ChemLogic

Laundry By U S Chemical

Reference Manual

ChemLogic
5 Product Venturi Laundry Dispenser
Instruction Manual

SAFETY PRECAUTIONS

WARNING! Please read these warnings carefully and follow all applicable local codes and regulations.

TO AVOID SERIOUS PERSONAL INJURY AND PROPERTY DAMAGE:
WEAR Protective clothing and eyewear when dispensing chemicals or other materials, when working in the vicinity of chemicals, and when filling or emptying equipment.

ALWAYS:
- Read and follow all safety instructions on safety data sheets (SDS) for all chemicals.
- Observe all safety and handling instructions of chemical manufacturer.
- Dilute and dispense chemicals in accordance with chemical manufacturer's instructions.
- Direct discharge away from you and other persons and into approved containers.
- Regularly inspect equipment including hoses and exposed wires and keep equipment clean and properly maintained. Install using a qualified technician only, in accordance with all applicable electrical and plumbing codes.
- Disconnect all power to dispenser during installation, service, and/or any time dispenser cabinet is opened.

NEVER Mix incompatible chemicals that pose hazards.

CAUTION! All information provided in this instruction manual on washing machines should be considered as general. Please verify specific details with the machine manufacturer.

TABLE OF CONTENTS

PACKAGE CONTENTS

D1229726 ChemLogic, 5 product, with Machine Interface

1) ChemLogic 5 Product Venturi Dispenser
2) Machine Interface (converts high-voltage washer signals to isolated, low-voltage control triggers.)
3) Accessory Kit - (not shown) Discharge tubing, Y-connector and water inlet hose.
4) Bag of Check Valves - (not shown) with Eductor Elbows installed. (Attach chemical input hoses onto check valves **before** installing check valves onto eductors.)

Product Description

The ChemLogic is a low maintenance, venturi-based laundry chemical dispenser. This unit is signaled by a host laundry machine to dispense chemical(s) at the correct point in the wash cycle. There are no moving parts such as with peristaltic pumps. Therefore, the need for regular servicing is greatly reduced. The ChemLogic can be installed on any commercial washer.

CATEGORY	SPECIFICATION
Electrical (Main Power)	110V AC at 50-60 Hz up to 0.4 Amps
Electrical (Machine Interface)	Input from Washer: 24-249 VAC or 20-24 VDC up to 10 mA Output to Dispenser: 24 VDC up to 0.4 A
Water Pressure Rating	Min: 25 PSI (1.5 Bar - 0.18 mPa) Max: 90 PSI (6 Bar - 0.6 mPa)
Inlet Water Temperature Rating	Between 40°F and 140°F (5°C and 60°C)
Chemical Temperature Rating	Intake chemicals should be at room temperature
Cabinet Material	Front: ASA Rear: PP-TF
Environmental	Pollution: Degree 2 Temperature: 50°-160° F (10°-50° C) Maximum Humidity: 95% Relative
Regulatory Approvals	North America: Conforms to ANSI/UL Std. 60730-1:2016 Ed. 5 Certified to CAN/CSA Std. E60730-1 2016 Ed. 5
Overall Dimensions	5-Product: 16.5 in Wide x 9 in High x 5 in Deep (419 mm W x 229 mm H x 127 mm D)
Mounting Dimensions	12.5 in horizontally between mounting holes, 2.75 in between vertically.

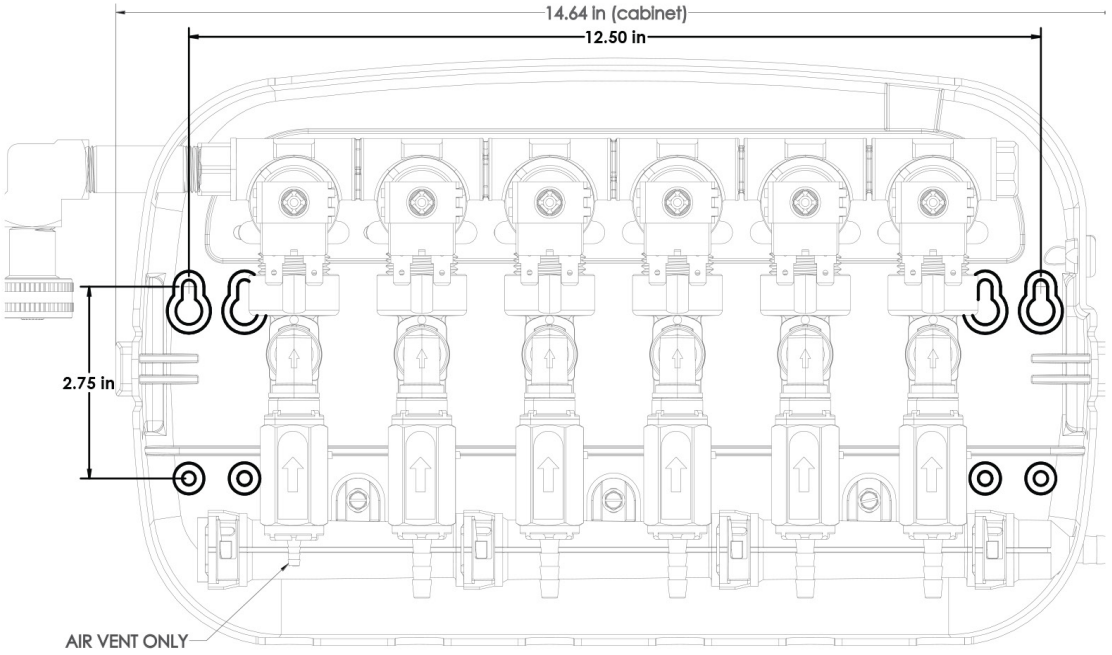
SITE SURVEY & INSTALLATION REQUIREMENTS

Before an installation takes place it is necessary to complete a site survey to ensure the ChemLogic system 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, direct sunlight, frost or precipitation of any kind.
2) Water supply – Min 29 PSI (2 Bar) – Max 90 PSI (5.5 Bar). **Cold water recommended.**
3) Ensure the unit can be mounted in an accessible position above the height of the required discharge location.
   NOTE: Discharge tubing should never exceed height of the ChemLogic dispenser.
4) The back-siphon performance of this unit is suitable for chemicals up to and including Category 3 on the LD50 scale.
5) Unit must have a means to shut off power so installation and maintenance can be safely performed. Always use proper lock out / tag out procedures when installing and performing maintenance to ensure safety for technicians.
6) Unit must be mounted in a well-lit area, with non-slip flooring/matting.
7) Unit must be supplied with water to the inlet only. Cold water is recommended, maximum temperature of 140°F (60°C).
8) ChemLogic units utilizes a machine interface which eliminates the need for voltage-specific units or conduit runs to the dispenser. The machine interface must be plugged into a standard 115 VAC wall outlet within 12 feet of the washer.

MOUNTING ENCLOSURE

NOTE: No oil, grease or similar substance to be used with this product.



- Screws and wall anchors are supplied with the unit to mount the dispenser. Ensure wall is of quality and strength to support the ChemLogic unit.
- Unit to be secured at all 4 positions shown above in Figure #1.
- Screw hole centers are shown above in Figure #1.
- Unit should not be subject to vibration. Unit should be attached to a solid wall. Unit **MUST NOT** be attached to a laundry machine or other object subject to vibration.
- Unit should not be mounted or secured using adhesives since they are not considered to be reliable.

