



INSTALLATION, OPERATION, AND SERVICE MANUAL

**HT-180 HH
SERIES**



REVISION HISTORY

| Revision Letter | Revision Date | Made by | Applicable ECNs | Details |
|-----------------|---------------|---------|--|---|
| A | 7-24-15 | KAP | N/A | Release to production. |
| B | 10-8-15 | KAP | N/A | Added HH ventless booster tank assembly on pg. 40. |
| C | 11-10-15 | JH | N/A | Corrected P/N for item #40 on pg. 37. |
| D | 11-23-15 | JH | QOF-386 | Replaced Plumbing Booster Inlet diagram, pg. 50. |
| E | 1-12-16 | JH | QOF-386 N/A N/A | Changed item #12 on pg. 36 to 05700-003-07-76. Added 05700-004-23-78, 05700-004-23-79, and 05700-004-23-80 to view (pg. 35) and parts list (pg. 36). Corrected Typical Electrical Circuits for HT-180HH Ventless. |
| F | 5-11-17 | JH | N/A | Removed views that showed pressure regulator in certain locations. Added the pressure regulator as an option. Added exploded view and parts list for Motor & Pump Assembly. Changed name of delime switch throughout from NORMAL/DELIME to AUTO/MANUAL. Added instructions on rinse arm maintenance to the Maintenance section. Added dimensions for the corner table notch to the Table Dimensions page. Added a Plumbing Options page. Added the dispenser connections decal for the 460 V machine. Added instructional pictures where appropriate. Added external device wiring instructions as an Addendum. Added instructions for programming new exhaust fan timer. Updated schematics. Updated to new manual format. Audited and corrected all P/Ns in the manual. |
| G | 9-11-17 | JH | 8541 8543 | Moved door switch from the Tub Assembly page to the Hood Assembly page. Added door switch bracket assembly to the Hood Assembly page. Updated schematics. |
| H | 10-23-18 | JH | 8392 8533 8536 8558 8567 8576 8599 | Updated pg. 4. Changed steam pressure to 10-30 PSI on pg. 5. Updated electrical requirements on pgs. 6-7. Added links to exhaust fan timer instructions to pg. 9. Added Chemical Connections section to pg. 10. Added Motor Rotation section to pg. 11. Added False Panel/Corner Install section to pg. 12. Added new exhaust fan timer to pgs. 23 and 25. Changed P/N for contactor, item #4 on pg. 24. Updated pgs. 28-29 with new door and arm assembly. Replaced thermostat and components with solid state thermostat and components pgs. 30-34. Added phase conversion kit P/Ns to pg. 41. Changed rinse arm bearing assembly on pgs. 52-53. Changed rinse arm bearing kit P/N on pg. 53. Added list of applicable kits to pg. 59. Updated schematics. |



HT-180 HH

Door-type dishmachine; electrically-heated, high-temp, hot-water sanitizing, with booster heater.

HT-180 HH NB

Door-type dishmachine; electrically-heated, high-temp, hot-water sanitizing, no rinse booster.

HT-180 HH S

Door-type dishmachine; steam-heated, high-temp, hot-water sanitizing.

HT-180 HH VER

Door-type dishmachine; electrically-heated, high-temp, hot-water sanitizing, with booster heater and ventless energy recovery system.

The manufacturer provides technical support for all of the machines detailed in this manual. We strongly recommend that you refer to this manual before making a call to our technical support staff. Please have this manual open when you call so that our staff can refer you, if necessary, to the proper page. Technical support is not available on holidays.

Contact technical support toll free at 1-888-800-5672.

Technical support is available for service personnel only.

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SYMBOLS



- risk of injury to personnel.



- risk of damage to equipment.



- risk of electrical shock.



- caustic chemicals.



- reference data plate.



- lockout electrical power.

NOTICE - important note.



- instructions hyperlink.

ABBREVIATIONS & ACRONYMS

ANSI - American National Standards Institute

Btu/Hr - British Thermal Units per Hour

CFM - Cubic Feet per Minute

GHT - Garden Hose Thread

GPH - Gallons per Hour

GPM - Gallons per Minute

GPG - Grains per Gallon

HP - Horsepower

Hz - Hertz

ID - Inside Diameter

kW - Kilowatts

MCA - Minimum Circuit Ampacity

MOP - Maximum Overcurrent Protection

NFPA - National Fire Protection Association

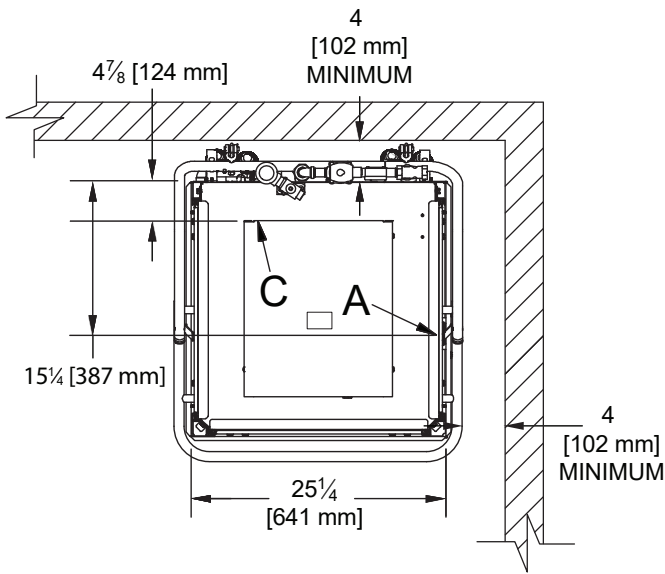
NPT - National Pipe Thread

OD - Outside Diameter

PRV - Pressure Regulating Valve

PSI - Pounds per Square Inch

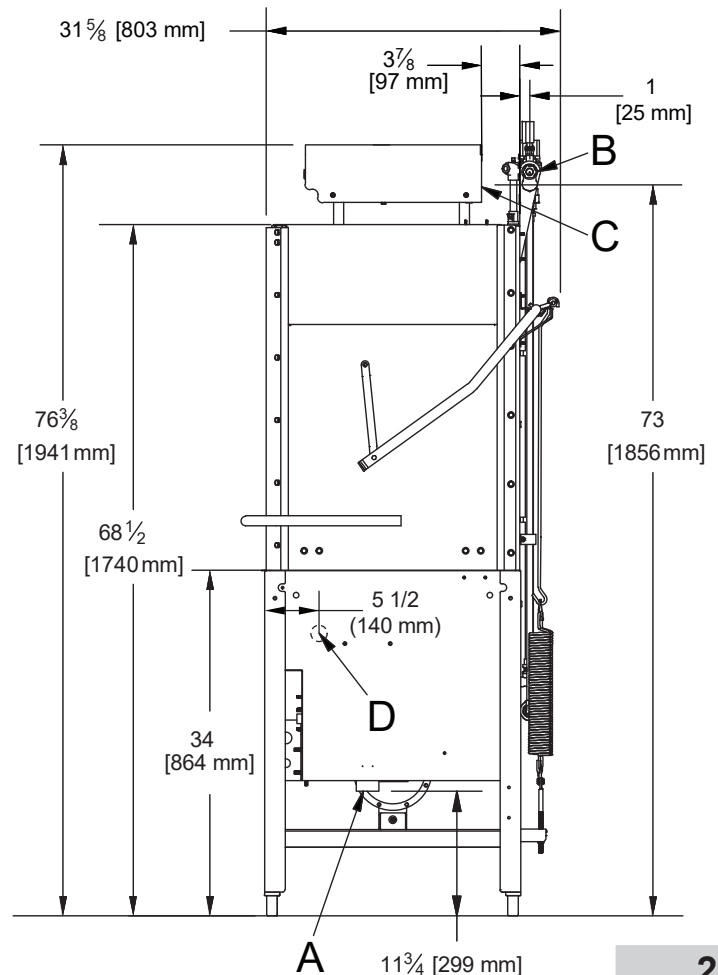
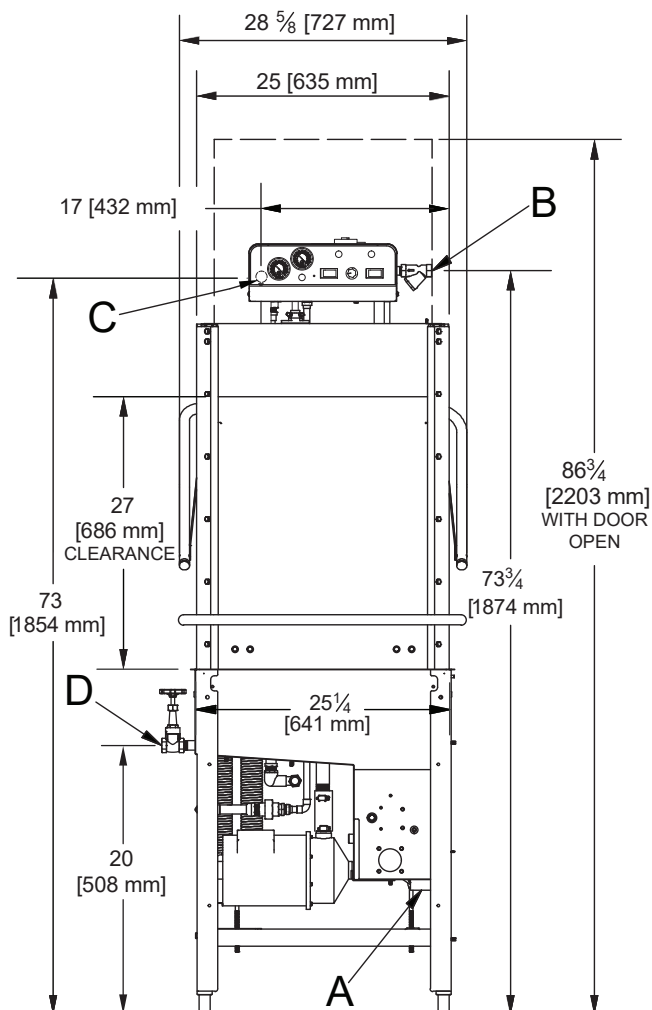
V - Volts

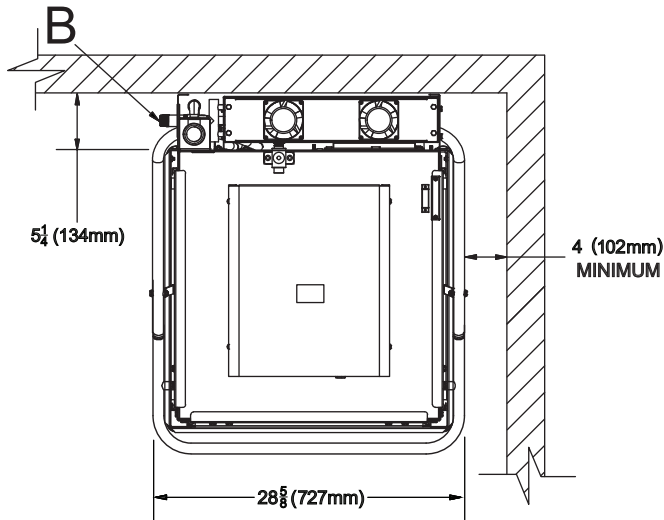


LEGEND

- A - Drain 1 1/2" NPT
- B - Water Inlet 3/4" NPT
- C - Electrical Connection
- D - Optional Steam Connection 3/4" NPT

All dimensions from the floor can be increased 2" using the machine's adjustable feet.

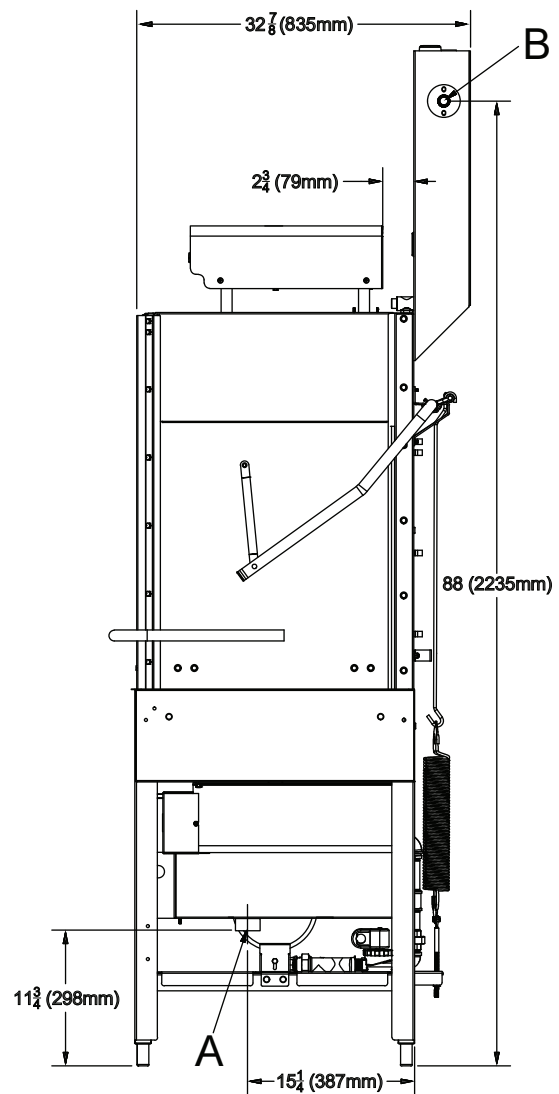
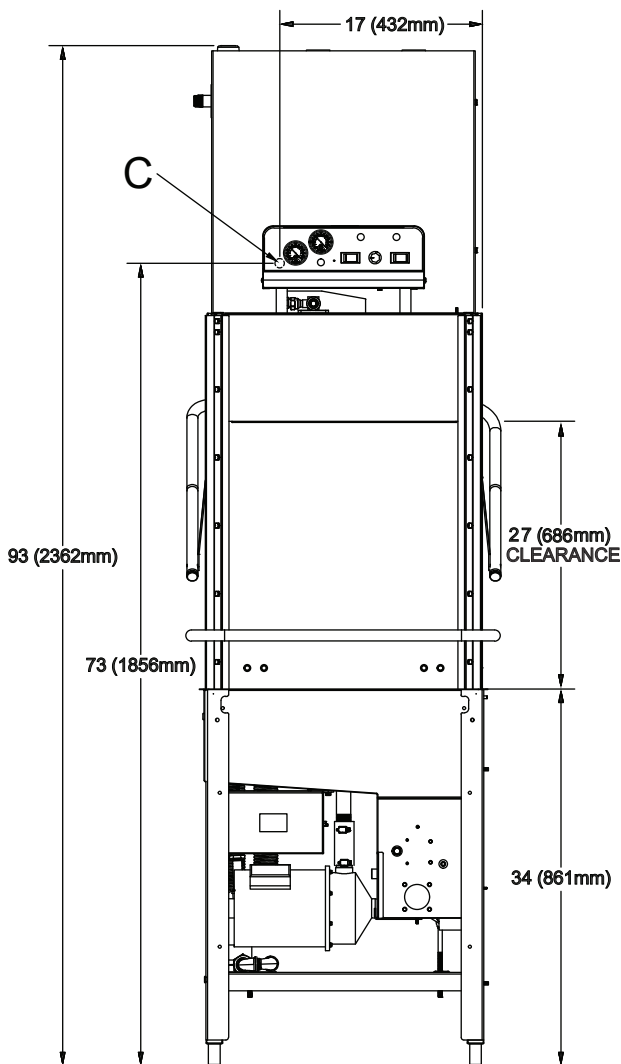




LEGEND

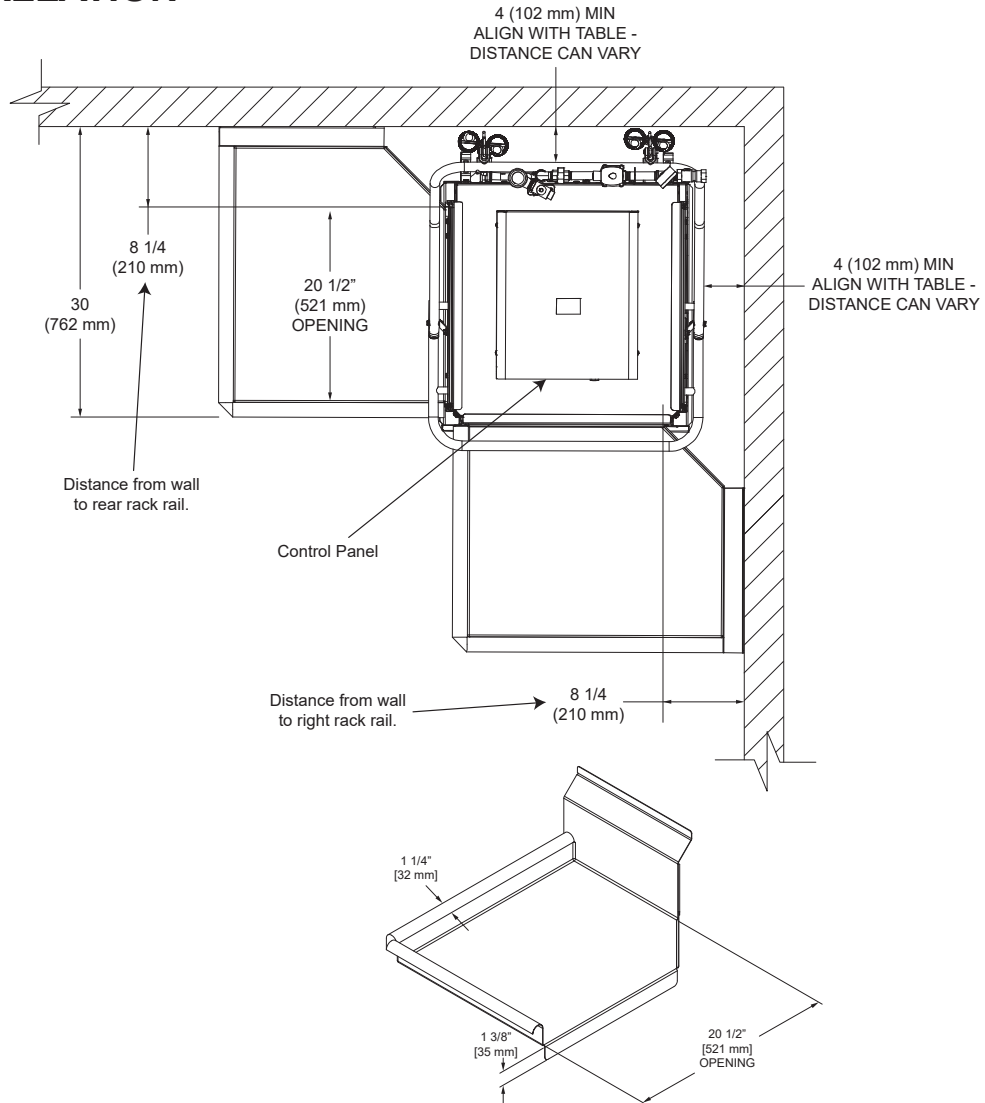
- A - Drain 1 1/2" NPT
- B - Water Inlet 3/4" NPT
- C - Electrical Connection

All dimensions from the floor can be increased 2" using the machine's adjustable feet.

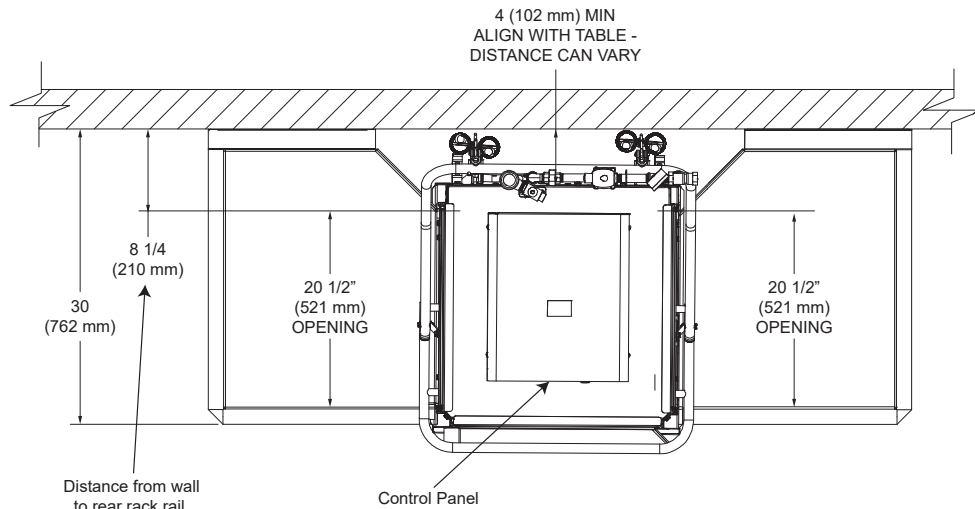


CORNER INSTALLATION

For corner install instructions:



STRAIGHT-THROUGH INSTALLATION



SPECIFICATIONS

OPERATING PARAMETERS

OPERATING CAPACITY:

Normal Cycle

| | |
|------------------|------|
| Racks per Hour | 53 |
| Dishes per Hour | 1325 |
| Glasses per Hour | 1908 |

Medium Cycle

| | |
|------------------|------|
| Racks per Hour | 28 |
| Dishes per Hour | 700 |
| Glasses per Hour | 1008 |

Heavy Cycle

| | |
|------------------|-----|
| Racks per Hour | 19 |
| Dishes per Hour | 475 |
| Glasses per Hour | 684 |

Extra-heavy Cycle

| | |
|------------------|-----|
| Racks per Hour | 11 |
| Dishes per Hour | 275 |
| Glasses per Hour | 396 |

OPERATING CYCLES (SECONDS):

| | Wash | Rinse | Dwell | Total |
|--------------------|------|-------|-------|-------|
| Normal | 45 | 15 | 2 | 62 |
| Medium | 103 | 15 | 2 | 120 |
| Heavy | 163 | 15 | 2 | 180 |
| Extra-Heavy | 283 | 15 | 2 | 300 |

HH VER

| | |
|--------------------|----|
| Wash Time | 45 |
| Rinse Time | 15 |
| Dwell Time | 2 |
| Condensate Removal | 30 |
| Total | 92 |

TANK CAPACITY:

| | |
|-----------------------------|----------|
| Rinse Tank (gallons/liters) | 3.0/11.4 |
| Wash Tank (gallons/liters) | 8.0/30.3 |

MOTOR HP:

| | |
|---------------|-----|
| Wash Motor HP | 2.0 |
|---------------|-----|

WATER REQUIREMENTS:

HT-180 HH & HH VER

| | |
|-------------------------------------|-----------------|
| Wash Temperature (minimum) (°F/°C) | 150/66 |
| Rinse Temperature (minimum) (°F/°C) | 180/83 |
| Inlet Water Temperature: | |
| HH 40° Rise (°F/°C) | 140/60 |
| HH 70° Rise (°F/°C) | 110/44 |
| HH VER (°F/°C) | 40-90/ 4.4-32.2 |
| Flow Pressure (PSI) | 20±5 |
| Water Line Size (NPT) | 3/4" |
| Drain Line Size (NPT) | 1 1/2" |

HT-180 HH NB/HT-180 HH S

| | |
|-------------------------------------|--------|
| Wash Temperature (minimum) (°F/°C) | 150/66 |
| Rinse Temperature (minimum) (°F/°C) | 180/83 |
| Inlet Water Temperature (°F/°C) | 180/83 |
| Flow Pressure (PSI) | 20±5 |
| Water Line Size (NPT) | 3/4" |
| Drain Line Size (NPT) | 1 1/2" |

STEAM REQUIREMENTS:

HH S

| | |
|-------------------------------|-------|
| Coil Size | 3/4" |
| Steam Flow Pressure (PSI) | 10-30 |
| Consumption @ 15 PSI (lbs/hr) | 45 |

NOTICE



Always refer to the machine data plate for specific electrical and water requirements.
The material provided on this page is for reference only and is subject to change without notice.

