



DOUGLAS
WASHING AND SANITIZING SYSTEMS

PAN WASHER

OPERATION & MAINTENANCE MANUAL

HMI CONTROLS

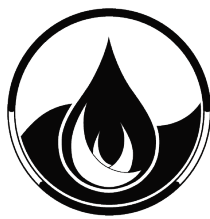


Parts & Service 800-331-6870

DougMac.com

We congratulate you on the purchase of your new Washing and Sanitizing System. To understand the proper operation and maintenance of your new machine, please read this manual carefully. A Reference Guide is mounted on the side of the machine for your convenience. You have also received a Recommended Installation Guide. Please review this guide and confirm that the machine has been installed correctly.

If you have any questions or need any further information, now or in the future, please do not hesitate to contact us.



DOUGLAS
WASHING AND SANITIZING SYSTEMS

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Please Note: Specifications are subject to change without notice
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For technical assistance, please call
800-331-6870.

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PAN WASHER SAFETY

Qualified installation personnel, individuals, firms, corporations, and companies are responsible for:

- Wear appropriate P.P.E. ie... hearing protection, thermal resistant gloves, and eyewear.
- Beware of pinch points.
- Use non-permit required confined space guidelines for entering.
- Know where the **exits** are located.
- Always turn off and drain the machine before entering. Allow a cool down period. Follow facility's L.O.T.O. procedure.
- Do not Remove Access Panels, unless performing maintenance.
- When loading a rack into the washer keep hands away from the door edges. Keep hands on the horizontal bars inside of the rack. **Do not** hold racks on the vertical support bars or outside edges. Push the rack with both hands. Never strain yourself to move racks if racks are too heavy unload some product.
- Always use Caution. – Use mats to help reduce slip hazards.
- Ensure that float switches and level probes are well maintained and cleaned daily. Failure to do so can result in unintended heater startup and potential fire.
- **Never** leave your machine idle (not in use) for more than 4 hours. This can result in water evaporating out of the rinse tank causing damaging. Do not touch Rinse tank without a cool-down period.
- Machine May Be Hot – Allow Cool Down Period Before Touching.

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IMPORTANT

PRE-INSTALLATION

Qualified installation personnel, individuals, firms, corporations, and companies are responsible for:

- The installation or replacement of the gas piping and connection, installation, repair, or servicing of the equipment. Qualified installation personnel must be experienced in such work, familiar with all precautions required, and have complied with all requirements of state or local authorities having jurisdiction. Reference National Fuel Gas Code, NFPA 54 or latest edition or ANSI Z223.1 or latest edition, Section 1.4.
- The installation of electrical wiring from the electric meter, main control box, or service outlet to the appliance. Qualified installation personnel must be experienced in such work, familiar with all precautions required, and have complied with all requirements of state or local authorities having jurisdiction. Reference National Electrical Code, ANSI/NFPA 70 or latest edition. In Canada, Canadian Electrical Code Part I (Std. 22.1 or latest).
- The installation of gas heated units in Canada. Qualified installation personnel should comply with the Installation Codes for Gas Burning Appliances and Equipment, (CAN-I-B 149.1 and B-149.2) and any local codes or approvals.
- The installation of washers equipped with casters. These washers shall be made with a connector that complies with the Standard for Connectors for Movable Gas Appliances, ANSI Z2 1.69 or latest, and a quick-connect device that complies with the Standard for Quick-Disconnect Devices for use with gas fuel, ANSI Z2 1.41 or latest.
- Water and waste piping and connections shall comply with the International Plumbing Code, International Code Council (ICC) or the Uniform Plumbing Code, International Association of Plumbing and Mechanical Officials (IAPMO). NSF/ANSI 3-2009
- Douglas Machines Corp. highly discourages the use of tank-less or demand water heating units as a hot water supply for our machines. They typically are not properly sized nor can they meet the demand required by our machines.

NOTE: A fixed restraint must be provided if casters are used in conjunction with a flexible connector for movable appliances. This restraint must secure the washer to a non-movable surface to eliminate stress on the connector. If the washer is moved, the restraint must be reconnected after the washer is returned to its normal position.

BEST PRACTICES

DO'S

- Before attempting any maintenance or repairs, ensure that electrical, water, steam and or gas supply to the unit has been turned off and locked out.
 - Wear safety glasses.
 - Check inside the unit before starting the cycle to ensure nothing is inside.
 - Keep hands and clothing clear of moving parts.
 - Ensure safety rules are followed at all times.
 - Ensure all electrical panel enclosures are closed before using the machine.
-

DO NOT

- Attempt to perform any maintenance, repairs or adjustments unless the supply power has been shut off and locked out first.
- Open door during machine cycle. There may be a delay between cycle steps so ensure cycle is complete by visually checking that the Run light is not illuminated.
- Hose down any electrical components.
- Remove any access panels or pit grids while unit is in use.
- Touch outside of cabinet without wearing gloves.
- Attempt to do any service or make any adjustments to this unit unless you are qualified service person.

