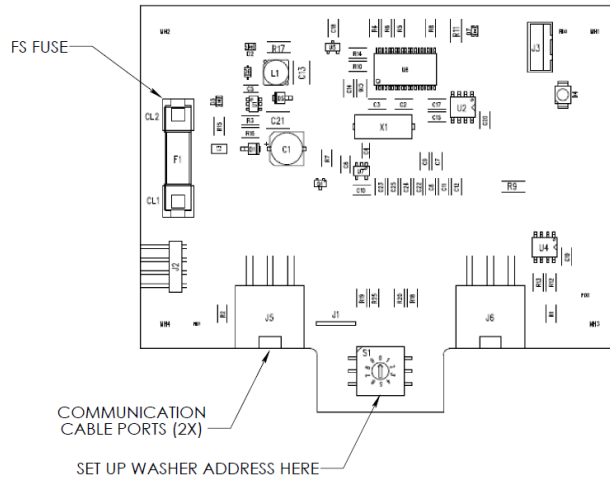
3.4.6 Machine Signal Interface (MSI) Cable and Address Setup

1. Remove front cover using (4) screws in the front cover.
2. Run RS-485 cables in and out of the enclosure using holes in bottom.
3. Identify the washers and assign each of them an address (#1 - #3). The addresses must be unique and cannot be duplicated, or a system communication error will occur.
4. Locate the dial on the lower left corner of the MSI circuit board as shown below and set to the appropriate address of the assigned washer.
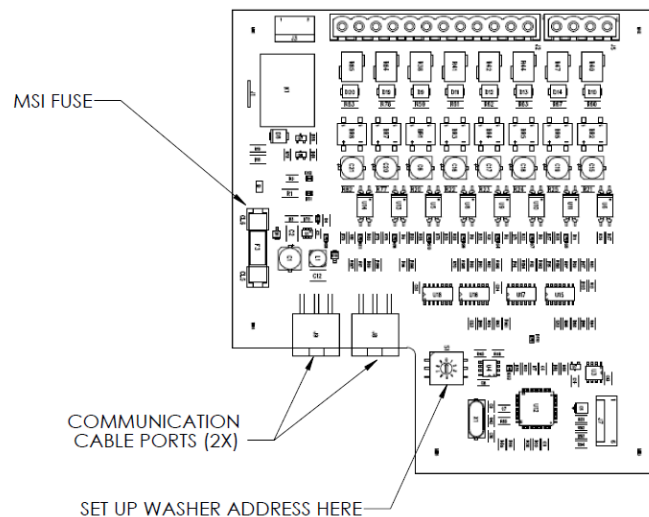
3.4.7 Washer Supply Signal Wiring (MSI module)

⚠ WARNING

High voltage will be present.

Disconnect electrical power supply to the washer, and follow lockout/tag-out procedures before installing or performing service on the system.

Electrical and grounding connections must comply with local electrical codes.
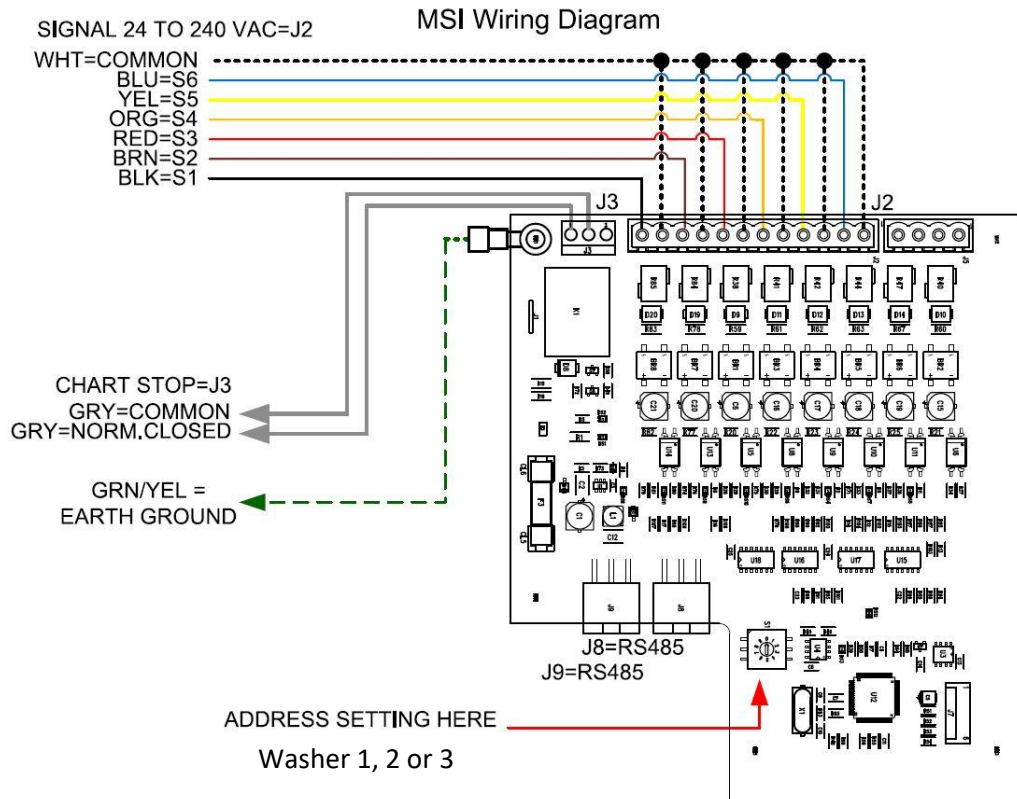

NOTICE

Individually wire-nut any unused wires. If the washer has a single common, wire-nut all of the commons together.

There are 8 Lights present on the MSI module, but only 6 will be used for products. The LEDs will illuminate when a valid signal is received at the respective input.