Local codes may require more stringent protection than what is displayed here. Always verify with your electrical service contractor that your circuit protection is adequate and meets all applicable national and local codes. Numbers in this manual are for reference and may change without notice.

NOTICE

On three-phase machines, imbalanced wild leg goes to L3.
Also see the Motor Rotation section.



HT-180 HH 70° Rise (14 kW)

| Volts | Phase | Freq | Wash Motor | Wash Heater | Rinse Heater | Total Load | MCA | MOP |
|-------|-------|-------|------------|-------------|--------------|------------|--------|---------|
| 208 | 1 | 60 Hz | 11.2 A | 19.7 A | 50.6 A | 81.5 A | 84.3 A | 95.0 A |
| 230 | 1 | 60 Hz | 11.2 A | 21.8 A | 55.9 A | 88.9 A | 91.7 A | 100.0 A |
| 208 | 3 | 60 Hz | 11.2 A | 11.4 A | 29.2 A | 51.8 A | 54.6 A | 65.0 A |
| 230 | 3 | 60 Hz | 11.2 A | 12.6 A | 32.3 A | 56.1 A | 58.9 A | 70.0 A |
| 460 | 3 | 60 Hz | 3.0 A | 6.3 A | 16.1 A | 25.4 A | 26.2 A | 30.0 A |

HT-180 HH 40° Rise (12 kW)

| Volts | Phase | Freq | Wash Motor | Wash Heater | Rinse Heater | Total Load | MCA | MOP |
|-------|-------|-------|------------|-------------|--------------|------------|--------|--------|
| 208 | 1 | 60 Hz | 11.2 A | 19.7 A | 43.3 A | 74.2 A | 77.0 A | 85.0 A |
| 230 | 1 | 60 Hz | 11.2 A | 21.8 A | 47.9 A | 80.9 A | 83.7 A | 90.0 A |
| 208 | 3 | 60 Hz | 11.2 A | 11.4 A | 25.0 A | 47.6 A | 50.4 A | 60.0 A |
| 230 | 3 | 60 Hz | 11.2 A | 12.6 A | 27.7 A | 51.5 A | 54.3 A | 65.0 A |
| 460 | 3 | 60 Hz | 3.0 A | 6.3 A | 13.8 A | 23.1 A | 23.9 A | 25.0 A |

Local codes may require more stringent protection than what is displayed here. Always verify with your electrical service contractor that your circuit protection is adequate and meets all applicable national and local codes. Numbers in this manual are for reference and may change without notice.

NOTICE

On three-phase machines, imbalanced wild leg goes to L3.
Also see the Motor Rotation section.



HT-180 HH NB

| Volts | Phase | Freq | Wash Motor | Wash Heater | Rinse Heater | Total Load | MCA | MOP |
|-------|-------|-------|------------|-------------|--------------|------------|--------|--------|
| 208 | 1 | 60 Hz | 11.2 A | 19.7 A | N/A | 30.9 A | 33.7 A | 40.0 A |
| 230 | 1 | 60 Hz | 11.2 A | 21.8 A | N/A | 33.0 A | 35.8 A | 45.0 A |
| 208 | 3 | 60 Hz | 11.2 A | 11.4 A | N/A | 22.6 A | 25.4 A | 35.0 A |
| 230 | 3 | 60 Hz | 11.2 A | 12.6 A | N/A | 23.8 A | 26.6 A | 35.0 A |
| 460 | 3 | 60 Hz | 3.0 A | 6.3 A | N/A | 9.3 A | 10.1 A | 15.0 A |

HT-180 HH S

| Volts | Phase | Freq | Wash Motor | Wash Heater | Rinse Heater | Total Load | MCA | MOP |
|-------|-------|-------|------------|-------------|--------------|------------|--------|--------|
| 208 | 1 | 60 Hz | 11.2 A | N/A | N/A | 11.2 A | 14.0 A | 25.0 A |
| 230 | 1 | 60 Hz | 11.2 A | N/A | N/A | 11.2 A | 14.0 A | 25.0 A |
| 208 | 3 | 60 Hz | 11.2 A | N/A | N/A | 11.2 A | 14.0 A | 25.0 A |
| 230 | 3 | 60 Hz | 11.2 A | N/A | N/A | 11.2 A | 14.0 A | 25.0 A |

HT-180 HH VER

| Volts | Phase | Freq | Wash Motor | Wash Heater | Rinse Heater 1 | Rinse Heater 2 | Total Load | MCA | MOP |
|-------|-------|-------|------------|-------------|----------------|----------------|------------|--------|---------|
| 208 | 1 | 60 Hz | 11.2 A | 19.7 A | 19.7 A | 36.1 A | 86.7 A | 89.5 A | 100.0 A |
| 230 | 1 | 60 Hz | 11.2 A | 21.8 A | 21.8 A | 39.9 A | 94.7 A | 97.5 A | 105.0 A |
| 208 | 3 | 60 Hz | 11.2 A | 11.4 A | 11.4 A | 20.9 A | 54.9 A | 57.7 A | 65.0 A |
| 230 | 3 | 60 Hz | 11.2 A | 12.6 A | 12.6 A | 23.1 A | 59.5 A | 62.3 A | 70.0 A |
| 460 | 3 | 60 Hz | 3.0 A | 6.3 A | 6.3 A | 11.5 A | 27.1 A | 27.9 A | 30.0 A |

INSPECTION

Do not throw away packaging if damage is evident!

Before installing the unit, check the packaging and machine for damage. If the packaging is damaged, the machine might also be damaged. If there is damage to both packaging and machine, do not throw away the packaging. The machine has been inspected and packed at the factory and is expected to arrive to you in new, undamaged condition. However, rough handling by carriers or others might result in damage to the unit while in transit. If so, do not return the unit to the manufacturer. Instead, contact the carrier and ask them to send a representative to the site to inspect the damage and complete an inspection report. You must contact the carrier and the dealer that sold you the unit within 48 hours of receiving the machine.

UNPACKING

While unpacking the machine, ensure that there are no missing parts. If an item is missing, contact the manufacturer immediately.

HH VER ASSEMBLY



While unpacking an HH VER unit, note that the VER system is packaged separately. Click [here](#) or on the instructions icon for a guide on mounting the VER system to the machine.

LEVELING

The machine must be level in its operating location to prevent damage to the machine during operation and to ensure the best results. The unit comes with four adjustable bullet feet, which can be turned using a pair of channel locks (or by hand if the unit can be raised safely). Ensure that the unit is level from side-to-side and front-to-back before making any connections.

PLUMBING

The plumber MUST flush the incoming water line!

Plumbing connections must comply with all applicable local, state, and national plumbing codes. The plumber is responsible for ensuring that the incoming water line is thoroughly flushed before connecting it to any component of the machine. It is very important to remove all foreign debris from the water line that might potentially get trapped in the valves or cause an obstruction. Any valves that are fouled as a result of foreign matter left in the water line—and any expenses resulting from this fouling—are not the responsibility of the manufacturer.

A water hardness test MUST be performed.

A water hardness test must be performed to determine if a water treatment system needs to be installed.

WATER SUPPLY CONNECTION: WATER HARDNESS GREATER THAN 3 GPG

If water hardness tests at greater than 3 GPG, install the Scaltrol Water Treatment system (see the Plumbing Options page) into the water line before the machine's incoming water connection point. A water shut-off valve should be installed to allow access for service.

**WATER SUPPLY CONNECTION:
WATER HARDNESS OF 3 GPG OR LESS**

If water hardness tests at less than 3 GPG, install the water supply line directly to the machine's incoming water connection point. A water shut-off valve should be installed to allow access for service.

STEAM LINE CONNECTION



The steam machines come with lines to connect the source steam. Connect all steam lines to the machine as all applicable codes provide. See machine data plate for information concerning steam flow pressure. Click [here](#) or on the instructions icon for the Steam Booster manual.

PRESSURE REGULATOR

The manufacturer recommends the installation of a water pressure regulator in the incoming water line to ensure proper flowrate at all times and offers these devices as options (see the Plumbing Options page). The PRV comes standard on the HH VER.

Do not confuse static pressure with flow pressure. Static pressure is the line pressure in a “no flow” condition (all valves and services are closed). Flow pressure is the pressure in the fill line when the fill valve is opened during the cycle.

SHOCK ABSORBER

The manufacturer also recommends the installation of a shock absorber in the incoming water line and offers these devices as options. This prevents line hammer/hydraulic shock—induced by the solenoid valve as it operates—from causing damage to the equipment (see the Plumbing Options page).

CONNECTING THE DRAIN LINE

The machine's drain is a gravity-discharge drain. All piping from the 1 1/2” NPT connection on the wash tank must be pitched (1/4” per foot) to the floor or sink drain. All piping from the machine to the drain must be a minimum 1 1/2” NPT and must not be reduced. There must also be an air-gap between the machine drain line and the floor sink or drain. If a grease trap is required by code, it should have a flow capacity of 5 GPM.

EXHAUST FAN TIMER

Determine which exhaust fan timer is on the machine (located in the control box) and click the instructions icon beside that timer to access programming instructions.



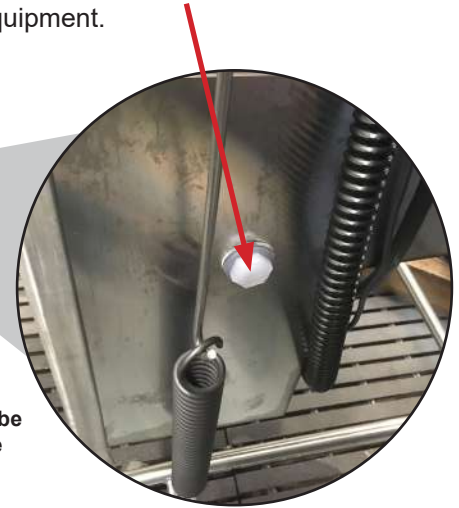
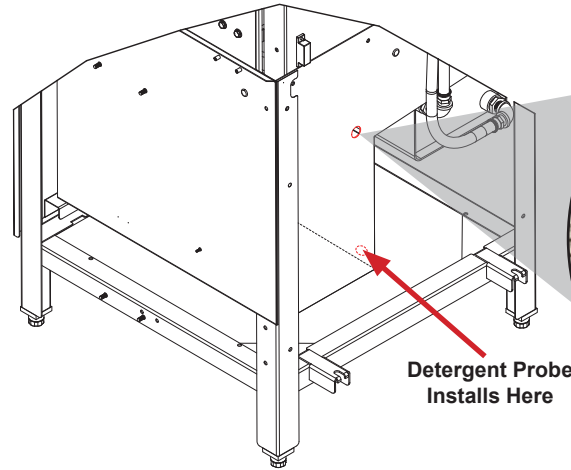
CHEMICAL CONNECTIONS

Detergent

Connect detergent by removing the bulkhead fitting on the back of the machine and replacing it with the appropriate dispensing equipment.

Chemical connections should be made by the chemical supplier.

Using deionized water or other aggressive fluids will result in corrosion and failure of components and will void the warranty.

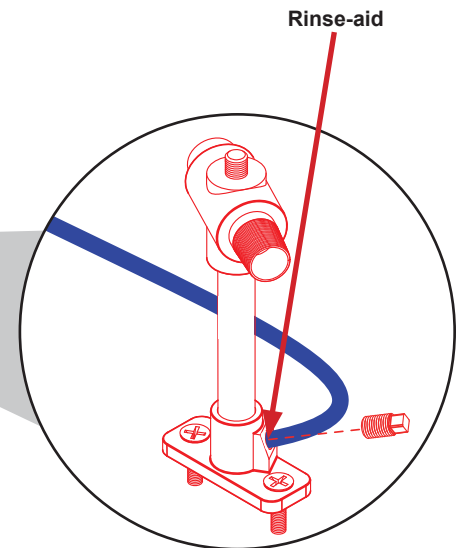
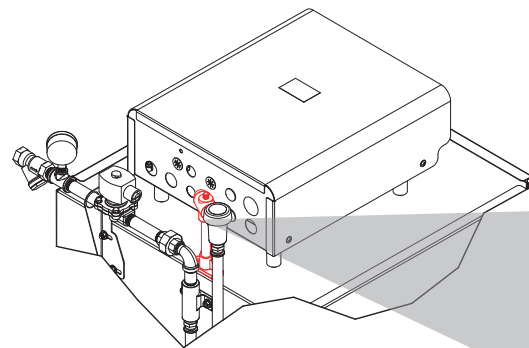


Rinse-aid

Connect rinse-aid by removing one of the brass plugs at the base of the rinse injector and replacing it with the appropriate dispensing equipment. See the "Plumbing - HH VER" page for a depiction of the VER rinse injector.



WARNING! *Some of the chemicals used in dishwashing may cause chemical burns if they come in contact with skin. Wear protective gear when handling these chemicals. If any skin comes in contact with these chemicals, immediately follow the instructions provided with the chemicals for treatment.*



Dispenser Electrical Connections

The electrical connections for chemical dispensers are made on a fuse block inside the control box. Click [here](#) for a depiction of the fuse block and connection locations.



PLUMBING CHECK

Slowly turn on the water supply to the machine after the incoming fill line and drain line have been installed. Check for any leaks and repair as required. All leaks must be repaired before operating the machine.

ELECTRICAL POWER CONNECTIONS

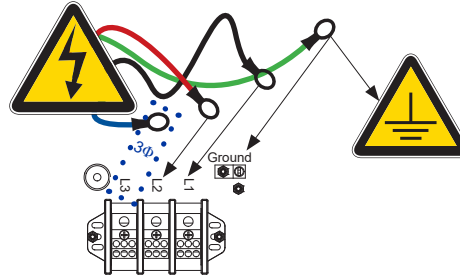
Electrical and grounding conductors must comply with the applicable portions of the National Electric Code ANSI/NFPA 70 (latest edition) and/or other electrical codes.



Disconnect electrical power supplies and lockout/tagout in accordance with appropriate procedures and codes at the disconnect switch.

The data plate is located on the right side of the machine. Refer to the data plate for machine operating requirements, machine voltage, total amperage, and serial number.

1. Open the control box by using a phillips screwdriver to remove the four screws on the front cover of the control box.
2. Install 3/4" conduit into the pre-punched holes in the back of the control box.
3. Route power wires and connect to power block and grounding lug.
4. Install the service wires (L3 for 3-Phase only) to the appropriate terminals as they are marked on the terminal block.



NOTICE
Imbalanced wild leg goes to L3.

5. Install the grounding wire into the lug provided.
6. Tighten the connections.

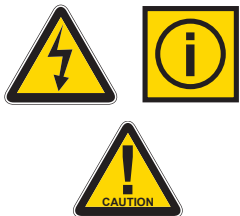
NOTICE "DE-OX" or similar anti-oxidation agent should be used on all power connections.

CAUTION! Improperly connecting external devices can cause damage to the machine and/or electrical infrastructure! Click [here](#) for a wiring guide.



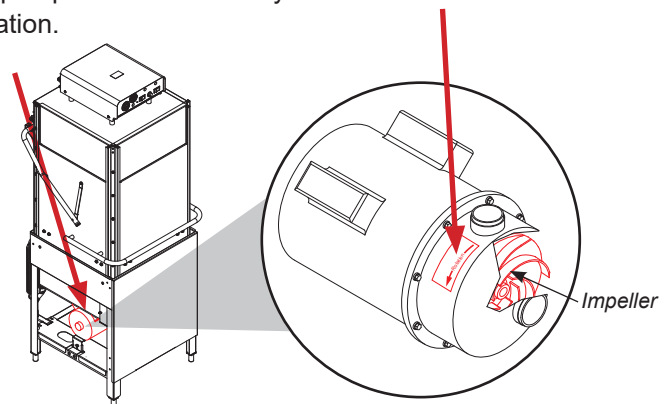
MOTOR ROTATION

On 3-Phase machines only, correct pump motor rotation must be verified before the machine is operated. Failure to do so can result in damage to the machine and components.



CAUTION! On 3-Phase machines only, correct pump motor rotation must be verified before operation!

1. Follow the "Filling the Wash Tub" section.
2. Locate the wash pump motor and identify the arrow decal which shows the correct motor rotation.



3. Flip the mode switch to "MANUAL" and start the machine.
4. Observe the rotation of impeller and quickly stop the machine.
5. If rotation is incorrect, disconnect electrical power and reverse the L1 and L2 connections at terminal block shown in the section above.

VOLTAGE CHECK

Ensure that the power switch is in the "OFF" position and apply power to machine. Check the incoming power at the terminal block and ensure it corresponds with the voltage listed on the data plate. If not, contact a qualified service agency to examine the problem. Do not run machine if voltage is too high or too low. Shut off the service breaker and advise all proper personnel of the location of the breaker and any problems. Replace the control box cover and tighten-down the screws.

SURROUNDING AREA

This is a commercial machine and reaches temperatures that can exceed those generated by a residential machine. Surrounding countertops, cabinets, flooring material, and subflooring material must be designed and/or selected with these higher temperatures in mind.

NOTICE Any damage to surrounding area caused by heat/moisture to materials that are not recommended for higher temperatures will not be covered under warranty or by the manufacturer.

TEMPERATURE SETPOINTS

The temperature setpoints on this unit have been set at the factory. They should only be adjusted by an authorized service agent.

**FALSE PANEL/
CORNER INSTALL**

The manufacturer offers an optional False Panel Kit for corner installations. See the Kits page for kit part number. Click [here](#) for false panel/corner install instructions.

FACILITY HOT WATER HEATER

The manufacturer does NOT endorse "Tankless On-demand" water heaters for use with their dishmachines. The manufacturer DOES endorse, and highly recommends, the standard "Tank" style water heaters, sized to properly handle the water heating requirements of the facility.

PREPARATION Before operating the unit, verify the following:

1. The tank is clean and free of debris.
2. The wash arms, rinse arms, sump strainer, and scrap screen are all installed correctly.
3. The standpipe is installed.



Wash & Rinse Arms, Scrap Screen



Sump Strainer



Standpipe

POWER UP To energize the unit, turn on the power at the service breaker. The voltage should have been previously verified as being correct. If not, the voltage will have to be verified.

FILLING THE WASH TUB Ensure that the mode switch is in the "AUTO" position, and place the power switch into the "ON" position. The machine will fill automatically and shut-off when the appropriate level is reached (just below the scrap screen). The wash tub must be completely filled before operating the wash pump to prevent damage to components. Once the wash tub is filled, the unit is ready for operation.

WARE PREPARATION Proper ware preparation will help ensure good results and fewer re-washes. If not prepared properly, ware might not come out clean and the efficiency of the machine will be reduced. Putting unscrapped dishes into the machine affects its performance, so scraps should always be removed from ware before being loaded into a rack. Pre-rinsing and pre-soaking are good ideas, especially for silverware and casserole dishes.

Place cups and glasses upside-down in racks so they don't hold water during the cycle. The machine sanitizes as well as cleans. To do this, ware must be properly prepared before being placed in the machine.

DAILY MACHINE PREPARATION Refer to the "Preparation" section and follow the instructions there. Afterward, ensure that chemicals are supplied to the machine. If not, contact your chemical supplier.

WARM-UP CYCLES For the first operation of each day, it might be necessary to run the machine through three cycles to ensure that all of the cold water is out of the system and to verify that the unit is operating correctly. To cycle the machine, ensure that the power is on and that the tub has filled to the correct level. Lift and close the door and the cycle light will illuminate. The unit will start, run through the cycle, and shut-off automatically. Repeat this two more times. The unit should now be ready to wash a rack of ware.

WASHING A RACK OF WARE To wash a rack, open the door completely (avoiding hot water that might drip from the door) and slide the rack into the unit.

Close the door and the unit will start automatically. Once the cycle is complete, open the door (again watching for the dripping hot water) and remove the rack of clean ware. Replace with a rack of soiled ware and close the door. Repeat this process.

OPERATIONAL INSPECTION Based on use, the scrap screen might become clogged with soil and debris as the workday progresses. Operators should regularly inspect the scrap screen to ensure it has not become clogged. If clogged, it will reduce the washing capability of the machine. Instruct operators to clean-out the scrap screen at regular intervals or as required by workload. Do NOT beat strainers to remove debris.