DELIVERY

- Inspect the machine for any external damage. Any evidence of damage should be noted on the delivery receipt and signed by you and the driver.
- Remove packaging from the washer and check for any concealed damage. Carrier must be notified of damage immediately. Please retain packaging for inspection if claim is filed.
- Douglas Machines Corp. cannot accept responsibility for lost or damaged merchandise suffered in transit. The carrier assumes full responsibility for delivery in good order; however, we are prepared to assist you in any action needed regarding shipping damage.

ELECTRICAL CONNECTIONS: Upon receiving your machine, all wire connections in the electric panel, pump motor and electric heaters should be checked, including the wire nuts and lugs. Check connections monthly for the first six months and every 90 days after the first six months of operation.

SAFETY PRECAUTIONS

IMPORTANT: All safety precautions must be adhered to as to avoid personal injury.

PLEASE BE CAUTIOUS!

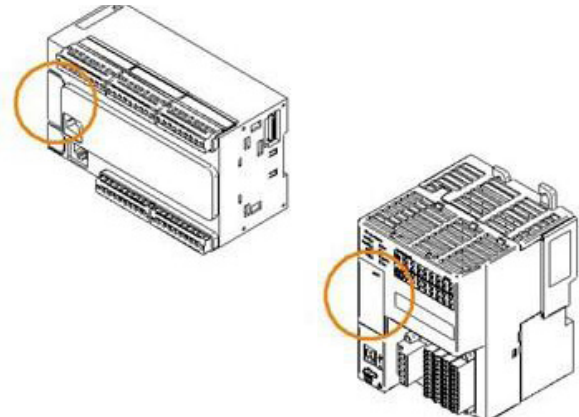
- Minimum P.P.E. equipment to be used when operating or maintaining this equipment is safety glasses, hearing protection, and heat resistant gloves.
- When using the spray off gun, please be cautious of potential hot water hazard. Do not spray in the direction of yourself or any other personnel. Only use for maintenance of the machine.
- If machine is in “Wash” mode and stopped, allow 3 second ramp down time for spray arms before opening machine door.
- Machine must be installed keeping in mind clearance for maintenance and in accordance with facility high foot traffic areas, railings, and any areas where a hazard could be created.
- Visibility should also be considered eliminating any blind corners, stairways, or drop offs in the general area.
- When conducting maintenance on the machine of any kind, the power **MUST** be disconnected, the machine must be drained, and lock out and tag out procedures followed.
- Proper fall hazard procedures must also be followed. This manual will help with troubleshooting and the replacement of parts.

START UP

IMPORTANT: Remember where your electrical disconnect is located. This will be the main power coming to the machine. Some of the following steps will be performed in the electrical panel enclosure. We recommend disconnection of all incoming power before doing any service in the electrical enclosure.

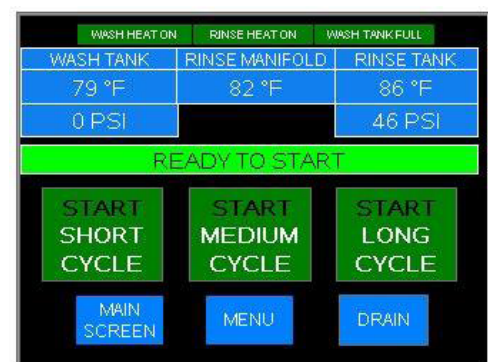
PLEASE BE CAUTIOUS!

- With the incoming electrical power disconnected or turned off, open the enclosure door located on the side of the machine by unlatching each quarter turn. Ensure the PLC is in the “Run” position.
- Locate and make sure the drain and pump petcock are in the closed position. The pump petcock will remain in the closed position unless service is needed on the pump.
- Shut off all breakers going to the heaters, if electrically heated. Breakers will be marked WASH HEATER and RINSE HEATER. If machine is fitted with fuses and fuse holders, use appropriate disconnecting means to safely de-energize the Wash and Rinse heating circuits.
- Check for all 120 V breakers/ fuse holders to be in the on or energized position. Make sure the breaker/ fuse holder for the wash pump is in the on or energized position. With the electrical enclosure panel cover still open, turn the incoming power back on. (BE VERY CAUTIOUS - THIS IS NOW AN ELECTRICALLY LIVE PANEL). The PLC will boot up, verify the PLC is communicating with the I/O by checking the status lights on the PLC.
- Once the HMI screen has booted up, you should see a black screen with one button labeled “MAIN SCREEN”, press the button and the machine will automatically start to fill.