There are 6 signal wires provided with the MSI Module assembly and their wiring colors are referred below:

Washer Signal #	MSI Wire (Signal Hot)	Signal Common (already shorted together)
#1	Black	White
#2	Brown	White
#3	Red	White
#4	Orange	White
#5	Yellow	White
#6	Blue	White

MSI Wiring Diagram

SIGNAL 24 TO 240 VAC=J2
WHT=COMMON
BLU=S6
YEL=S5
ORG=S4
RED=S3
BRN=S2
BLK=S1

CHART STOP=J3
GRY=COMMON
GRY=NORM.CLOSED

GRN/YEL = EARTH GROUND

J8=RS485
J9=RS485

ADDRESS SETTING HERE
Washer 1, 2 or 3

1. Once all MSI wiring from the conduit elbow is routed inside the laundry machine controller, locate the washing machine supply signals inside the laundry machine.
2. Connect the green/yellow wire to the washer frame ground (earth ground).

It needs to be ensured, that the high-voltage AC signals from the machine dosing output board are of one phase only.
The safety ground (green/yellow wire) on the MSI module must be properly connected to the machine safety ground.

NOTICE

The MSI board automatically adjusts to accept 24-240 VAC (or 22-24 VDC) supply signals from the washing machine. For DC signals, Common is the signal DC ground, positive DC voltages are connected to the hot signal wires.

All washer signals are converted to low voltage. A green LED will illuminate on the front of the MSI module when a signal is triggered from the washer. A micro-processor circuit will send the validated signal(s) back to the Condor Controller via the communication cable

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3. Identify and assign the washer supply signals. Check with technical service or with the washer manufacturer if you are not sure of the connections.
4. Connect wiring from MSI module to washer supply signals.
5. Do NOT leave any exposed wires uncapped as they could cause an electrical short circuit inside the washer controller box. Use electrical tape or wire nuts to cap off un-used wires.

The laundry machines are connected to ground via the power supply using the green/yellow wire.

If service is needed, sometimes the power connector is disconnected. In this case the machine loses safety ground connection.
It is therefore mandatory to have a separate safety ground connection installed on the laundry machine housing, which will be active at any time.

Proper grounding of the MSI and the washers will prevent high voltage on the machine signals.

3.4.8. Chart Stop (Machine Hold) Wiring (MSI module)

If needed for fixed timer washers, connect Chart Stop wires to the washer timer motor. Two gray wires are pre-connected for Chart Stop connections. These wires provide a normally-closed dry contact that opens when the controller calls for Chart Stop. This provides an interruption of the washer timer motor for the programmed Chart Stop time.

1. Disconnect one wire from the machine timer motor and connect it to an open screw terminal in the washer controller.
2. Add a supplemental wire (18 GA, 300V-rated insulation) from the timer motor, where the wire was removed in step 1. Connect the other end of this supplemental wire to another open screw terminal.
3. Connect the two gray wires from the MSI to the new screw terminals in positions corresponding to the motor timer wires.
4. Program the Controller for desired Chart Stop times for each product and formula.

3.4.9. MicroMode Signal Wiring (MSI module)

MicroMode allows formula selection to be performed automatically by the washer controller. The washer controller must be microprocessor controlled and able to program supply trigger signal timed to the seconds.
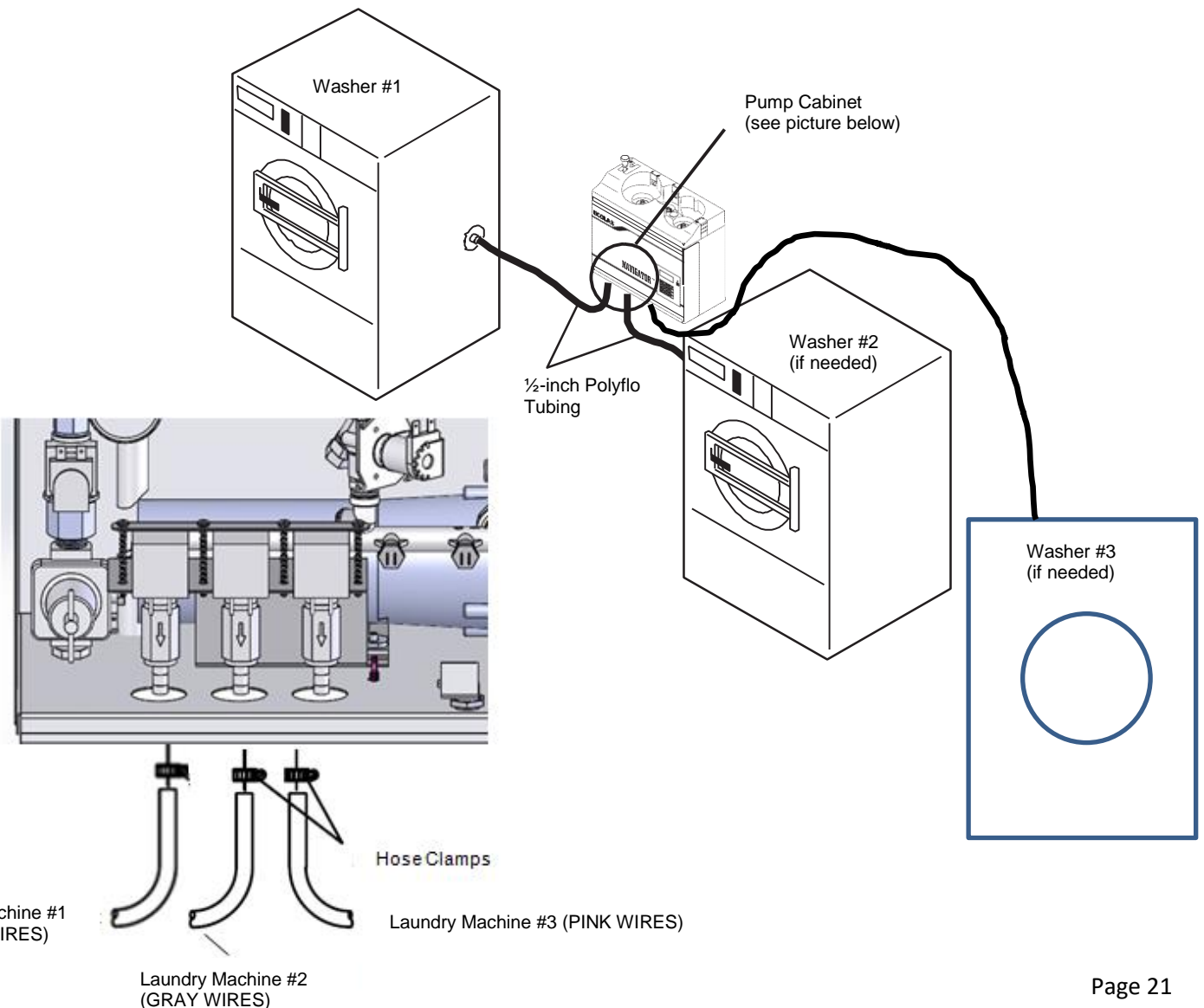
1. Connect MicroMode signal from the washing machine to MSI Signal #1 (black wire).
2. Select MicroMode feature for each washer on the Condor Controller (3. System Menu> 1. Washer Settings> 6. WE Signal Mode>MicroMode)

