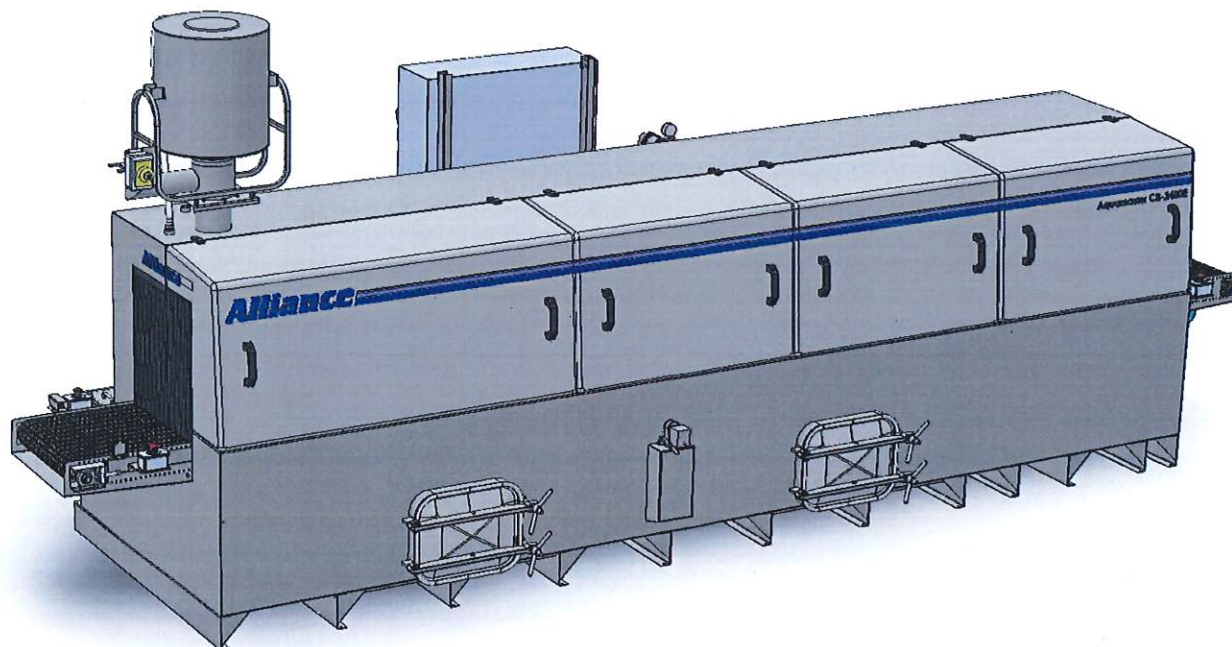




Installation and Operation Manual



Aquamaster CB-2400E

Serial Number: 930-0219

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1.0

Machine Description – Detailed as Ordered

Serial Number	930-0219
Model	Aquamaster CB-2400E
Configuration/Zones	Wash, Rinse, Heated Blowoff
Canopy	Full-Access, Lift-off, Fiberglass composite, 4 segments
Load/unload height	35.00"
Conveyor tunnel capacity	24" W x 24" H
Wash	
Spray zone length	48"
Tank capacity	255 gallons
Tank construction	12 gauge, Type 304 stainless steel
Tank clean-out door	Hinged
Pump brand/model	Gusher / model SC 2x2-5.5EH-CC-B
Pump type	Horizontal, stainless steel
Pump HP/RPM	3 HP/ 3600 RPM
Pump GPM/pressure	100 GPM @ 15 PSI
Pump serial number	1529995-W
Nozzle type/quantity	
Upper	(15), Bex, 1" K-Ball, PPRO, 6530
Sides	(18), Bex, 1" K-Ball, PPRO, 6530
Lower	(21), Bex, 1" K-Ball, PPRO, 8030
Overflow	2" NPT (male)
Drain	2" NPT (male)
Fill inlet	3/4" NPT (female)
Fill solenoid	3/4" Granzow
Level control	Stainless steel, 3-float, 2-position
Solution heat/capacity	Electric, 90 kW (5 @ 18 kW), Watlow Firebar® immersion heaters
Rinse	
Spray zone length	24"
Tank capacity	190 gallons
Tank construction	12 gauge, Type 304 stainless steel
Tank clean-out door	Hinged
Pump brand/model	Gusher / model SC 1.5x2-5.5EH-CCB
Pump type	Horizontal, stainless steel
Pump HP/RPM	2 HP/ 3600 RPM
Pump GPM/pressure	50 GPM @ 15 PSI
Pump serial number	1529995-R
Nozzle type/quantity	
Upper	(10), Bex, 1" K-Ball, PPRO, 6530

1.0

Machine Description – Detailed as Ordered

Micro filtration (wash)	Pump discharge, single, stainless steel, 8"x30"
Filter	100 micron, bag-type
Micro filtration (rinse)	Pump discharge, single, stainless steel, 8"x30"
Filter	100 micron, bag-type
Contamination sensor (wash, rinse)	Ashcroft, 175 PSI max
Solution heat auto-timer	PLC-based
Oil skimmer – 1"	1" belt-type, stainless steel, 0.5 gal/hr, Wayne Products
Product sensor – load	Photo-eye, adjustable timer, controls pumps/blowoff

3.0

Installation Procedure

The following is a suggested procedure in which to install your Alliance parts washer. The sequence listed is only a guide. Depending upon resources available at time of installation, deviation may be advantageous.

Step	Description
1.	Inspect all items upon receipt. Report any shipping damage to the trucking company immediately.
2.	Move modules, skids and related items carefully to the installation site. Do not, at any time, lift any module by the fiberglass canopy (if fiberglass canopies are supplied).
3.	Remove all shipping restraints, i.e. straps, banding, wire ties, tape, bolting hardware, etc.
4.	Level machine from end to end and front to back.
5.	Install conveyor chain/belt as shown in installation diagram, if applicable.
6.	Plumb water feed lines to auto-fill piping. Installing a shut-off valve prior to strainer is recommended. One (1) water inlet per recirculated tank is standard.
7.	Install drain and overflow lines to tanks.
8.	Exhaust Fan System or Mist Collection System: Exhaust Fan(s) - Ductwork for exhaust fan (when equipped) should be installed before operating. Mist Collector(s) - Mount mist collector on top of machine. Connect drain hose to solution return port, and plug motor into receptacle provided. Exhaust Fans and Mist Collectors are optional accessories. If not equipped with this option, an exhaust fan or central exhaust system should be hooked up to the machine to minimize steam discharge. Apply suitable sealant to connection joint at fan for watertight joint. All other external ducting joints should be water/moisture tight. When installing any additional duct section, the upper section should be installed to the inside of the adjacent lower section. This allows condensation to drain on inside of ductwork. An airflow damper with position locking device should be installed with external ducting. (Caution: Never operate exhaust fan without external ductwork installed.)
9.	Oil Skimmer: If equipped with an optional oil skimmer, a suitable drain line needs to be connected to skimmer discharge. This line is typically placed into a holding container.
10.	Natural Gas: If natural gas heating is provided, connect gas lines to inlet(s) provided at gas trains. One (1) inlet connection per gas train. Install an exhaust outlet pipe for each (Heated) solution tank. Outlet pipe should have a petcock or similar device at the lowest point for draining moisture from immersion tube. Reference installation drawing for gas pressure(s), BTU/HR requirements, and exhaust outlet size.
11.	Turn electrical power ON and "bump" (quickly turn motor ON/OFF) one motor to check for correct rotation. If rotating backwards, switch around two (2) of the three (3) incoming power leads. It is always best to bump a blower rather than a solution pump.
12.	If the machine is to be made portable, the tanks must be drained prior to moving the washer to prevent damage.

4.0

Machine Description and Functions

4.1.4 Chip Basket Filtration

A removable stainless steel chip basket for filtering/straining all pumped solution is provided. Basket perforations (1/16" diameter) are smaller than the spray nozzle orifice openings to minimize nozzle clogging. The basket lifts out for easy periodic inspection/cleaning.

4.1.5 Clean-Out Door (Hinged)

One (1) stainless steel quick-release hinged clean-out door is provided. Clean-out doors provide quick, easy access to tank interior and bottom for periodic maintenance. The door frame is flush to tank bottom to facilitate easy tank cleaning.

4.1.6 Solution Level Control and Fill Piping (3 float with safety shutoff)

Solution level is monitored by a stainless steel float-type level sensor consisting of three (3) independent floats/switches.

"High"	Closes high level safety shutoff solenoid preventing an overflow condition.
"Full"	Closes fill solenoid valve when solution rises to the "Full" position.
"Low"	Shuts off the solution pump and heat source to prevent damage when solution drops to the "Low" condition.

Fill piping consists of a manual fill valve for quick filling (and trickle filling when desired) and a fill solenoid valve for automatic solution make-up and a high level safety shutoff solenoid valve. A water inlet strainer is also provided to prevent debris from entering the fill solenoid valves. A NPT (female) water inlet connection with an in-line strainer is provided for single-point water hook-up. For size of the fill inlet, refer to Section 1.0 (Machine – Detailed as Ordered) of this manual.