Typical Run Switch Locations.

NOTE: Incoming water pressure exceeding 30psi (207 kPa) flow will void warranty on related items.



Main Screen

If the machine does not start to fill and the HMI has an error on the screen, the machine setpoints will need to be adjusted. To modify the set-points navigate to the “LOGIN” screen through the “MENU” screen. When at the “LOGIN” screen use the following credentials:

Username – C

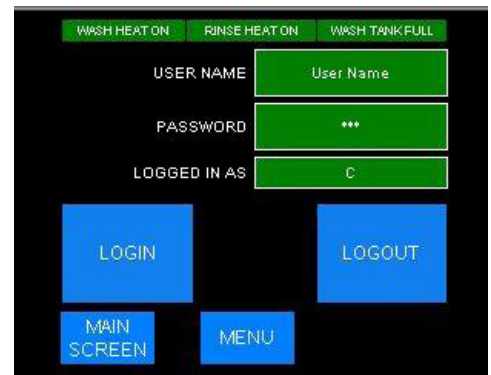
Password – DOUGMA2101

The serial number can be found on the machine’s label located on the front door. If the log in credentials are not working, please contact Douglas Machines Corp. While “Logged In” the set-point options will be available on the “MENU” screen. Here we will have the ability to modify various operating parameters:

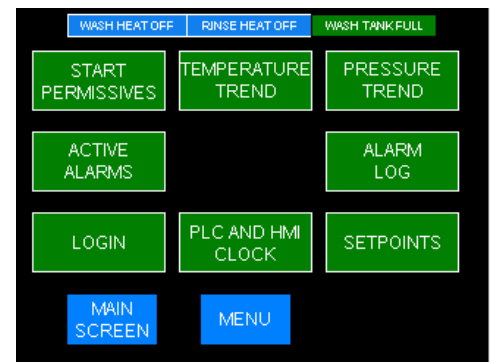
If the error banner on the HMI says “CONFIGURATION MISMATCH” the “Set-points Options” menu can change option functionalities to match the purchased options on your machine. If you need help determining which options are on your machine, contact Douglas Machines Corp. for help. In the “Set-points Options” screen make sure the “Flow Temp Monitoring” is enabled and that your drain and rinse options match your machine.

The rest of the factory presets that your machine should replicate upon arrival and start up. These can be navigated through the “Set-points Menu”.

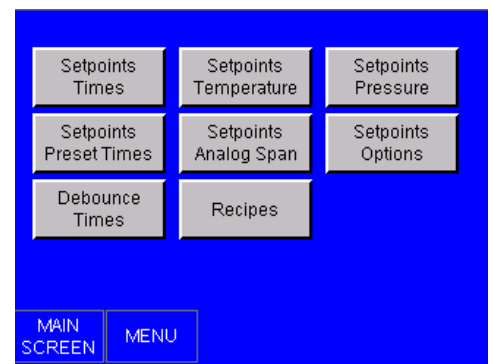
NOTE: “Idle Time Shut Down” does not completely shut down machine – only induces an “IDLE” state that disables, pumps, heating elements and filling of machine. “Rinse Time” should be set to at least 30 seconds to achieve NSF sanitation. For Machine and Operator Safety DO NOT set Wash or Rinse water temperatures above 190 °F (88 °C). Rinse For Machine and Operator Safety DO NOT set Wash or Rinse water temperatures above 190 °F (88 °C). Rinse should not be set below 180 °F (82 °C) to achieve NSF Sanitation.



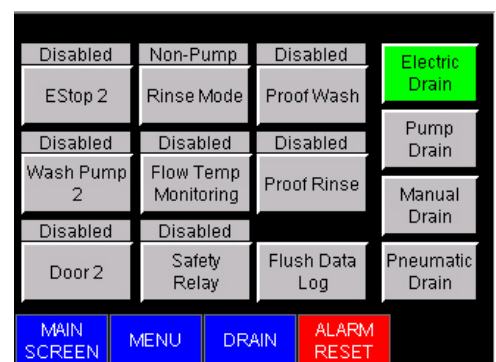
Login Screen



Menu Screens



Menu Screens



Set-points Options

Go back to the MENU” screen, the “PLC and HMI Clock screen can be accessed while “Logged In”.

- Select the Short Wash Cycle and push the Start Button; the wash pump should start running at this point. If the pump does not start running, check that all fuses and all breakers marked PUMP and 120v are in the on position. With the pump running, check the pump rotation looking at the rear of the pump motor and observing the cooling fan to see if it is rotating clockwise. Another indication that the pump is rotating backwards is the wash pump pressure gauge reading under 35psi (241 kPa). If the pump is not rotating in the correct direction, reversal of electrical phases will be necessary. (Contact your electrician or Douglas Machines Corp. for details.)