3.5. Installation Plumbing (Pump Cabinet)

3.5.1. Product Injection – Tube Installation

A single 1/2-inch O.D., 3/8-inch I.D. Polyflo (PolyEthylene, PE) outlet tube is used to deliver all products to each laundry machine. It is important that the outlet tubing DOES NOT exceed 15 meters (50-feet) under normal installation. A shorter distance is preferable to help reduce post-flush times. Long dispense distances require extended flush times.

1. Remove the front cover on the Pump Cabinet and locate the solenoid valves/check valves in the lower left-hand corner of the cabinet. Laundry machine #1 is located on the LEFT, machine #2 in the CENTER, and laundry machine #3 on the RIGHT.
2. Route the 1/2-inch Polyflo from the Pump Cabinet to the laundry machine.
3. Connect the tubing to the solenoid valves/check valves mentioned above. Secure the connection with a hose clamp.
4. Route the opposite ends of the Polyflo tubing to the designated laundry washer.
5. Product injection inlets to the washer machine should be drilled out fully to a diameter of 8 mm. When this system is installed using existing ports from past liquid systems the ports might only be drilled to 4-5 mm which will lead to a higher backpressure on the pump and overflowing of the sump.
6. Secure the tubing at the injection port of the laundry machine.
7. Cable-tie the tubing to the wall or rigid piping to keep the installation looking neat and clean.

Washer #1

Pump Cabinet
(see picture below)

½-inch Polyflo
Tubing

Washer #2
(if needed)

Washer #3
(if needed)

Hose Clamps

Laundry Machine #1
(BROWN WIRES)

Laundry Machine #3 (PINK WIRES)

Laundry Machine #2
(GRAY WIRES)

3.5.2. Overflow Connection

An overflow for the Pump Cabinet's sump is provided to direct the solution to a drain should the pump or water solenoid fail. The overflow (black drain tube) is located behind the incoming water pressure regulator.

1. Measure the distance to the floor drain and cut your 5/8-inch I.D. Mayon tubing to the desired length.
2. Connect the Mayon tubing to the sump overflow (black drain tube) located under the Pump Cabinet.
3. Secure the connection with a hose clamp provided in the installation kit.
4. Route the opposite end of the Mayon tubing to a floor drain or drain trench.
5. If possible, try to secure the end of the Mayon tube to the floor drain with a cable-tie. This prevents the hose from being "kicked around."

NOTE: If a drain is unavailable, an empty five gallon pail should be used.
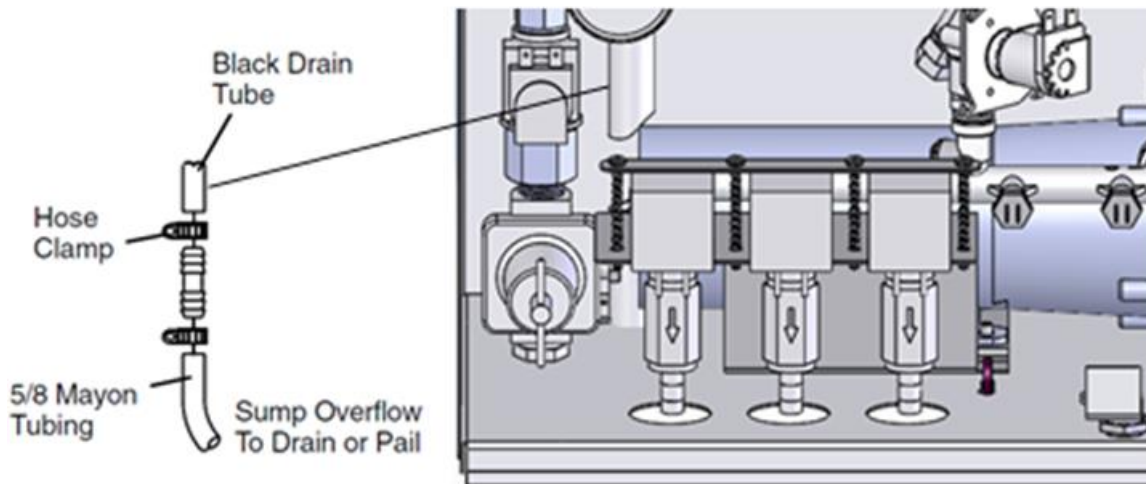
3.5.3. Hot Water Supply Connection

Stainless Steel Braided Hose Plumbing Method

The fittings supplied with the dispenser allow you to use a G3/8 Hose to supply the water to the Pump Cabinet. Make sure to use the water strainer (filter) to keep the solenoid valves clean. Must follow local plumbing codes.