IMPORTANT NOTE: Dispenser must be mounted higher than the injection point on the laundry machine.

WATER CONNECTION

Cold (Maximum temperature must not exceed 140°F (60°C).

- A 6 ft. flexible water hose is provided to connect the water supply to the unit. Attach the water hose to the 3/4" female swivel connector on the unit. A hose Y connector is also provided to use for the water supply.
- The installer should check for leaks at the maximum pressure that the unit will operate under during use. Pressure test **MUST** be carried out before any electrical connections are made.
- Unit **MUST NOT** be subject to vibration through the main water connection. Ensure hose connections are tight.
- Make sure all tubing is secured and all clamps are tightened prior to use.

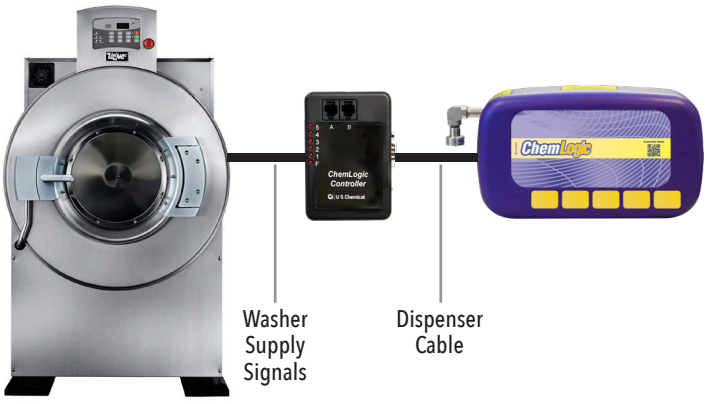
CONFIGURING CHEMICAL PICKUP

- 1/4" I.D. flexible pickup tubes are not supplied with the unit and should be selected based on product chemical compatibility. Outside diameter of tubing should be at least 3/8". Secure chemical pick up tube to barb using pull tie.
- Chemical containers are to be placed below the unit and as close as possible so that the pickup tubes are kept as short as possible. Pickup tubes should not exceed 6 feet.
- Maximum recommended discharge length is 40'. We supply 15' 3/8" EVA discharge tubing.
- ***It is recommended that the Destainer/Chlorine Bleach is separated from the Sour. Place Destainer/Chlorine Bleach pickup on #1 position closest to the air vent and Sour on the #4 or #5 position based on the number of products.***

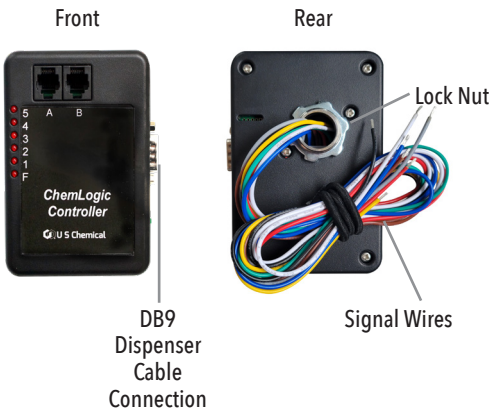
ELECTRICAL INSTALLATION

- Mount the Isolation Module as close to the washer supply signals as possible. If high-voltage washer signal wiring is run externally from the washer to the Isolation Module, it must be protected by electrical conduit, which is fixed at regular intervals and restrained at suitable distances. (A junction box will be needed for the Isolation Module connection.)

System Diagram



Isolation Module



MACHINE ISOLATION MODULE

Scan QR code to view Isolation Module Setup Video

The Isolation Module (IM) accepts washer signals and converts them to low-voltage inputs. The IM is installed near the laundry machine control wiring area, often to the exterior of the laundry machine, and can accept supply signal voltages ranging from 24-240VAC or from 22-24VDC. With DC signals, polarity must be observed, where common connects to negative. The signals must be positive voltages.

1) Route Isolation Module signal wires through 1/2 inch knock-out on washer (within the wiring area). Use lock nut on Isolation Module 1/2 inch nipple to secure Isolation Module to washer.
2) Connect cable marked DB9 from the Isolation Module to the ChemLogic Dispenser. Bundle excess cable outside washer.

Supply Trigger Wiring

1) Identify the washer supply signals. Check with technical service or with the washer manufacturer if you are not sure of the connections. If one or more product signals are not used, they do not need to be connected.
2) Protect any unused wire with a wire nut. If the washer has only a single common, wire nut all the common wires together.

Signal Connections

For LIN-N-LOGIC mode there is a one to one correspondence between signal and valve actuation.
The signal connections are as follows:

Lin N' Logic Mode

WIRE COLOR	SIGNAL
White	Common
Black	Common
Yellow	Signal F (FLUSH)
Green	Signal 1
Red	Signal 2
Brown	Signal 3
Blue	Signal 4
Grey	Signal 5

Auto Flush + ChemLogic Mode +AFS Mode

WIRE COLOR	SIGNAL
White	Common
Black	Common
Green	Signal 1
Red	Signal 2
Brown	Signal 3
Blue	Signal 4
Grey	Signal 5
Yellow	Only for AFS

ChemLogic Version 0.17 Changes

LIN-N-LOGIC MODE has beed added to the Initial Setup Menu. When this mode is selected, only one pump will be activated at a time. The flush will happen at the end of product dispensing not during dispensing. Even though one pump runs at a time, you can still select multiple pumps to run off one signal in Programmable Mode. When the signal goes active, the ChemLogic will automatically sequence the pumps one at a time, followed by a flush.

Non-Programmable Machine (Step Count) Using Drain Valve Connections

This installation is used on laundry machines where product signals are not available. Instead, a "machine power" signal is used to signal the start of the wash cycle. The ChemLogic control module counts wash cycle steps using the drain valve signal as the step counter. Since the step count is reset every time the machine power signal is turned off, you must be sure that the machine power signal comes on at the start of the wash cycle, remains on through-out the entire cycle and shuts off when the cycle is finished. The most common source of a "machine power" signal would be the **ON** light.

The following wiring installation requirements must be met:

1) Connect one of the terminals from a machine power signal to the **SIGNAL 1 / MACHINE POWER WIRE** (green). Connect the other terminal to the **SIGNAL 1 COMMON** return wire (white).
2) Connect the red wire from the isolation module to one of the contacts leading to the drain solenoid. Connect the black wire to the other contact leading to the drain solenoid.
3) Unused signal wires (3-6) should be capped separately with a wire nut or electrical tape and kept away from moving parts.

Programming Notes

Isolation module must be set in **CHEMMASTER MODE** for it to be used in Step Count. Also, when programming the control head, under **SETUP MENU**, **MACHINE TYPE** must be changed to **NONPROGRAMMABLE**.

Double check your steps after each installation. Some laundry machines will count a step for every time the drain solenoid energizes (closes) and de-energizes (opens). The opening and closing of the drain *may* count for step one and step two.