1 s	Rinse Start Delay Time	240 m	Idle Time Shut Down
30 s	Rinse Time	15 s	Short Drain Timer
60 s	Exhaust Time	30 s	Auto Drain Timer
10 s	Drain Pump Low Pressure Shutdown Delay Time		
0	Drain Pump Cycle Count		Drain # Confirm

MAIN SCREEN MENU DRAIN

Set-points Times

WASH HEAT OFF RINSE HEAT OFF WASH TANK FULL

160	WASH TANK TEMPERATURE TARGET (F°)
180	RINSE TANK TEMPERATURE TARGET (F°)
165	FLOW TEMPERATURE TARGET (F°)
165	WASH TANK TEMP. HIGH ALARM (F°)
190	RINSE TANK TEMP. HIGH ALARM (F°)

MAIN SCREEN MENU

Set-points Temperature

15	Wash Pump 1 Pressure (psi)
15	Wash Pump 2 Pressure (psi)
1.75	Drain Pump Pressure (psi)
2	Rinse Pressure (psi)

MAIN SCREEN MENU DRAIN

Set-points Pressure

240	Short Preset Wash Time (s)
360	Medium Preset Wash Time (s)
480	Long Preset Wash Time (s)

MAIN SCREEN MENU DRAIN

Set-points Preset Times

5	Wash Bottom FS Debounce Time (s)
5	Wash Middle FS Debounce Time (s)
10	Wash Top FS Debounce Time (s)
5	Rinse Bottom FS Debounce Time (s)
10	Rinse Top FS Debounce Time (s)

MAIN SCREEN MENU

Debounce Times

4ma	20ma	
0.0	232.2	Wash Pump 1 Pressure (psi)
0.0	232.2	Wash Pump 2 Pressure (psi)
0.0	232.2	Rinse Pump Pressure (psi)
0.0	232.2	Drain Pump Pressure (psi)

MAIN SCREEN MENU

Set-points Analog Span

PLC Current Time
03:55:28
01/01/2012
Set PLC to New Time and Date

HMI Current Time
14:46:33
12/17/2020
Set HMI to PLC Date and Time

New Time
0 : 0 : 0

New Date
0 / 0 / 0

MAIN SCREEN MENU DRAIN

PLC Clock

- Please note that while the machine is in the rinse and dwell period you will not see any readings on the jet pressure gauge, as the rinse cycle operates strictly off the incoming water pressure to the machine, not the wash pump. The pressure readout for the supply water is located above the machine in the incoming water supply circuit.

Failure to ensure the rinse tank is full of water may result in damage to the tank and heating components and may void the warranty of related items. Double check to ensure all heating circuits are off!

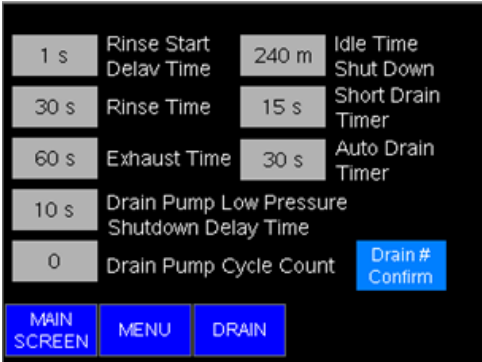
To ensure the rinse tank is filled, you need to hear water spraying inside the wash cabinet after the wash pump has stopped running. You may need to run more than one cycle to accomplish this.

CAUTION: Before proceeding to the next step, make sure you can hear water spraying in the cabinet after the wash pump stops running and the HMI displays “RINSING”. If not, heater damage may occur, and the warranty will become void for related items.

Switch the WASH HEATER and RINSE HEATER breakers (or fuse holders) to the on/energized position. Allow 30 to 60 minutes for the machine to reach operating temperatures. At this point your heat source should be engaged. If electrically heated, the wash and rinse heater contactors will be engaged. If gas heated, the burner or burners will fire. If steam heated, the steam solenoids will open. If you are not sure, or if the specific heat source is not on and the unit is not heating up, please refer to the Trouble Shooting Guide or contact Douglas Machines for assistance.

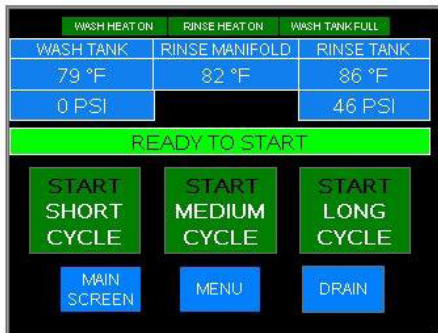
Now that everything is working fine, it is time to close and lock the electrical enclosure panel and start washing. For Machines equipped with a “Pumped Drain”, additional setup will be required after completing the steps above.