10mm O.D. Copper Plumbing Method

The fittings supplied with the dispenser allow you to use 10 mm O.D. flexible copper to supply the water to the Pump Cabinet. Make sure to use the water strainer (filter) to keep the solenoid valves clean. Must follow local plumbing codes.

3.6. Optional 4ᵗʰ Solid Product Module

3.6.1 Introduction

The Aquanomic EU system can be installed with a 4th Solid Product cabinet (9259-1000). This cabinet gets mounted to the left of the main pump cabinet and gravity drains the solution to the top of the pump. This optional cabinet uses 2 water solenoid valves (one for spray nozzle and other for pre and post flushing). It also uses a capsule safety switch.

3.6.2. Requirements/Specifications

Utility Requirements

The 4ᵗʰ Solid Product does not require any additional electrical or water service relative to the Aquanomic EU dispenser. The 4ᵗʰ Solid Product runs on 24VAC electrical service originating from the Pump Cabinet. The 4ᵗʰ Solid Product also uses water from the Pump Cabinet and therefore does not require an additional water hook up.
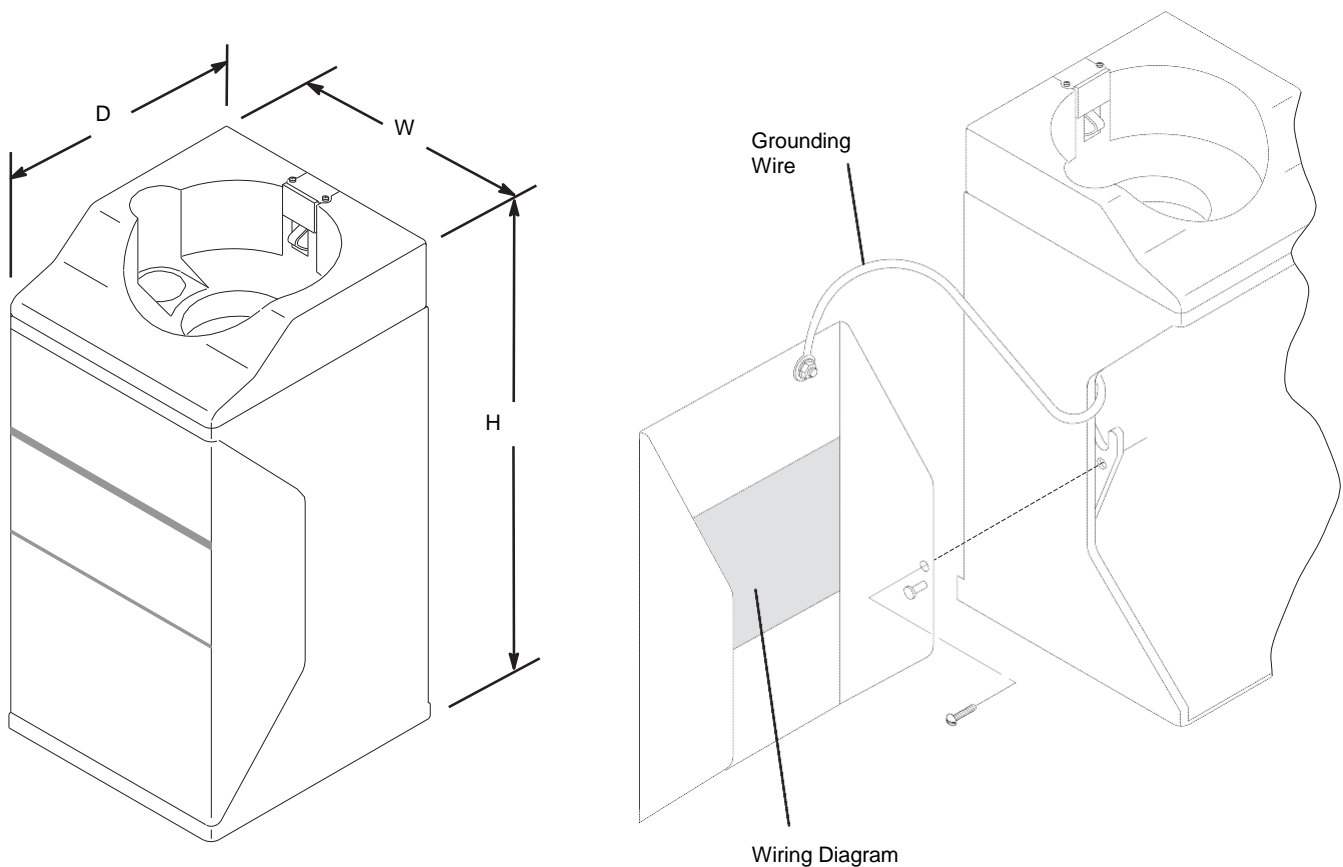

Specifications/Dimensions
H = Height 50 cm
W = Width 25 cm
D = Depth 25 cm
Weight 7 kg. (with product up to 11kg.)
Product clearance of 20 cm above cabinet to replace product capsules.