SHUTDOWN & CLEANING 1. Turn machine off by flipping the power switch to “OFF.”



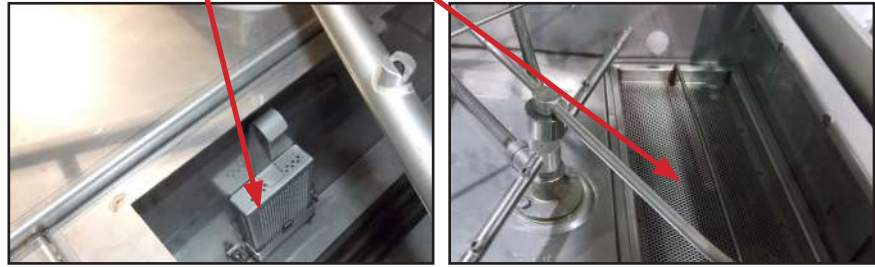
2. Open the door and allow steam/heat to escape.
3. Remove the standpipe and allow the tub to drain.



WARNING! Wash tank water will be hot!

**SHUTDOWN &
CLEANING**

4. Remove the sump strainer and scrap screen.



5. Use a hand-scraper to scrape foodsoil into a trash basket.



6. Rinse with pre-rinse hose and replace.



7. Remove all wash and rinse arms.



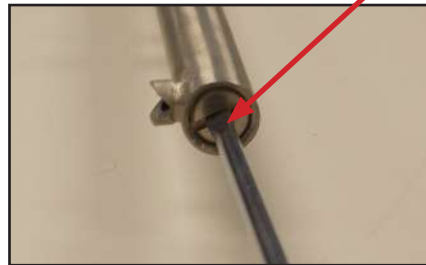
8. Remove the end-caps from the arms.



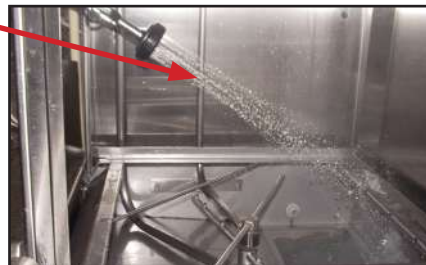
9. Clean nozzles with a brush.

SHUTDOWN & CLEANING

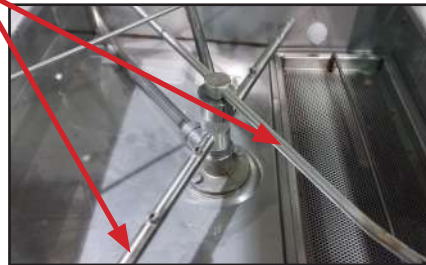
10. Use a small wire or toothpick to remove remaining debris or lime deposits from the nozzles.
11. Flush the arms with water.
12. Replace end-caps and ensure they have been tightened.



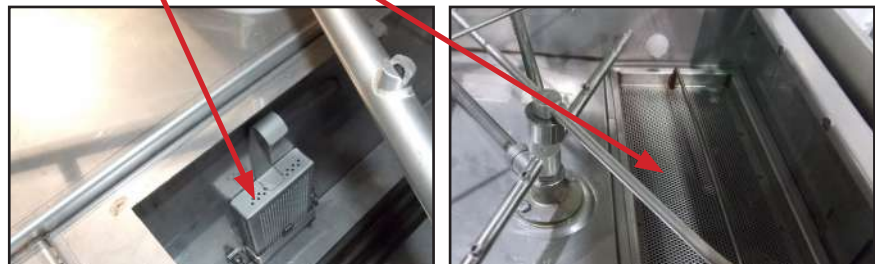
13. Spray or wipe out interior of the machine.



14. Replace wash and rinse arms.



15. Ensure sump strainer and scrap screen are clean and securely in place.



16. Use stainless steel polish to clean and protect outside of machine.

VER COIL CLEANING

The coil on the VER machine must be inspected periodically. If the coil is greasy, dirty, or there is scale build-up, click [here](#) for cleaning instructions.



DETERGENT CONTROL

Detergent usage and water hardness are two factors that contribute greatly to how efficiently this machine will operate. Using detergent in the proper amount can become a source of substantial savings. A qualified water treatment specialist can determine what is needed for maximum efficiency from the detergent.

See "Water Supply Connection" section for more information on water treatment.

1. Hard water greatly affects the performance of the machine, causing the amount of detergent required for washing to increase. If the machine is installed in an area with hard water, the manufacturer recommends the installation of water treatment equipment.
2. Deposited solids from hard water can cause spotting that will not be removed with a drying agent. Treated water will reduce this occurrence.
3. Treated water might not be suitable for use in other areas of operation and it might be necessary to install a water treatment unit for the water going to the machine only. Discuss this option with a qualified water treatment specialist.
4. Machine operators should be properly trained on how much detergent is to be used per cycle. Meet with a water treatment specialist and detergent vendor to discuss a complete training program for operators.
5. These machines require that chemicals be provided for proper operation and sanitization and require the installation of third-party chemical feeders to introduce these chemicals to the machine. Contact a chemical supplier with any questions.
6. Water temperature is an important factor in ensuring that the machine functions properly. The machine's data plate details what the minimum temperatures must be for the incoming water supply, the wash tank, and the rinse tank. If minimum requirements are not met, there is a possibility that dishes will not be clean or sanitized.
7. Instruct machine operators to observe the required temperatures and to report when they fall below the minimum allowed. A loss of temperature can indicate a larger problem.



DELIMING To delime the machine, follow the steps below. The tank capacities of the machine can be found on the Operating Parameters section of this manual.

1. Remove rinse arms and place in sink with deliming solution.
2. Disconnect or turn off chemical feeder pumps.
3. Add deliming solution per chemical supplier's instructions.
4. Close the door and turn the machine on in "MANUAL" mode.
5. Run the machine for the length of time recommended by the chemical supplier.
6. Flip the mode switch to "AUTO" to shut the unit off.
7. Open the door and step away for five minutes.
8. Inspect the inside of the machine. If the machine is not delimed, run again.
9. When clean, drain and re-fill the machine.
10. Run two cycles in "AUTO" to remove residual deliming solution.
11. Drain and re-fill the machine.
12. Flush rinse arms with water and replace.



CAUTION! *This equipment is not recommended for use with deionized water or other aggressive fluids. Using deionized water or other aggressive fluids will result in corrosion and failure of components and will void the warranty.*

PREVENTATIVE MAINTENANCE



The manufacturer highly recommends that any maintenance and repairs not specifically discussed in this manual be performed only by qualified service personnel.

WARNING! *Unqualified personnel performing maintenance on the machine may void the warranty, lead to larger problems, or cause harm to the operator.*



Following the operating and cleaning instructions in this manual will result in the most efficient results from the machine. As a reminder, here are some steps to take to ensure the machine is being used the way it was designed to work:

CAUTION!
Do NOT beat strainers to remove debris!

1. Ensure the water temperatures match those listed on the machine data plate. A loss of temperature can indicate a larger problem.
2. Ensure all strainers are clean and securely in place before operating the machine. When cleaning out strainers, do NOT beat them on waste cans. Wipe out strainers with a rag and rinse with water if necessary. Use a toothpick to dislodge any stubborn debris.
3. Ensure all wash and rinse arms are secure in the machine before operating.
4. Ensure the standpipe is in position before operating.
5. Remove as much soil from dishes by hand as possible before loading into racks.
6. Do not overfill racks.
7. Ensure glasses are placed upside-down in the rack.
8. Ensure all chemicals being injected into the machine are at the correct concentrations.
9. Clean the machine at the end of every day/shift per the Shutdown and Cleaning section of this manual.
10. Follow all safety procedures, whether listed in this manual or put forth by local, state, or national codes/regulations.



WARNING! Inspection, testing, and repair of electrical equipment should only be performed by a qualified service technician. Many of the tests require that the unit have power to it and live electrical components be exposed. USE EXTREME CAUTION WHEN TESTING THE MACHINE.

| PROBLEM | POSSIBLE CAUSE | REMEDY |
|--|--|--|
| Machine will not fill after the door is closed. Power "ON" light is illuminated. | <ol style="list-style-type: none"> 1. Faulty rinse solenoid valve. 2. Faulty door switch. 3. Fouled/faulty high-level probe. | <ol style="list-style-type: none"> 1. Repair or replace valve as required. 2. Verify the wiring of the switch; if correct, replace the switch. 3. Clean probe if fouled. If clean and still not working, replace. |
| Machine will not fill after the door is closed. Power "ON" light is NOT illuminated. | <ol style="list-style-type: none"> 1. Service breaker tripped. 2. Machine not connected to power source. 3. Faulty power source. | <ol style="list-style-type: none"> 1. Reset. If the breaker trips again, contact an electrician to verify the amp draw of the machine. 2. Verify the machine has been properly connected to the power source. 3. Verify the wiring of the switch; if correct, replace switch. |
| Machine will not run after the door is closed. Power "ON" light is illuminated and the machine is filling. | <ol style="list-style-type: none"> 1. Timer is faulty. 2. Wash motor faulty/damaged. 3. Wash motor contactor faulty. | <ol style="list-style-type: none"> 1. Verify the timer is receiving power. If so, replace the timer assembly. 2. Verify the wash motor is getting power. If so, replace the motor. 3. Check for continuity; if contacts are open, replace the contactor. |
| Machine runs continuously in the wash cycle. | <ol style="list-style-type: none"> 1. Machine is in Delime mode. 2. Timer motor is faulty. 3. Cam timer jammed by obstruction. | <ol style="list-style-type: none"> 1. Flip mode switch to "AUTO." 2. Verify the timer is rotating. If not, verify the motor is receiving power. If so, replace the motor and/or timer assembly. 3. Remove obstruction. |
| Wash or rinse heater does not work. | <ol style="list-style-type: none"> 1. Faulty heater element. 2. Faulty heater contactor. 3. Misadjusted/faulty thermostat(s). | <ol style="list-style-type: none"> 1. Check element for continuity; if open, replace the heater. 2. Replace the contactor. 3. Verify operation and setting of thermostats, replace if necessary. |
| Machine fills slowly and/or the rinse is weak. | <ol style="list-style-type: none"> 1. Clogged or obstructed rinse arms. 2. Low incoming water pressure. 3. Y-strainer is clogged. | <ol style="list-style-type: none"> 1. Remove and clean the rinse arms. 2. Adjust the water pressure regulator to ensure there is 10 ± 2 PSI flow. 3. Clean out the Y-strainer. |
| Rinse water not reaching required temperature. | <ol style="list-style-type: none"> 1. Faulty rinse heater. 2. Mis-adjusted/faulty thermostat(s). 3. Rinse thermometer is defective. | <ol style="list-style-type: none"> 1. Check element for continuity; if open, replace heater. 2. Verify operation and setting of thermostats, replace if necessary. 3. Replace thermometer. |



WARNING! Inspection, testing, and repair of electrical equipment should only be performed by a qualified service technician. Many of the tests require that the unit have power to it and live electrical components be exposed. USE EXTREME CAUTION WHEN TESTING THE MACHINE.

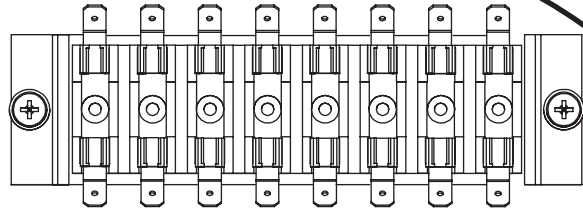
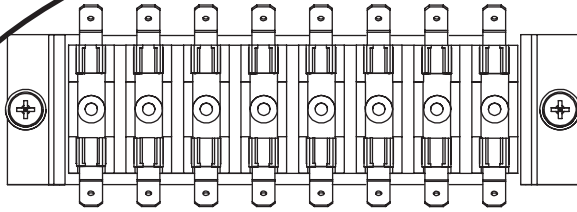
| PROBLEM | POSSIBLE CAUSE | REMEDY |
|--|--|--|
| Machine doesn't drain when power switch is flipped to "OFF." | <ol style="list-style-type: none"> 1. Drain clogged. 2. Standpipe not removed before draining. | <ol style="list-style-type: none"> 1. Remove obstruction. 2. Remove standpipe and run drain cycle again. |
| Incorrect water pressure displayed during Fill or Rinse modes. | <ol style="list-style-type: none"> 1. Water turned off. | <ol style="list-style-type: none"> 1. Turn water on. |
| Wash water is not reaching required temperature. | <ol style="list-style-type: none"> 1. Faulty wash heater. 2. Misadjusted/faulty thermostat(s). 3. Wash thermometer is defective. | <ol style="list-style-type: none"> 1. Check element for continuity; if open, replace the heater. 2. Verify operation and setting of thermostats, replace if necessary. 3. Replace thermometer. |
| Door will not close completely. | <ol style="list-style-type: none"> 1. Improper spring tension. 2. Obstruction in door channel. 3. Door panels are not square with frame. | <ol style="list-style-type: none"> 1. Adjust spring tension as required by loosening (not removing) spring bolt nuts and adjusting the tension. Tighten nuts back when done. 2. Remove the obstruction. 3. Adjust the frame to accommodate the door panels. |
| Water leaks at the wash pump. | <ol style="list-style-type: none"> 1. Wash pump seal defective. 2. Petcock or pump drain (if equipped) not shut/tight. 3. Loose hoses (hose clamps) on the wash pump. | <ol style="list-style-type: none"> 1. Replace the seal. 2. Close or tighten. 3. Tighten the hose clamps. |
| Will not rinse during autcycle. | <ol style="list-style-type: none"> 1. Defective rinse solenoid. 2. Faulty timer. 3. No water to the machine. | <ol style="list-style-type: none"> 1. Repair or replace the rinse solenoid as required. 2. Replace timer. 3. Verify there is water at 10 ± 2 PSI connected to the machine. |
| Dishes are not coming clean. | <ol style="list-style-type: none"> 1. Machine temperatures are not up to the minimum requirements. 2. No detergent/too much detergent. | <ol style="list-style-type: none"> 1. Verify incoming water, rinse water, and wash water match the required temperatures as listed on the machine data plate. 2. Adjust detergent concentration as required for the amount of water held by the machine. |

Fuses

208/230 V

or

460 V



WARNING: DISCONNECT POWER TO MACHINE BEFORE SERVICING

| EXHAUST FAN CONTROL | CONSTANT VOLTAGE CONNECTION | RINSE-AID DISPENSER CONNECTION | DETERGENT DISPENSER CONNECTION |
|------------------------------------|--------------------------------------|--------------------------------|---------------------------------|
| MAXIMUM LOAD 1 AMP, 240/230 VAC | LIVE WHEN MACHINE POWER SWITCH IS ON | LIVE WHEN RINSE VALVE IS OPEN | LIVE WHEN WASH PUMP MOTOR IS ON |
| INPUT L1 (EXTERNAL) | FUSE: 3 AMP SLOW-ACTING L1 OUT | FUSE: 3 AMP SLOW-ACTING L1 OUT | FUSE: 3 AMP SLOW-ACTING L1 OUT |
| OUTPUT TO EXT. RELAY | L2 OUT | L2 OUT | L2 OUT |

WARNING: DISCONNECT POWER TO MACHINE BEFORE SERVICING

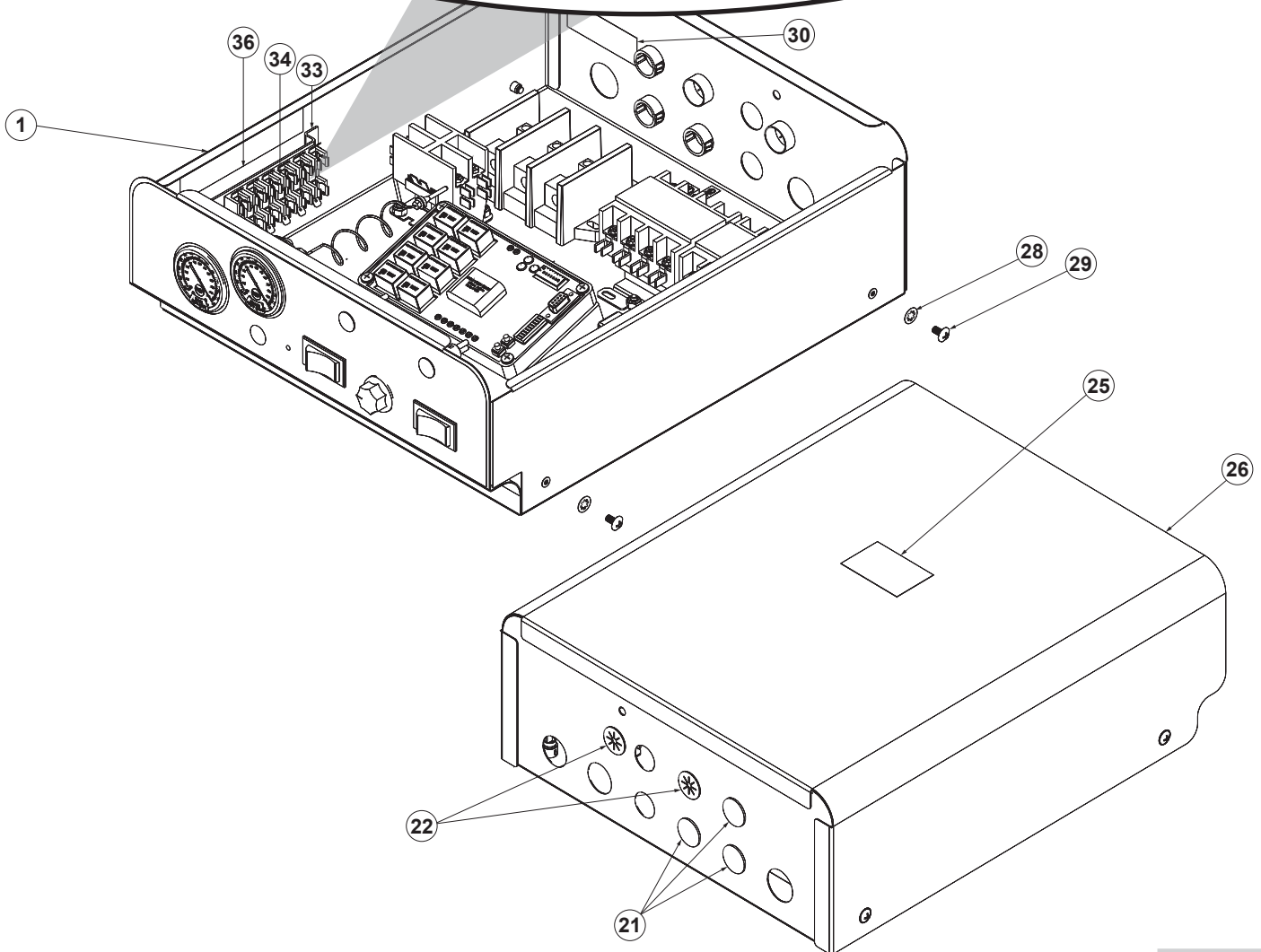
| EXHAUST FAN CONTROL | CONSTANT VOLTAGE CONNECTION | RINSE-AID DISPENSER CONNECTION | DETERGENT DISPENSER CONNECTION |
|------------------------------------|--------------------------------------|---------------------------------|---------------------------------|
| MAXIMUM LOAD 1 AMP, 240/230 VAC | LIVE WHEN MACHINE POWER SWITCH IS ON | LIVE WHEN RINSE VALVE IS OPEN | LIVE WHEN WASH PUMP MOTOR IS ON |
| INPUT L1 (EXTERNAL) | FUSE: 200 mA SLOW-ACTING L1 OUT | FUSE: 200 mA SLOW-ACTING L1 OUT | FUSE: 200 mA SLOW-ACTING L1 OUT |
| OUTPUT TO EXT. RELAY | 240 VAC OUT | 240 VAC OUT | 240 VAC OUT |

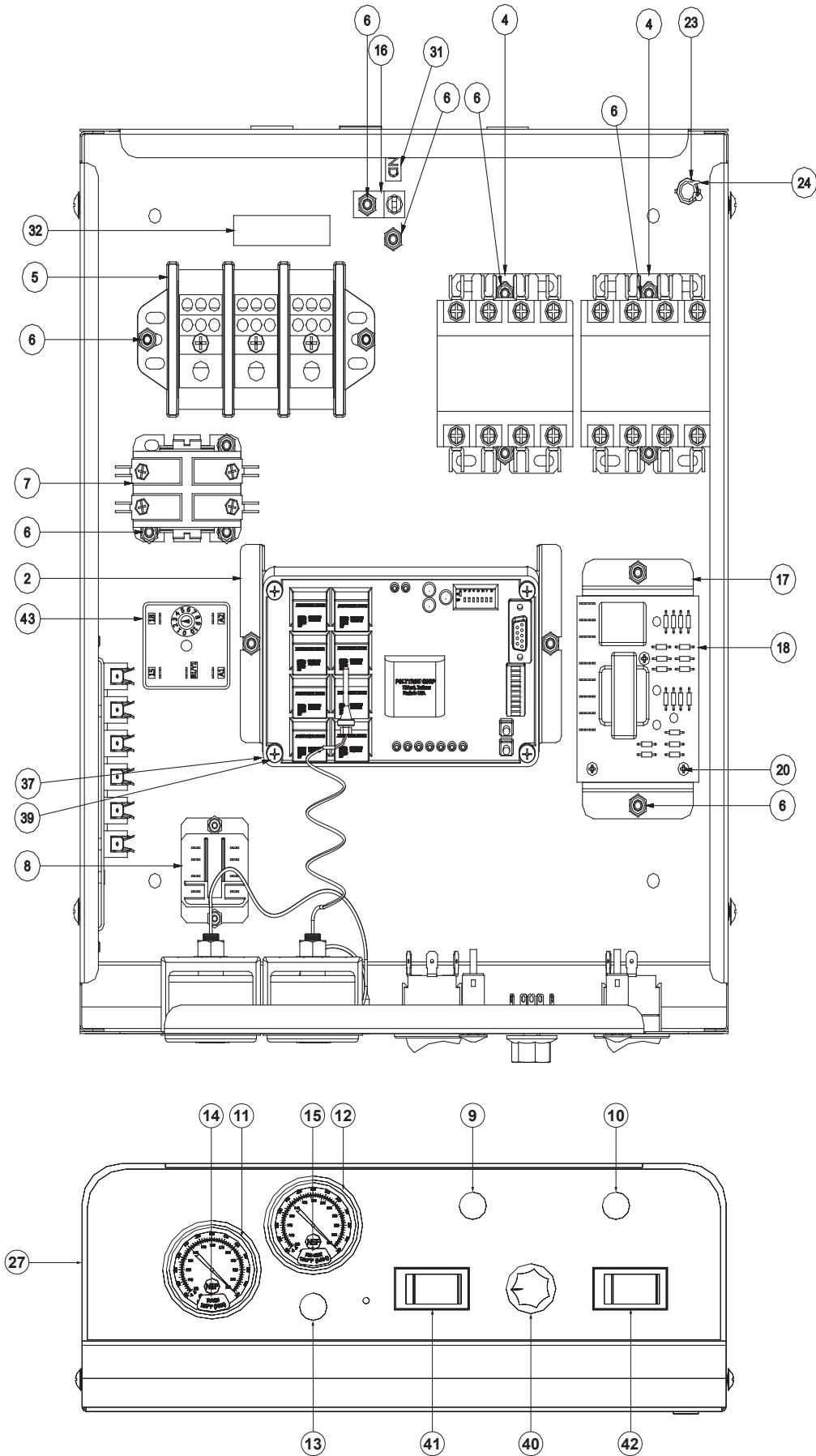
Fuse, 1 A, Fast-acting
05999-004-47-87
Littelfuse P/N - 0312001.HXP
Qty - 2 (2 per output)