CHEMLOGIC ISOLATION MODULE OPERATION

The ChemLogic has the following features:

- DB9 Connector for attaching the ChemLogic Dispenser
- 24VDC 1A wall mount adapter
- One button for priming and configuring the system
- Six LED lights for signal status, priming and configuring the system
- ChemMaster compatible RJ-11 connections: A&B

Power-Up

When power is applied to the controller, the LEDs run through a start-up sequence as follows:

1) One at a time test of LEDs
2) Blinking configuration LED
3) All on test of LEDs
4) Version number LED

Priming

To prime a product line, first make sure all signals are inactive. Use the following sequence:

1) Press and click in the blue button for two seconds until the **F** LED comes on and is solid. This signals that **PRIMING MODE** is active.
2) Unclick the blue button. The LED will be on **F** indicating the flush.
3) Press and release the button to step through the various LED options one at a time.
4) Press and click in the blue button for two seconds to prime the selected line. The LED will blink while priming. Unclick to stop priming.
5) When you have reached the sixth LED, a press and release of the button will end the priming mode and all LEDs will be off.

Configuration

The ChemLogic controller can be configured in 5 different ways:

- **LIN-N-LOGIC MODE-LED F** This mode mimics the current Lin N' Logic Controller. There will be no automatic flush and you cannot prime or calibrate with the control head. You need a dedicated flush signal from the laundry machine. The isolation module cannot receive two signals at the same time. Yellow wire is used for flush.
- **AUTO FLUSH 5 SECONDS- LED 1** Same as LIN-N-LOGIC MODE except no signal is needed for the flush line (yellow wire). The controller will automatically flush the F line for 5 seconds after each product is dispensed. You cannot prime or calibrate with the control head. Also the isolation module cannot receive two signals at the same time so multiple signals will need to be staggered.
- **AUTO FLUSH 10 SECONDS- LED 2** Same as above, but with a 10 second flush.
- **AUTO FLUSH 20 SECONDS- LED 3** Same as above, but with a 20 second flush.
- **CHEMMASTER MODE-LED 4** This mode is for use with the control head. All the capabilities of the control head are available in this mode. Plus you can receive multiple signals at the same time from the laundry machine.
  NOTE: You must select LIN-N-LOGIC DISPENSER? "Yes", in the ChemLogic control head anytime you are using a solenoid pump housing. LIN-N-LOGIC DISPENSER "No" if you are using a peristaltic pump housing.
- **AUTOMATIC FORMULA SELECT (AFS)- LED 4**

(Confuguration Sequence on next page)

Configuration (Continued)

Automatic formula select (AFS)- Automatic formula select allows the end user to select formulas without the use of the control head. The yellow wire on the isolation module will be connected to a dedicated signal on the laundry machine. The length of time that the signal is on will tell the dispenser which formula to run. This signal must be the first signal the dispenser receives in a laundry formula. Formula selections are selected based on 5-second signal increments. Also, AFS mode needs to be selected in the control head otherwise the dispenser will stay in Chemmaster mode.

AFS Mode Timing Chart

FORMULA	SECONDS
Formula 1	5 seconds
Formula 2	10 seconds
Formula 3	15 seconds
Formula 4	20 seconds
Formula 5	25 seconds
Formula 6	30 seconds
Formula 7	35 seconds

To set the configuration, use the following sequence:

1) Press and click in the blue button for 10 seconds.
2) An LED light will blink to indicate that it is in configuration mode and what mode it currently is in, unclick the button.
3) Press and release the button to select the mode you want "LED" and click in the button. The LED will blink until it is saved.
    - LED F LIN-N-LOGIC MODE
    - LED 1 AUTO FLUSH 5 SECONDS "Relay"
    - LED 2 AUTO FLUSH 10 SECONDS "Relay"
    - LED 3 AUTO FLUSH 20 SECONDS "Relay"
    - LED 4 CHEMMASTER MODE OR AFS - **MUST BE ON LED 4 TO PRIME OR CALIBRATE WITH CONTROL HEAD. A FORMULA MUST BE ENTERED TO CALIBRATE.**
4) The controller will exit the configuration mode and all LEDs will go off. Unclick the blue button and proceed with normal operation.

NOTE: You can power cycle the controller to check the configuration mode through the startup LED sequence.
NOTE: LEDs 1-4 modes do not need a yellow wire connected.

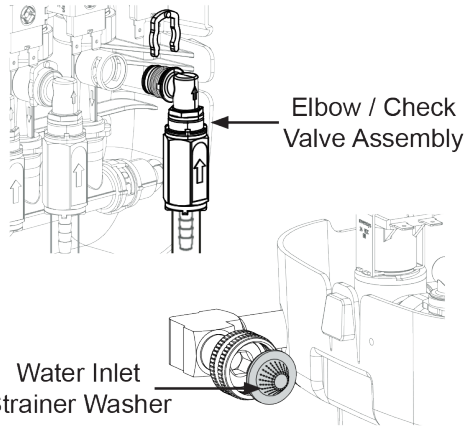
MAINTENANCE

Check Valves

Check valves and strainer washers should be inspected and replaced as needed. Many different factors affect check valve life, including chemical compatibility, time and operating conditions.

Check Valve Maintenance

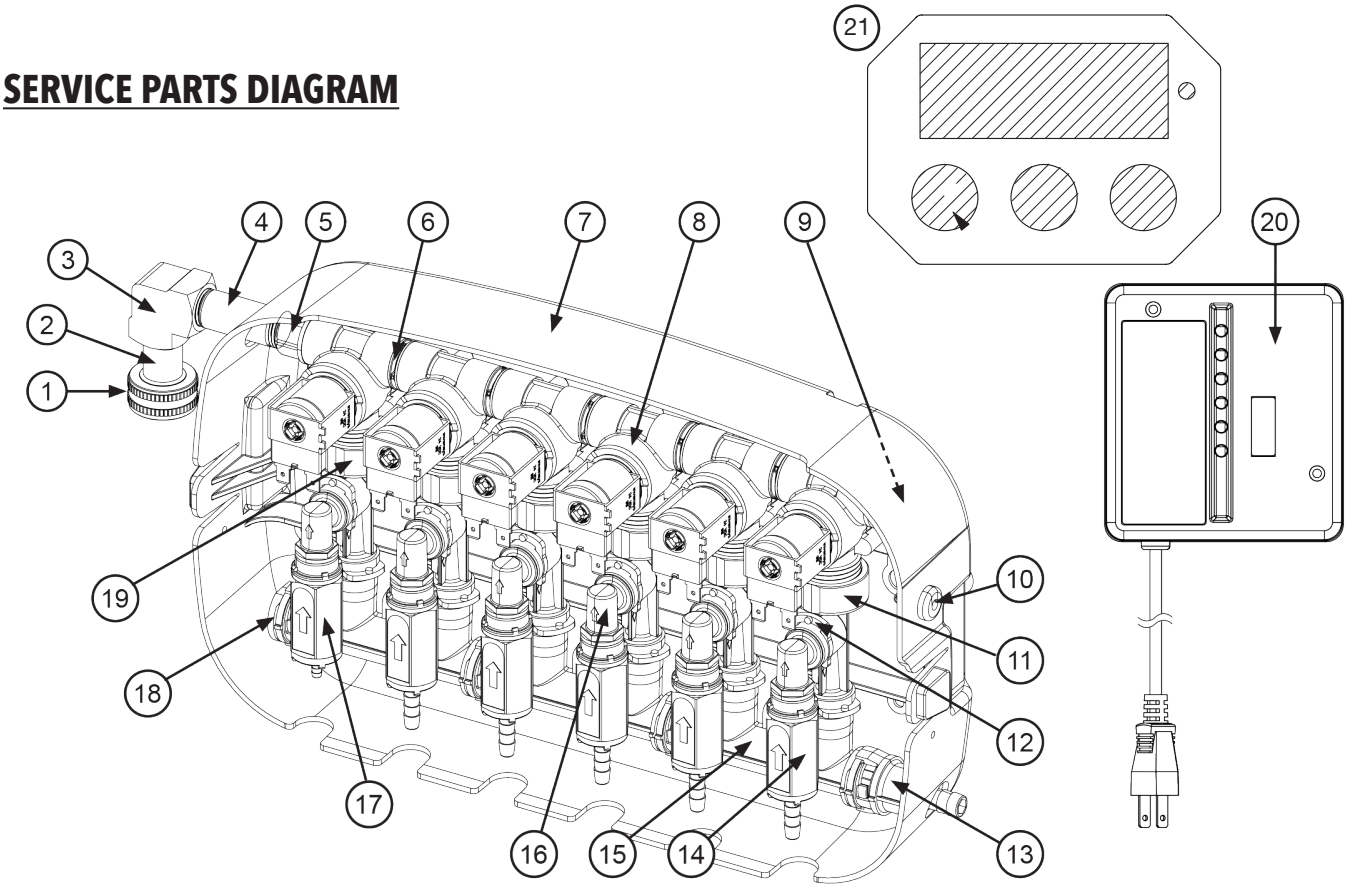
1) Make sure water and electricity are off, and pressure released from the unit.
2) Remove the clip holding the elbow and check valve assembly in place.
3) Remove pickup tube from failed check valve. 1/4" / 6mm or 3/8" / 10mm.
4) Repair / replace the check valve assembly. Ensure sealing o-ring is in place.
5) Re-attach the chemical pick up tube to barb and secure using pull tie, then push the check valve assembly onto the eductor and secure it with the clip.