- On the “Set-points Times” screen, set the “Drain Pump Cycle Count” to 2.
- Run a “SHORT” cycle. Upon completion of the cycle the HMI status will notify the operator to UN-LOAD”. Open the door and inspect that the water level is not above the rinse jets. (The rinse jets are stationary and do not rotate like the wash spray arms.)

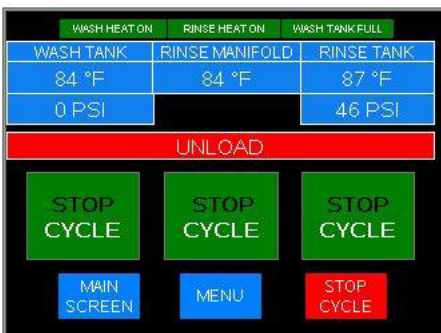


Set-points Times

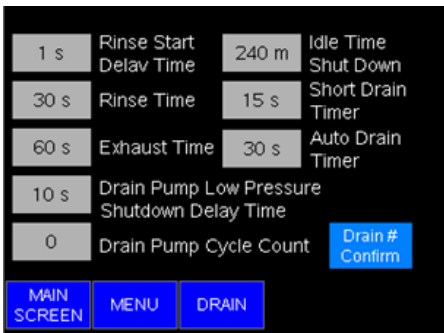
If the water level is above the rinse jets, the “Short Drain Timer” will need to be increased on the “Set-points Times” screen. Increasing the “Drain Pump Cycle Count” could also require additional time be added to the “Short Drain Timer”.



Main Screen



Unload Cycle

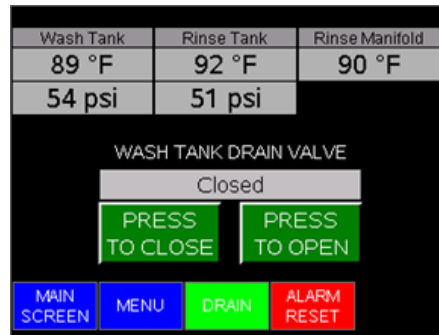


Drain - Pump Option Enabled

- Run a second “SHORT” cycle. After the machine has finished “EXHAUSTING”, the drain pump should continuously run until the wash tank is completely drained.

When the HMI prompts the operator to “UNLOAD”, open and close the door. The “STOP CYCLE” button on the bottom right of the “MAIN” screen should now say “DRAIN”.

- Once on the “DRAIN” screen pay attention to the pump pressure readout towards the end of the drain cycle. This number needs to drop below the “Drain Pump Pressure” set-point (1.75 PSI) on the “Set-points Pressure” screen for the duration of the “Drain Pump Low Pressure Shutdown Delay Time” (10s) on the “Set-points Times” screen for the drain pump to know when to stop pumping.



Drain -Motorized Valve Open Enabled

If the drain pump does not stop pumping because the pressure does not drop below the “Drain Pump Pressure” set-point press the “Press to Stop” button and increase the “Drain Pump Pressure” set-point on the “Set-points Pressure” screen just above the pressure readout on the “DRAIN” screen.

Run the cycles again to ensure the “Drain Pump Pressure” set-point has been calibrated correctly.

- If draining between cycle counts is not required set the “Drain Pump Cycle Count” to 0.

For machines equipped with a “Motorized Drain Valve”, the “Auto Drain Timer” Set-point may need to be calibrated on the “Set-point Times” screen.

On the “Set-points Times” screen set the “Drain Pump Cycle Count” to 2.

Run a “SHORT” cycle two times, When the HMI status is “DRAINING” watch the water level in the wash tank. (You may need to remove the filters to see the actual water level).

If the wash tank still has water in it after the machine has finished draining the “Auto Drain Timer” set-point will need to be increased.

OPERATION

- With the machine turned on, filled to the overflow, and heated up to the correct operating temperatures, we will now be able to add detergent.

A non-foaming, non-caustic, aluminum safe type of soap must be used (unless the machine has been specifically manufactured for caustic use). Machines without a caustic upgrade package are designed to work with a chemical solution within a PH range of 5 - 9.5. Use of chlorine or bleach will void warranty, please contact Douglas Machines Corp. to determine what chemistry your machine is capable of running.

If the machine is fitted with an automatic soap dispenser, ensure the dispenser is turned on and filled up. If the machine is not equipped with an automatic soap dispenser, follow your detergent manufacturers' recommended specifications for application and concentration.