Fuse, 3 A, Slow-acting
05999-004-44-34
Littelfuse P/N - 0313003.HXP
Qty - 6 (2 per output)

Fuse, 1 A, Fast-acting
05999-004-47-87
Littelfuse P/N - 0312001.HXP
Qty - 2 (2 per output)

Fuse, 200 mA, Slow-acting
05999-004-44-33
Littelfuse P/N - 0313.200HXP
Qty - 6 (2 per output)

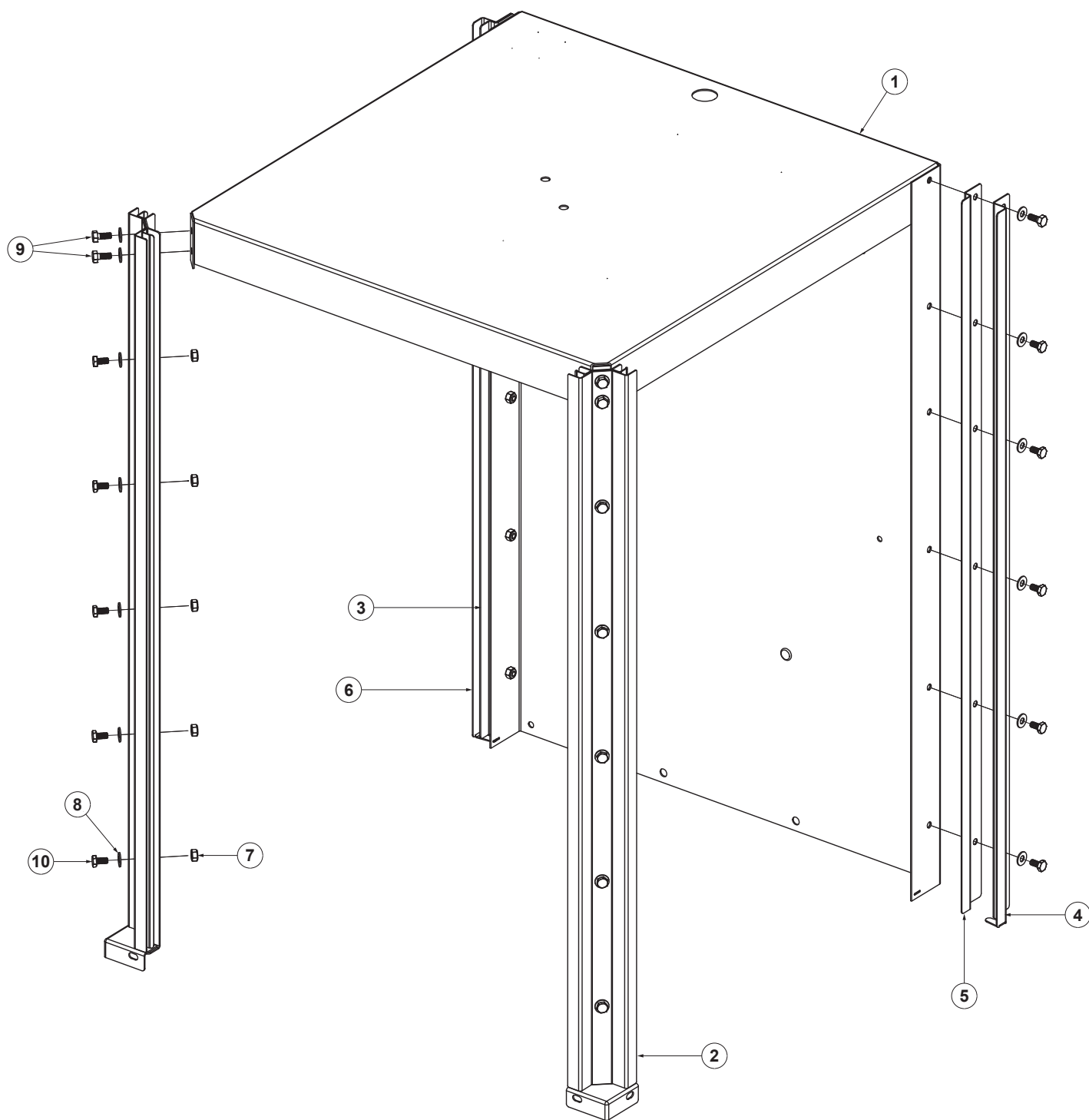




| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|-------------------------------------|-----------------|
| 1 | 1 | Control Box Weldment | 05700-003-30-14 |
| 2 | 1 | Timer Bracket | 05700-003-02-08 |
| 3 | 2 | Locknut, 6-32 (Not Shown) | 05310-373-03-00 |
| 4* | 2 | Contactor, 4-Pole | 05945-004-43-74 |
| 5 | 1 | Terminal Block | 05940-011-48-27 |
| 6 | 17 | Locknut, 10-24 | 05310-373-01-00 |
| 7 | 1 | Contactor, Wash Motor | 05945-002-74-20 |
| 8 | 1 | Relay | 05945-111-47-74 |
| | 1 | Relay (460 V, 3-Phase, 5-Wire Only) | 05945-111-89-75 |
| 9 | 1 | Light, Green | 05945-111-44-43 |
| 10 | 1 | Light, Red | 05945-111-44-45 |
| 11 | 1 | Temperature Gauge, Wash 96" Lead | 06685-004-31-46 |
| 12 | 1 | Temperature Gauge, Rinse 48" Lead | 06685-004-31-47 |
| 13 | 1 | Light, Yellow | 05945-111-44-44 |
| 14 | 1 | Decal, Wash 150 °F Min | 09905-002-97-61 |
| 15 | 1 | Decal, Rinse 180 °F Min | 09905-002-97-62 |
| 16 | 1 | Ground Lug | 05940-200-76-00 |
| 17 | 1 | Bracket, Liquid Level Control Board | 05700-002-13-22 |
| 18 | 1 | Liquid Level Control Board | 06680-200-08-21 |
| 19 | 6 | Tricnut, 6-32 | 05340-118-04-00 |
| 20 | 3 | Screw, 6-32 x 5/8" | 05305-011-39-85 |
| 21 | 3 | Plug, 1/2" | 05975-011-47-81 |
| 22 | 2 | Grommet, 7/8" Split | 05975-200-40-00 |
| 23 | 1 | Bushing Snap | 05975-210-05-00 |
| 24 | 1 | Clamp, Hose .25 - .312 | 05975-002-61-43 |
| 25 | 1 | Decal, Warning-Disconnect Power | 09905-004-08-16 |
| 26 | 1 | Cover, Top-mount Control Box | 05700-002-23-03 |
| 27 | 1 | Decal, Control Box | 09905-003-97-67 |
| 28 | 4 | Lockwasher, Int. Tooth #10 | 05311-273-03-00 |
| 29 | 4 | Screw, 10-32 x 3/8" | 05305-173-12-00 |
| 30 | 1 | Decal, Copper Conductors | 09905-011-47-35 |
| 31 | 1 | Decal, Ground | 09905-011-86-86 |
| 32 | 1 | Decal, L1, L2, L3 | 09905-101-12-66 |
| 33 | 1 | Bracket, Fuse Strip | 05700-002-42-03 |

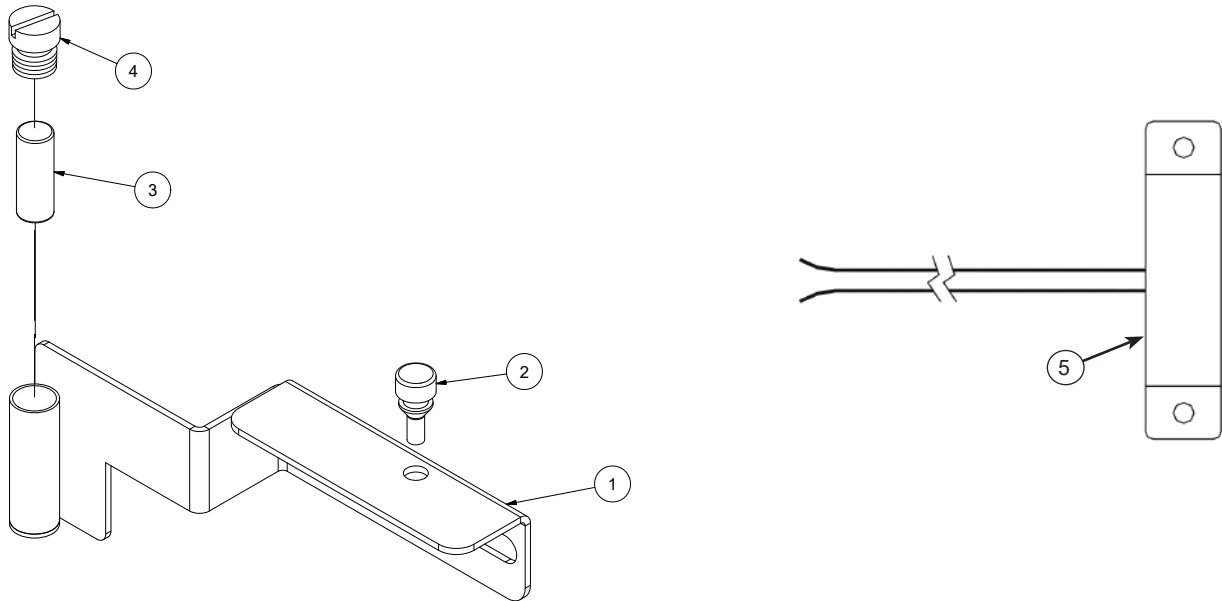
| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|---|-----------------|
| 34 | 1 | Fuse Holder, 6-Pole (Not Shown) | 05920-002-42-13 |
| 35 | 2 | Screw, 6-32 x 3/8" with Tooth Washer (Not Shown) | 05305-002-25-91 |
| 36 | 1 | Decal, Dispenser Connection | 09905-003-34-09 |
| | 1 | Decal, Dispenser Connection (460 V Unit Only) | 09905-004-43-81 |
| 37 | 1 | Timer, Universal | 05945-003-75-23 |
| 38 | 4 | Locknut, 10-32 (Not Shown) | 05310-373-02-00 |
| 39 | 4 | Screw 10-32 x 1" (Not Shown) | 05305-002-19-42 |
| 40 | 1 | Switch, Rotary Selector | 05930-003-97-61 |
| 41 | 1 | Switch, Operation | 05930-301-53-00 |
| 42 | 1 | Switch, Power | 05930-011-49-55 |
| 43 | 1 | Exhaust Fan Timer, One-Shot | 05945-004-34-92 |
| 43a | 1 | Din Rail, One-Shot Timer (Not Shown) | 05935-004-47-77 |
| 43b | 1 | Screw, Phillips Pan Washer (Not Shown) | 05305-004-47-78 |
| 44* | 1 | Overload, TK-ONY (460 V Unit Only) (Not Shown) | 05945-002-65-02 |
| 45* | 1 | Motor Contactor, SC-03Y (460 V Unit Only) (Not Shown) | 05945-002-65-00 |
| 46* | 1 | Din Rail, 2 3/4" (460 V Unit Only) (Not Shown) | 05700-001-84-65 |

*For a 460 V Unit, replace item 4 with items 44, 45 & 46.

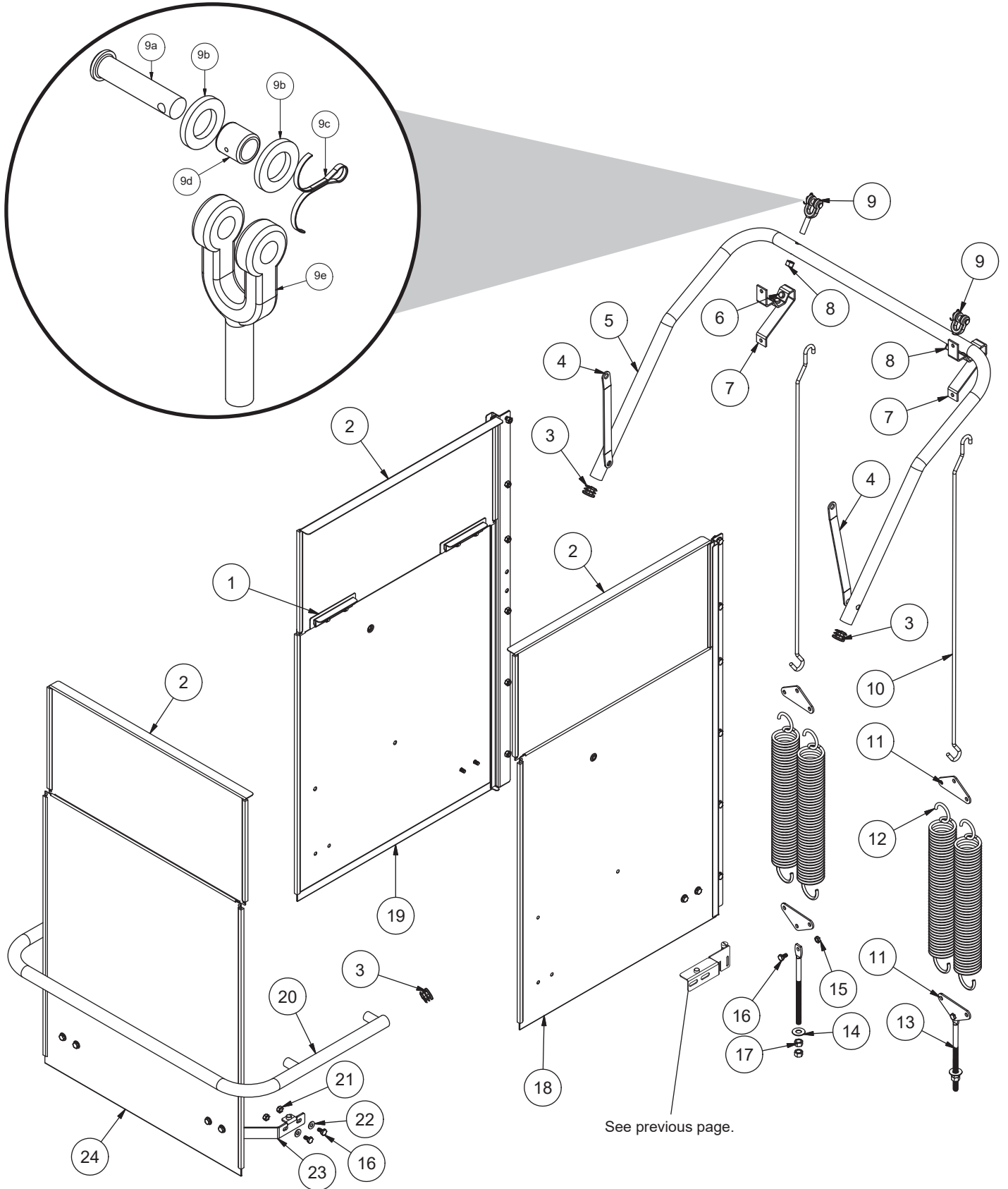


| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|---------------------------------------|-----------------|
| 1 | 1 | Hood | 05700-004-49-92 |
| 2 | 2 | Hood Support Assembly | 05700-004-13-45 |
| 3 | 1 | Left Back Inner Door Guide | 05700-031-76-34 |
| 4 | 1 | Right Back Outer Door Guide | 05700-031-76-80 |
| 5 | 1 | Right Back Inner Door Guide | 05700-031-76-35 |
| 6 | 1 | Left Back Outer Door Guide | 05700-031-76-33 |
| 7 | 34 | Locknut, 1/4-20 Hex with Nylon Insert | 05310-374-01-00 |
| 8 | 26 | Washer, 1/4-20 | 05311-174-01-00 |
| 9 | 6 | Screw, 1/4-20 x 5/8" Hex | 05305-274-24-00 |
| 10 | 20 | Bolt, 1/4-20 x 1/2" | 05305-274-02-00 |

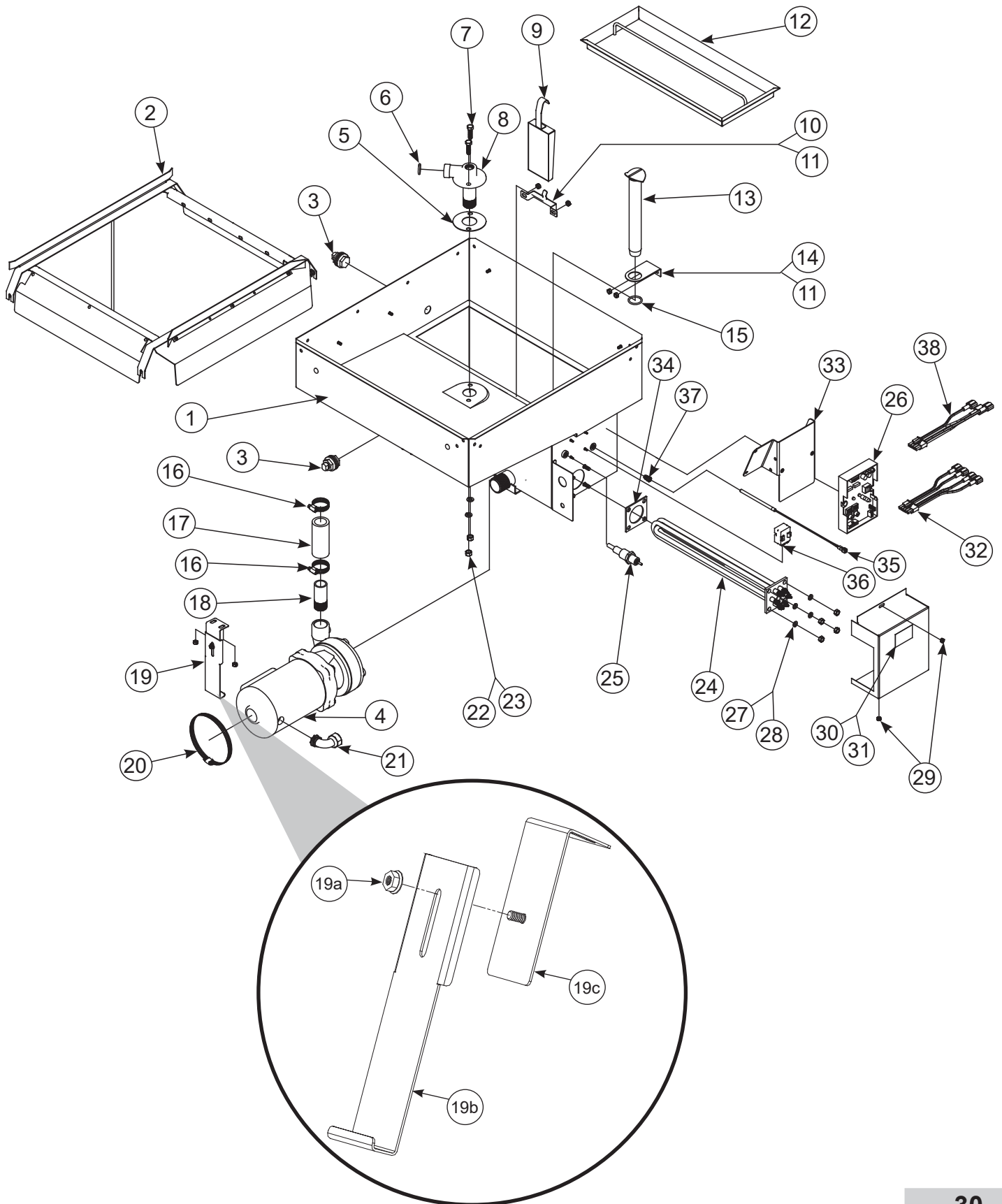
DOOR SWITCH AND BRACKET



| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|---|------------------------------------|
| 1 | 1 | Complete Assembly, Bracket, Magnet Mounting Bracket, Magnet Mounting | 05700-004-48-16 05700-004-47-83 |
| 2 | 1 | Bumper, Door | 05700-004-14-25 |
| 3 | 1 | Magnet, N50 | 05930-003-31-63 |
| 4 | 1 | End-cap | 05700-011-60-92 |
| 5 | 1 | Magnetic Door Switch | 05930-003-05-84 |