Strainer Washer Cleaning

1) Ensure water and electricity are off, and pressure released from unit.
2) Unscrew garden hose from female inlet fitting.
3) Use pliers to remove clogged strainer washer. Clean or replace as needed.
4) Put clean strainer washer into female garden hose fitting.
5) Reconnect water input hose to input fitting and tighten. Check for leaks.

SERVICE PARTS DIAGRAM



SERVICE PARTS LISTING

REFERENCE	DESCRIPTION	QTY
1	**Swivel Nut, Female Garden Hose**	1
Not Shown	**Garden Hose Inlet Strainer Washer**	1
2	**Swivel Stem, 3/8" NPT**	1
3	**Fitting, Elbow 3/8" X 3/8" FPT Brass**	1
4	**Nipple, 3/8" NPT x 1.5" Long, Brass, Plated**	1
5	**3/8" NPSM X 3/8" NPT Adapter**	1
6	**3/8" NPS Plastic Close Nipple x 1.178"**	5
Not Shown	**Parker "-016" O-ring, Solenoid Valve to Close Nipple**	12
7	**Back Cover, US Chemical Eductor Laundry**	1
8	**Solenoid water valve, 24 Volt DC**	6
9	**Upper Manifold Pipe Plug, 3/8" NPS-M, INT. Hex, Plastic**	1
10	**Cable Strain Relief, Heyco**	1
11	**Eductor, 0.5 GPM, Kynar**	5
Not Shown	**Eductor to Solenoid Water Valve Washer**	6
12	**Clip T Connector**	12
13	**EVCL, Discharge Hose Barb, 0.375" (10MM), PP**	1
14	**Eductor Check Valve, 3/8" barb x 1/4" NPT-F**	5
15	**EVCL, 2-port Lower Manifold Tee, PP**	3
Not Shown	**O-ring 14mm ID x 2mm, Lower Manifold Tees**	4
16	**Elbow, EvoClean, Kynar**	6
Not Shown	**Parker "-014" O-ring, Elbow to Eductor & Eductor to Lower Mainfold**	12
Not Shown	**Parker "-013" O-ring, Elbow to Check Valve**	6
17	**Flush Check Valve, 1/8" barb x 1/4" NPT-F**	1
18	**EVCL, Lower Manifold Plug, PP**	1
19	**Eductor, 1.0 GPM, Kynar**	1
20	**Machine Interface Assembly, 220V-24V, PWD-MI**	1
21	**ChemLogic Control Head**	
Not Shown	**Machine Interface Signal Cable Assembly, DB9**	1
Not Shown	**No 8 x 1/2" Phillips Pan Head Screw**	5
Not Shown	**Front Cover, US Chemical Eductor Laundry**	1

DIAGNOSTICS

The ChemLogic has a built in Diagnostics Menu, which allows you to individually test its subsystems, including the Controller, Isolation Module, Pump Panel and Printer Interface.
To perform diagnostics:
1. From the **SUPERVISOR MENU**, select **DIAGNOSTICS**.
2. From the **DIAGNOSTIC MENU,** choose the subsystem you want to test.
    A. Set **TIME/DATE**. This should only have to be done once. Time is set in military style.
    B. Test Signals. Use while running a load. Display will show "Input Signals_____."
    C. Test Pumps. This enables the Prime Solenoid feature.
    D. Test Printer. Connect laptop to ChemLogic with cable #D4114638 to assure correct interface. "Report Capture" program must be loaded into computer. (Note: if your computer does not have serial port, order both cables #D4114638 & #D4997936.)
    E. Reset Memory and Clear Formulas. This erases all memory – Be sure this is what you want to do!

Use the results of the diagnostics to help with trouble shooting problems that may occur in the field.

TO DOWNLOAD REPORTS

Connect the ChemLogic cable (SKU #D4114638) to the ChemLogic and a computer with the Report Capture program installed. (**NOTE:** If your computer does not have a serial port you will need to order an additional cable, #D4997936 interface cable USB Port adapter to serial cable.)

Open the Report Capture program

In the ChemLogic **SUPERVISOR'S MENU**, scroll to the **REPORT** menu. Then scroll to **PRINT FORMULA REPORT**. There are four separate reports, and any or all of them can be downloaded. Press the **STOP** button to download each report as it is displayed on the screen, or scroll past to the next report.

Use the icons on the top of the screen to save and/or print desired reports. It may be convenient to have folders prepared for each account, and to save the reports to the appropriate folder. The second icon from the left allows the screen to be cleared for the next use of the Report Capture program.