NOTE: Douglas Machines Corp. Recommends the machine be operated with an automatic detergent dispenser equipped with a visual or audible alarm means to verify chemicals are being dispensed.

When loading the machine with bowls, buckets, or any similar type of object, all items should be facing the wash arms. This means the open end is facing down. Lighter objects such as plastic buckets may need to be weighted down. This can be accomplished by using the utensil rack hold down that is supplied with the machine.

When loading sheet pans into a machine, you will notice that the sheet pan rack or sheet pan insert is built with angled pan supports. You need to load that rack/insert so that the face or open side of the sheet pan is leaning towards the bottom wash hub.

If you plan to wash cake pans and have purchased the cake pan rack or insert, you will need to load them in the same manner as the sheet pans, but with more per row. The cake pans will need to be loaded with the open side of the pan facing out towards the wash arms.

If you are washing cake pans and you did not purchase the cake pan racks or inserts, you will have to wash them in the same manner as you would wash bowls or buckets.

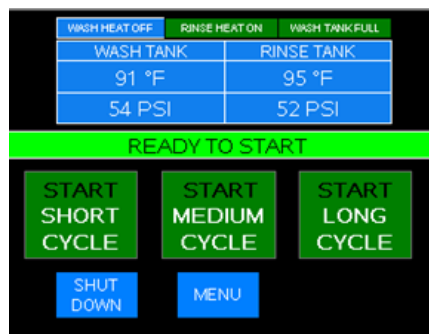
If you are planning to wash smaller utensils, such as spoons, scrappers, and whisks; you will need to purchase a model specific utensil basket. Contact Douglas Machines Corp. for details.

- Once filled, the machine should be allowed to sit and reach operating temperatures before washing. This could take anywhere from 30-60 minutes. Add detergent and load (See previous steps in General Operation). It is now time to start washing! Choose your desired wash cycle time by selecting the short (four minute cycle), medium (six minute cycle), or long (eight minute cycle) button. Let the machine run through its entire cycle (wash, rinse, and dwell). If you open the door or hit the stop button any time during the cycle, the machine

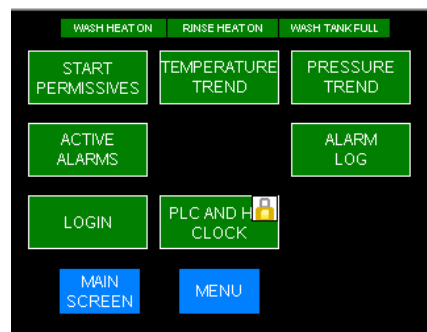
will shut off. When you restart the machine, it will not start from where it stopped, it will start from the beginning of the wash cycle. At this point you will be able to unload and then reload the machine during the cycle, the machine will shut off. When you restart the machine, it will not start from where it stopped, it will start from the beginning of the wash cycle. At this point you will be able to unload and then reload the machine.

PLC OPERATION

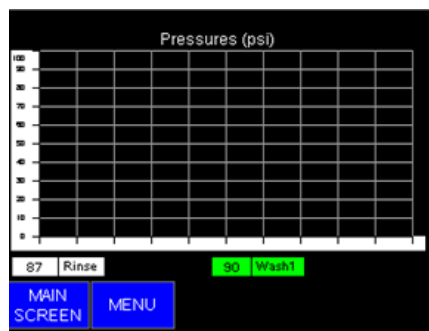
In addition to the “General Operation” described above, machines fitted with PLC/ HMI offer additional benefits. The HMI can communicate to the Operator various alarms or faults being triggered throughout operation. This allows for easier troubleshooting and accountability. To navigate to the alarms, go to the “MENU” screen, from there “ACTIVE ALARMS” or “ALARM LOG” can be selected.



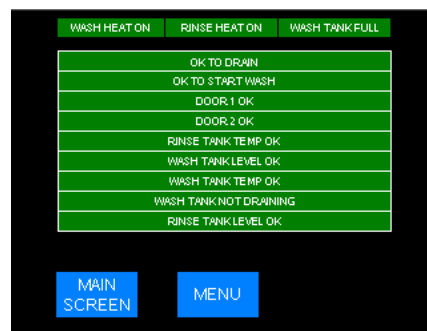
Menu



Menu

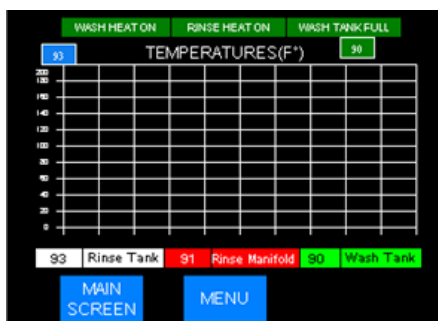


Menu Active Alarms



Start Permissives

Additionally, the PLC/ HMI offers Pressure and Temperature Trending Data that can also be accessed through the “MENU” screen accessed through the “MENU” screen.