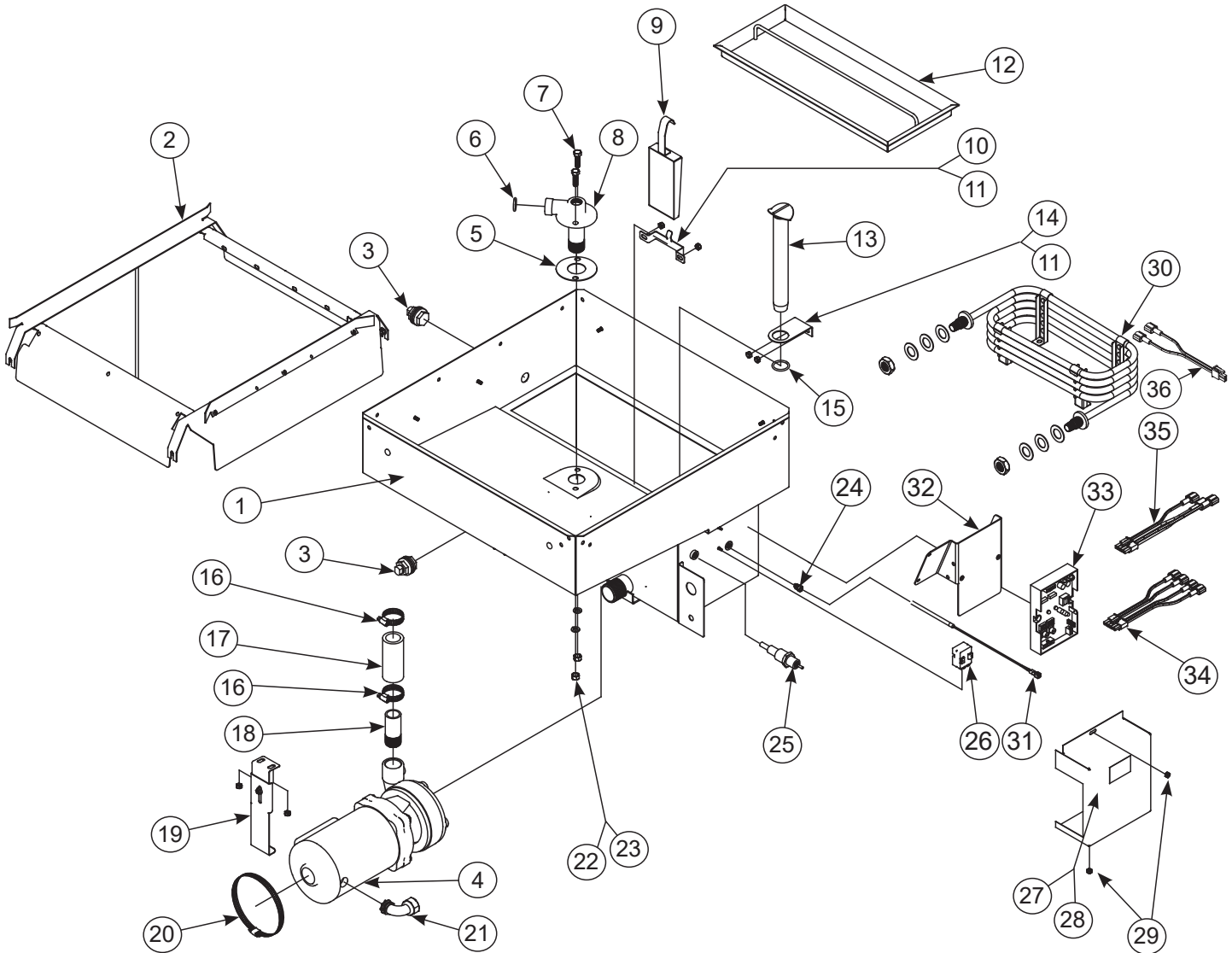


| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|--|------------------------------------|
| 1 | 6 | Door Stop Kit | 06401-003-08-69 |
| 2 | 3 | Upper Door, Complete Assembly | 05700-002-01-30 |
| 3 | 4 | Plug, Cantilever | 05340-011-35-00 |
| 4 | 2 | Connecting Link | 05700-021-92-45 |
| 5 | 1 | Cantilever Arm, Complete Assembly (items 3, 5, 8, 9) Cantilever Arm, Arm Only | 05700-004-51-87 05700-004-51-40 |
| 6 | 6 | Wear Button | 05700-011-88-01 |
| 7 | 2 | Bracket, Cantilever Arm Support | 05700-031-88-00 |
| 8 | 2 | Nut, 3/8-16 Hex Locking | 05310-256-04-00 |
| 9 | 2 | Yoke, Complete Assembly | 05700-000-75-77 |
| 9a | 1 | Clevis Pin, 5/16" x 1 3/8" | 05315-700-01-00 |
| 9b | 2 | Nylon Washer | 05311-369-03-00 |
| 9c | 1 | Cotter Pin | 05315-207-01-00 |
| 9d | 1 | Bushing | 03120-100-03-00 |
| 9e | 1 | Yoke | 05700-000-75-78 |
| 10 | 2 | Rod, Spring Connecting | 05700-002-00-91 |
| 11 | 4 | Plate, Spring Multiplier | 05700-002-00-88 |
| 12 | 4 | Spring, Cantilever Door | 05340-111-35-22 |
| 13 | 2 | Bolt, Cantilever Hanger Eye 3/8-16 | 05306-956-05-00 |
| 14 | 2 | Washer, Impeller | 05311-176-02-00 |
| 15 | 4 | Locknut, 1/4-20 Low-profile with Nylon Insert | 05310-374-02-00 |
| 16 | 4 | Bolt, 1/4-20 x 1/2" Hex | 05305-274-02-00 |
| 17 | 4 | Nut, 3/8-16 Hex | 05310-276-01-00 |
| 18 | 1 | Right Door, Complete Assembly | 05700-004-51-86 |
| 19 | 1 | Left Door, Complete Assembly | 05700-004-51-85 |
| 20 | 1 | Handle, Front Door | 05700-004-51-39 |
| 21 | 4 | Locknut, 1/4-20 with Nylon Insert | 05310-374-01-00 |
| 22 | 4 | Washer, 1/4-20 | 05311-174-01-00 |
| 23 | 2 | Bracket, Door Connecting | 05700-004-14-23 |
| 24 | 1 | Front Door, Complete Assembly | 05700-004-14-21 |



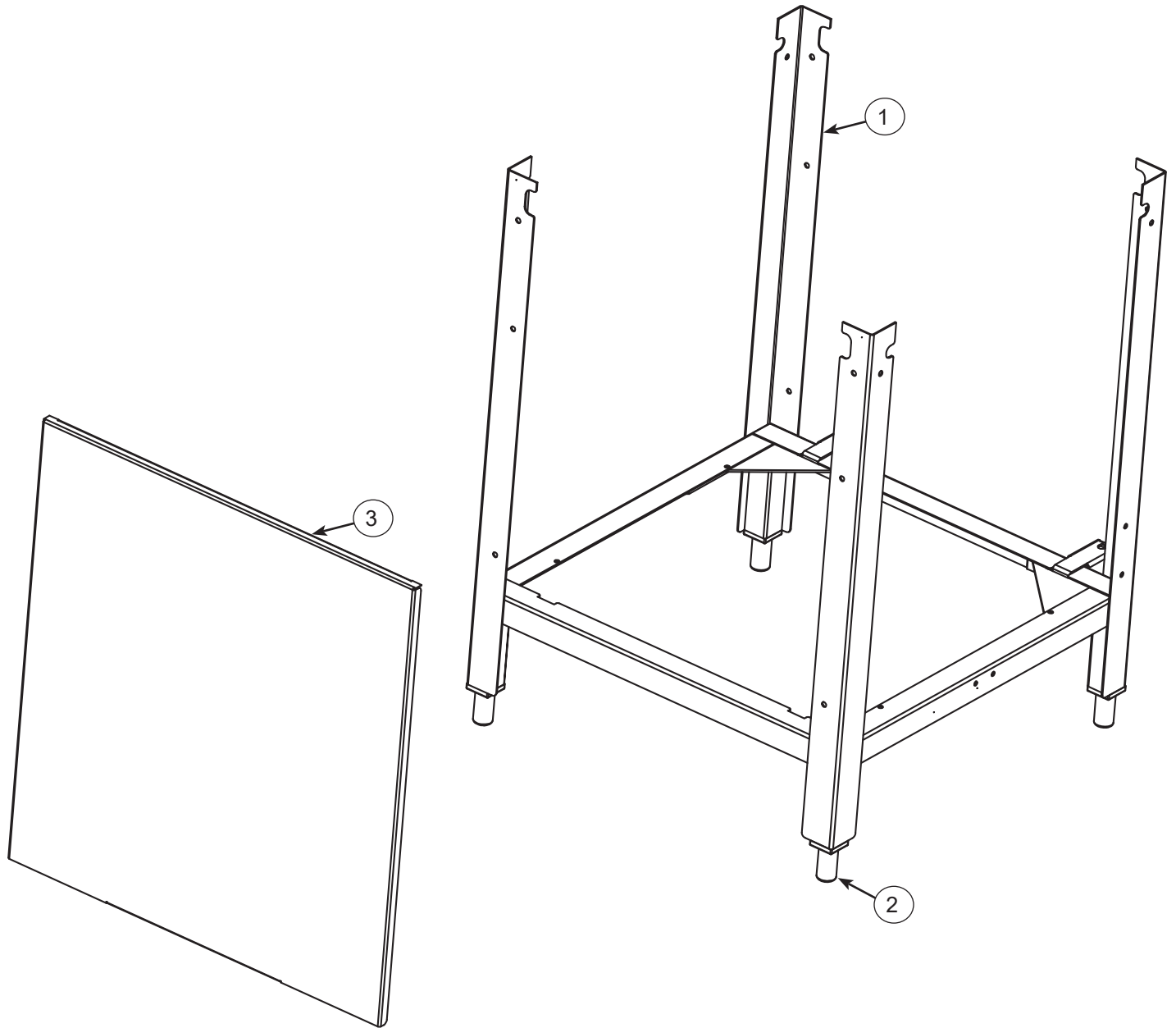
| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|-------------------------------------|---------------------|
| 1 | 1 | Tub | 05700-004-53-36 |
| 2 | 1 | Track Assembly | 05700-002-01-00 |
| 3 | 2 | Bulk Head Plug | 04730-609-05-00 |
| 4 | 1 | Wash Motor | See "Motors" page. |
| 5 | 1 | Gasket | 05700-111-35-03 |
| 6 | 1 | O-ring | 05330-111-35-15 |
| 7 | 4 | Bolt, Hex 3/8-16 x 1 1/4" Long | 05305-276-10-00 |
| 8 | 1 | Lower Wash Manifold Weldment | 05700-031-46-00 |
| 9 | 1 | Sump Strainer | 05700-001-22-23 |
| 10 | 1 | Bracket, Sump Strainer | 05700-001-22-24 |
| 11 | 8 | Locknut, 1/4-20 with Nylon Insert | 05310-374-02-00 |
| 12 | 1 | Scrap Screen | 05700-003-07-76 |
| 13 | 1 | Standpipe | 05700-001-25-69 |
| 13a | 1 | Support, Ball Stop Lift (Not Shown) | 05700-002-91-55 |
| 13b | 1 | Ball Stop Lift (Not Shown) | 05700-002-91-54 |
| 14 | 1 | Overflow Support Bracket | 05700-001-27-55 |
| 14a | 1 | Shim, Overflow Support (Not Shown) | 05700-002-96-48 |
| 15 | 1 | O-ring | 05330-400-05-00 |
| 16 | 2 | Clamp, Hose 1 5/16" to 2 1/4" | 04730-719-01-37 |
| 17 | 1 | Discharge Hose | 05700-011-88-24 |
| 18 | 1 | Nipple | 05700-021-34-84 |
| 19 | 1 | Pump Support Bracket Assembly | 05700-002-00-46 |
| 19a | 1 | Nut, 1/4-20 Hex Nut | 05310-011-66-49 |
| 19b | 1 | Pump Support Adjustable Bracket | 05700-002-20-41 |
| 19c | 1 | Bracket, Pump Support | 05700-002-68-31 |
| 20 | 1 | Clamp, Hose 5 5/8" to 6" | 04730-011-34-90 |
| 21 | 1 | Connector, 1/2" | 05975-111-01-00 |
| 22 | 4 | Nut, 3/8-16 Hex | 05310-276-01-00 |
| 23 | 4 | Lockwasher 3/8" | 05311-276-01-00 |
| 24 | 1 | Heater | See "Heaters" page. |
| 25 | 5 | Probe, High Water | 06680-200-02-68 |
| 26 | 1 | Thermostat, Elan Electric Dual | 06685-004-17-27 |

| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|----------------------------------|-----------------|
| 27 | 4 | Lockwasher, 5/16", Split | 05311-275-01-00 |
| 28 | 4 | Nut, Hex, 5/16-18 | 05310-275-01-00 |
| 29 | 4 | Locknut, 10-24 with Nylon Insert | 05310-373-01-00 |
| 30 | 1 | Cover, Wash Heater | 05700-031-47-57 |
| 31 | 1 | Decal, Warning-Disconnect Power | 09905-004-08-16 |
| 32 | 1 | Harness, 5-Connector | 05700-004-23-78 |
| 33 | 1 | Thermostat Mounting Bracket | 05700-004-22-17 |
| 34 | 1 | Wash Heater Gasket | 05330-011-47-79 |
| 35 | 1 | Probe, Thermistor 4" | 06685-004-17-26 |
| 36 | 1 | Thermostat, High Limit | 05930-004-33-12 |
| 37 | 1 | Fitting, 1/4" Imperial Brass | 05310-924-02-05 |
| 38 | 1 | Harness, 4-Connector | 05700-004-23-79 |

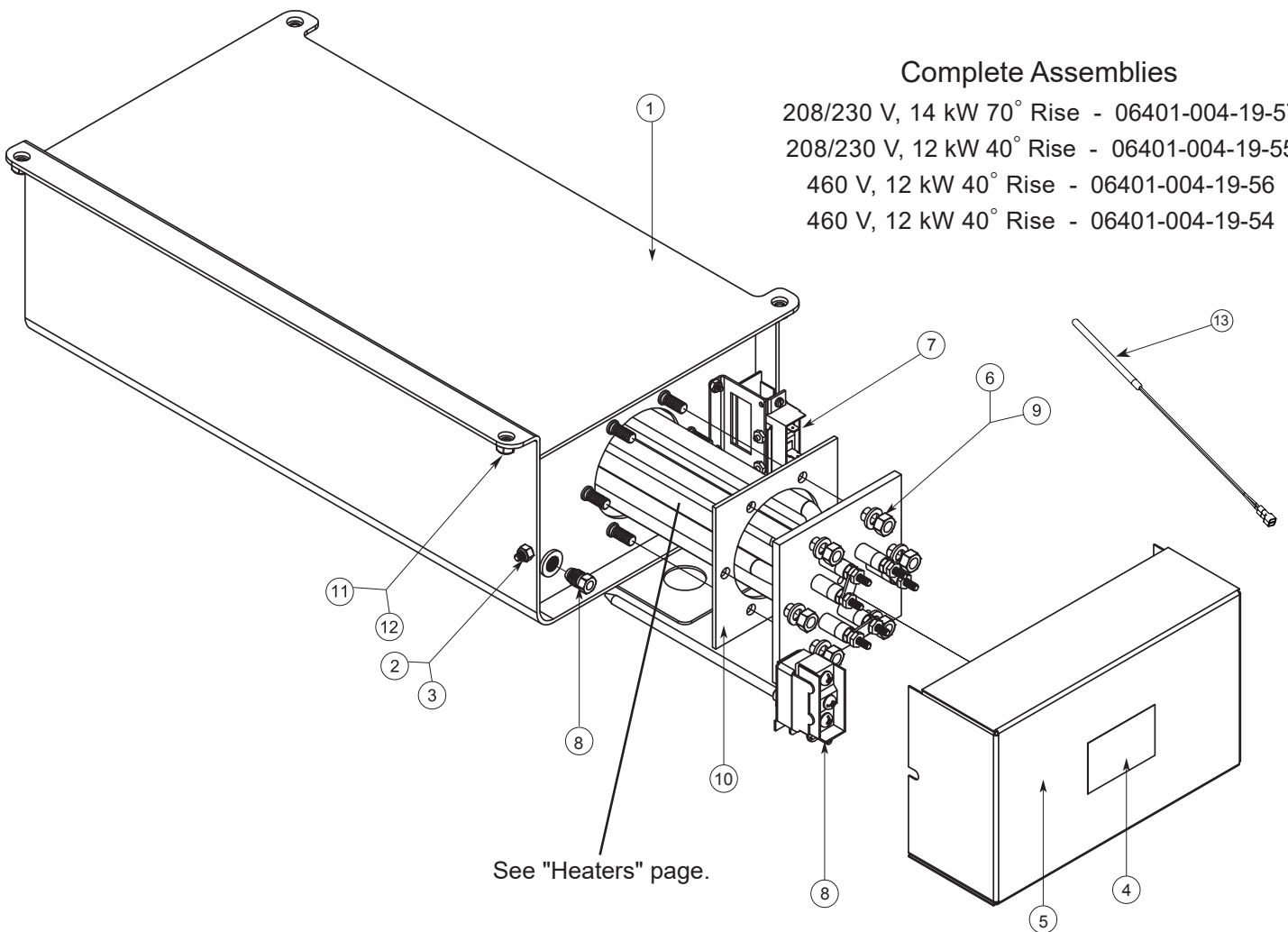


| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|------------------------|--------------------|
| 1 | 1 | Tub Weldment, HH Steam | 05700-002-63-13 |
| 2 | 1 | Track Assembly | 05700-002-01-00 |
| 3 | 2 | Bulk Head Plug | 04730-609-05-00 |
| 4 | 1 | Wash Motor | See "Motors" page. |

| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|-------------------------------------|----------------------------|
| 5 | 1 | Gasket | 05700-111-35-03 |
| 6 | 1 | O-ring | 05330-111-35-15 |
| 7 | 4 | Bolt, Hex 3/8-16 x 1 1/4" | 05305-276-10-00 |
| 8 | 1 | Lower Wash Manifold Weldment | 05700-031-46-00 |
| 9 | 1 | Sump Strainer | 05700-002-16-13 |
| 10 | 1 | Bracket, Sump Strainer | 05700-002-18-28 |
| 11 | 8 | Locknut, 1/4-20 with Nylon Insert | 05310-374-02-00 |
| 12 | 1 | Strainer Weldment | 05700-003-07-76 |
| 13 | 1 | Wash Overflow Weldment | 05700-001-25-69 |
| 13a | 1 | Support, Ball Stop Lift (Not Shown) | 05700-002-91-55 |
| 13b | 1 | Ball Stop Lift (Not Shown) | 05700-003-07-50 |
| 14 | 1 | Overflow Support Bracket | 05700-001-27-55 |
| 14a | 1 | Shim, Overflow Support (Not Shown) | 05700-002-96-48 |
| 15 | 1 | O-ring | 05330-400-05-00 |
| 16 | 2 | Clamp, Hose 1 5/16" to 2 1/4" | 04730-719-01-37 |
| 17 | 1 | Discharge Hose | 05700-011-88-24 |
| 18 | 1 | Nipple | 05700-021-34-84 |
| 19 | 1 | Pump Support Bracket Assembly | See Item #19 on Tub pages. |
| 20 | 1 | Clamp, Hose 5 5/8" to 6" | 04730-011-34-90 |
| 21 | 1 | Connector, 1/2" | 05975-111-01-00 |
| 22 | 4 | Nut, 3/8-16 Hex | 05310-276-01-00 |
| 23 | 4 | Lockwasher, 3/8" | 05311-276-01-00 |
| 24 | 1 | Fitting, 1/4" Imperial Brass | 05310-924-02-05 |
| 25 | 1 | Probe, High Water | 06680-200-02-68 |
| 26 | 1 | Thermostat, High Limit | 05930-004-33-12 |
| 27 | 1 | Cover, Wash Heater | 05700-031-47-57 |
| 28 | 1 | Decal, Warning-Disconnect Power | 09905-004-08-16 |
| 29 | 2 | Locknut, 10-24 with Nylon Insert | 05310-373-01-00 |
| 30 | 1 | Steam Coil | 05700-031-41-37 |
| 31 | 1 | Probe, Thermistor 4" | 06685-004-17-26 |
| 32 | 1 | Thermostat Mounting Bracket | 05700-004-22-17 |
| 33 | 1 | Thermostat, Elan Electric Dual | 06685-004-17-27 |
| 34 | 1 | Harness, 5-Connector | 05700-004-23-78 |
| 35 | 1 | Harness, 4-Connector | 05700-004-23-79 |
| 36 | 1 | Harness, 2-Connector | 05700-004-23-80 |