NEW CHEMLOGIC

SUPERVISOR MENU – PROGRAMMING INSTRUCTIONS

- Power **ON** to machine.
- The ChemLogic defaults to the Operator's list of formulas.
- Press and hold **STOP** until **OPERATOR MENU: SELECT FORMULA** appears on the display screen.
- Press▲ and ▼ together to enter the **SUPERVISOR MENU**.
- The **SERIAL NUMBER** of the control head will display briefly.
- Display screen will then read: **ENTER ACCESS CODE: 5555** (default)
- If your personal access code has been previously entered, scroll ▲or ▼ to it, 1-9999.
- Otherwise, move to the next step.
- Press **STOP**.
- **CHANGE ACCESS CODE: 5555** appears on the display screen.
- Scroll ▲ or ▼ to enter - or change - your personal access code.
- ***Be sure to make a note of it!***

SUPERVISOR MENU – PROGRAMMING INSTRUCTIONS (CONTINUED)

- Press **STOP** to enter the **SUPERVISOR MENU.**
- Scroll ▲ or ▼ to find these menu options:
  - **– SETUP MENU**
  - **– FORMULA MENU**
  - **– REPORT MENU**
  - **– DIAGNOSTICS**
  - **– SUPERVISOR MENU: EXIT**
- Press **STOP** to enter any of these menu options.
- Thereafter, **STOP** will move you from one menu item or question to the next.
- ▲ or ▼ will enable you to answer the display screen questions, and/or enter values or names.
- The ChemLogic will retain whatever settings or values you set, regardless of whether its power supply is interrupted, unless you choose to delete them.

SETUP MENU

- Press **STOP**. Display will read **EDIT INITIAL SETTINGS**.
- Scroll ▲ or ▼ to find the other **SETUP MENU** options:
  - **– INSTALL PUMP TUBES**
  - **– PRIME CHEMS**
  - **– CALIBRATE CHEMS**
  - **– EXIT SETUP MENU**
- Scroll to the desired option and press **STOP**.
- Thereafter, use ▲ or ▼ to answer display questions or to set values.
- Let's look at **EDIT INITIAL SETTINGS.**
- Press **STOP.**

Display asks the following questions:

- **MEASURING SYSTEM** - This can be in either ounces or milliliters. Use ▲ or ▼ to select, then press **STOP.**
- **ENABLE USER CHEM PRIMING?** Use ▲ or ▼ to answer YES or NO, then press **STOP**.
- **MACHINE TYPE: PROGRAMMABLE - OR - NONPROGRAMMABLE** Use ▲ or ▼ to select, then press **STOP**.
- **LIN-N-LOGIC DISPENSER?** Use ▲ or ▼ to answer YES or NO, then press **STOP**.
- **NUMBER OF CHEMS?** Use ▲ or ▼ to select 1 – 5 chemicals, then press **STOP**.
- **PUMP 1 DISPENSES BREAK**
  - – Use ▲ or ▼ to select one of the 12 preloaded product names. See page #19 for the selections.
  - – Or, scroll to **NEW PRODUCT NAME**. Press **STOP.**
  - – **ENTER NEW NAME**. Use ▲, ▼and **STOP** to spell out a customized name with the alpha/numeric list.
  - – Scroll ▲ and enter a product name for each remaining pump. Press **STOP**.
- **ADDED FLUSH TIME** Number of seconds manifold runs after pump stops. Use ▲ or ▼ to enter 5-120 seconds, then **STOP**.
- **PRESSURE SWITCH INSTALLED?** This feature is being reviewed it is not currently available. Use ▲ or ▼ to answer NO then press **STOP**.
- **MINIMUM SIGNAL ON TIME** How long is a real signal? Use ▲ or ▼ to enter 5-15 seconds, then press **STOP**.

SETUP MENU – EDIT INITIAL SETTINGS (CONTINUED)

- **SAME DELAY FOR ALL CHEMS?** This sets the chemical delay times. Multiple chemicals for the same cycle should start at staggered times.
  - If you use ▲ to answer YES, press **STOP** and the display will ask: **CHEM SIGNAL DELAY TIME:** Use ▲ or ▼ to enter the desired delay time in seconds (0-120) for all the pumps. Then press **STOP**.
  - If you use ▲ to answer NO, the display will ask: **CHEM 1 SIGNAL DELAY TIME:** Use ▲ or ▼ to enter the desired delay time in seconds (0-120) for **CHEM 1**. Press **STOP** to repeat these steps for each chemical, and to move ahead when the desired delay times have been entered for all of the chemicals.
- **HOW MANY SIGNALS?** Use ▲ or ▼ to enter the number of signals used.
- **AUTO FORMULA SELELCT** Use ▲ or ▼ to answer YES or NO.
- **WHICH SIG. TURNS ON CHEM 1? SIG 1** Use ▲,▼and **STOP** to enter the signal that turns on each chemical.
- **ENABLE MENU TIMEOUT?** Automatically returns the display to the formula list in the **OPERATOR MENU**. (In case you forget!) Use ▲ or ▼ to answer YES or NO, then press **STOP**.
- **ENABLE BACKLIGHT TIMEOUT?** Automatically reduces power consumption of the display when the machine is not in use. Use ▲ or ▼ to answer YES or NO, then press **STOP.**
- **ENABLE WATER USE TRACKING** Water use, based on gallons used/load entered in the **FORMULA MENU**. This information will then be included in the **REPORT MENU** printouts. Use ▲ or ▼ to answer YES or NO, then press **STOP**.
- **MACHINE LOAD CAPACITY** What is the capacity of the machine? Use ▲ or ▼ to enter the machine size in lbs, then press **STOP**.
- **LANGUAGE** Formula names from the list in the **FORMULA MENU** can be displayed in either English or both Spanish and English. Use ▲ or ▼ to select, then press **STOP**.
- **CAL TIME** How long calibration runs, default 10 seconds.

SETUP MENU – PRIME CHEMS

- **PRIME CHEMS** This enables you to prime the chemicals in preparation for calibration.
- Press **STOP.** Display screen will read: **PRIME CHEM #1** (**STOP TO PRIME**)
- Press **STOP** to prime the lines for **CHEM #1**.
- Use ▲ to move to **PRIME CHEM #2** and repeat the process.
- After the last line is primed, the next display reads: **PRIME FLUSH LINE (STOP TO PRIME)**
- Use **STOP** to activate the flush manifold solenoid. Fill the line. ***10 psi or 350 ml/15 seconds is recommended.***
- Use ▲ to move ahead. Press **STOP** to **EXIT CHEM PRIME**.

SETUP MENU – CALIBRATE CHEMICALS

- **CALIBRATE CHEMS**. Formula product quantities are set by measuring each products output for 10 seconds.
- Press **STOP.** Display reads: **CHEM 1 _____ (date of last calibration) _____ oz. (or ml.) CHG? YES or NO**
- Use ▲ to answer. If NO is selected, the display moves to **CHEM 2** for calibration. If YES is selected, be prepared for the calibration sequence to begin. Product lines should be primed and a measuring device with product with product to measure amount of product picked up in 30 seconds. ***CAUTION: Never mix Destainer with Sour products.***
- Press **STOP**. Following display directions, press **STOP** again.
- Display screen shows a calibration countdown, 5-4-3-2-1. Then the chemical will automatically start running, for 30 seconds.
- When complete, the display reads: **ENTER CAL VOLUME** Use▲ or ▼ to enter the ounces (or mls) of product picked up during the 30 second calibration. Press **STOP** to move to the next chemical calibration.
- Repeat this process until all chemicals are calibrated.
- Press **STOP.** Display will briefly show **END OF CHEM CALIBRATION** followed by **EXIT SETUP MENU**.
- Use ▲ or ▼ to return to any setting in the **SETUP MENU**. If setup is complete, press **STOP**.
- Display returns to the **SUPERVISOR MENU**.