Grounding Wire

Wiring Diagram

3.6.3. Installation Procedure

1. Remove the label from the left side of the Pump Cabinet's left hand side. The label needs to be removed in order to run the electrical and hydraulic service between the 2 cabinets.
2. If the Pump Cabinet has already been installed, remove the cabinet from the wall to access the Wall Bracket. Following instructions below:
    a. Unplug the electrical cord for the Pump Cabinet.
    b. Turn off the water supply. Might need to disconnect the incoming water plumbing.
    c. Disconnect the product delivery tubing, if needed.
    d. Remove the overflow hose, if needed.
    e. Remove the solid products.
   f. Remove Cabinet from the wall to access the Wall Bracket.

Mounting 4th Solid Product Cabinet

3. Align the brackets together. Drill holes, insert wall anchors, and screw bracket tightly to the wall.

4th Solid Product Cabinet Wall Bracket   Pump Cabinet Wall Bracket
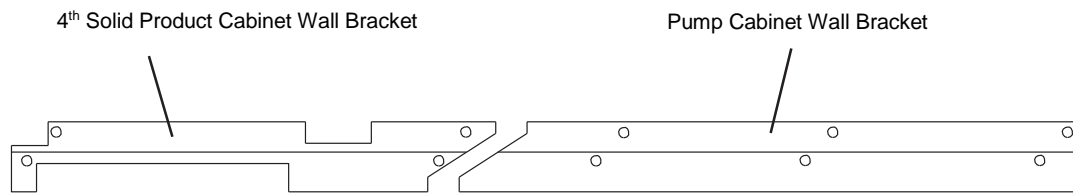
Wiring

1. Unwind the ORANGE, WHITE/ORANGE and RED, WHITE/RED wire pairs in the Pump Cabinet and feed through the top hole in the left side of the Pump Cabinet.
2. Crimp a 1/4-inch female quick disconnect to each of the four wires. Might want to cut to length.
3. Connect the orange wire to the male quick disconnect of the capsule safety switch (white wires).
4. Connect the white / orange wire to the open tab of the 4th product solenoid valve.
5. Connect the red and the white / red wires to the open tabs on the flush solenoid valve.
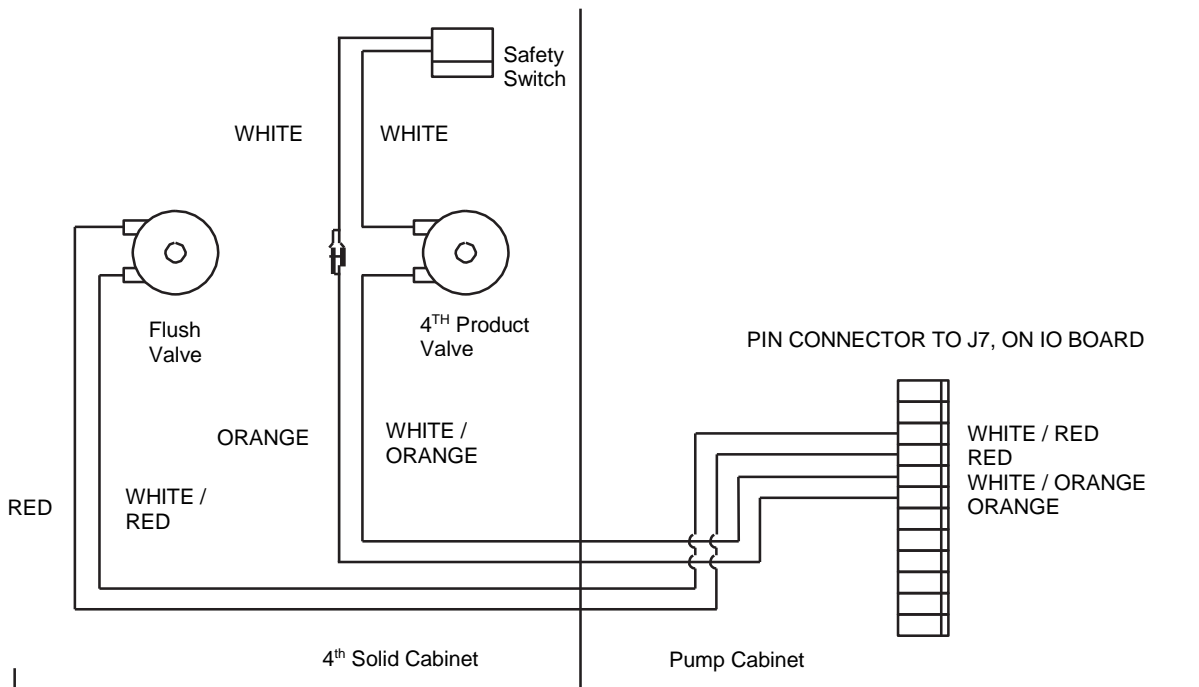
Plumbing