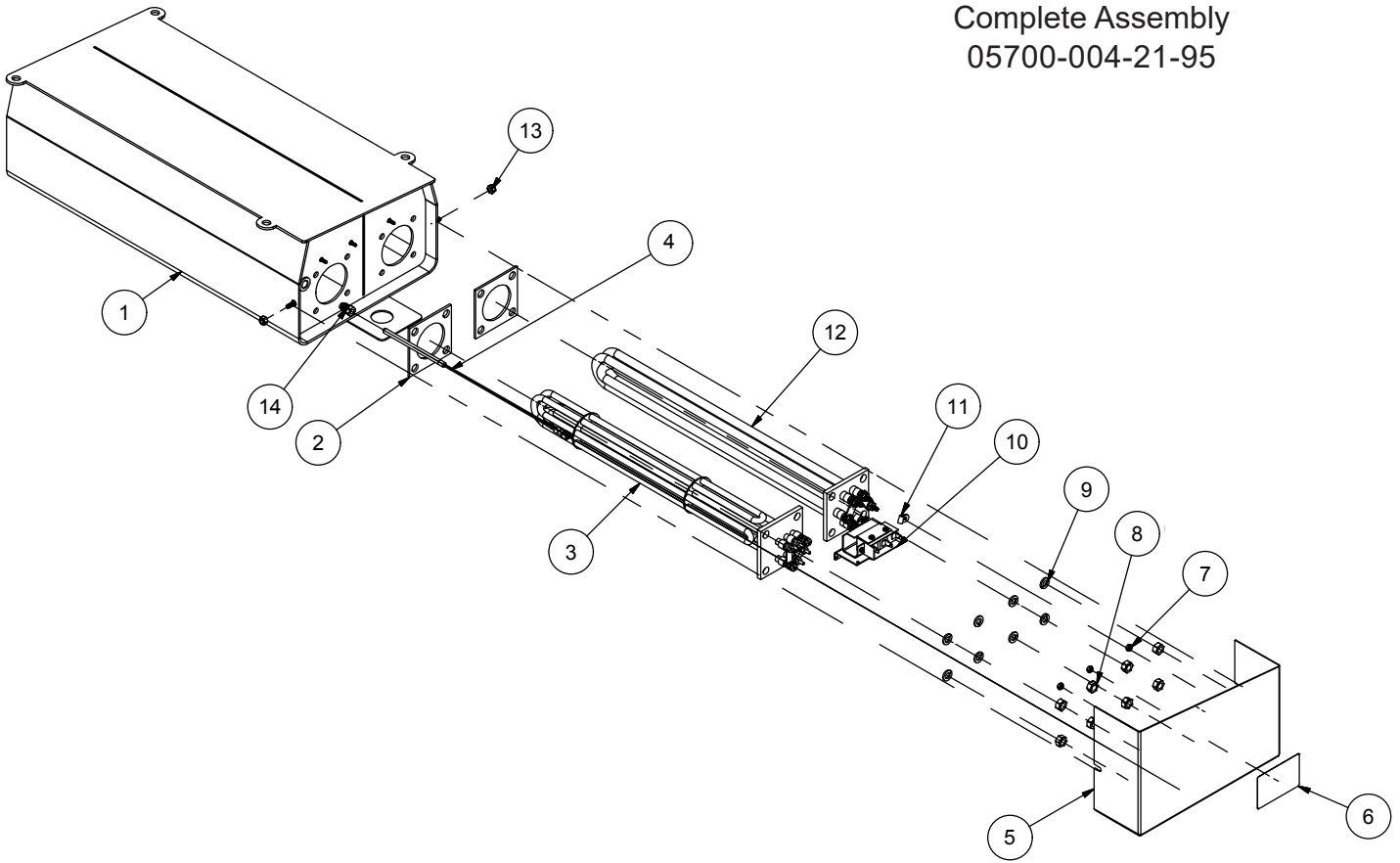


| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|--|---|
| 1 | 1 | Frame Frame, 460 V | 05700-002-03-49 05700-002-62-41 |
| 2 | 4 | Adjustable Foot, 1 1/2" Adjustable Foot, 3" Adjustable Foot, Flanged | 05340-108-02-06 05340-002-14-55 05340-002-01-15 |
| 3 | 1 | Front Dress Panel | 05700-002-01-42 |

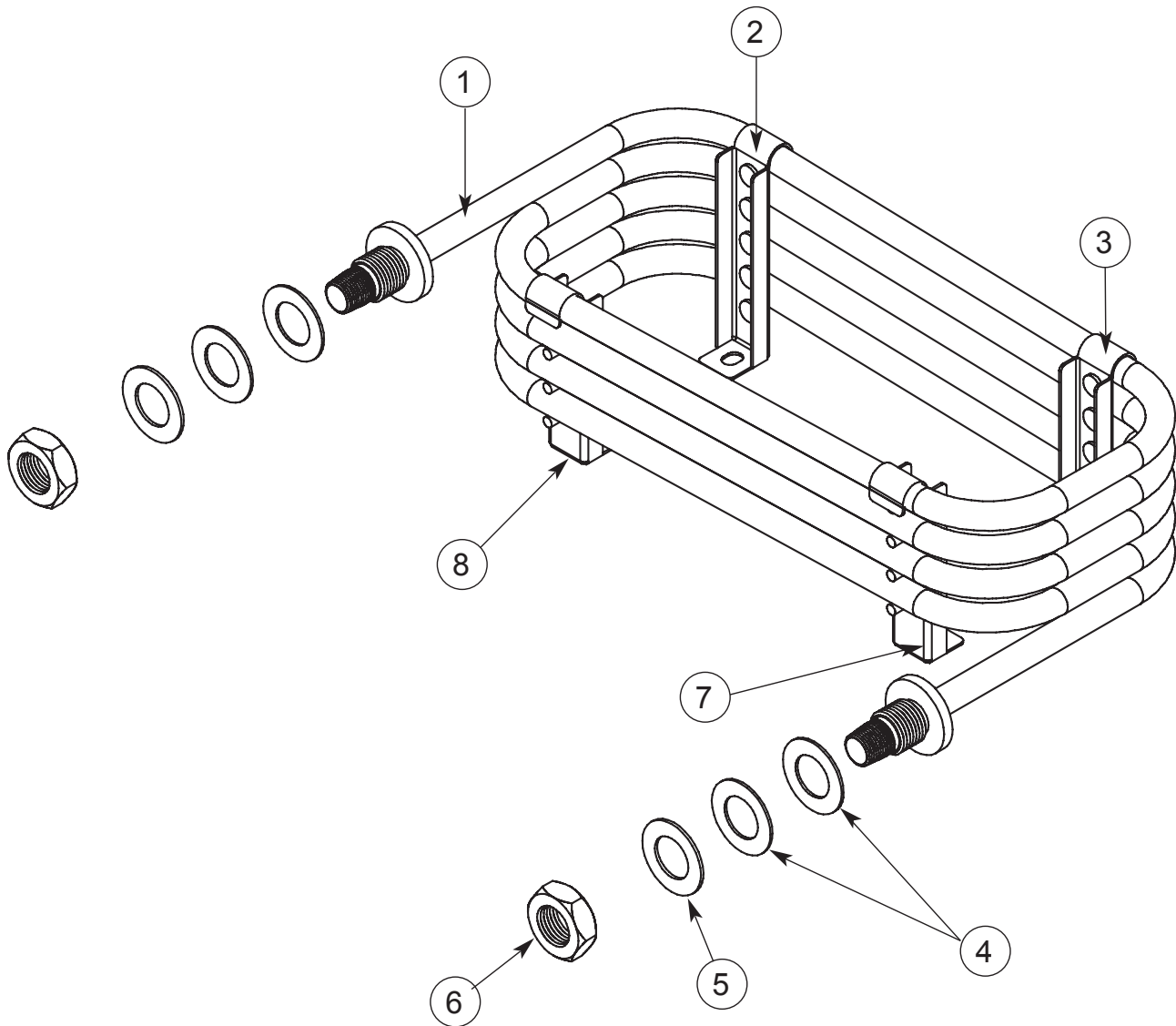


| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|--|-----------------|
| 1 | 1 | Booster Tank Weldment | 05700-002-10-19 |
| 2 | 2 | Locknut, 10-24 with Nylon Insert | 05310-373-01-00 |
| 3 | 2 | Washer, #10 Flat | 05311-173-01-00 |
| 4 | 1 | Decal, Warning-Disconnect Power | 09905-004-08-16 |
| 5 | 1 | Booster Tank Cover Weldment | 05700-002-16-51 |
| 6 | 6 | Nut, Hex, 5/16-18 | 05310-275-01-00 |
| 7 | 1 | Thermostat, Hi-Limit | 05930-011-49-43 |
| 8 | 1 | Thermostat, Regulating with Imperial Brass Fitting | 06401-011-66-55 |
| 9 | 6 | Lockwasher, 5/16", Split | 05311-275-01-00 |
| 10 | 1 | Gasket, Rinse Heater | 05330-200-02-70 |
| 11 | 4 | Locknut, 1/4-20 with Nylon Insert | 05310-374-01-00 |
| 12 | 4 | Washer, 1/4", Flat | 05311-174-01-00 |
| 13 | 1 | Probe, Thermistor 4" | 06685-004-17-26 |

Complete Assembly
05700-004-21-95

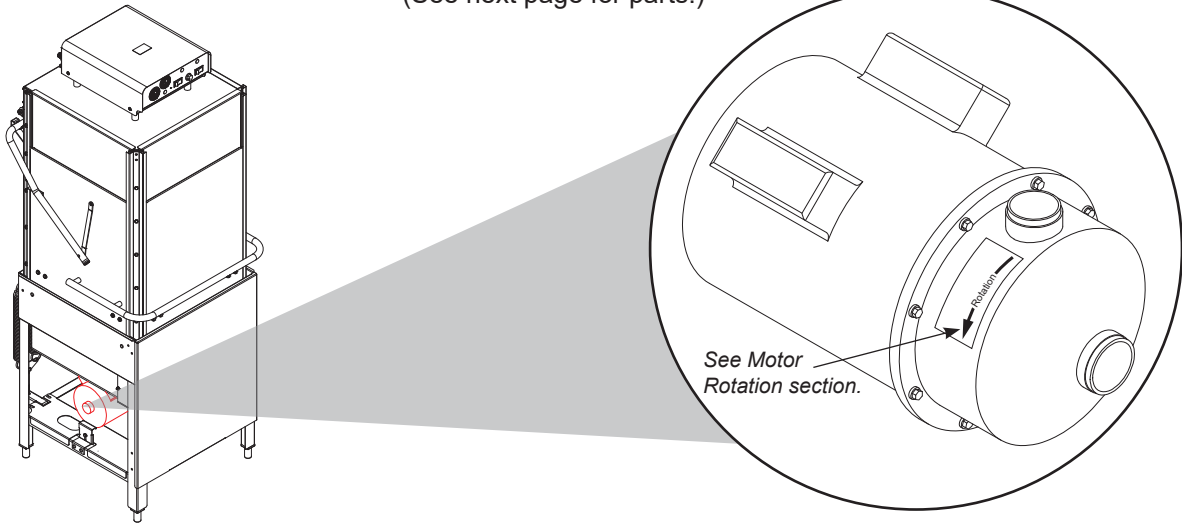


| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|---------------------------------------|-----------------|
| 1 | 1 | Booster Tank Weldment - Ventless HH | 05700-004-21-83 |
| 2 | 2 | Gasket, Wash Heater | 05330-011-47-79 |
| 3 | 1 | Heater, 10 kW, 230 V | 04540-021-62-57 |
| 4 | 1 | Probe, Thermistor 4" | 06685-004-17-26 |
| 5 | 1 | Booster Tank Cover | 05700-004-21-94 |
| 6 | 1 | Decal, Warning-Disconnect Power | 09905-004-08-16 |
| 7 | 3 | Nut, Lock 6-32 Hex with Nylon Insert | 05310-373-03-00 |
| 8 | 8 | Nut, Hex 5/16-18 | 05310-275-01-00 |
| 9 | 8 | Lockwasher, 5/16", Split | 05311-275-01-00 |
| 10 | 1 | Thermostat, Hi-Limit | 05930-011-49-43 |
| 11 | 1 | Clamp | 05975-601-10-15 |
| 12 | 1 | Heater, 5.45 kW, 240 V, Wash | 04540-121-47-39 |
| 13 | 2 | Nut, Lock 10-24 Hex with Nylon Insert | 05310-373-01-00 |
| 14 | 1 | Fitting, Brass Nut Sleeve Fitting | 05310-924-02-05 |



| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|-------------------------------|-----------------|
| | 1 | Steam Coil, Complete Assembly | 05700-002-08-62 |
| 1 | 1 | Steam Coil | 05700-021-41-38 |
| 2 | 1 | Stand C, Steam Coil Support | 05700-002-08-52 |
| 3 | 1 | Stand D, Steam Coil Support | 05700-002-08-53 |
| 4 | 1 | Gasket, Steam Coil | 05700-001-17-86 |
| 5 | 2 | Washer, Steam Coil | 05700-001-17-87 |
| 6 | 2 | Adapter, Steam Coil Nut | 05310-011-17-85 |
| 7 | 1 | Stand A, Steam Coil Support | 05700-002-08-50 |
| 8 | 1 | Stand B, Steam Coil Support | 05700-002-08-51 |

Complete Assemblies
(See next page for parts.)

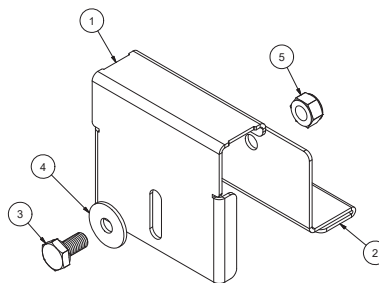


The models covered in this manual come supplied with various wash motor assemblies (a wash motor assembly includes the wash motor and the pump end), depending on the characteristics of the machine. To ensure you order the correct wash motor assembly for the model you are servicing, please refer to the following table:

| MODEL | VOLTS | Hz | PHASE | WASH MOTOR ASSEMBLY |
|-----------|-------|----|-------|---------------------|
| HH Series | 208 | 60 | 1 | 06105-002-01-29 |
| HH Series | 230 | 60 | 1 | 06105-002-01-29 |
| HH Series | 208 | 60 | 3 | 06105-002-01-29 |
| HH Series | 230 | 60 | 3 | 06105-002-01-29 |
| HH Series | 460 | 60 | 3 | 06105-002-09-30 |

NOTICE When servicing a wash motor, it is important to refer to the wiring schematic found on the motor to ensure the motor is wired correctly. Different manufacturers of motors might not use the same wire color codes and your new motor might not connect using the same wires. Always refer to the wiring diagrams on the motor you are installing. If the motor you are installing has had the schematic removed, contact the manufacturer immediately for technical support.

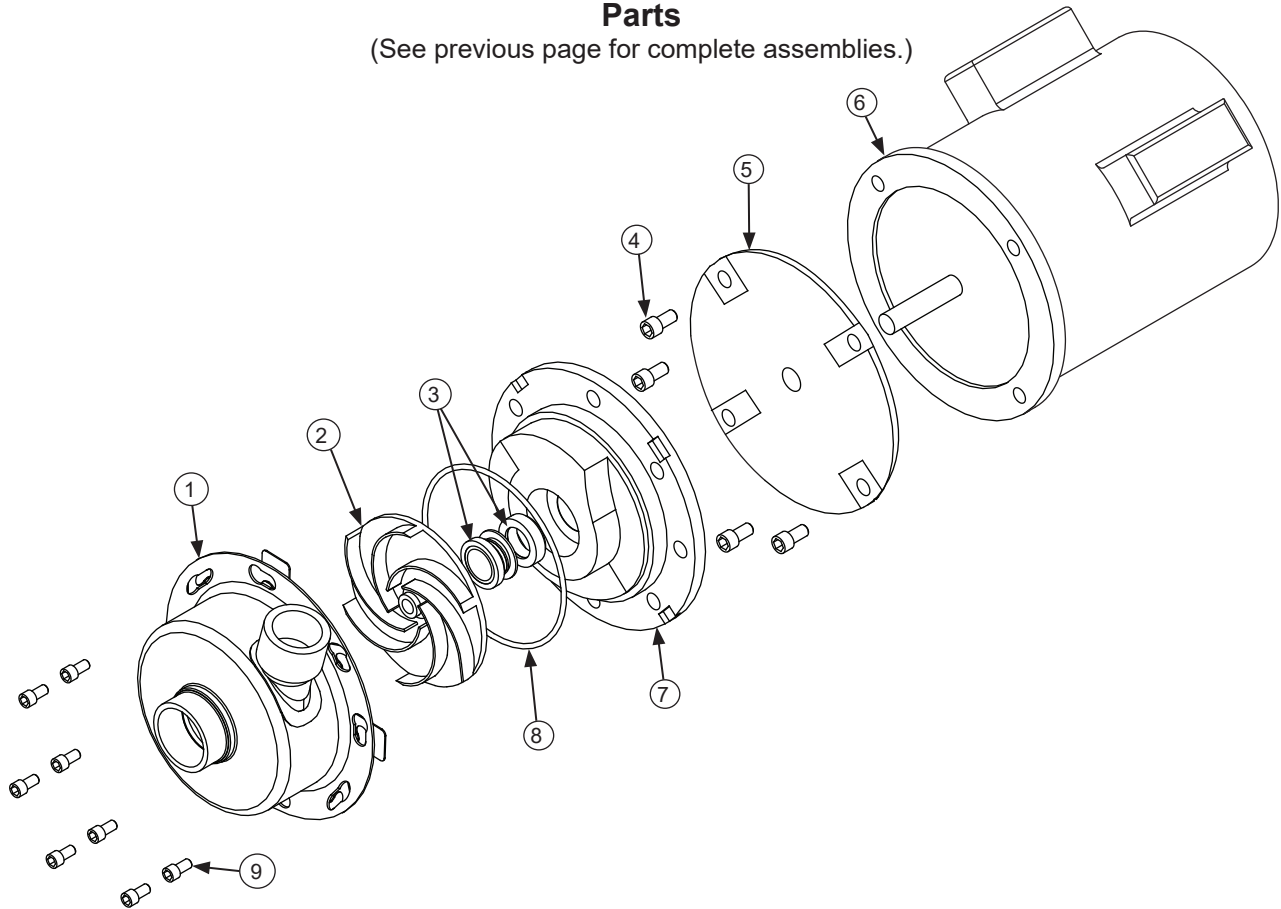
Complete Motor Mount Assembly
05700-004-13-10



| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|---------------------------------------|-----------------|
| 1 | 1 | Bracket, Motor Mount Outer | 05700-004-13-08 |
| 2 | 1 | Bracket, Motor Mount Inner | 05700-004-13-07 |
| 3 | 1 | Bolt, 1/4-20 x 1/2" | 05305-274-02-00 |
| 4 | 1 | Washer, 1/4" ID x 3/4" OD | 05311-011-76-30 |
| 5 | 1 | Locknut, 1/4-20 Hex with Nylon Insert | 05310-374-01-00 |

Parts

(See previous page for complete assemblies.)



| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|----------------------------------|-----------------|
| 1 | 1 | Pump Casing 208/230 V | 05700-002-82-57 |
| | 1 | Pump Casing 460 V | 05700-002-06-20 |
| 2 | 1 | Impeller Assembly, 208/230 V | 05700-002-82-50 |
| | 1 | Impeller Assembly, 460 V | 05700-002-06-19 |
| 3 | 1 | Mechanical Seal, 208/230 V | 05330-002-34-22 |
| | 1 | Mechanical Seal, 460 V | 05330-002-87-16 |
| 4 | 4 | Motor Bolt | 05700-002-82-55 |
| 5 | 1 | Motor Adapter | 05330-002-82-53 |
| 6 | 1 | Motor Only | 06105-002-82-60 |
| 7 | 1 | Seal Plate, 208/230 V | 05700-002-82-52 |
| | 1 | Seal Plate, 460 V | 05700-002-06-22 |
| 8 | 1 | Case O-ring, 208/230 V | 05330-002-34-23 |
| | 1 | Case O-ring, 460 V | 05330-002-87-02 |
| 9 | 8 | Case Screws | 05305-002-81-88 |
| 10 | 1 | Shim Kit, 208/230 V (Not Shown) | 05700-002-82-58 |
| | 1 | Shaft Adapter, 460 V (Not Shown) | 05700-011-95-19 |

HT-180 HH

| Volts | Hz | Phase | Wash Heater | Rinse Heater (12 kW) | Rinse Heater (14 kW) |
|-------|----|-------|-----------------|----------------------|----------------------|
| 208 | 50 | 1 | 04540-121-47-39 | 04540-121-47-40 | 04540-121-63-38 |
| 208 | 50 | 3 | 04540-121-47-39 | 04540-121-47-40 | 04540-121-63-38 |
| 208 | 60 | 1 | 04540-121-47-39 | 04540-121-47-40 | 04540-121-63-38 |
| 208 | 60 | 3 | 04540-121-47-39 | 04540-121-47-40 | 04540-121-63-38 |
| 230 | 50 | 1 | 04540-121-47-39 | 04540-121-47-40 | 04540-121-63-38 |
| 230 | 50 | 3 | 04540-121-47-39 | 04540-121-47-40 | 04540-121-63-38 |
| 230 | 60 | 1 | 04540-121-47-39 | 04540-121-47-40 | 04540-121-63-38 |
| 230 | 60 | 3 | 04540-121-47-39 | 04540-121-47-40 | 04540-121-63-38 |
| 460 | 60 | 3 | 04540-121-65-99 | 04540-100-01-15 | 04540-121-63-39 |

HT-180 HH VER

| Volts | Hz | Phase | Wash Heater | Rinse Heater 1 | Rinse Heater 2 |
|-------|----|-------|-----------------|-----------------|-----------------|
| 208 | 50 | 1 | 04540-121-47-39 | 04540-121-47-39 | 04540-021-62-57 |
| 208 | 50 | 3 | 04540-121-47-39 | 04540-121-47-39 | 04540-021-62-57 |
| 208 | 60 | 1 | 04540-121-47-39 | 04540-121-47-39 | 04540-021-62-57 |
| 208 | 60 | 3 | 04540-121-47-39 | 04540-121-47-39 | 04540-021-62-57 |
| 230 | 50 | 1 | 04540-121-47-39 | 04540-121-47-39 | 04540-021-62-57 |
| 230 | 50 | 3 | 04540-121-47-39 | 04540-121-47-39 | 04540-021-62-57 |
| 230 | 60 | 1 | 04540-121-47-39 | 04540-121-47-39 | 04540-021-62-57 |
| 230 | 60 | 3 | 04540-121-47-39 | 04540-121-47-39 | 04540-021-62-57 |
| 460 | 60 | 3 | 04540-121-65-99 | 04540-121-65-99 | 04540-002-29-82 |