Pressure Trend



Active Alarms



Alarm Log

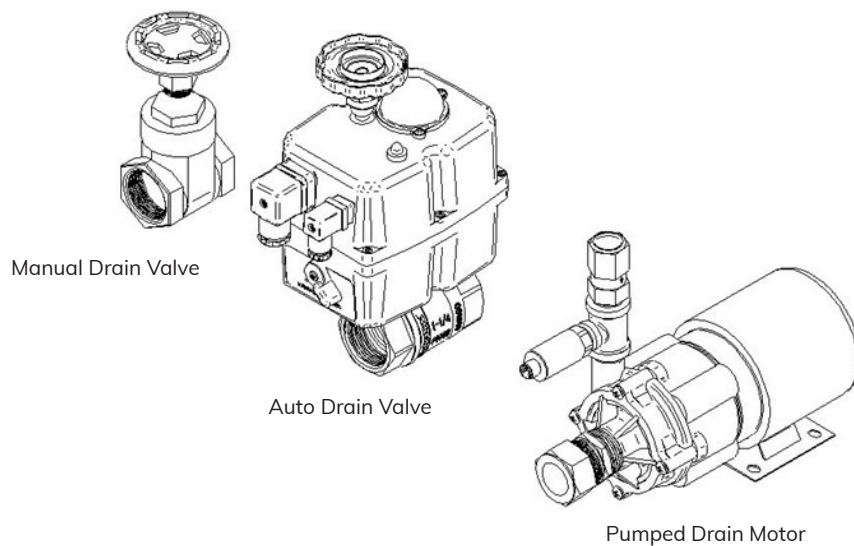
MAINTENANCE

Note: As a precaution, you must disconnect or turn off all incoming power to the machine before proceeding with any maintenance.

DAILY MAINTENANCE

Regular maintenance is essential in keeping your machine in good working order and operating at maximum efficiency. The following maintenance items are a minimum requirement. Frequency of maintenance is dependent on the number of hours the machine is in use and the amount and type of soil being removed.

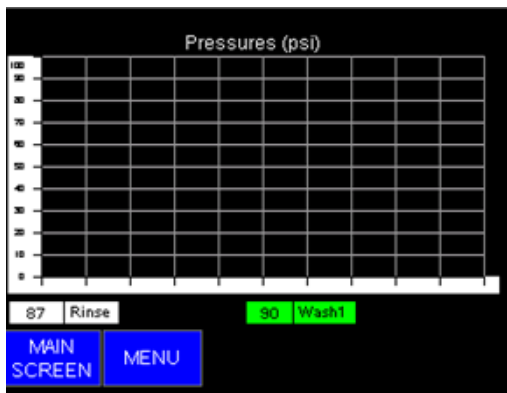
These daily maintenance items need to be done at the end of a regular shift, or if the machine is not cleaning to its normal standards.



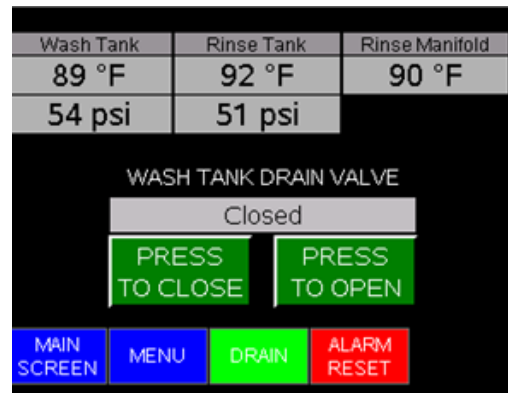
- Drain the machine by locating the manual gate valve. The machine should never be drained or cleaned unless the power is in the OFF position. A cool down period should also be allowed before cleaning. If the machine is equipped with a motorized drain valve or pumped drain, ensure the machine is turned off on the front panel, then turn the drain open/close or on/off switch to the open/ on position. Note: the electric drain valve will only operate when the power on the front panel is in the off position, to ensure the valve is never opened during operation.

If your machine is equipped with a PLC and a motorized drain valve or pumped drain the draining sequence will differ from what is described above. To drain the machine with the PLC Motorized Drain Valve or Pumped Drain combinations the machine will need to remain on until completely drained.

NOTE: After the machine has been drained, you must disconnect / turn off all incoming power to the machine before proceeding with any maintenance.