An empty tank must be filled manually through the manual fill valve until the "Low" level float is actuated. After the "Low" level float rises, the fill solenoid valve opens. At this point the manual fill valve can be closed.

During operation, water is maintained at full level by the "Full" float activating or deactivating a fill solenoid valve at timed intervals. As water lowers in the tank and the float drops, a timer begins counting. When a preset time is reached, the fill solenoid valve opens and raises the water level until the "Full" float is reached, and then closes the fill solenoid valve. This fills the tank more frequently with less water preventing shock to the tank, allowing a more consistent heat.

The "High" level float acts as a high water level warning and shutoff. When it is activated, the Master Start/Reset push button light (or notification on PLC) will illuminate to alert the operator that an

4.2.3 Nozzles – Clip-On, Adjustable, Polypropylene

Nozzles may be easily removed from interior spray piping for periodic cleaning and maintenance. Clip-on nozzles are designed to align with a non-threaded hole in the spray piping. A stainless steel clip slips over the pipe to secure the nozzle. A movable spray ball offers the ability to vary the direction of sprayed solution. A threaded poly nut is tightened to secure the spray ball in position. Clip-on adjustable spray nozzles are available in a variety of spray angles and flow rates.

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A removable stainless steel chip basket for filtering/straining all pumped solution is provided. Basket perforations (1/16" diameter) are smaller than the spray nozzle orifice openings to minimize nozzle clogging. The basket lifts out for easy periodic inspection/cleaning.

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An empty tank must be filled manually through the manual fill valve until the "Low" level float is actuated. After the "Low" level float rises, the fill solenoid valve opens. At this point the manual fill valve can be closed.

4.3.3 Air Heat (Electric)

Air is heated by a modular duct heater on the suction side of the blower. The air heat system includes an airflow sensor to assure safe and proper operation. Air temperature is monitored and controlled by a temperature control.

For operation on the blower, refer to the Heated Blowoff Screen (Figure G, Operator Interface).

Note: Heater will not operate if the blower is not ON.

Note: Never operate the heating system above the maximum setting for the high temperature alarm within the Operator Interface.

4.4 Conveyor System

The conveyor system consists of a drive motor, jam protection, and a conveyor belt.

4.4.1 Conveyor Drive (DC)

The conveyor system consists of a variable-speed gearmotor. The conveyor speed is adjustable from 1.0 to 6.0 FPM. The drive speed adjustment is located inside the panel door.

For operation on the conveyor drive, refer to the Conveyor Screen (Figure H, Operator Interface).

4.4.2 Conveyor Jam Protection

Conveyor jam protection is provided for major jams. Jam protection is accomplished by a current sensing relay. The conveyor jam sensor is easily adjusted by turning the current setting knob on the relay located in the electrical enclosure. If a jam occurs, the obstacle must be removed and the drive motor restarted at the control panel.

4.4.3 Conveyor Belt

The conveyor system consists of a 1" x 1" stainless steel mesh belt. Conveyor rollers are used to support the belt.

Periodically, the conveyor belt will need tensioning. To accomplish this, a set of belt take-ups is located at the load end. If the take-ups are fully extended and additional tensioning is needed, a portion of the belt will need to be removed. The conveyor belt should be tensioned to not allow the belt to drag along the underside of the washer. However, do not over-tighten the belt, as this will cause premature wear. For instructions on shortening and/or replacing the conveyor belt, refer to the Belt Installation Insert.

psi) and can be changed by adjusting the switch manually. Once a pressure differential across the filter chamber is triggered, the HMI will display the alarm.

4.5.4 Solution Heat Auto-Timer

The solution heat auto-timer functions like a 7-day timer, allowing the user to preset heat-up times. Typically solution tank(s) take approximately 40 to 50 minutes to reach operating temperatures or 135° to 145° F (from 75° F starting temperature). Automatic heat-up eliminates possible delays associated with waiting for solution to reach operating temperature.

For operation and adjustments of the Solution Heat Auto-Timer, refer to the Solution 7-Day Timer Screen (Figure O, Operator Interface).

4.5.5 Oil Skimmer, 1" Belt-Type

The oil skimmer removes floating oil contaminants from the surface of the solution. The skimmer is most effective when the washer is not running.

For operation on the oil skimmer, refer to the Oil Skimmer Screen (Figure M, Operator Interface).

For operation on the oil skimmer 7-day timer, refer to the Oil Skimmer 7-Day Timer Screen (Figure N, Operator Interface).

4.5.6 Product Sensor – Load End

A photo-eye sensor located at the load end senses when product(s) are present on the conveyor. After parts pass the sensor, a timer begins to count (time). Each time a part passes the sensor, the timer is reset to zero and begins recounting. If a part is not sensed by the time the timer reaches its setpoint, then the pump(s), blower and blowoff heat turn OFF, while the conveyor remains ON. When a new part is sensed, the pump(s), blower and blowoff heat start up sequentially. The timer setpoint should be for a period of time sufficient for all parts to exit the washer.

For operation on the load product sensor, refer to the Load Product Timer Screen (Figure L, Operator Interface).

4.5.7 Belt Flights

Stainless steel flights are attached to the belt for part containment.

Main Screen (Figure A)

The screenshot displays the main control interface for the AQUAMASTER CB-2400E. At the top, the machine name 'AQUAMASTER CB-2400E' is centered. Below it, a row of numbers '0 - 0 - 0' and '0 : 0 : 0' is shown, followed by the day 'SUNDAY'. The interface is divided into several sections:

- Left Side Navigation:** Two buttons labeled 'STATUS SCREEN' and 'ALARM SCREEN' are stacked vertically.
- Right Side Navigation:** Two buttons labeled 'SETUP SCREEN' and 'OIL SKIMMER' are stacked vertically.
- Central Display Area:**
 - Labels 'WASH' and 'BLOWOFF' are positioned above two columns of temperature readings.
 - Under 'WASH', 'ACTUAL' and 'SETPOINT' are both '0 *F'.
 - Under 'BLOWOFF', 'ACTUAL' and 'SETPOINT' are both '0 *F'.
- Bottom Section:**
 - 'CONVEYOR SPEED' is '.0 FT/MIN'.
 - 'PRODUCT LOAD TIME REMAINING' is '0 MINUTES 0 SECONDS'.
 - 'HOURS RUN' is '0'.
 - Two status bars: 'HEAT DISABLED' and 'WASHER DISABLED'.
 - Four large control buttons at the bottom: 'HEAT START', 'WASHER START', 'WASHER STOP', and 'ALL STOP'.

To view this screen when another screen is being displayed, press the Main Screen button on the display. From each button selected, machine functions can be controlled and/or monitored.

Status Screen: Displays status of machine functions (Figure B, Operator Interface).

Setup Screen: Provides access to the manual operations of the washer (Figure D, Operator Interface).

Alarm Screen: Displays date and type of machine alarms (Figure C, Operator Interface).

Oil Skimmer: Provides access to the oil skimmer manual operations screen (Figure M, Operator Interface).

Heat Status: This displays the current status of the wash heat, enabled/disabled.

Heat Start: This starts the solution heat, provided the solution level in the tanks are acceptable. If the solution heat auto-timer is enabled, then the heat will be activated and deactivated based on those settings.

Washer Status: This displays the current status of the washer, enabled/disabled.

Washer Start: This button starts the washer including the heat if not already running. The interlocks for each device must be satisfied before that device starts. For more information on the interlocks refer to the manual operation of that device later in this section.

Washer Stop: This button will stop the washer, but the solution heat will stay on.

All Stop: This button will stop all devices on the washer including the solution heat. When this button is pressed the solution heat timer is no longer controlling the heat system until either the Heat Start or Washer Start buttons are pressed.

I/O Screens (Figure B-1 – B-4)

Inputs 0.0 (Figure B-1)

INPUTS I:0/00 TO I:0/19	
00 MASTER CONTROL RELAY	10 MIST COLLECTOR MS AUX
01 MASTER START/RESET PB	11 MIST COLLECTOR MS OL
02 WASH HIGH LEVEL FLOAT SW	12 CANOPY #2 PROXIMITY SWITCH
03 WASH FULL LEVEL FLOAT SW	13 CANOPY #3 PROXIMITY SWITCH
04 WASH LOW LEVEL FLOAT SW	14 CONVEYOR JAM CURRENT SENSOR
05 CANOPY #1 PROXIMITY SWITCH	15 RINSE HIGH LEVEL FLOAT SW
06 WASH PUMP MS AUX	16 RINSE FULL LEVEL FLOAT SW
07 WASH PUMP MS OL	17 RINSE LOW LEVEL FLOAT SW
08 HTD. BLOWOFF BLOWER MS AUX	18 CANOPY #4 PROXIMITY SWITCH
09 HTD. BLOWOFF BLOWER MS OL	19 SPARE INPUT I:0/19