FORMULA MENU - OPTIONS

- Use ▲ to get to the **FORMULA MENU**. Press **STOP.**
- The **FORMULA MENU** has these options:
  - **PROGRAM NEW FORMULA**
  - **REVIEW CHANGE FORMULA**
  - **DELETE FORMULA**
  - **EXIT FORMULA MENU**
- Use ▲ or ▼ to select an option.
- Press **STOP.** Display reads **PROGRAM NEW FORMULA**.

FORMULA MENU – PROGRAM NEW FORMULA

Entering a Formula Name

- Press **STOP**. Display asks **PROGRAM FORMULA #**
- Use ▲ to indicate the formula number (1-32) being entered.
- Press **STOP.** Display asks **FORMULA # NAME:** (see **Note)
  - Use ▲ to scroll through 28 preloaded formula names. (page #19) When the desired name appears, press **STOP.**
  - Or, use ▼ to find and enter a **NEW FORMULA NAME**.

Note: If the Display asks: **OVERWRITE FORMULA? there is already all or part of a formula entered under that formula number. YES lets you change the existing formula. NO takes you back to **PROGRAM FORMULA #**

- Press **STOP.** Display reads **ENTER NEW NAME** Use ▲ and ▼ to scroll to each letter and/or number of the desired new formula name and pressing **STOP** to move to the next space.
- When the new name is complete, press **STOP** and ▼ to **END TEXT**
- Press **STOP.** Display reads: **ENTER ALT NAME**. This only appears if the Spanish/English display option has been selected.
- If you know the Spanish (or other) translation for the new formula name, enter it here. It will display when this formula number is selected by the Operator, if the Spanish/English option has been selected in the **SETUP MENU.** Enter this name as described above.

FORMULA MENU – PROGRAMMABLE INSTALLATION

- ***If you are using a "Step Mode" or non-programmable installation, skip to next section.***
- When the desired formula name is entered, press **STOP**.
- The display will show the name of the product previously selected for **CHEM 1**, and 00.00 oz. (or mls.)
- Use ▲ or ▼ to scroll to the desired product quantity for the formula currently being entered.
- Press **STOP**, and repeat these steps for the remaining products.
- The next display reads: **CHEM 1 COUNTS LOADS**
- Use ▲ to enter the number (left to right) of the chem that will be used to count loads for this formula.

FORMULA MENU – STEP MODE INSTALLATION

- Press **STOP**. If this is a nonprogrammable machine or a "Step Mode" installation, the display asks:
  - **HOW MANY STEPS?** This number = how many times the drain solenoid is powered "on" in the current formula. The drain is normally open, and the solenoid gets powered "on" to close it.
  - Use ▲ or ▼ to enter the correct number of steps (1-9). Press **STOP**.
- The next few displays will be asking which step turns on what chem(s), followed by the product quantity for that formula.
  For example:
  - **DOES STEP 1 TURN ON CHEM 1 ?** (Chems are numbered L to R). Use ▲ or ▼ to answer YES or NO.
- Press **STOP**. NO moves display to the next chem question. YES moves display to the product quantity question.
  For example: BREAK CHEM 1 – 00.0 oz. (or ml) Use ▲ or ▼ to enter the desired product quantity.
- Continue to scroll through and answer all the **STEP, CHEM** and **PRODUCT QUANTITY** questions on the display screen.

FORMULA MENU (CONTINUED)

- Press **STOP**. If **ENABLE WATER USE TRACKING** was selected in the **SETUP MENU,** display asks:
  WATER USED IN LOAD: _____ gal
  - Use ▲ or ▼ to enter the total number of gallons for this formula.
- Press **STOP**.
- Display asks: **PROGRAM ANOTHER FORMULA?** Use ▲ or ▼ to answer YES or NO, then press **STOP**.
  - If YES, Press **STOP** and follow the steps above to enter new formula information.
  - If NO, Press **STOP**. Display returns to the **FORMULA MENU**.
  - Use ▲ or ▼ to scroll through **FORMULA MENU** options. Press **STOP** to select the next desired option, as follows:

REVIEW CHANGE FORMULA

- Press **STOP**. Display asks: **REVIEW FORMULA 01?** Use ▲ or ▼ to answer YES or NO, then press **STOP.**
  - If NO, press **STOP.** Follow these steps to find the desired formula to review and/or change.
  - If YES, press **STOP** and answer the display questions.

FORMULA MENU – REVIEW CHANGE FORMULAS

- Display asks: **CHANGE NAME**
  - Use ▲ or ▼ to answer YES or NO, then press **STOP.**
  - If YES, press **STOP.**
  - Use ▲ to scroll through the list of 27 preloaded formula names. When the desired name appears, press **STOP.**
  - Or, use ▼ to enter a **NEW FORMULA NAME** Use ▲ or ▼ and **STOP** to enter the new formula name.
  - For programmable installations, display shows product quantities. Use ▲ or ▼ to change. Press **STOP** to move to the next product.
- For a step mode installation, display asks: **HOW MANY STEPS?**
  - Use ▲ or ▼ to enter the correct number of steps (1-9).
  - Press **STOP. The STEP, CHEM** and **PRODUCT QUANTITY** questions will display. Use ▲ or ▼ to complete.
- Press **STOP**.
- Display asks: **REVIEW ANOTHER FORMULA?**
  - Use ▲ or ▼ to answer YES or NO, then press **STOP.**
  - If YES, use ▲ or ▼ to the desired formula, and proceed as above.
  - If NO, press **STOP** to return to the **FORMULA MENU** options.

FORMULA MENU – DELETE FORMULA

- Use ▲ or ▼ to scroll through **FORMULA MENU** options, and press **STOP** to select the next desired option, as follows:
- **DELETE FORMULA**
  - Press **STOP**.
- Display asks: **DELETE FORMULA 01?** Use ▲ or ▼ to answer YES or NO, then press **STOP**.
  - If NO, press **STOP**. Display moves to the next formula.
  - If YES, press **STOP.** Display asks: **ARE YOU SURE?**
  - Use ▲ or ▼ to answer YES or NO, then press **STOP**.
  - If NO, press **STOP** to move to the next formula number. The formula will be retained intact.
  - If YES, press **STOP.** The formula is deleted, and the display will ask about deleting the next formula.
- When finished scrolling through the list of formulas, the display will briefly read **END OF FORMULAS** and then return to the **FORMULA MENU** options. The last option is **EXIT FORMULA MENU**.

SUPERVISOR MENU – REPORT MENU

- Upon exiting the **FORMULA MENU**, the display will return to the main **SUPERVISOR MENU**.
- Use ▲ or ▼ to scroll through **SUPERVISOR MENU** options.
- The next **SUPERVISOR MENU** option is the **REPORT MENU**. Press **STOP**.
- Use ▲ or ▼ to scroll through **REPORT MENU** options, including:
  - **EDIT ACCOUNT INFORMATION**
  - **EDIT MACHINE MODEL NUMBER**
  - **EDIT PRODUCT INFORMATION**
  - **EDIT SHIFT INFORMATION**
  - **VIEW SUMMARY REPORT**
  - **PRINT FORMULA REPORT**
  - **PRINT FORMULA REPORT WITH COST**
  - **PRINT SUMMARY REPORT**
  - **PRINT SUMMARY REPORT WITH COST**
  - **RESET LOAD COUNTS**
  - **EXIT REPORT MENU**
- Press **STOP** to enter any of these options.