Menu Active Alarms



Menu Active Alarms

- After the machine has drained, use the spray off hose to clean the inside of the wash cabinet. Inspect the drain and overflow drain to ensure they are draining properly. Direct all debris toward and into the filter baskets. Remove and clean the filter baskets, then leave them out for the following steps. With the filter baskets removed, finish cleaning the wash tank reservoir. Direct all remaining debris into the open drain located in the bottom of the reservoir tank. If your machine is equipped with a pumped drain you will need to remove the debris by hand - flushing the debris down the pumped drain pump may cause clogging.
- Now you need to clean the low water float switch. You will also need to clean the high-level float switch located above the table. This float will be mounted into the side of the wash reservoir tank under the filter basket location. The purpose of this float switch is to prevent the heat source and pump motor from turning on unless the wash tank is full of water. Clean the entire float switch if your machine is equipped with floats. Remove all scale and residue. Failure to do so may cause the heating source to remain on with no water in the reservoir, damaging heating components and may void warranty to related items.
- If your machine has an electric heater or heaters in the wash tank, it is now time to clean them. The heater coils will be located directly under the low water float switch. Use a wire brush or scouring pad to clean the exposed heating coils on the heater or heaters. Direct all debris into the drain.
- When the wash cabinet, filters, wash tank reservoir, low water float switch/s, and electric heater or heaters (if applicable) have been cleaned, you can put the filters back in place.
- Inspect all the spray jets and look for any that might be missing, obstructed, or worn out. If you find any missing or worn-out jets, contact Douglas Machines Corp. for a replacement. If you find any jets obstructed, try to remove the obstruction by pulling it out or by forcing it back into the jet pipe. If you need to force it back into the jet pipe, you will need to remove the jet pipe end cap to remove the obstruction from the pipe.
- Clean the outside of the machine. Use a stainless-steel cleaner or soft cloth with a mild detergent to wipe down the outside of the machine.

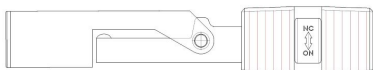
- Do not turn on the main power until you are ready to resume washing again. Never leave the machine on for longer than 4 hours between running cycles, damage to the rinse components and or tank could occur.
- Close the drain valve and check that the filters are back in place. Turn the machine back on and allow it to fill and come back to operating temperature. The machine is now ready for use.

PERIODIC MAINTENANCE

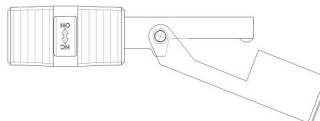
WATER LEVEL FLOAT SWITCHES

#1900 LOW WATER & AUTO FILL FLOAT SWITCHES

Normal Close Float Switch
Purpose - Auto Fill Wash Tank



Normal Open Float Switch
Purpose - Low Water Protection Wash Tank



- Wash pump motor lubrication. You will find two grease fittings on the top of the wash pump motor and one at each end. You will need to grease these under normal conditions every 90 days. Use an electric motor bearing grease like Shell Dolum or Chevron Sill.
- If you have one of the larger pan washers, such as the model SD-36, LD-36, or LD-20-PT you may need to grease the 12" (30.5 cm) steam extraction fan bearings. Note: Some of these fans are equipped with sealed bearings and do not require greasing. You will need to determine if your fan is equipped with the sealed bearings or if the bearings will need to be greased. Refer to your parts manual to identify the steam extraction fan and the grease fitting location. If greasing is required, it should be performed every three months. Use high temperature food grade grease such as Sentinel Slnth #2.
- The removal of lime and or scale may be necessary at certain times. This will vary due to the condition of your water. If you are finding lime and scale building on the interior walls of the machine, chances are they are also building up in the piping. This could impair washing ability. You will need to use a lime and scale remover. Whatever you decide to use, be sure it is safe to apply on stainless steel, bronze, and brass. If you have any questions on what to use or how to use it, do not hesitate to contact Douglas Machines Corp.
- The Solenoid Valves should be checked periodically to ensure they are in good working condition, solenoids have a life span of about 1 million cycles.

ELECTRICAL CONNECTIONS: Upon receiving your machine, all wire connections in the electric panel, pump motor and electric heaters should be checked, including the wire nuts and lugs. Check connections monthly for the first six months and every 90 days after the first six months of operation.



DOUGLAS
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IMPORTANT NUMBERS

FOR WARRANTY WORK YOU MUST CALL DOUGLAS MACHINES CORP.
AT 800-331-6870 AND WE WILL ISSUE A
PURCHASE ORDER TO THE LOCAL SERVICE AGENT.

FOR PART OR TECHNICAL SUPPORT,
PLEASE CALL DOUGLAS MACHINES CORP. AT 800-331-6870

Thank You!

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