HT-180 HH NB

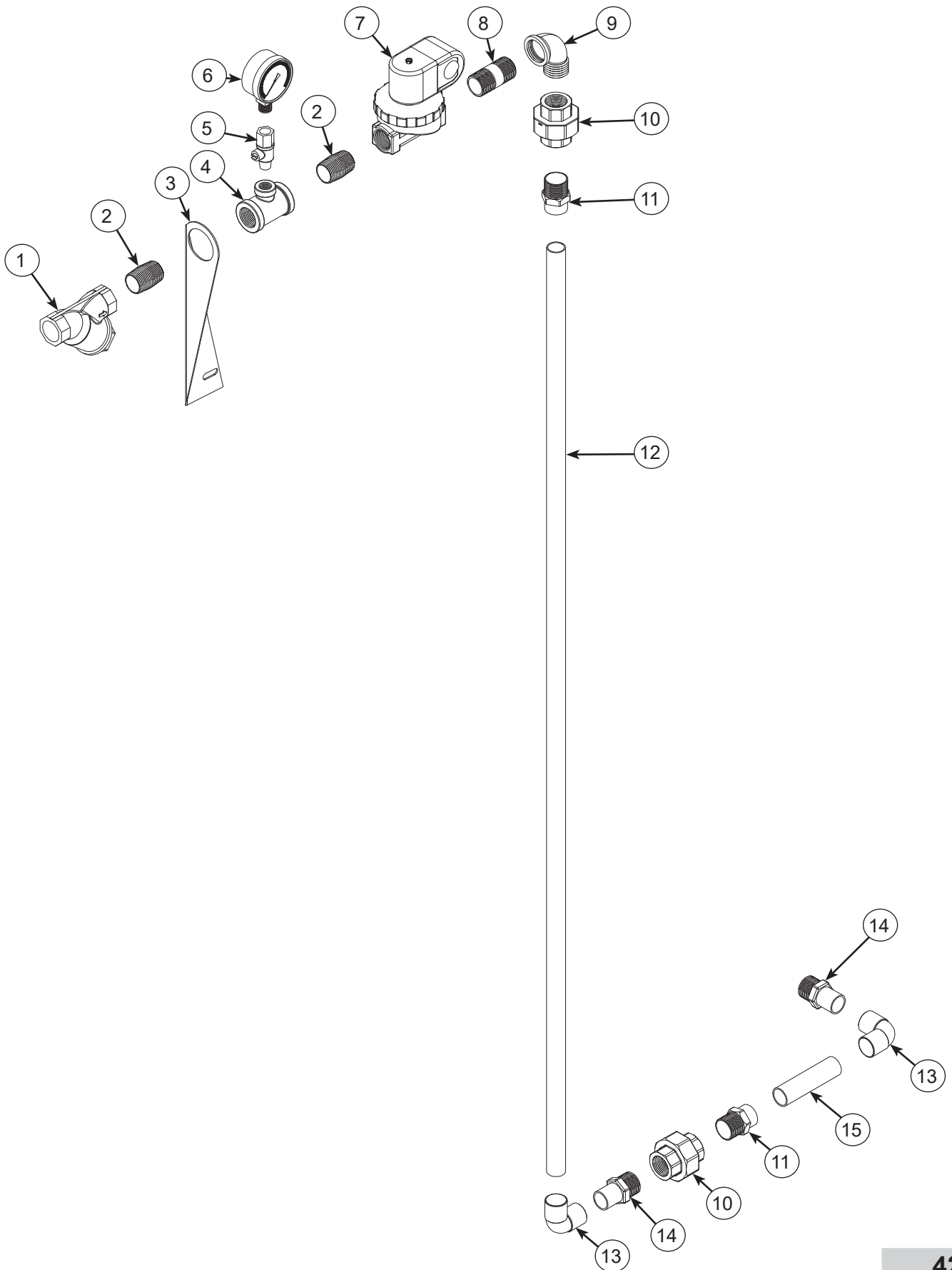
| Volts | Hz | Phase | Wash Heater |
|-------|----|-------|-----------------|
| 208 | 50 | 1 | 04540-121-47-39 |
| 208 | 50 | 3 | 04540-121-47-39 |
| 208 | 60 | 1 | 04540-121-47-39 |
| 208 | 60 | 3 | 04540-121-47-39 |
| 230 | 50 | 1 | 04540-121-47-39 |
| 230 | 50 | 3 | 04540-121-47-39 |
| 230 | 60 | 1 | 04540-121-47-39 |
| 230 | 60 | 3 | 04540-121-47-39 |
| 460 | 60 | 3 | 04540-121-65-99 |

HT-180 HH Heater Phase Conversion Kit

06401-004-00-22

HT-180 HH VER Heater Phase Conversion Kit

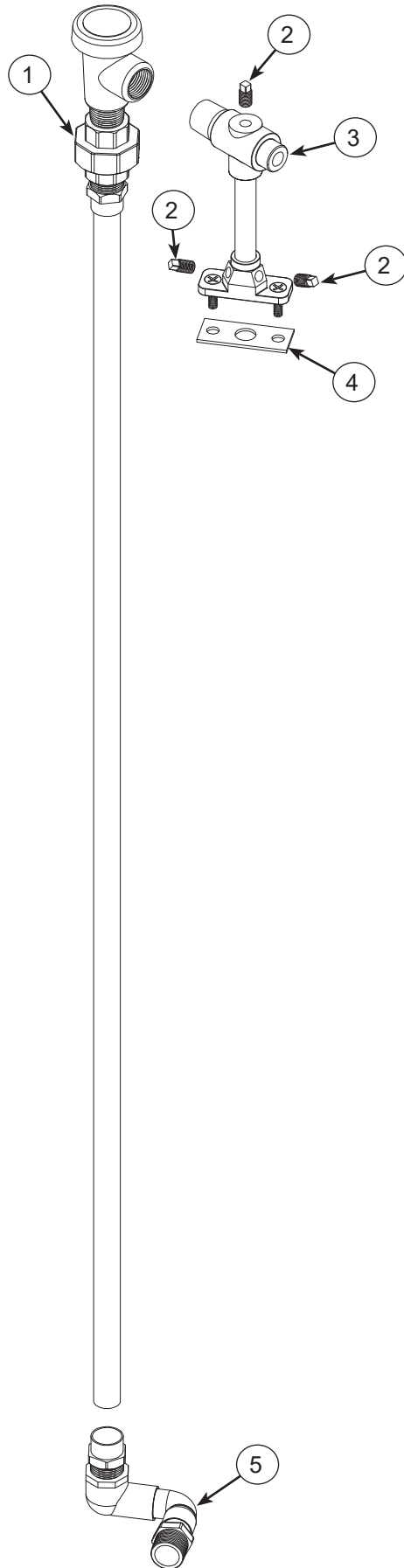
06401-004-00-23



| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|-------------------------------------|-----------------|
| 1 | 1 | Y-strainer, 3/4" NPT Brass | 04730-717-02-06 |
| 2 | 2 | Nipple, 3/4" x 1 3/8" Closed Brass | 04730-207-34-00 |
| 3 | 1 | Bracket, Incoming Plumbing Support | 05700-021-34-02 |
| 4 | 1 | Tee, 3/4" x 3/4" x 1/4" Brass | 06685-111-88-34 |
| 5 | 1 | Valve, Ball Test Cock, Bronze | 04810-011-72-67 |
| 6 | 1 | Gauge, Pressure 1/4" BTM Connect | 06685-111-88-34 |
| 7 | 1 | Solenoid Valve, 3/4", 220 V | 04810-100-03-18 |
| 8 | 1 | Nipple, 3/4" x 2" NPT Brass | 04730-207-46-00 |
| 9 | 1 | Elbow, 3/4" Street Brass, 90-Degree | 04730-206-04-34 |
| 10 | 2 | Union, 3/4" Brass with O-ring | 05700-002-63-79 |
| 11 | 2 | Adapter, 3/4" Female | 04730-401-11-01 |
| 12 | 1 | Tube, Copper 3/4" x 48" | 05700-011-87-89 |
| 13 | 2 | Elbow, 3/4" | 04730-406-16-01 |
| 14 | 2 | Adapter, 3/4" | 04730-401-10-01 |
| 15 | 1 | Tube, Copper 1/2" x 3.25" | 05700-002-25-06 |

NOTICE

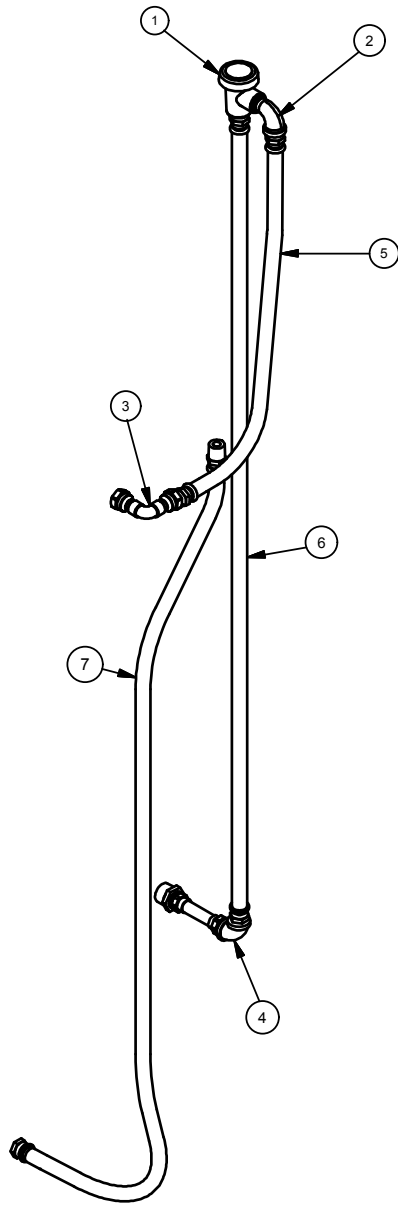
When servicing plumbing components, take care not to damage the threads of each individual item. Damaged threads can cause leaks and loss of pressure, which could adversely affect the performance of the dishmachine. It is strongly recommended that teflon thread tape, used in conservative amounts, be applied to threads when joining components together. It is not advised to use thread-sealing compounds, sometimes referred to as "pipe dope." Compounds can be ejected from the threads during the tightening process and become lodged in key components, rendering them useless.



| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|--|-----------------|
| 1 | 1 | Outlet Plumbing, Vacuum Breaker Assembly | 05700-003-22-08 |
| 2 | 3 | Plug, 1/8" Brass | 04730-209-07-37 |
| 3 | 1 | Rinse Injector Assembly | 05700-021-47-65 |
| 4 | 1 | Gasket, Rinse Plumbing | 05330-111-42-81 |
| 5 | 1 | Outlet Plumbing, Lower Elbow Assembly | 05700-003-22-09 |

NOTICE

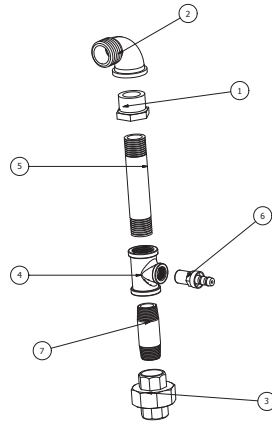
When servicing plumbing components, take care not to damage the threads of each individual item. Damaged threads can cause leaks and loss of pressure, which could adversely affect the performance of the dishmachine. It is strongly recommended that teflon thread tape, used in conservative amounts, be applied to threads when joining components together. It is not advised to use thread-sealing compounds, sometimes referred to as "pipe dope." Compounds can be ejected from the threads during the tightening process and become lodged in key components, rendering them useless.



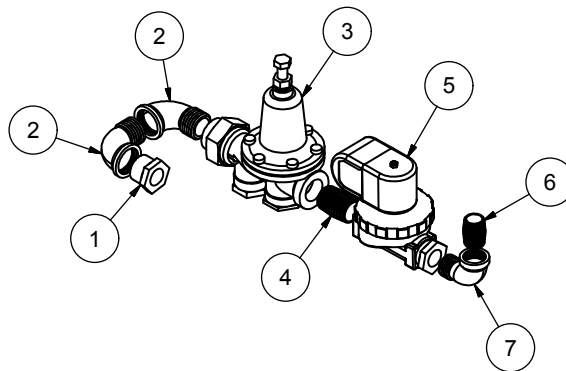
Rinse Injector
05700-004-22-73



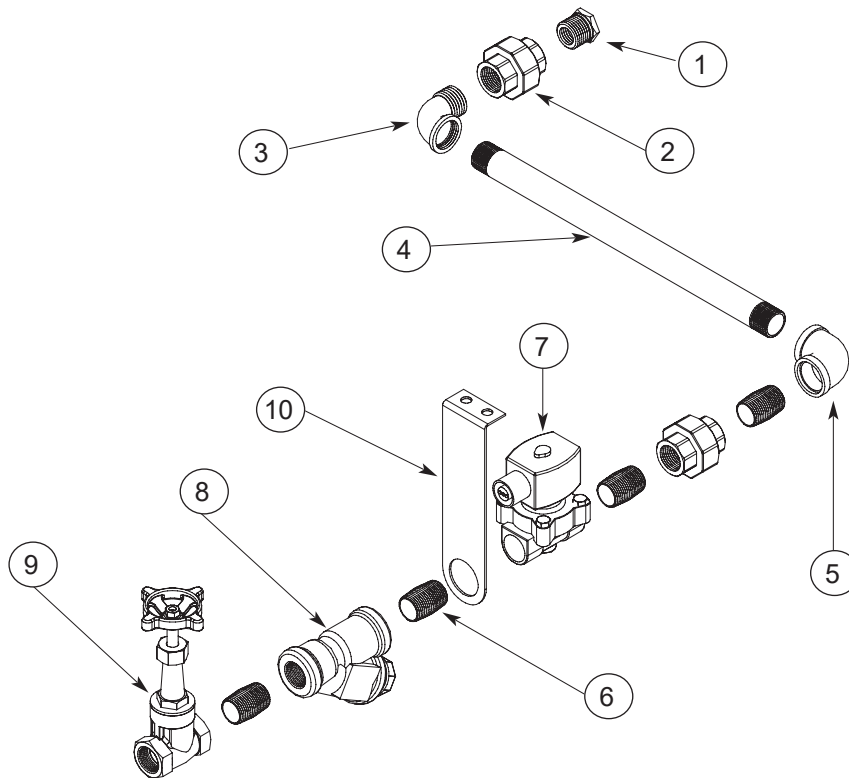
| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|--------------------------------------|-----------------|
| 1 | 1 | Vacuum Breaker, 1/2" Brass | 04820-003-06-13 |
| 2 | 1 | Elbow, 90-Degree 1/2" Street Brass | 04730-206-08-00 |
| 3 | 1 | Plumbing, Rinse Injector | 05700-004-19-83 |
| 4 | 1 | Plumbing, Outlet with Heat Exchanger | 05700-004-19-12 |
| 5 | 1 | Hose, 1/2" x 24" Red | 05700-004-19-89 |
| 6 | 1 | Hose, 1/2" x 67" Red | 05700-004-19-99 |
| 7 | 1 | Hose, 1/2" x 69" Blue | 05700-004-20-00 |
| 8 | 1 | Hose Pack Assembly (Not Shown) | 05700-004-20-02 |



| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|------------------------------------|-----------------|
| 1 | 1 | Bushing, Hex 3/4" to 1/2" Brass | 04730-002-56-27 |
| 2 | 1 | Elbow, 3/4 Street Brass, 90-Degree | 04730-206-04-34 |
| 3 | 1 | Union, 1/2" x 1/2" Brass | 04730-003-62-44 |
| 4 | 1 | Tee, 1/2" x 1/2" x 1/4" | 04730-002-22-56 |
| 5 | 1 | Nipple, Brass 1/2" x 4" | 04730-207-04-00 |
| 6 | 1 | Fitting, 1/4" Barb, 1/4" Swivel | 04730-011-95-41 |
| 7 | 1 | Nipple, 1/2" x 2" Brass | 04730-207-19-00 |

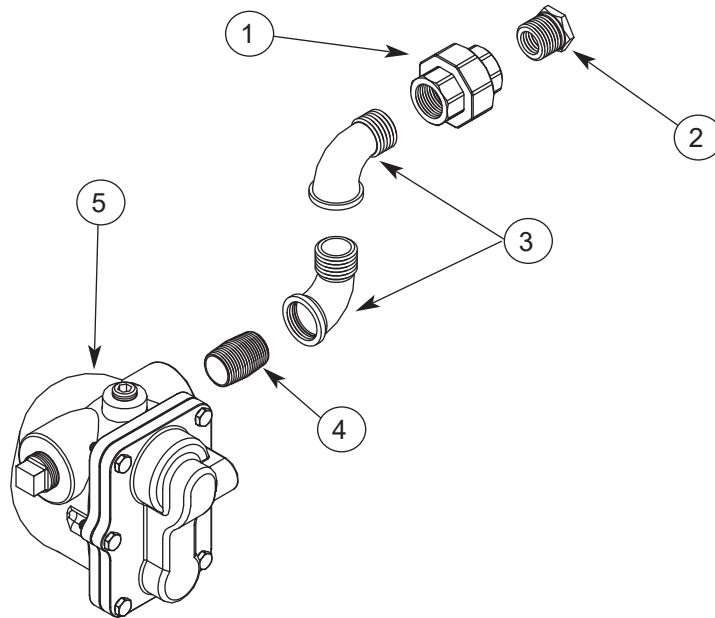


| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|-------------------------------------|-----------------|
| 1 | 1 | Bushing, Hex 3/4" to 1/2" Brass | 04730-002-56-27 |
| 2 | 3 | Elbow, 3/4" Street Brass, 90-Degree | 04730-206-04-34 |
| 3 | 1 | Pressure Regulator, 3/4" | 06685-011-58-22 |
| 4 | 1 | Nipple, 3/4" x 1 3/8" Closed Brass | 04730-207-34-00 |
| 5 | 1 | Valve, 3/4" - 220 V Solenoid | 04810-100-03-18 |
| 6 | 1 | Nipple, 1/2" Closed Brass | 04730-207-15-00 |
| 7 | | Elbow, 90-Degree, 1/2" Street Brass | 04730-206-08-00 |

**NOTICE**

When servicing plumbing components, take care not to damage the threads of each individual item. Damaged threads can cause leaks and loss of pressure, which could adversely affect the performance of the machine. It is strongly recommended that teflon thread tape, used in conservative amounts, be applied to threads when joining components together. It is not advised to use thread-sealing compounds, sometimes referred to as "pipe dope." Compounds can be ejected from the threads during the tightening process and become lodged in key components, rendering them useless.

| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|---|-----------------|
| | 1 | Inlet Plumbing, HH Steam, Complete Assembly | 05700-002-01-60 |
| 1 | 1 | Bushing, Reducing, 3/4" to 1/2" | 04730-911-02-34 |
| 2 | 2 | Union, 3/4" Black Iron | 04730-912-01-00 |
| 3 | 1 | Elbow, 90-degree Street, Black Iron | 04730-011-87-37 |
| 4 | 1 | Pipe, 3/4" NPT Black Iron | 05700-002-20-83 |
| 5 | 1 | Elbow, 90-degree 3/4" NPT Black Iron | 04730-906-10-34 |
| 6 | 4 | Nipple, Close 3/4" Black Iron | 04730-907-01-00 |
| 7 | 1 | Solenoid Valve, Steam Plumbing, 220 V | 04820-002-01-56 |
| 8 | 1 | Y-Strainer, 3/4" NPT | 04730-217-01-32 |
| 9 | 1 | Gate Valve, 3/4" NPT | 04820-100-19-00 |
| 10 | 1 | Bracket, Steam Plumbing Support | 05700-002-01-63 |

**NOTICE**

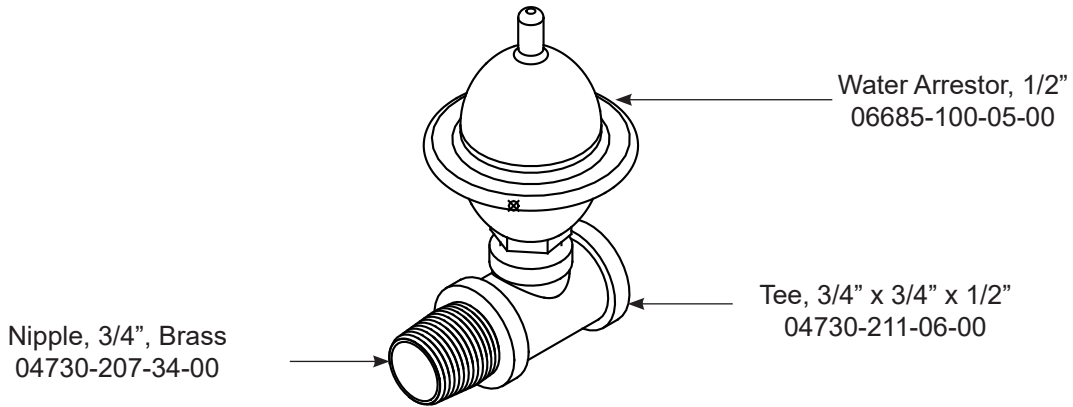
When servicing plumbing components, take care not to damage the threads of each individual item. Damaged threads can cause leaks and loss of pressure, which could adversely affect the performance of the machine. It is strongly recommended that teflon thread tape, used in conservative amounts, be applied to threads when joining components together. It is not advised to use thread-sealing compounds, sometimes referred to as "pipe dope." Compounds can be ejected from the threads during the tightening process and become lodged in key components, rendering them useless.

| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|--|-----------------|
| | 1 | Outlet Plumbing, HH Steam, Complete Assembly | 05700-002-01-55 |
| 1 | 1 | Union, 3/4" NPT, Black Iron | 04730-912-01-00 |
| 2 | 1 | Bushing, Reducing, 3/4" to 1/2" | 04730-911-02-34 |
| 3 | 2 | Elbow, 3/4" 90-degree Street | 04730-011-87-37 |
| 4 | 1 | Nipple, Close, 3/4" NPT, Black Iron | 04730-907-01-00 |
| 5 | 1 | Steam Trap, 3/4" NPT F&T | 06680-500-02-77 |

Click [here](#) for the Steam Booster manual.