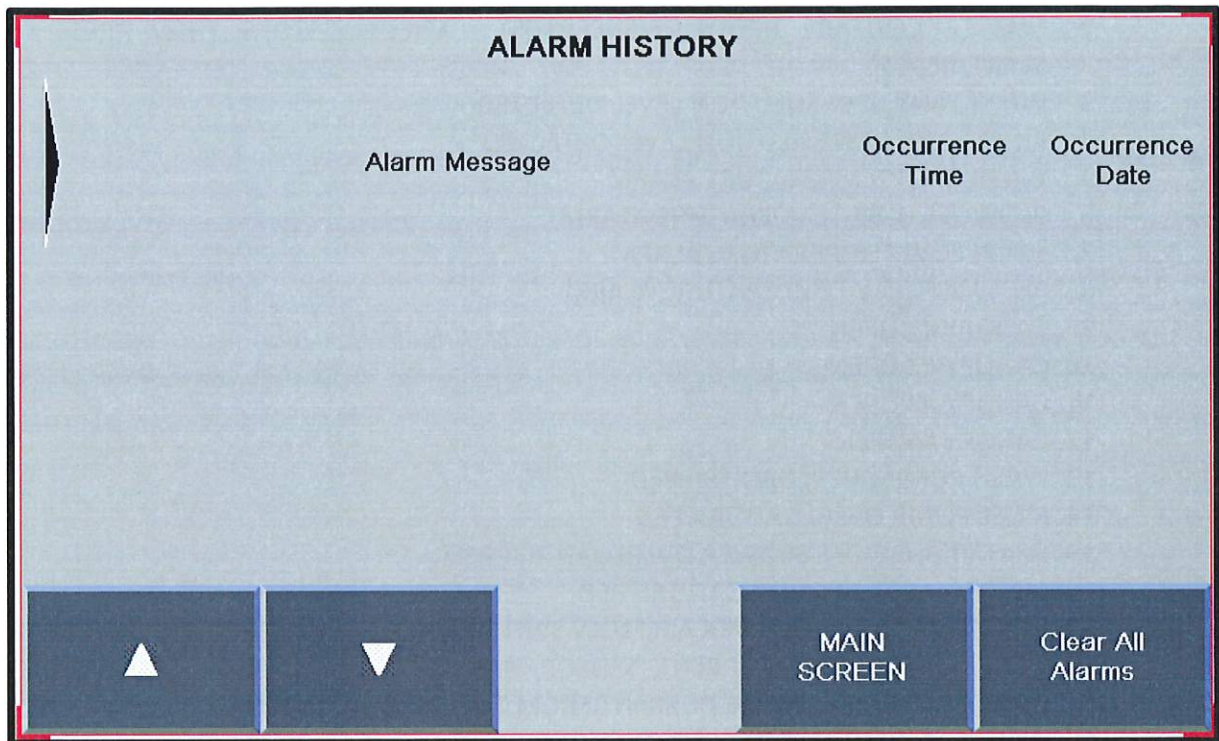
STATUS
SCREEN

Inputs 1.0 (Figure B-2)

INPUTS I:1/00 TO I:1/15	
00 SPARE INPUT I:1/00	08 SPARE INPUT I:1/08
01 SPARE INPUT I:1/01	09 SPARE INPUT I:1/09
02 SPARE INPUT I:1/02	10 WASH PRESSURE DIFF. SW.
03 BLOWOFF BLOWER AIR FLOW SW	11 RINSE PRESSURE DIFF. SW.
04 SPARE INPUT I:1/04	12 SPARE INPUT I:1/12
05 RINSE PUMP MS AUX	13 SPARE INPUT I:1/13
06 RINSE PUMP MS OL	14 LOAD PROD. DETECT PHOTO EYE
07 SPARE INPUT I:1/07	15 SPARE INPUT I:1/15

STATUS
SCREEN

Alarm History Screen (Figure C)



To view this screen, go to the Main or Setup screen and press the Alarm Screen button on the display.

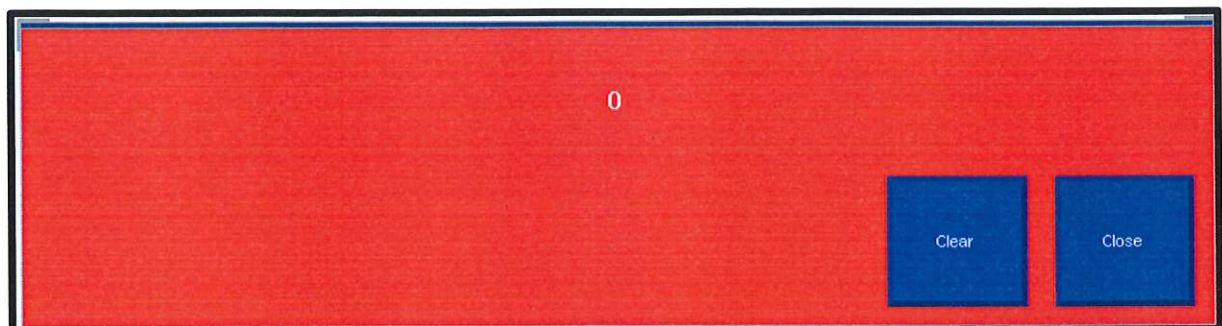
The Alarm Screen displays date/time and description of machine message conditions. Messages are displayed in date/time order with the most recent message listed at the top of the screen.

Main Screen: Provides access to the main operations screen (Figure A, Operator Interface).

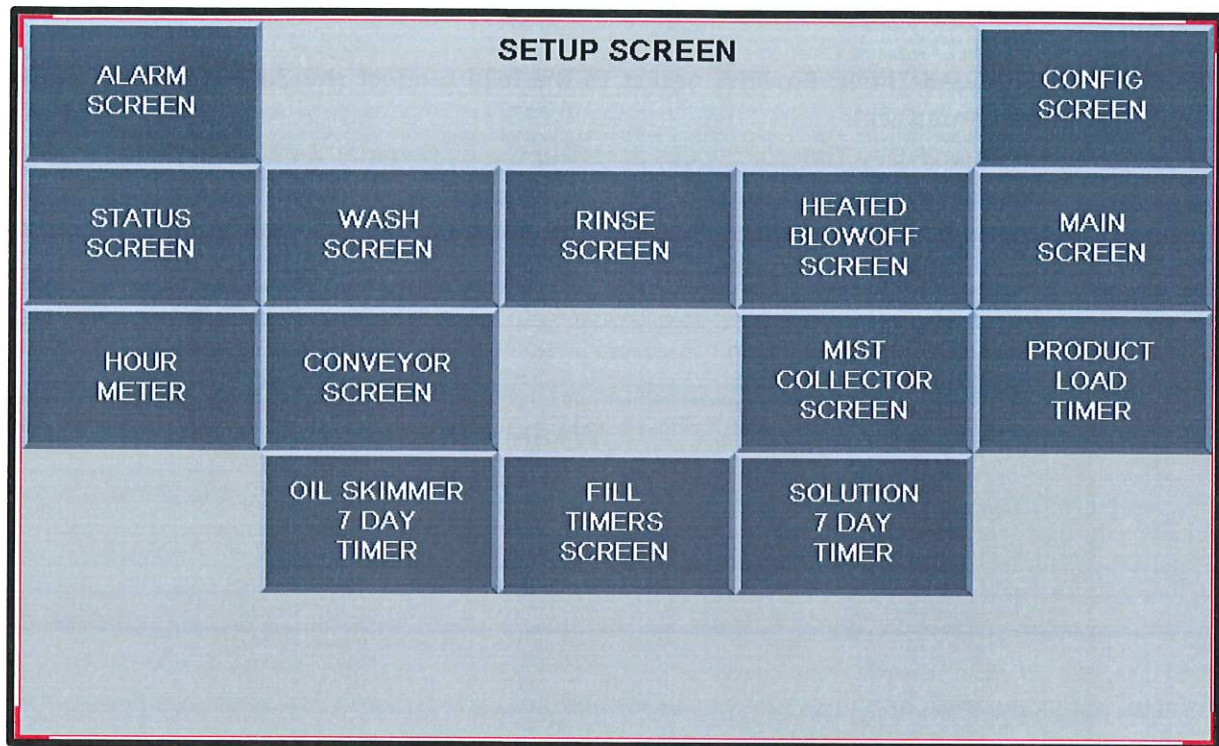
Move Up and Move Down: Allows the operator to scroll through messages. The most current alarm is on top.

Clear All Alarms: Clears all non-occurring alarms.

Alarm Banner (Figure C-1)



Setup Screen (Figure D)



To view this screen when another screen is being displayed, press the Setup Screen button on the display. This screen is password-protected with the Level 1 password to limit the number of individuals that have access to the manual operation of the washer. The defaults are: Username, 1; Password, 1234. From each button selected, machine functions can be controlled and/or monitored.

Main Screen: Provides access to the main operations screen (Figure A, Operator Interface).

Status Screen: Displays status of machine functions (Figure B, Operator Interface).

Alarm Screen: Displays date and type of machine alarms (Figure C, Operator Interface).

Config Screen: Provides access to the configuration screen (Figure P, Operator Interface). This screen is password protected by config password to limit the number of individuals that have access to the manual configuration of the Operator Interface parameters. The defaults are: Username, 2; Password, 0123456789.

Wash: Provides access to the wash manual operations screen (Figure E, Operator Interface).