1. Inside the Pump Cabinet, cut the 3/8-inch clear tubing which supplies water to the detergent valve approximately 7 cm before the detergent valve.
2. Feed the 3/8-inch clear tubing with the Tee connector located in the 4th Product Cabinet through the top hole on the left side of the Pump Cabinet.
3. Connect the cut tubing into the T connector.
4. Remove the plug from the sump drain hose (located above the pump inlet) in the Pump Cabinet.
5. Feed the 4th Product Drain hose through the bottom hole on the left side of the Pump Cabinet.
6. Attach the 4th product drain hose to Pump Cabinet's drain hose using the connector tube and two hose clamps as shown below. Be sure drain tube is not kinked. Shorten length if necessary by cutting 4th Product Drain hose.
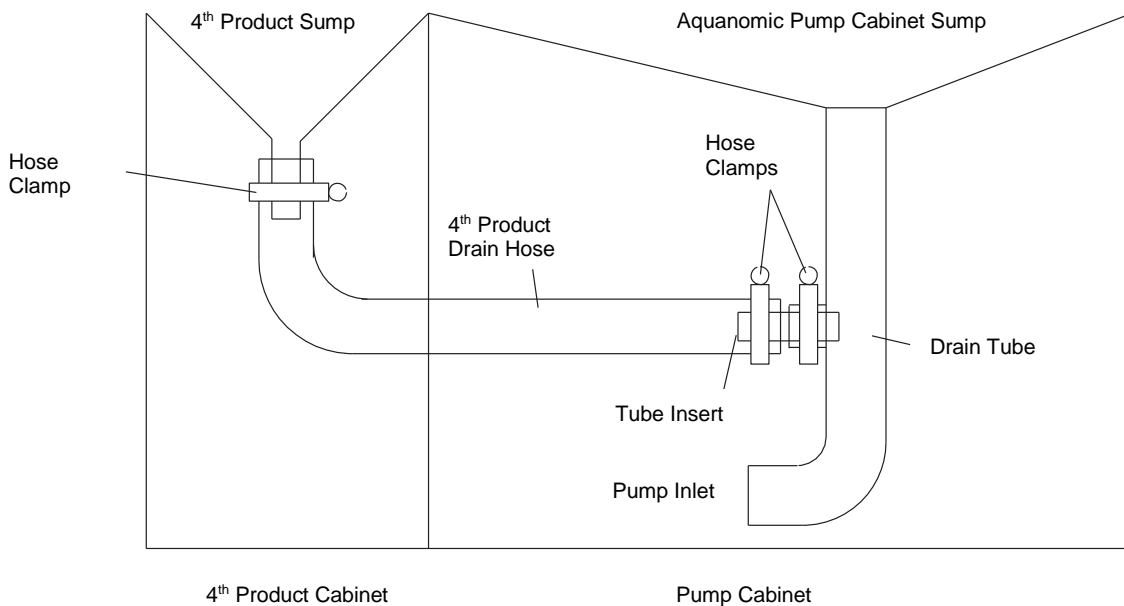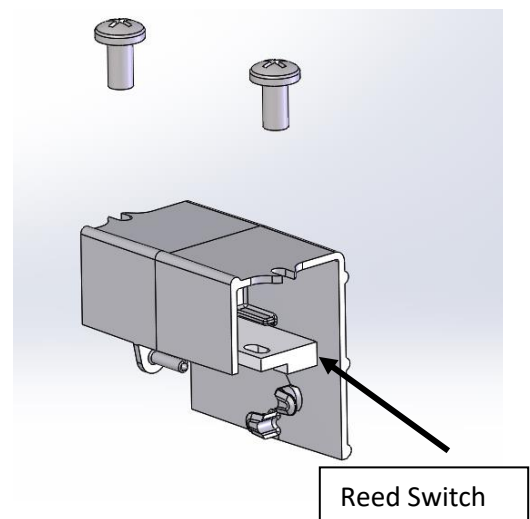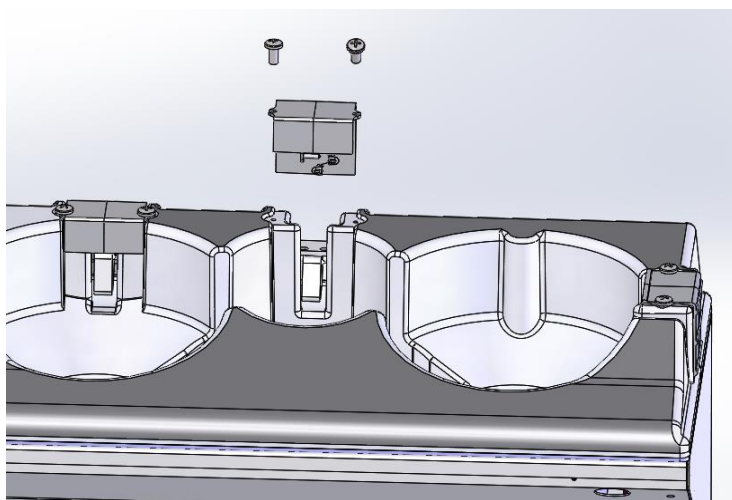
3.7. Solid Bleach Product Housing

3.7.1. Introduction

The optional bleach product housing (9259-1115) is to be used only with the Aquanomic Oxygen Bleach product. All other products for the middle pocket do not required this housing and can be used directly with the Aquanomic system. The plastic housing is included in the Aquanomic EU dispenser, however it will need to be installed at the account.
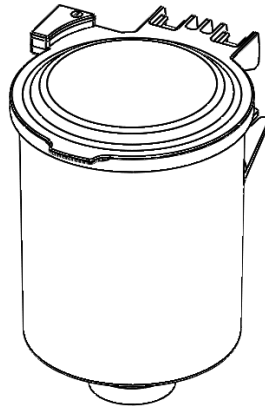

3.7.2. Installation

1. Locate the middle pocket on the Pump Cabinet and remove the (2) screws for the capsule safety switch, as shown below. Keep these screws as you will need them when installing the bleach housing.