REPORT MENU – EDIT ACCOUNT INFORMATION

- Display reads: **ENTER NAME** (default name is U S Chemical). Use ▲ or ▼ and **STOP** to enter the laundry customer's company or facility name. It will appear on the reports described later.
- Press **STOP.** Display reads: **EDIT MACHINE MODEL NUMBER**.
  - Either use ▲ or ▼ to move to another **REPORT MENU** option. Or, press **STOP** to enter this option.
- For **EDIT MACHINE MODEL NUMBER**:
- Press **STOP.** Use ▲ or ▼ and **STOP** to enter the machines make and model, such as "MILNOR EP-PLUS".
- Press **STOP** to move to **EDIT PRODUCT INFORMATION**…
- Press **STOP**. Display reads: **CHEM 1 DISPENSES BREAK**
  - Use ▲ or ▼ and **STOP** to enter or change the product names.

NOTE: This is identical to the steps on page #13. The last names entered in either location will be in effect. If the correct names are already entered, proceed to the next entry. If you entered a customized product name, **CHANGE NAME:** NO will appear. If you want to change this product name, use ▲ to answer YES.

- Then select or spell out the new name as described on page 15 - Formula Menu.

REPORT MENU – EDIT PRODUCT INFORMATION

- After entering the desired product name, press **STOP**.
- Display reads: **CHEM 1 PRODUCT - COST/GAL: $_____.** Use ▲ and ▼ to enter the cost per gallon of this product.
- Press **STOP.** The display moves to **CHEM 2**. Repeat previous steps.
- Press **STOP**. Display asks: **WATER COST PER 100 GAL: $_____.**Use ▲ or ▼ to enter the account's cost per 100 gallons of water.
- Press **STOP**. The display reads: **EDIT SHIFT INFORMATION**
- Press **STOP**. Display asks: **NUMBER OF SHIFTS**
  - Use ▲ or ▼ to enter the number of shifts (1-3) during which laundry is washed at the account being installed.
  - Press **STOP**. Display asks: **SHIFT 1 START TIME _____**
    NOTE: Time is set in military style. For example, 5:30 PM is 17:30.
  - Use ▲ or ▼ and **STOP** to enter starting time for the first shift.
  - Press **STOP**. If appropriate, enter the start times for other shifts.
- Press **STOP**. Use ▲ or ▼ to move to another **REPORT MENU** option. Press **STOP** again to enter the selected option.
- Display reads: **VIEW SUMMARY REPORT**
- Press **STOP**. Display shows the last time you **LOAD COUNT RESET**
- Press **STOP**. Use ▲ or ▼ to **CHECK FORMULA LOAD COUNTS, CHECK SHIFT RESULTS** and/or **CHECK PRODUCT COSTS**.

REPORT MENU – EDIT PRODUCT INFORMATION (CONTINUED)

- Press **STOP**. Display reads: **PRINT FORMULA REPORT**
  - To save or print reports, a computer must be connected by either cable #D4114638 (serial) or #D4278229 (USB) to the ChemLogic head.
  - The computer must have the ChemLogic "Report Capture" program loaded. 4 reports are available.
  - Specific directions on how to review, download and save reports can be found in the new ChemLogic installation manual.
- The next display reads: **RESET LOAD COUNTS**
  - Press **STOP** to enter this option.
  - Display asks: **ARE YOU SURE?** Use ▲ or ▼ to answer YES or NO, then press **STOP**. If YES, all load counts – or report data – saved in the ChemLogic memory will be reset to zero. Be sure! If NO, the load counts won't be reset to zero.
- The display reads **EXIT REPORT MENU** Use ▲ or ▼ to select another **REPORT MENU** option, if desired. Or, press **STOP** to exit and return to **SUPERVISOR MENU.**

SUPERVISOR MENU – DIAGNOSTICS

- Press **STOP.** The display screen will briefly display the version and date when the circuit board was produced.
- Press **STOP.** Display reads: **SET TIME/DATE…**
- Press **STOP.** Use ▲ or ▼ and **STOP** to set the current time.
  NOTE: The time is set in military style. For example, 5:30 PM is 17:30.
- Press **STOP.** Use ▲ or ▼ and **STOP** to set the current date. (mm/dd/yy)
- Press **STOP**, then ▲ to **TEST SIGNALS**.
- Press **STOP**. Display reads **INPUT SIGNALS: __ __ __ __ __ __** When running a load, the numbers show what programmable installation signals are actually being received by the isolation module from the machine.
- Press **STOP**, then ▲ to **TEST CHEM**.
- Press **STOP.** The **PRIME CHEM** feature is now available.
- Check chem and manifold operation as described above.
- Press **STOP**, then ▲ to **TEST PRINTER** Computer must be connected to the ChemLogic head with appropriate cable.
- Press **STOP**. Display reads **PRINTER TEST** with a timer readout.
- Follow directions found the ChemLogic Installation Manual.
- Press **STOP**, then use ▲ to **RESET MEMORY & CLEAR FORMULAS**
- Press **STOP**.
- Display asks: **ARE YOU SURE?**
  - Use ▲ or ▼ to answer YES or NO, then press **STOP**.
  - NO returns you to the **RESET** screen. All memory and formulas remain intact. YES deletes all formulas and clears the ChemLogic memory. ***Be 100% sure this is what you want to do!***
- Use ▲ or ▼ to move to another **DIAGNOSTICS MENU** option, or to exit and return to the **SUPERVISOR MENU**.
- Use ▲ or ▼ to move to another **SUPERVISOR MENU** option.
- If all programming is complete, scroll to **EXIT** and press **STOP** to return to the list of formulas in the **OPERATOR'S MENU**.

NEW CHEMLOGIC 28 PRELOADED FORMULAS

- TABLE LINEN COTTON
- TABLE LINEN COTTON/POLYESTER
- SHEETS – WHITE
- SHEETS – COLOR
- TOWELS – WHITE
- TOWELS – COLOR
- NAPERY – WHITE
- NAPERY – COLOR
- BLANKETS/SPREADS
- PERSONALS
- DELICATES
- HEAVY SOIL WHITE
- MEDIUM SOIL WHITE
- LIGHT SOIL WHITE
- HEAVY SOIL COLOR
- MEDIUM SOIL COLOR
- LIGHT SOIL COLOR
- RAGS AND MOPS
- PADS AND DIAPERS
- TABLE LINEN STARCH
- UNIFORMS WHITE
- UNIFORMS COLORED
- NO BLEACH
- MEDICINAL
- BLOOD/SURGICAL
- RECLAIM WHITES
- RECLAIM COLORS
- DRAPES & CURTAINS

NEW CHEMLOGIC REPORT MENU - 12 PRODUCT NAMES

- BREAK
- BUILT DETERGENT
- COMBO
- DESTAINER
- RUST REMOVER
- SIZING
- OXYGEN BLEACH
- SOUR
- SOFT
- SOUR/SOFT
- SUDS
- WATER CONDITION

TROUBLESHOOTING GUIDE

SPECIFIC PROBLEMS, START-UP

PROBLEM: No display is present on the control head or solid rows of cursor blocks appear.

SOLUTION: Make sure electrical connections are correct, try a different set of phone cables.

SOLUTION: Measure the voltage on the 24 volt. AC terminal pins. Make sure voltage is present. If not, check to see that the 24 volt. adapter is plugged in and is operational. Also, measure the voltage on the wall outlet to make sure power is available.