Rinse: Provides access to the rinse manual operations screen (Figure F, Operator Interface).

Heated Blowoff: Provides access to the heated blowoff manual operations screen (Figure G, Operator Interface).

Conveyor: Provides access to the conveyor system manual operations screen (Figure H, Operator Interface).

Mist Collector: Provides access to the mist collector manual operations screen (Figure I, Operator Interface).

Heat Enable: This button enables the wash solution tank heat circuit if the solution tank level is adequate. The heating components will turn on and off as required to maintain the desired setpoint. If the solution timer is enabled, then that timer is the last interlock as to when the heat will turn on (ex: heat will run from 06:00 to 17:00 or 6:00 am to 5:00 pm).

Heat Disable: This button disables the wash solution tank heat circuit. The heating components will not be activated if heat is required after this button has been pressed until the heating circuit has been enabled again.

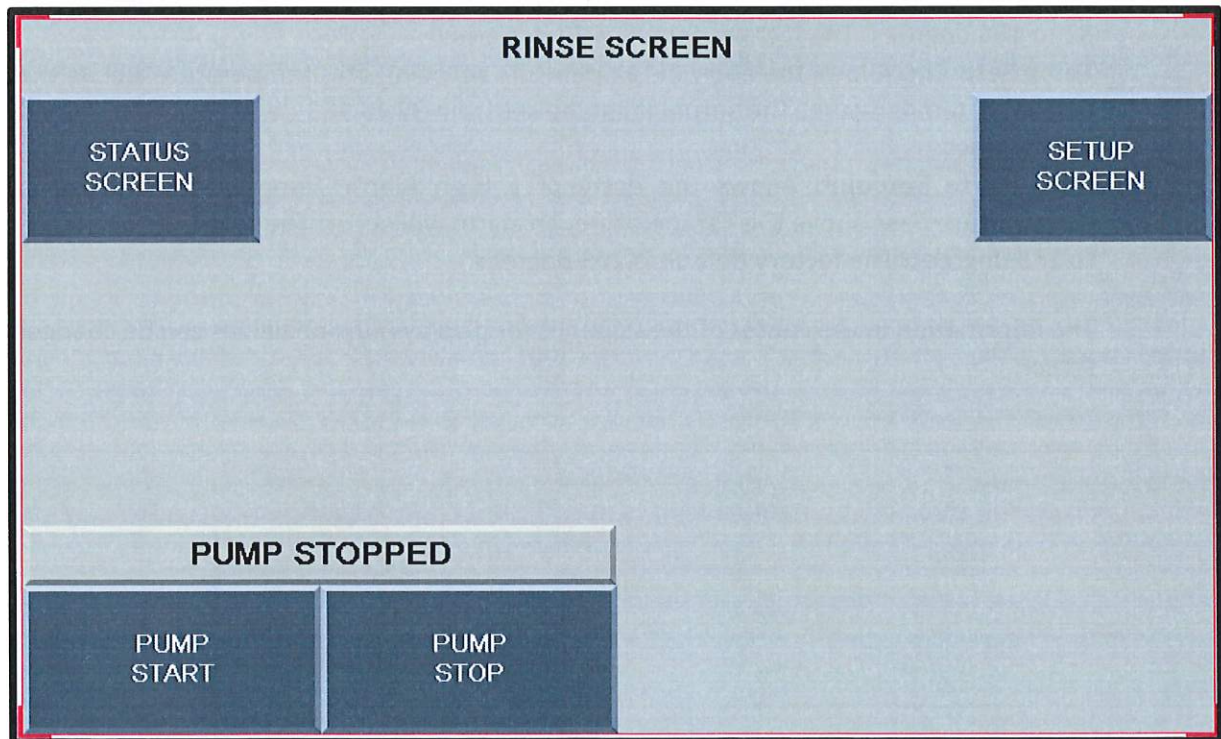
Low Alarm Setpoint: Allows the entry of a Low Temperature Alarm. If the wash tank temperature drops below this temperature an alarm will occur. The setpoint can be set from 32 to 165 degrees. The factory default is 32 degrees.

Temp Setpoint: Allows the entry of temperature setpoint. This temperature will be the desired operating temperature. The setpoint can be set from 32 to 165 degrees. The factory default is 140 degrees.

High Alarm Setpoint: Allows the entry of a High Temperature Alarm. If the wash tank temperature rises above this temperature, an alarm will occur. The setpoint can be set from 32 to 165 degrees. The factory default is 165 degrees.

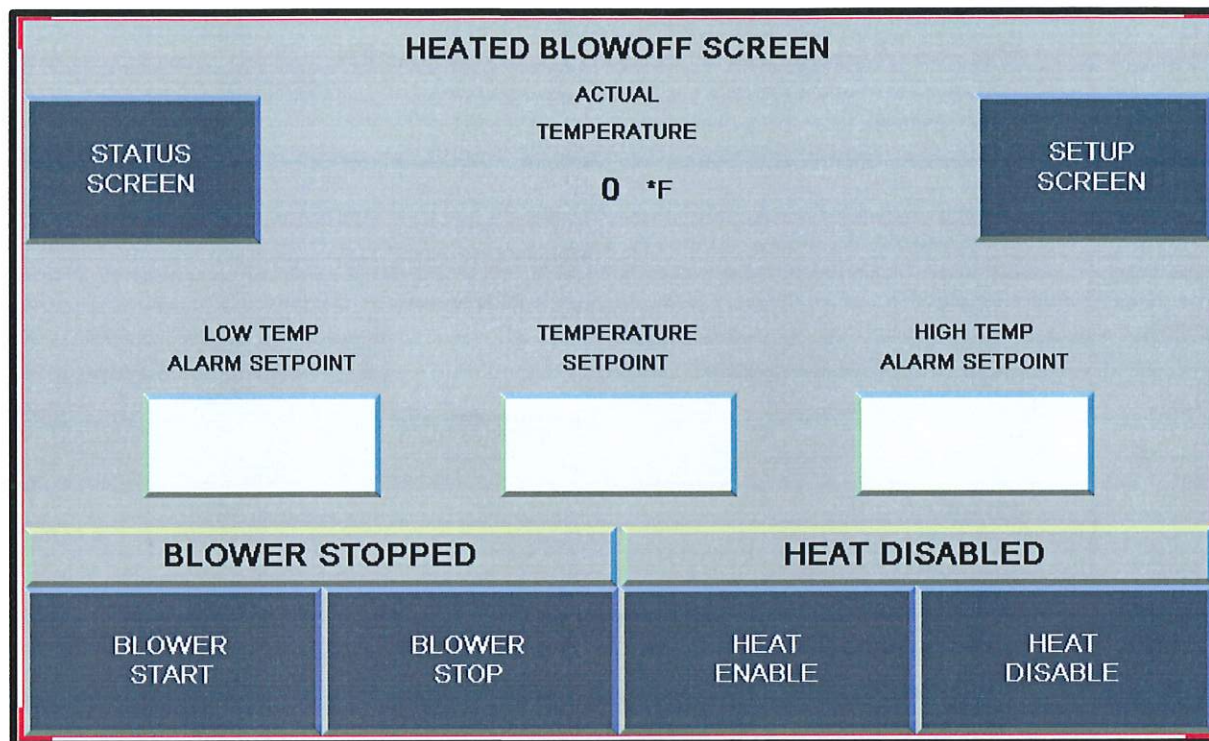
The information in the center of the screen is for display only; no values can be changed on this screen.

Rinse Screen (Figure F)



To view this screen when another screen is being displayed, press the Menu Screen button on the display, then select the Setup Screen button, and then select the Rinse Screen button. From each button selected, machine functions can be controlled and/or monitored.

Heated Blowoff Screen (Figure G)



To view this screen when another screen is being displayed, press the Menu Screen button on the display, then select the Heated Blowoff Screen button on the Menu Screen. From each button selected, machine functions can be controlled and/or monitored.

Status Screen: Displays status of machine functions (Figure B, Operator Interface).

Setup Screen: Provides access to the manual operations of the washer (Figure D, Operator Interface).

Blower Status: This displays the current status of the blowoff, started/stopped.

Blower Start: This button starts the blowoff blower.

Blower Stop: This button stops the blowoff blower.

Heat Status: This displays the current status of the blowoff heat, enabled/disabled.

Heat Start: This button enables the blowoff heat.