2. Lift the safety switch assembly out of the sump and remove the Reed Switch by pulling sideways.
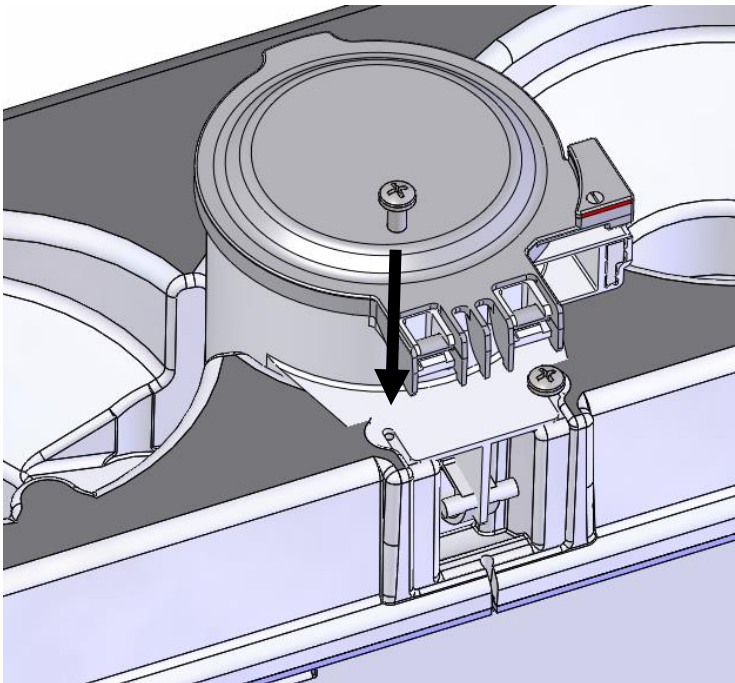

Reed Switch

3. Slide Reed Switch into bleach product housing, shown in image below.

Note: If the Reed Switch wires are not long enough it may be necessary to cut the cable-tie that is restraining the wires inside the Pump Cabinet.

Push Reed Switch all the way in.
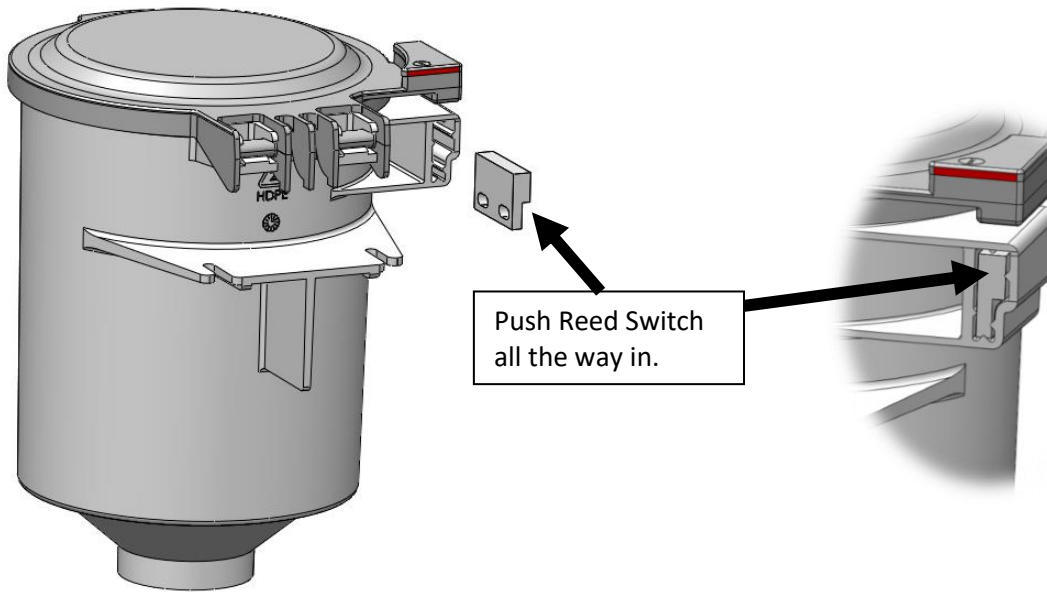
4. Place Bleach Product Housing into Aquanomic Sump and secure with (2) screws.
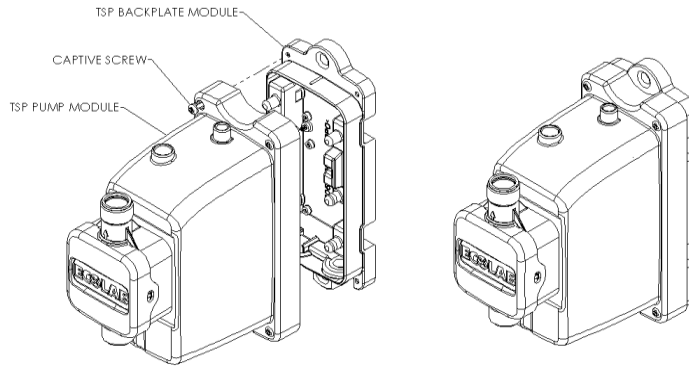
3.8. Optional 4ᵗʰ Liquid Product Pumps

The Aquanomic EU dispenser can also dispense 1 liquid product to all 3 washers using the Turbo Smart Pump (TSP).

The discharge tubing that delivers the liquid product to the washer(s) will run separately, for now.

When using the liquid pumps, you can also install Out Of Product float switches inside the liquid product's pail(s).

3.8.1. Installation

1. Mount the TSP backplate to the wall.

2. Connect 24VDC wiring from the I/O board (inside the Pump Cabinet) terminals in lower left corner. P1 represents Pump #1 for Washer #1. Attach the wire connections in the TSP backplate module.

3. Attach Pump Module to backplate.

4. Run pickup tubing from liquid pail to inlet (bottom) of Pump. Attach float switch to pickup probe for OOP alarms. Run wires to I/O board in lower middle terminals. Connect wires to S and – terminals and wires float switches in series or parallel, depending on number of liquid product pails used.

5. Connect discharge tubing from outlet (top) of Pump and run tubing over to chemical hopper injection on designated laundry washing machine. Use 3/8" ID braided EVA tubing.