SOLUTION: Unplug the ChemLogic transformer and wait approximately 10 seconds and then reconnect.

SOLUTION: Faulty chemical panel board. Replace the board.

SOLUTION: Faulty controller. Replace the controller.

SPECIFIC PROBLEMS, PROGRAMMING

PROBLEM: Cannot get into the system.

SOLUTION: Press both arrow keys simultaneously. The serial number of the unit will appear and then you must enter an access code. For first time users, the access code will be **5555**.

SOLUTION: If you have forgotten an access code and need to get into the system, call U S Chemical at 1-800-424-1075. Be ready to give the technician the last three digits of the pre-programmed serial number of the system. To get the programmed serial number, press both arrow keys simultaneously. Enter the backdoor code given by the technician. When the **CHANGE ACCESS CODE** appears, toggle to yes (Y). Change the access code to one easily remembered and make a note of it.

PROBLEM: Cannot seem to find the way through the various menus.

SOLUTION: There are (2) types of menus, the **SUPERVISOR** and the **OPERATOR**. Under the **SUPERVISOR** menu, there is the **SET UP MENU**. You must press the stop key to gain access. Press the stop key again to gain access to individual categories.

Under the **SUPERVISOR** menu, you will be able to do an INITIAL SET-UP which allows you to choose a measuring system, enable auto chem correction, enable user chem priming, choose machine type, select number of chems, enable the manifold option, select a minimum signal on time, select a delay time for all the chems, choose the amount of signals used and assign chems to signals. You can also **PRIME THE CHEMS** and **CALIBRATE THE CHEMS.**

Under the **SUPERVISOR** menu, there is the **PROGRAM MENU**. Under this category, you will **PROGRAM NEW FORMULAS, REVIEW / CHANGE FORMULAS** and **DELETE FORMULAS**.

Under the **SUPERVISOR** menu, there is the **REPORT MENU**. Under this category, you will Edit Account Information, Edit Machine Number, Edit Product Information, Edit Shift Information, Review Report Data, Print Formula report, Print Formula Report W/Cost, Print Summary Report, Print Summary Report W/Cost, and Reset Load Counts. Under the **SUPERVISOR** menu, there is the **DIAGNOSTICS TEST**. Under this category, you will be able to **TEST THE CONTROLLER, TEST THE ISOLATION MODULE, TEST THE DISPENSING CABINET** and **TEST THE PRINTER.**

SPECIFIC PROBLEMS, PROGRAMMING (CONTINUED)

The **OPERATOR** menu is generally used for laundry personnel. It allows the employee to **SELECT FORMULAS, GET LOAD COUNTS** and **PRIME THE CHEMS.** (Priming of chemicals is only available to the laundry personnel if enabled in the **INITIAL SET UP**.)

PROBLEM: A wrong value or choice has been entered.

SOLUTION: The flashing cursor means that there are several options which can be changed with the arrow keys and selected with the **STOP** key. It pays to go slowly through the menus. Once a wrong choice has been made, many applications ask you if your selection is correct. If not, change to the correct data. In some instances, you may be forced to start at the beginning of the particular operation to correct it.

PROBLEM: In reviewing the formulations, you discover that you have the controller set up to work with a PROGRAMMABLE machine and the machine is really NON-PROGRAMMABLE or vise versa. All wash formulations are programmed and they are not making any sense.

SOLUTION: When the machine type is changed and the formulas aren't changed, the result is that formulations will be wrong. You will have to **DELETE ALL** of the formulas and then reprogram them. Be sure to double check the calibration after doing so.

SPECIFIC PROBLEMS, OPERATION

PROBLEM: Load counts are wrong.

SOLUTION: Make sure that the load counter is set to an operational chem in the formula during the wash cycle.

SOLUTION: Make sure that the "Load Counting Chem" runs ONCE and only ONCE during the wash cycle. The load counting chem should also be one that runs towards the end of the wash cycle.

SOLUTION: The laundry personnel are short cycling loads, and the load counter chem never gets a chance to run.

SOLUTION: With non-programmable machines, the load counter is activated every time the "machine power signal" is turned on. If the laundry personnel start a cycle momentarily and then stop and restart it later on a regular basis, the load counts will be inflated.

PROBLEM: The Control Head Display is locked up and you cannot get anywhere.

SOLUTION: Disconnect the power source to the ChemLogic Control Head for approximately 10 seconds and restore power back to the system. Try different phone cables.

PROBLEM: No output of solution.

SOLUTION: Water supply issue, check main water supply.

SOLUTION: Solenoid closed, check connections and system controller.

SOLUTION: Strainer washer blocked, clean and replace strainer washer.

SOLUTION: Faulty solenoid, replace solenoid valve.

WASHER MANUFACTURERS

If you are unfamiliar with the washer that you are wiring, contact the washer manufacturer, or U S Chemical for technical assistance. The list of manufacturers and contact numbers below are supplied for your reference. This list is current at the time of publication but may be outdated if any manufacturers cease to do business or change their contact information.
Have the model and serial numbers of the machine handy, as ongoing washer upgrades may change wire numbers from time to time.

MANUFACTURER (WASH MACHINE NAME)	LOCATION	PHONE
Alliance Laundry Systems (Huebsch)	Ripon, WI	800.553.5120
Alliance Laundry Systems (Speed Queen)	Ripon, WI	800.345.5649
Alliance Laundry Systems (UniWash, UniMac, Ajax)	Ripon, WI	800.587.5458
Brim Laundry Machinery Co.	Dallas, TX	800.527.5886
Dexter Co.	Fairfield, IA	641.472.5131
Edro Corp. (DynaWash)	East Berlin, CT	860.828.0311
Ellis Corp.	Itasca, IL	800.453.9222
G A Braun Inc.	Syracuse, NY	800.432.7286
Girbau Co./Continental	Oshkosh, WI	800.256.1073
IPSO, USA	Panama City, FL	800.872.4776
Jensen (Senking, D'Hooge, L-TRON)	Fort Mills, SC	803.548.3653
Kannegiesser USA (Favorit, Futura, PowerTrans, RotaFlex)	Grand Prairie, TX	800.344.0403
Pellerin Milnor	Kenner, LA	504.467.9591
Wascomat (Wascomat, Wascator)	Inwood, NY	516.371.4400
Washtex/Lavatec	Witchita Falls, TX	800.433.0933

WARRANTY

U S Chemical guarantees the equipment to perform as advertised for one year when properly installed and maintained. If a unit malfunctions, the distributor should remove the malfunctioning unit and return it to U S Chemical Equipment Division for replacement. As a matter of policy, U S Chemical will not issue credit for any product used while equipment is malfunctioning.

When returning equipment, the distributor must call for a return authorization. Call customer service for more information 1-800-424-1075.

This U S Chemical Equipment warranty is valid only when dispensing U S Chemical products.
This U S Chemical Equipment warranty is valid only on systems manufactured by U S Chemical.

NOTE: FOR SAFETY REASONS, PLEASE REMOVE ANY TUBING CONTAINING LAUNDRY PRODUCTS, BEFORE RETURNING THE EQUIPMENT TO U S CHEMICAL FOR REPLACEMENT!

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L007110 08/23