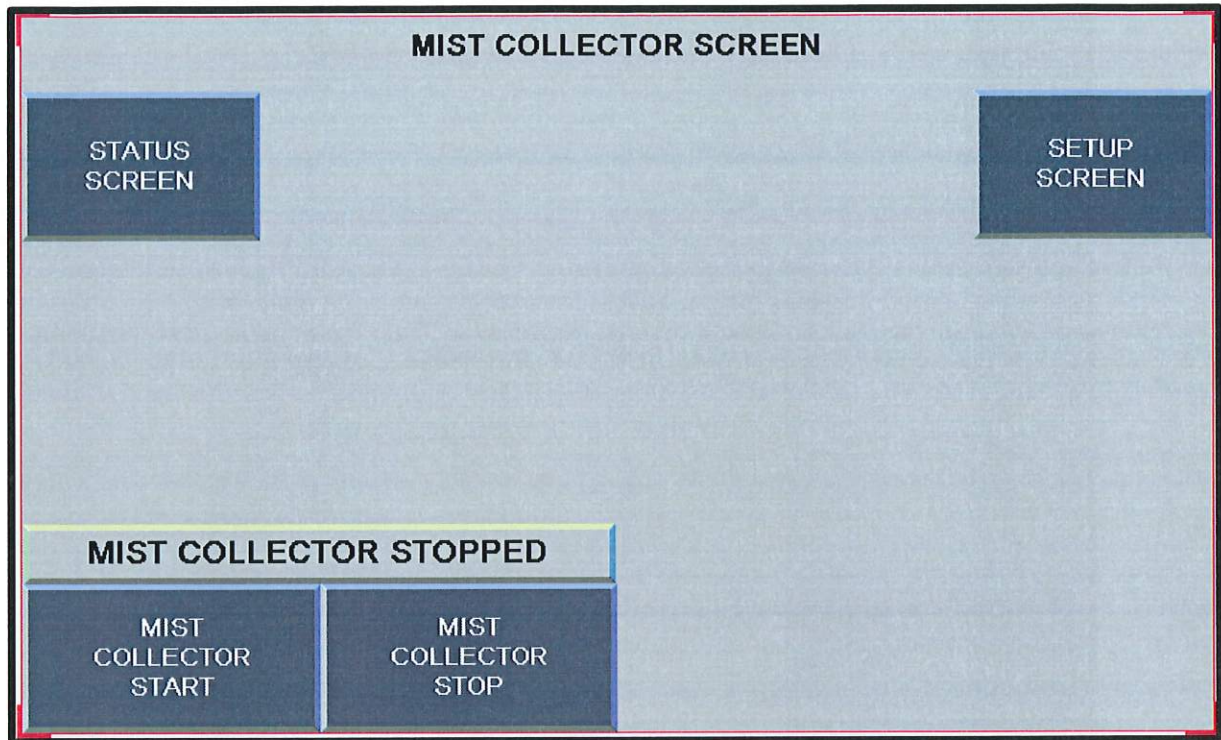
Heat Stop: This button disables the blowoff heat.

Low Alarm Setpoint: Allows the entry of a Low Alarm Temperature. If the solution tank temperature drops below this temperature an alarm will occur. The setpoint can be set from 32 to 250 degrees. The factory default is 32 degrees.

Temp Setpoint: Allows the entry of temperature setpoint. This temperature will be the desired operating temperature. The setpoint can be set from 32 to 250 degrees. The factory default is 210 degrees.

High Alarm Setpoint: Allows the entry of a High Alarm Temperature. If the solution tank temperature rises above this temperature, an alarm will occur. The setpoint can be set from 32 to 250 degrees. The factory default is 250 degrees.

Mist Collector Screen (Figure I)



To view this screen when another screen is being displayed, press the Setup Screen button on the display, then select the Mist Collectors Screen button on the Setup Screen. From each button selected, machine functions can be controlled and/or monitored.

Status Screen: Displays status of machine functions (Figure B, Operator Interface).

Setup Screen: Provides access to the manual operations of the washer (Figure D, Operator Interface).

Mist Collector Status: This displays the current status of the mist collector, started/stopped.

Mist Collectors Start: This button starts the mist collector.

Mist Collectors Stop: This button stops the mist collector.

The information in the center of the screen is for display only; no values can be changed on this screen.

Fill Timers Screen (Figure K)

The screenshot displays the 'FILL TIMERS SCREEN' with a light blue background. At the top, a central blue box contains the text: 'THE AMOUNT OF TIME IT WILL TAKE BEFORE FILLING AFTER SOLUTION LEVELS ARE BELOW THE FULL FLOAT SWITCH'. To the left of this box is a dark blue button labeled 'STATUS SCREEN', and to the right is a dark blue button labeled 'SETUP SCREEN'. Below the central box, the screen is divided into two sections by a horizontal line. The top section is for the 'WASH FILL DELAY TIME IN MINUTES', featuring a white digital display showing '00' and the text 'RANGE 1 - 10' below it. The bottom section is for the 'RINSE FILL DELAY TIME IN MINUTES', also featuring a white digital display showing '00' and the text 'RANGE 1 - 10' below it.

To view this screen when another screen is being displayed, press the Menu Screen button on the display, then select the Fill Timers Screen button on the Menu Screen. From each button selected, machine functions can be controlled and/or monitored.

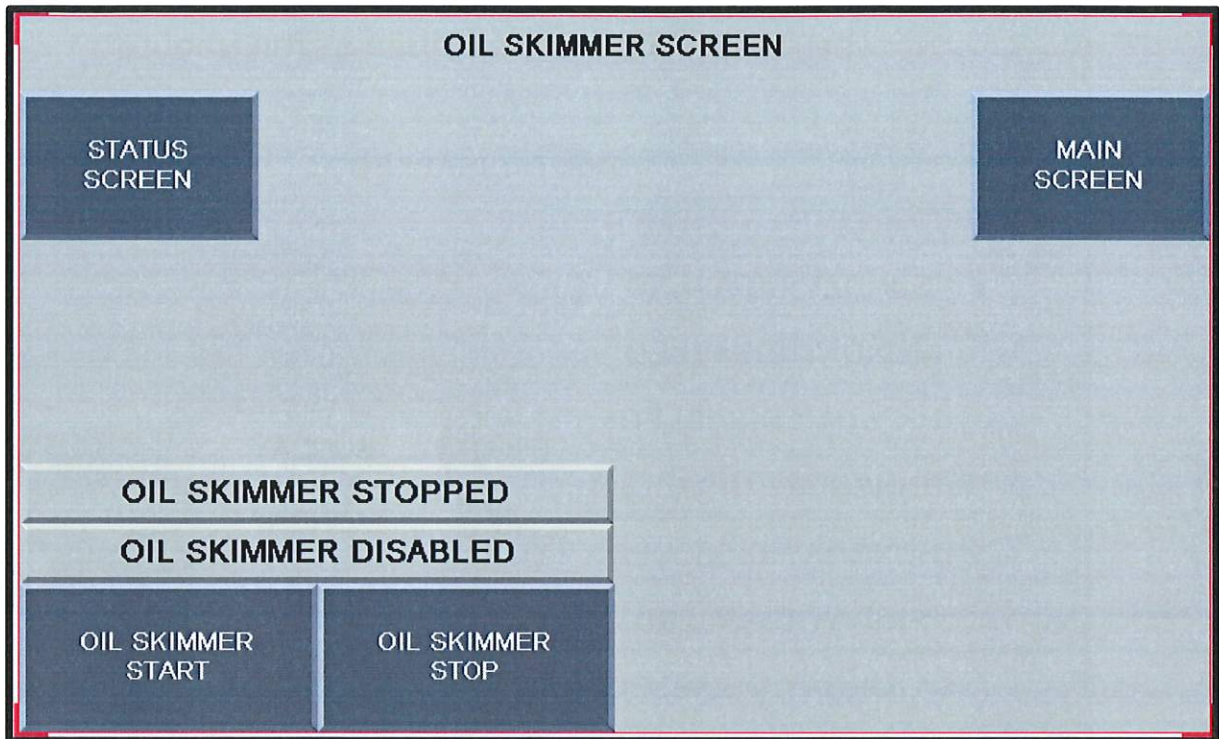
Status Screen: Displays status of machine functions (Figure B, Operator Interface).

Setup Screen: Provides access to the manual operations of the washer (Figure D, Operator Interface).

Wash Fill Timer: This sets the amount of time that the wash solution level can remain below the Full level switch before the fill solenoid valve will be opened. The time is adjustable from 1-10 minutes.

Rinse Fill Timer: This sets the amount of time that the rinse solution level can remain below the Full level switch before the fill solenoid valve will be opened. The time is adjustable from 1-10 minutes.

Oil Skimmer Screen (Figure M)



To view this screen when another screen is being displayed, press the Main Screen button on the display, then select the Oil Skimmer Screen button on the Main Screen. From each button selected, machine functions can be controlled and/or monitored.

Status Screen: Displays status of machine functions (Figure B, Operator Interface).

Setup Screen: Provides access to the manual operations of the washer (Figure D, Operator Interface).

Oil Skimmer Status: This displays the current status of the oil skimmer, started/stopped.

Oil Skimmer Start: This button enables the oil skimmer.

Oil Skimmer Stop: This button disables the oil skimmer.

Sunday Oil Skimmer 7-Day Timer Setup Screen (Figure N-1)

SUNDAY OIL SKIMMER SEVEN DAY TIMER SETUP MODULE

STATUS
SCREEN

SUNDAY DISABLED

TIMER
ENABLE

TIMER
DISABLE

HOUR

MINUTE

ON TIME

MINUTE

OFF TIME

MINUTE

OIL SKIMMER
7 DAY
TIMER

This screen may be accessed from the Oil Skimmer 7-Day Timer Setup Screen (Figure N, Operator Interface).