6. Program Condor Controller with product selection and feed times.

I/O circuit board wiring for liquid product pumps and floats:
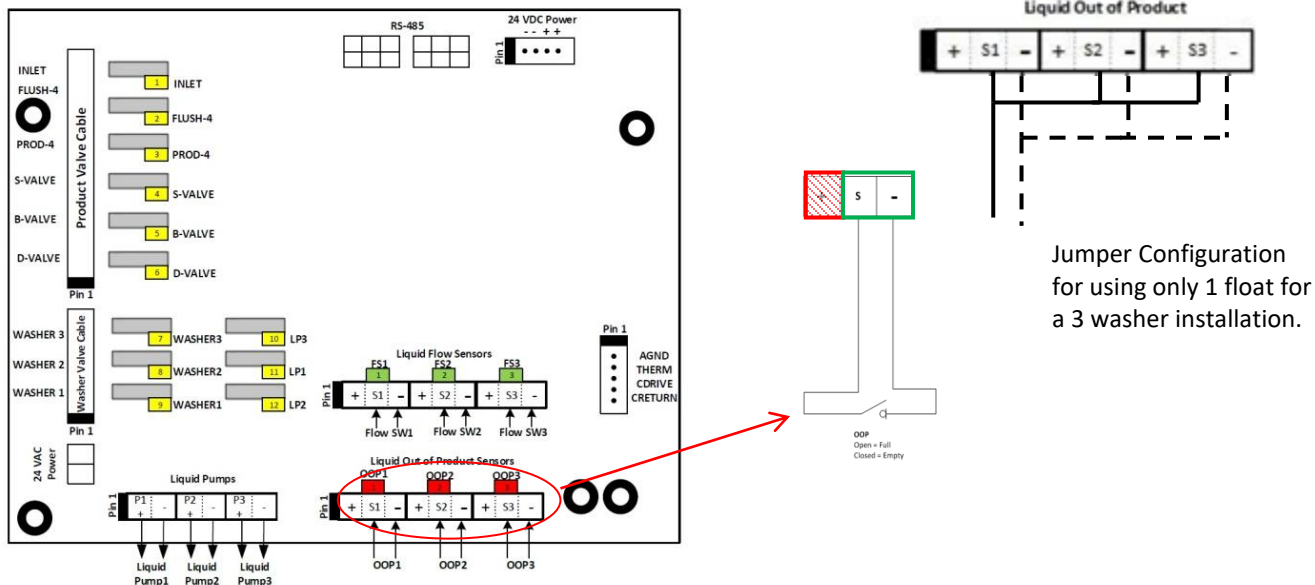
DIN-DVGW-Baumusterprüfzertifikat
DIN-DVGW type examination certificate

NW-6305CO0320
Registriernummer
registration number

Anwendungsbereich *field of application*	Produkte der Wasserversorgung *products of water supply*
Zertifikatinhaber *owner of certificate*	Pittway Sàrl Z.A. La Pièce 16, CH-1180 Rolle
Vertreiber *distributor*	Pittway Sàrl Z.A. La Pièce 16, CH-1180 Rolle
Produktart *product category*	Armaturen für Trinkwasser: Systemtrenner BA (6305)
Produktbezeichnung *product description*	Systemtrenner Bauform BA
Modell *model*	BA095
Prüfberichte *test reports*	Baumusterprüfung: ST 011/13 vom 19.09.2013 (TZW) KTW-Prüfung: KA 0318/12 vom 07.01.2013 (TZW) Mikrobiologische Prüfung: W-233281-13-SI vom 28.01.2008 (WHY) KTW-Prüfung: K-205381-11-Ko vom 11.07.2011 (WHY) Mikrobiologische Prüfung: W-202004e-11-SI vom 14.04.2011 (WHY)
Prüfgrundlagen *test basis*	DVGW W 570-1 (01.03.2013) DIN EN 12729 (01.02.2003) UBA METALLE (26.03.2018) UBA ELASTOM (16.03.2016) UBA KTW (07.03.2016) DVGW W 270 (01.11.2007)
Ablaufdatum / AZ *date of expiry / file no.*	19.09.2023 / 18-0420-WNV

09.10.2018 Fk A-1/2
Datum, Bearbeiter, Blatt, Leiter der Zertifizierungsstelle
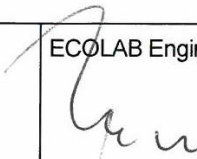*date, issued by, sheet, head of certification body*

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ECOLAB®	EG-Konformitätserklärung	(2006/42/EG, Anhang II A)
	Declaration of Conformity	(2006/42/EC, Annex II A)
	Déclaration de Conformité	(2006/42/CE, Annexe II A) CE
	Dokument/Document/Document:	KON039799

Hersteller Manufacturer Producteur	Bevollmächtiger Authorised Person Fait d'un agent
Ecolab Inc. 655 Loan Oak Drive MN 55121	ECOLAB Engineering GmbH Postfach 11 64 D-83309 Siegsdorf

Name des Herstellers, Anschrift	supplier's name, address	nom du fournisseur, adresse
erklären in alleiniger Verant- wortung, dass das Produkt	declare under our sole responsibility that the product	déclarons sous notre seule responsabilité que le produit

Aquagator EU
PN: 9259-1111

Gültig ab / valid from / valable dès: 2014-11-20

auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokument(en) übereinstimmt:	to which this declaration relates is in conformity with the following standard(s) or other normative document(s):	auquel se réfère cette déclaration est conforme à la (aux) norme(s) ou autre(s) document(s) normatif(s)

EN-ISO 12100:2011
EN 1717:2011
EN 61010-1:2011
EN 61000-6-2:2006
EN 61000-6-3:2012

Gemäß den Bestimmungen der Richtlinie	following the provisions of directive	conformément aux dispositions de directive

2006/42/EG
2004/108/EG

ECOLAB Engineering GmbH

K.Rutz
Geschäftsführer

i.V. H.Kamml
Leiter R&D Shared

D-83313 Siegsdorf , 2014-11-20

Ort und Datum der Ausstellung Place and date of issue Lieu et date	Name/Unterschrift des Befugten name/signature of authorized person nom/signature du signataire autorisèe