Day of the Week Status: This displays the current status of the selected day (in this instance, Sunday), whether enabled or disabled.

Skimmer Timer Setup: Returns back to the Oil Skimmer 7-Day Timer Setup Screen (Figure N, Operator Interface).

Timer Enable: This button enables the current day section of the 7-Day Timer to control when the oil skimmer can be active.

Timer Disable: This button disables the current day section of the 7-Day Timer.

Hour – On Time: This numeric entry is the setpoint for the oil skimmer to be active. The setpoint can be set from 0 to 23 (military time). The factory default is 6.

Minute – On Time: This numeric entry is the setpoint for the oil skimmer to be active. The setpoint can be set from 0 to 59. The factory default is 0.

Hour – Off Time: This numeric entry is the setpoint for the oil skimmer to be active. The setpoint can be set from 0 to 23 (military time). The factory default is 17, which corresponds to 5:00pm.

Minute – Off Time: This numeric entry is the setpoint for the oil skimmer to be active. The setpoint can be set from 0 to 59. The factory default is 0.

The information in the center of the screen is for display only; no values can be changed on this screen.

Sunday Solution Heat Timer Setup Screen (Figure O-1)

SUNDAY SEVEN DAY SOLUTION TIMER SETUP MODULE

STATUS
SCREEN

SUNDAY DISABLED

TIMER
ENABLE

TIMER
DISABLE

HOUR

MINUTE

SOLUTION
7 DAY
TIMER

This screen may be accessed from the Solution Heat 7-Day Timer Setup Screen (Figure O, Operator Interface).

Day of the Week Status: This displays the current status of the selected day (in this instance, Sunday), whether enabled or disabled.

Solution Timer Screen: Returns back to the Solution Heat 7-Day Timer Setup Screen (Figure O, Operator Interface).

Sunday Enable: This button enables the Sunday section of the 7-Day Timer to control when the solution heat can be active.

Sunday Disable: This button disables the Sunday section of the 7-Day Timer.

Hour – On Time: This numeric entry is the setpoint for the solution heat to be active. The setpoint can be set from 0 to 23 (military time). The factory default is 6.

Minute – On Time: This numeric entry is the setpoint for the solution heat to be active. The setpoint can be set from 0 to 59. The factory default is 0.

Hour – Off Time: This numeric entry is the setpoint for the solution heat to be active. The setpoint can be set from 0 to 23 (military time). The factory default is 17, which corresponds to 5:00pm.

Minute – Off Time: This numeric entry is the setpoint for the solution heat to be active. The setpoint can be set from 0 to 59. The factory default is 0.

The information in the center of the screen is for display only; no values can be changed on this screen.

5.1 Start-Up

1. Always follow recommended safety instructions – see Section 2.0.
2. Visually inspect machine to ensure proper working conditions. Items to check include:
 - A. Water supply to machine is ON.
 - B. Solution levels are adequate.
 - C. Covers and guards are in their proper places/locations.
 - D. Canopy sections/panels are closed in position.
 - E. Area around machine is free of obstructions.
 - F. Supply power is ON to machine main disconnect switch.
3. Turn power ON at machine main disconnect.
 - A. Check to ensure that E-stops are reset.
 - B. Push Master Start button.

5.2 Operation

This system is designed for manual start-up and operation or auto start-up (see below)

Manual Mode Operation

1. Set heat control to operating temperature (see Figure E, Operator Interface).
 - A. Turn heat ON with adequate time to reach operating temperature.

Note: This is done automatically with solution heat auto-timer option, if enabled.

 - B. Wash heat can be enabled in its manual mode screen (see Figure E, Operator Interface).
2. If required, add detergent after proper conditions are met:
 - A. Eye protection is worn.
 - B. Wait until tank temperature(s) reach a minimum of 100°F to minimize/prevent foaming.
 - C. Check detergent concentration as recommended by your supplier.
 - D. Always add detergent into chip basket.

Note: To aid in chemical/water mixing, have the solution pump ON when adding chemical.

Caution: Never add water to chemical and always follow the proper procedures for chemical handling as recommended by your detergent supplier.
3. When machine reaches operating temperature(s), turn machine functions ON in sequence:
 - A. Mist collector
 - B. Pump(s)
 - C. Blower(s)
 - D. Conveyor
 - E. Other devices

All of the above devices are accessed via the Setup Screen (Figure D, Operator Interface).

Auto Mode Operation

1. At the MAIN SCREEN (Figure A, Operator Interface) select Heat Start. This will automatically start the wash and rinse heat.

6.0

Preventative Maintenance

The following is a suggested Preventative Maintenance (PM) Program.

<u>After Initial Installation</u>	
Solenoid Valves	Inspect for leakage with water supply ON. If leakage occurs, shut water OFF, disassemble valve body, inspect and clean as needed.
Air Hoses	Make sure all air hoses are attached and undamaged.
Spray Tubes	All spray tube connections are fastened and securely in place.
Nozzles	Inspect for any missing nozzles. Also, align nozzles toward product if needed.
Conveyor	Check for proper tension and inspect for possible obstructions.
Electrical Controls	Inspect and retighten all terminal screws inside electrical cabinet.
Canopy Sensors	Test canopy sensors by gradually rocking canopy section back from its resting position. If corresponding pump/blower does not shut OFF, adjust the sensor further from the target. Also, check for dirty or defective sensor.
<u>Daily</u>	
Canopy Sections	Ensure that all canopy sections are tightly closed. Canopy sensors sense when canopy sections are not properly in place.
Chip Basket	Inspect chip basket and remove any captured debris.
General	Make sure all guards, protective devices, and hardware, in general, are secure and in place. Be aware of any peculiar odors and investigate/fix as needed.
<u>Weekly</u>	
Photo Eye Sensor	Clean reflector and lens of photo eye sensor.
<u>Monthly</u>	
Nozzles	Visually inspect spray nozzles for possible clogging and proper alignment.
Air Hoses	Inspect for damage and repair if necessary.
Motors/Bearings, etc.	Grease motor bearings, exhaust fan and conveyor bearings as required.
Level Control	Remove, inspect, and clean.
Oil Skimmer	Inspect wiper for optimum oil removal; adjust and/or replace as necessary.
<u>90 Days</u>	
Solution Tank(s)	If heavy contaminants are being removed, drain solution tank(s), flush out and clean heating source (electric elements, steam coils, or immersion tube).
Conveyor	Check conveyor speed to make sure it has not changed from initial setting.
Machine Interior	Clean and remove debris as needed.
Blowoff Drain	Clean ambient and/or heated blowoff drain to ensure fluid(s) drain back to previous solution tank.

7.0

Troubleshooting Guide

The following is a guide to assist in troubleshooting possible problems which may occur. If, after reviewing this guide, a problem should persist or cannot be found in this guide, please call Alliance Manufacturing, Inc., at 1-800-969-7960 or (920) 922-8100.

Problem	Possible cause	Remedy
<u>Master Control Circuit</u>		
Reset light flashing	• Power just applied to panel	Push Master Start button.
	• Emergency stop button activated (corresponding banner will appear)	Push Master Start button.
	• Solution temperature has exceeded allowable range, or a low temperature alarm has been triggered	Set desired temperature at acceptable range and wait for temperature to reach range. (Press Master Reset to clear.)
	• Solution low level sensor has been activated (corresponding alarm banner will appear)	Determine reason for water loss; fix and add water.
	• Canopy section removed/ajar	Replace/fit canopy in place.
	• Emergency stop button activated	Reset E-stop switches. Push Master Start button.
	• Conveyor jam tripped	Find jam and release. Push Master Start button.
	• Motor overload	Check control panel to determine which motor overload has tripped.
	• Filter bag dirty	Replace dirty filter bag with clean bag. Check operator interface to determine which filter is dirty.
<u>Spray System</u>		
Spray pressure low	• Nozzle missing	Replace nozzle.
	• Orifice to pressure gauge clog	Remove, inspect and clean.
	• Spray system leak	Find leak and repair. Spray Pipe unions may be loose.
	• Pump running backwards	Reverse polarity to pump.
	• Pump suction plugged	Clear suction.
	• Worn impeller	Adjust or replace impeller.
	• Throttling valve set incorrectly	Open valve until desired pressure is reached.
Pump won't run	• Canopy section not in position	Place canopy section in position.
	• Solution level low	Add water and determine reason for water loss and fix.
	• Fuse(s) blown	Replace blown fuse(s).
	• Motor starter bad	Replace motor starter.
	• Electrical circuit faulty	Inspect and repair as required.

	- Fuse blown - Electrical circuit faulty - Current sensing not properly adjusted	Replace blown fuse. Inspect and repair as required. Adjust threshold on current sensing device.
Caution: Conveyor is under tension and could jump when jam is relieved.		
<u>Mist Collector</u>		
Excessive steam escaping	Mist collector not on	Turn mist collector ON.
	Temperature set point too high	Lower temperature control setting.
	Cover off or door open	Replace cover or door.
	Vent dampers closed too far	Open dampers just enough to vent out steam.
	Vent tube obstructed	Clean tube.
	Filter media is plugged	Clean filters.
	Fan running backwards	Reverse polarity at fan.
Mist collector won't run	Fuse blown	Replace blown fuse.
	Faulty motor starter	Replace motor starter.
	Electrical circuit faulty	Inspect and repair as needed.
	Impeller wedged	Free impeller.
<u>Oil Skimmer</u>		
Doesn't remove oil	Drain plugged	Clear drain and clean interior of skimmer.
	Wiper not removing oil from belt	Clean, adjust, or replace wiper.
	Belt not picking up oil	Belt may be incompatible with oil, or not reaching solution.
Belt not turning	Belt sliding on upper pulley	Check belt for jam or excessive wear. Adjust or replace as necessary.
Motor won't run	Fuse blown	Replace fuse on terminal strip (fused terminal block).
	Electrical circuit faulty	Check switch and wiring and repair or replace as necessary.
	Motor bad	Check and replace motor if necessary.
<u>General</u>		
Excessive moisture on parts	Last solution stage heat not at optimum temperature	Increase temperature (not to exceed maximum operating temperature). Heat transferred to the part(s) will aid in drying.
	Blowoff not removing moisture from parts	Check air hoses for air leaks. Adjust damper to lower knife. Increase temperature (not to exceed maximum operating temperature).

Recommended Machine Spare Parts List

See following section.

The following is a listing of parts, which under normal use may need replacing. The column marked as "Mach Down" indicates that a failure of that component will cause the machine to be inoperable. The "Suggested Stock" column specifies the items that are recommended to be stocked, due to the potential of failure and/or leadtime to acquire. These are discretionary suggestions. Actual items to be kept in stock will vary based on acceptable downtime. Component lead times will vary based on manufacturer availability. For specific needs, please contact Alliance Manufacturing, Inc. at 1-800-969-7960 or 920-922-8100 for current price and

Prices are FOB, Fond du Lac, WI (or manufacturer's location at Alliance's discretion). Currency is in US Dollars. Prices are subject to change without notice.
0* = item is on the spare parts list in multiple locations

Line Item	Alliance Part Number	Part Description	Additional Information	Qty.	Unit	Lead Time (days)	Mach Down	Sugg Stock	Sugg Stock Qty	Price/Each	Price Total
Canopy											
1	33170-001	Canopy, APPR/WASH, fiberglass, 22.50" wide x 72.00" long, 3/16" thick. Canopy must be capable of 165° F.		1	ea	28	Y	N			\$ -
2	33170-002	Canopy, DRAIN, fiberglass, 22.50" wide x 48.00" long, 3/16" thick. Canopy must be capable of 165° F.		1	ea	28	Y	N			\$ -
3	33170-003	Canopy, RINSE/DRAIN, fiberglass, 22.50" wide x 48.00" long, 3/16" thick. Canopy must be capable of 165° F.		1	ea	28	Y	N			\$ -
4	33170-004	Canopy, HEAT BLOWOFF, fiberglass, 22.50" wide x 48.00" long, 3/16" thick. Canopy must be capable of 275° F.		1	ea	28	Y	N			\$ -
5	859021	Latch, rubber draw, stainless steel attachments		8	ea	7	N	Y			\$ -
6	846003	Handle, black thermoplastic, glass bead reinforced		8	ea	28	N	N			\$ -
7	903171	Sensor, proximity, 18mm Barrel, 24VDC, PNP, N.O., Embeddable, 120 Degrees *C, 248 Degrees *F, 2 Meter		1	ea	10	Y	Y			\$ -
8	903028	Sensor, cable, straight, DC micro style QD, 4-wire		3	ea	7	Y	Y			\$ -
9	903170	Sensor, proximity, 12mm inductive, normally open, Embeddable, 70 *C, 158 *F, PNP, 10-30 volt, DC, 3 wire,		3	ea	10	Y	Y			\$ -
10	33172	Curtain, rubber, CB-2400E, 24" PC, canopy side		2	ea	10	N	N			\$ -
11	33173	Curtain, rubber, CB-2400E, 24" PC, machine side		2	ea	10	N	N			\$ -
12	33174	Curtain, rubber, CB-2400E x 24" , inside		6	ea	10	N	N			\$ -
Cleanout Door											
13	825001	Cover Access door, 304 stainless steel, 17.32" tall x 22.04" wide, opens out-ward		2	ea	7	Y	Y			\$ -

8.0 Alliance Manufacturing, Inc.

Machine Model: Aquamaster CB-2400E

Spare Parts List

Serial Number: 930-0219

Date: 4/1/2019

Line Item	Alliance Part Number	Part Description	Additional Information	Qty.	Unit	Lead Time (days)	Mach Down	Sugg Stock	Sugg Stock Qty	Price/Each	Price Total
14	825003	Gasket, EPDM material, access door 17.32" tall x 22.04" wide		2	ea	7	Y	Y			\$ -
Drive Assembly											
15	844241	Gearmotor, parallel shaft, 1/2 HP, DC, 3/4" dia output shaft	Unload end	1	ea	14	Y	Y			\$ -
16	845012	Guard, fiberglass, painted safety yellow (E-series drive guard)	Unload end	1	ea	14	Y	N			\$ -
17	805020	Bearing, frame, take-up, side mount, steel frame	Load end	2	ea	7	Y	Y			\$ -
18	805013	Bearing, take-up, 1" bore	Load end	2	ea	7	Y	Y			\$ -
19	11606	Shaft, idler, stainless steel, 1" diameter x 29.75" long, take-up, 1200 E-series standard	Load end	1	ea	21	Y	Y			\$ -
20	884003	Sprocket, 13 teeth, UHMW, 4.35" pitch Ø w/ 1.00" bore and 5/16" set screw	Load end	4	ea	21	Y	N			\$ -
21	884002	Sprocket, 13 teeth, UHMW, 4.35" pitch Ø w/ 1.00" bore and 1/4" keyway	Load end	1	ea	21	Y	N			\$ -
22	805416	Bearing, flanged, 4-hole, 1" bore	Unload end	2	ea	7	Y	Y			\$ -
23	11607	Shaft, drive, stainless steel, 1" diameter x 29.25" long, take-up, 1200 E-series standard	Unload end	1	ea	21	Y	Y			\$ -
24	884002	Sprocket, 13 teeth, UHMW, 4.35" pitch Ø w/ 1.00" bore and 1/4" keyway	Unload end	5	ea	21	Y	N			\$ -
25	821140	Connector link, spring clip type, 1/2" pitch, # 40, steel.	Unload end	1	ea	7	Y	N			\$ -
26	821141	Connector link, offset, 1/2" pitch, # 40, steel	Unload end	1	ea	1	Y	N			\$ -
27	815140	Chain, roller, 1/2" pitch, #40, single strand, riveted, standard steel.	Unload end	4	ft	7	Y	N			\$ -
28	884150	Sprocket, 12 teeth, Triple steel	Unload end	1	ea	4	Y	N			\$ -
29	884438-100	Sprocket, 38 teeth, steel, 1/2" pitch Ø, # 40, 40838, 1" bore	Unload end	1	ea	7	Y	N			\$ -
30	806224	Belt, flat wire, 24" wide, 1" x 1", stainless steel, standard duty		48	ft	14	Y	Y			\$ -
31	876222	Roller, 1.90" OD, 16 ga, stainless steel tube, 22.50" between frame dimension		37	ea	21	N	Y			\$ -
32	33556	Roller		8	ea	21	N	Y			\$ -

Line Item	Alliance Part Number	Part Description	Additional Information	Qty.	Unit	Lead Time (days)	Mach Down	Sugg Stock	Sugg Stock Qty	Price/Each	Price Total
Pumps/Exterior Piping - Wash											
33	873588	Pump, 3 HP, Gusher, horizontal, stainless steel, Viton silicone carbide seal, 2.00" suction x 2.00" discharge with		1	ea	21	Y	Y			\$ -
34	837361	Filter, chamber, stainless steel construction, 30" deep		1	ea	21	Y	N			\$ -
35	896227	Valve, ball, 1-1/2" NPT, 316 stainless steel, full port, 2-piece		2	ea	14	N	N			\$ -
36	843022	Gauge, pressure, 304 stainless steel case, 2-1/2" Ø dial, 316 stainless steel tube/socket/internals, liquid filled, 1/4" MPT		2	ea	5	N	Y			\$ -
37	615011	Hose, radiator, 2-3/8" ID		1	ft	7	Y	Y			\$ -
38	837700	Filter bag, 100 micron, polyester, 7-1/16" diameter x 32" long		5	ea	7	N	Y			\$ -
39	873547	Pump, mechanical seal kit		1	ea	7	Y	Y			\$ -
40	873593	O-ring, pump, .103" dia, Buna		1	ea	7	Y	Y			\$ -
41	837000	O-Ring, filter chamber, model 8 NCO, Buna-N		1	ea	1	N	Y			\$ -
Pumps/Exterior Piping - Rinse											
42	873742	Pump, 2 HP, Gusher, horizontal, 316 stainless steel, 3600 RPM		1	ea	28	Y	N			\$ -
43	837361	Filter, chamber, stainless steel construction, 30" deep		1	ea	21	Y	N			\$ -
44	896227	Valve, ball, 1-1/2" NPT, 316 stainless steel, full port, 2-piece		2	ea	14	N	N			\$ -
45	843022	Gauge, pressure, 304 stainless steel case, 2-1/2" Ø dial, 316 stainless steel tube/socket/internals, liquid filled, 1/4" MPT		2	ea	5	N	Y			\$ -
46	615011	Hose, radiator, 2-3/8" ID		1	ft	7	Y	Y			\$ -
47	837700	Filter bag, 100 micron, polyester, 7-1/16" diameter x 32" long		5	ea	7	N	Y			\$ -
48	873547	Pump, mechanical seal kit		1	ea	7	Y	Y			\$ -
49	873593	O-ring, pump, .103" dia, Buna		1	ea	7	Y	Y			\$ -
50	837000	O-Ring, filter chamber, model 8 NCO, Buna-N		1	ea	1	N	Y			\$ -

Line Item	Alliance Part Number	Part Description	Additional Information	Qty.	Unit	Lead Time (days)	Mach Down	Sugg Stock	Sugg Stock Qty	Price/Each	Price Total
Nozzles/Interior Piping - Wash											
51	865309	Nozzle assembly, flat V, K-ball, 1", 65°, #1KFBF6530	Upper	15	ea	4	Y	Y			\$
52	865309	Nozzle assembly, flat V, K-ball, 1", 65°, #1KFBF6530	Sides	18	ea	4	Y	Y			\$
53	865379	Nozzle assembly, flat V, K-ball, 1", 80°, #1KFBF8030	Lower	21	ea	4	Y	Y			\$
Nozzles/Interior Piping - Rinse											
54	865309	Nozzle assembly, flat V, K-ball, 1", 65°, #1KFBF6530	Upper	10	ea	4	Y	Y			\$
55	865309	Nozzle assembly, flat V, K-ball, 1", 65°, #1KFBF6530	Sides	6	ea	4	Y	Y			\$
56	865379	Nozzle assembly, flat V, K-ball, 1", 80°, #1KFBF8030	Lower	11	ea	4	Y	Y			\$
Fill Piping - Wash											
57	896224	Valve, ball, 3/4" NPT, 316 stainless steel, full port, 2-piece		1	ea	7	N	N			\$
58	885008	Strainer, pipe, Y, stainless steel, 3/4" NPT		1	ea	7	N	N			\$
59	886073	Switch, pre-wired cable, 24 V AC/DC with LED and suppression		2	ea	14	Y	Y			\$
60	896448	Valve, solenoid, 3/4" NPT, DC rating, stainless steel body, 24 VDC, 60 Hz, normally closed.		2	ea	7	Y	Y			\$
61	896463	Valve, solenoid repair kit, for 3/4" and 1" stainless steel solenoid valves. Includes diaphragm, o-rings and plunger.		1	ea	5	Y	Y			\$
Fill Piping - Rinse											
62	896224	Valve, ball, 3/4" NPT, 316 stainless steel, full port, 2-piece		1	ea	7	N	N			\$
63	885008	Strainer, pipe, Y, stainless steel, 3/4" NPT		1	ea	7	N	N			\$
64	886073	Switch, pre-wired cable, 24 V AC/DC with LED and suppression		2	ea	14	Y	Y			\$
65	896448	Valve, solenoid, 3/4" NPT, DC rating, stainless steel body, 24 VDC, 60 Hz, normally closed.		2	ea	7	Y	Y			\$
66	896463	Valve, solenoid repair kit, for 3/4" and 1" stainless steel solenoid valves. Includes diaphragm, o-rings and plunger.		1	ea	5	Y	Y			\$

Spare Parts List

Line Item	Alliance Part Number	Part Description	Additional Information	Qty.	Unit	Lead Time (days)	Mach Down	Sugg Stock	Sugg Stock Qty	Price/Each	Price Total
Solution Heat (Electric) - Wash											
67	848005	Element, heating, 18kw, square flange immersion heater firebar, Voltage: 480V-3PH		5	ea	28	Y	Y		\$	
68	01064	Gasket, heater		6	ea	1	Y	Y		\$	
69	845007	Guard, fiberglass, painted safety yellow (Electric heat - 6 heater)		1	ea	10	N	N		\$	
70	01063	Plate cover extra heater hole, Rev C		1	ea	1	N	N		\$	
71	877013	1/4" NPT SS compression fitting for Alliance #877012 thermocouple		1	ea	21	Y	Y		\$	
72	901000	Wire, thermocouple, 20 ga, type J		1	ft	3	Y	Y		\$	
Solution Heat (Electric) - Rinse											
73	01064	Gasket, heater		1	ea	1	Y	Y		\$	
74	845000	Guard, fiberglass, painted safety yellow (Electric heat - 4 heaters)		1	ea	14	N	N		\$	
75	01063	Plate cover extra heater hole, Rev C		1	ea	1	N	N		\$	
Level Control											
76	822172	Control, liquid level, multi-level, stainless steel construction, 1" NPT		2	ea	5	Y	Y		\$	
77	903031	Sensor, cable, right angle, DC micro style		2	ea	7	Y	Y		\$	
Blowoff - Heated											
78	05187-807071	Blower, (MODIFIED) 7-1/2 HP, TEFC, 3500 RPM, steel housing, steel wheel, 213T frame motor, Baldor motor,		1	ea	21	Y	N		\$	
79	848300	Heater, air modular duct, 480V, 3 PH, 6 kw, rectangular flange type		4	ea	14	Y	Y		\$	
80	03317	Cover, blank, air heater		2	ea	10	N	N		\$	
81	886021	Switch, air, Antunes model JD2-gray, industrial type of .1" w.c. to 4" w.c., cast aluminum		1	ea	10	Y	Y		\$	
82	615016	Hose, air, red silicone, 3" ID		8	ft	7	Y	Y		\$	

Spare Parts List

Line Item	Alliance Part Number	Part Description	Additional Information	Qty.	Unit	Lead Time (days)	Mach Down	Sugg Stock	Sugg Stock Qty	Price/Each	Price Total
83	615015	Hose, air, red silicone, 8" ID, 1-ply, wire reinforced, 500°F max operating temp		.5	ft	7	N	Y			\$ -
84	816007	Clamp, hose, stainless steel, worm screw type, 2-5/16" min. - 3-1/4" max. ID, 1/2" wide		12	ea	4	N	Y			\$ -
85	816004	Clamp, hose, stainless steel, worm screw type, 5-5/8" min. - 8-1/2" max. ID, 1/2" wide		2	ea	4	N	Y			\$ -
86	829000	Damper, full blast gate, 3" cast aluminum, W/ thumb screw		2	ea	14	N	N			\$ -
87	03366	Ring blower - 1.75" LG 8" dia blower inlet		1	ea	10	N	N			\$ -

Photo Eye Sensor

88	904177	Sensor, photoelectric		1	ea	7	Y	Y			\$ -
89	904006	Reflector, square 2", plastic		1	ea	14	N	Y			\$ -

Oil Skimmer

90	03899	1" belt skimmer, cover access		1	ea	10	N	Y			\$ -
91	866013	Oil skimmer, Model MSB, 30 RPM, 1 gal/hr., 1" stainless steel belt		1	ea	14	N	N			\$ -
92	866016	Belt, oil skimmer, 1" wide, 36" long, endless, stainless steel		1	ea	1	N	Y			\$ -
93	866035	Scraper only, UHMW, (does not include stainless steel trough), for oil skimmer #866013		1	ea	14	N	Y			\$ -

Mist Collector System

94	807807	Mist collector, moisture return hose, PVC with metal spring, 25 mm		1.5	yd	14	Y	N			\$ -
95	807810	Mist collector, 4 HP, 1,750 CFM, 3,400 RPM, 460V/3PH only		1	ea	40	Y	N			\$ -
96	829001	Damper, full blast gate, 4" cast aluminum, w/thumb screw		1	ea	14	N	N			\$ -
97	845102	Guard, wire spiral, yellow plated, 4"		1	ea	7	N	N			\$ -
98	17414	Gasket, mist collector		1	ea	10	N	N			\$ -
99	816000	Clamp, hose, stainless steel, worm screw type, 11/16" min. - 1-1/4" max. ID, 1/2" wide		2	ea	4	N	Y			\$ -

8.0 Alliance Manufacturing, Inc.
Machine Model: Aquamaster CB-2400E

Spare Parts List

Serial Number: 930-0219
Date: 4/1/2019

Line Item	Alliance Part Number	Part Description	Additional Information	Qty.	Unit	Lead Time (days)	Mach Down	Sugg Stock	Sugg Stock Qty	Price/Each	Price Total
100	829003	Damper, full blast gate, 6" cast aluminum		1	ea	3	N	N			\$ -
Chip Basket											
101	1656	Chip basket WLDT, 11.56 L x 10.71 W x 19.53 H, Rev F		2	ea	14	N	N			\$ -
102	1652	Cover access chip basket, Rev D		2	ea	10	N	N			\$ -
103	846025	Handle, pull style, oval-grip extruded aluminum, 4" hole centers		2	ea	3	N	N			\$ -
Total										\$	\$ -