SHOCK ABSORBER (WATER ARRESTOR) OPTION

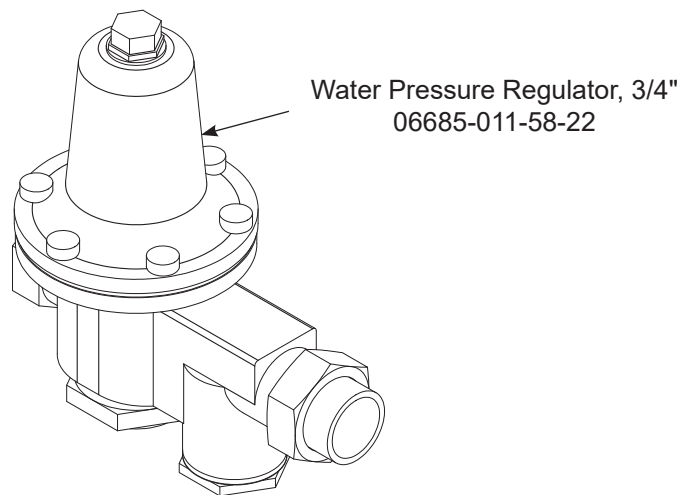


WATER TREATMENT OPTION

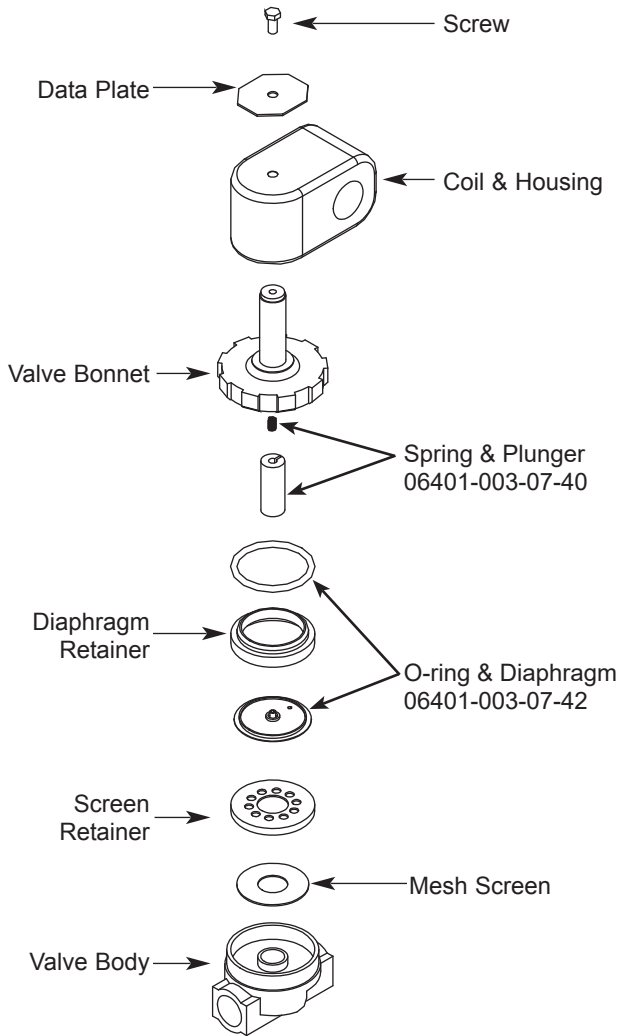
Scaltrol System
04730-003-05-76

Replacement Cartridge
(inspect at least every 6 months)
RSC-100

PRESSURE REGULATING VALVE OPTION*

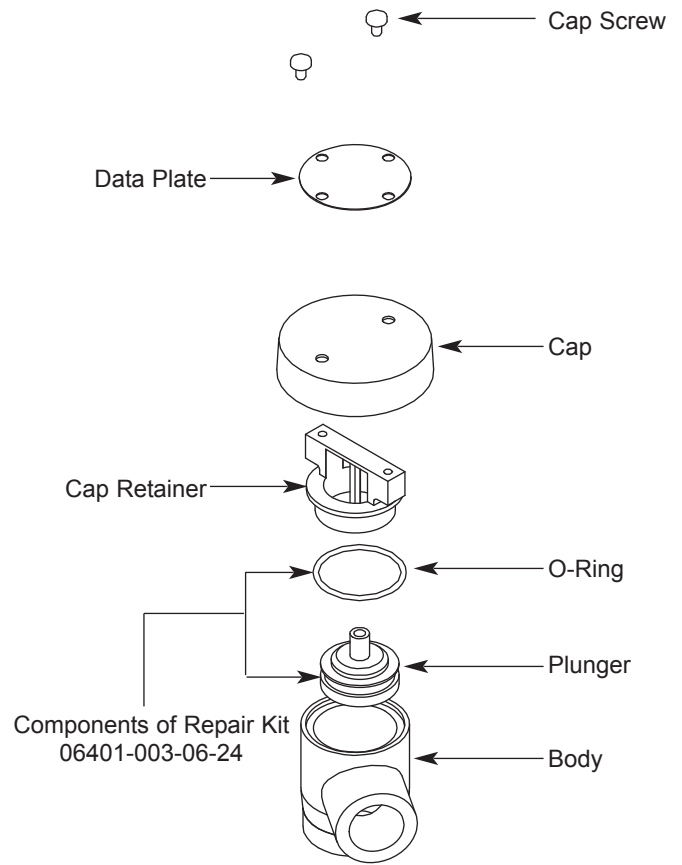


*PRV comes standard on the HH VER machine.



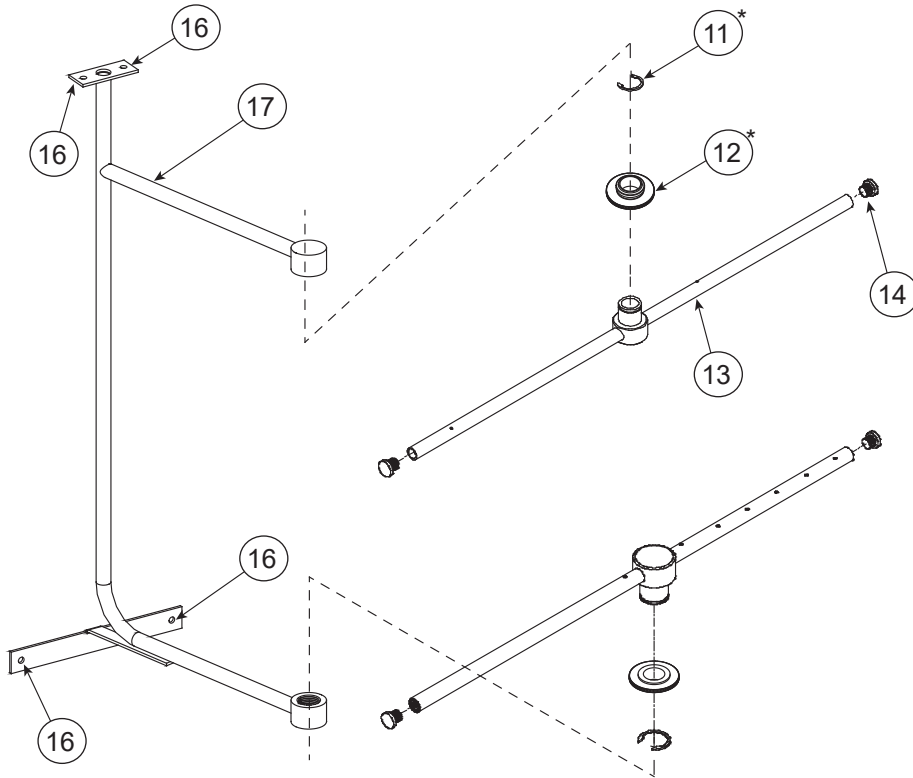
Complete 240 Volt Solenoid Valve Assembly
04810-100-03-18

Coil & Housing only
06401-003-07-44

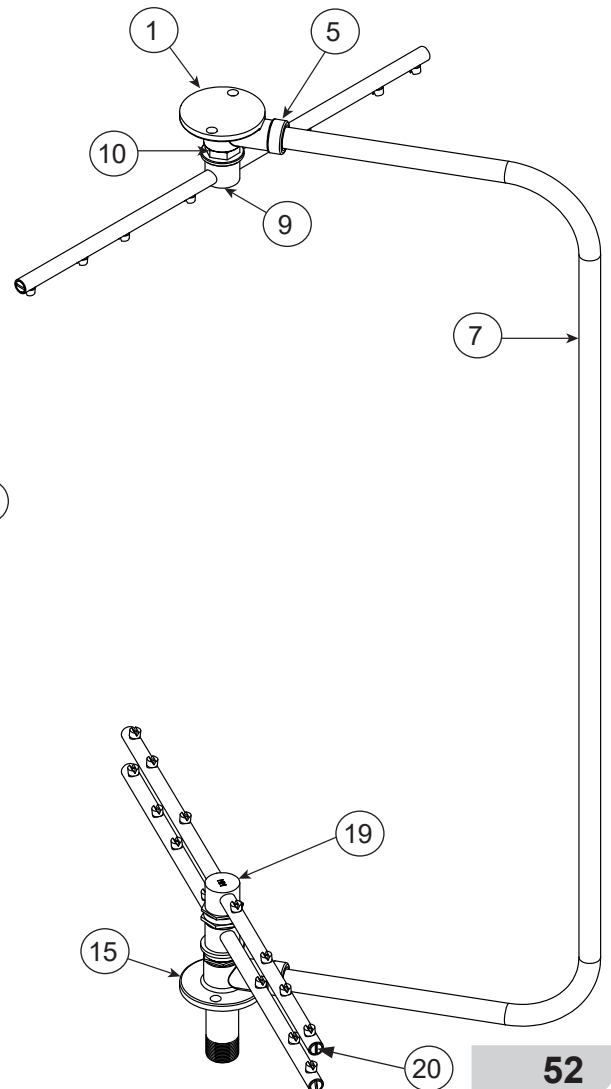
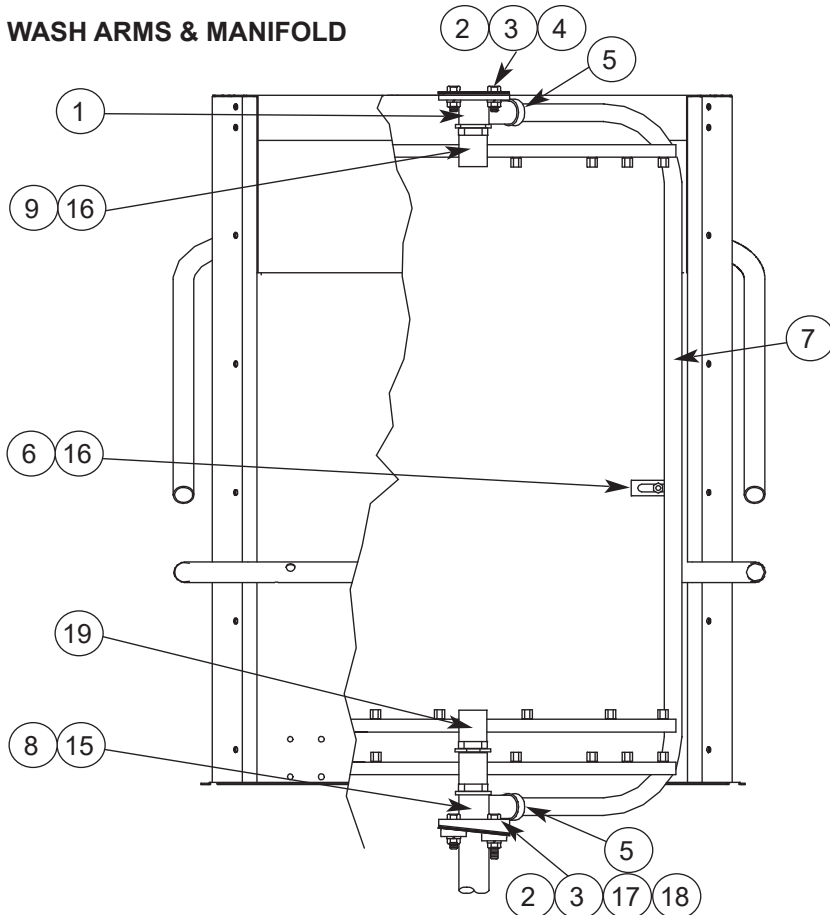


Complete Vacuum Breaker Assembly
04820-002-53-77

RINSE ARMS & MANIFOLD

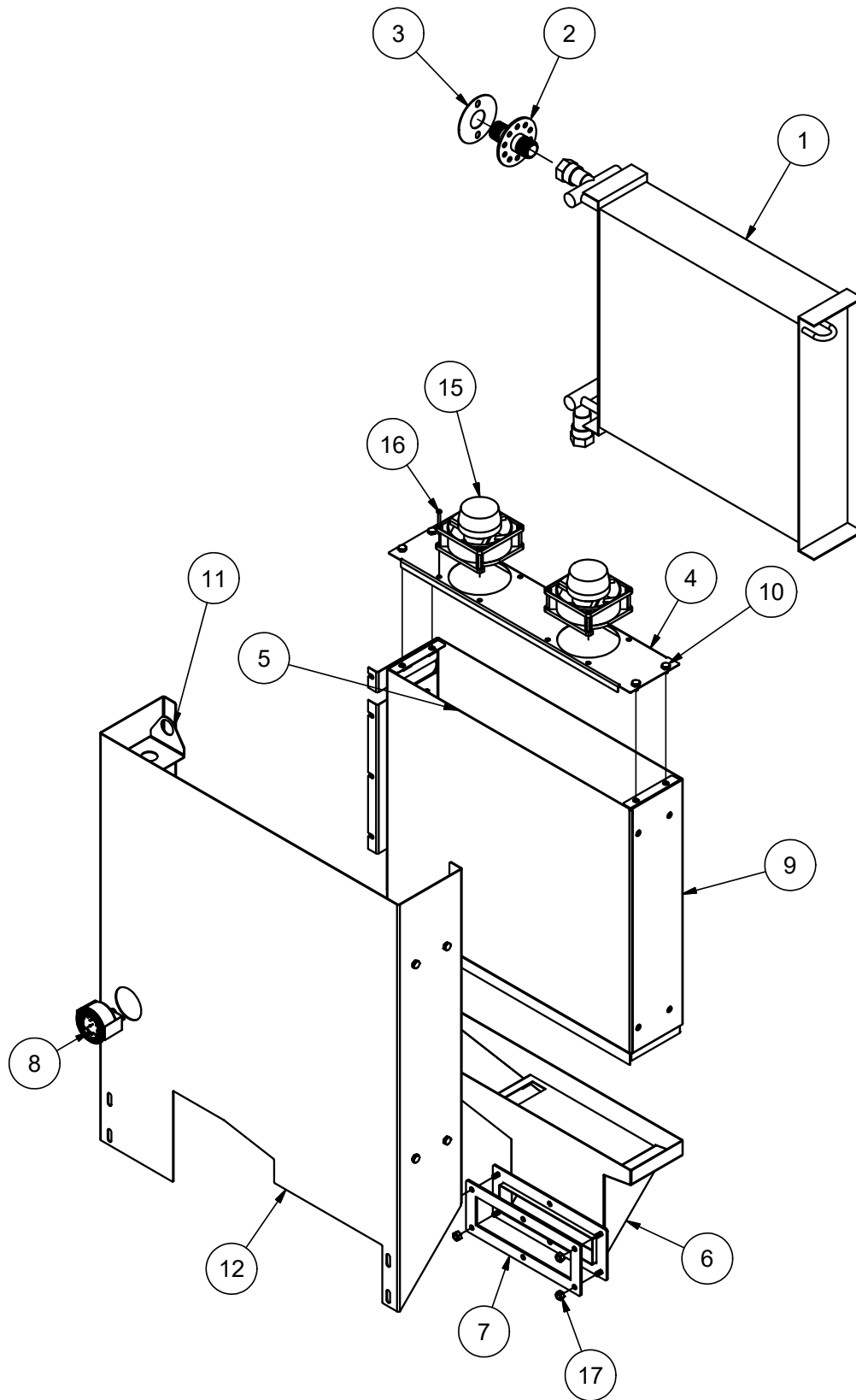


WASH ARMS & MANIFOLD



| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|--|-----------------|
| 1 | 1 | Upper Manifold | 05700-031-34-82 |
| 2 | 4 | Nut, 3/8-16 Hex | 05310-276-01-00 |
| 3 | 4 | Lockwasher, 3/8" | 05311-276-01-00 |
| 4 | 2 | Bolt, Hex 3/8-16 x 7/8" | 05306-011-36-95 |
| 5 | 2 | O-ring | 05330-111-35-15 |
| 6 | 1 | Positioning Bracket, Manifold Tube | 05700-011-34-63 |
| 7 | 1 | Tube, Wash Manifold | 05700-031-92-58 |
| 8 | 2 | Gasket, Manifold | 05700-111-35-03 |
| 9 | 1 | Wash Arm Assembly | 05700-004-13-13 |
| 10 | 1 | Bearing Assembly | 05700-021-35-97 |
| 11* | 2 | Clip, Retaining, Rinse Head Bushing | 05340-112-01-11 |
| 12* | 2 | Bearing Assembly, Rinse Arm | 05700-004-54-71 |
| 13 | 2 | Complete Rinse Arm Assembly | 05700-004-47-74 |
| | 2 | Rinse Arm | 05700-004-47-56 |
| 14 | 4 | Rinse Arm End-cap | 04730-111-60-41 |
| 15 | 1 | Lower Wash Manifold Weldment | 05700-002-21-70 |
| 16 | 5 | Locknut, 1/4-20 Hex with Nylon Insert | 05310-374-01-00 |
| 17 | 1 | Rinse Manifold Weldment | 05700-002-01-19 |
| 18 | 2 | Bolt, Hex 3/8-16 x 1 1/4" | 05305-276-10-00 |
| 19 | 1 | Wash Arm, Double Assembly | 05700-003-94-00 |
| | 1 | Wash Arm, Double Assembly, 460 V (Not Shown) | 05700-002-46-86 |
| | 1 | Wash Arm Assembly, 460 V (Not Shown) | 05700-021-63-81 |
| | 1 | Wash Arm Weldment, 460 V (Not Shown) | 05700-021-63-42 |
| | 1 | Bearing Assembly, 460 V (Not Shown) | 05700-021-63-80 |
| 20 | 6 | Wash Arm End-cap | 05700-003-31-59 |

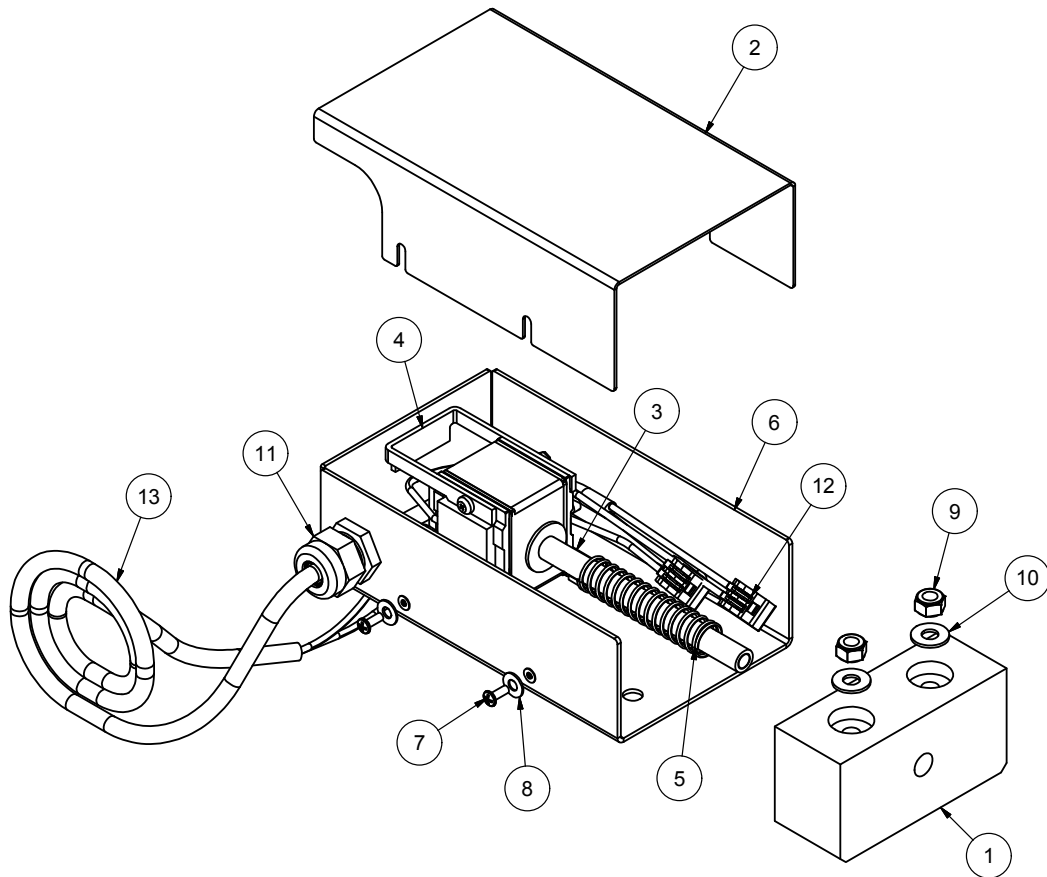
*Rinse Arm Bearing Kit
(Includes items 11 and 12)
06401-004-57-50



| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|---|-----------------|
| | | Complete VER System Assembly | 05700-004-18-05 |
| 1 | 1 | Coil, Heat Exchanger | 04420-004-19-61 |
| 2 | 1 | Inlet, Cold Water | 05700-004-19-01 |
| 3 | 1 | Ring, Water Inlet | 05700-004-19-24 |
| 4 | 1 | Plate, Fan Mounting | 05700-004-18-07 |
| 5 | 1 | Upper Shroud | 05700-004-18-06 |
| 6 | 1 | Exhaust Box | 05700-004-18-04 |
| 7 | 1 | Gasket, Heat Exchanger | 05330-004-18-22 |
| 8 | 1 | Gauge | 06680-011-86-42 |
| 9 | 1 | Coil Box Back | 05700-004-18-03 |
| 10 | 12 | Bolt, 1/4-20 x 3/8" Hex | 05305-274-20-00 |
| 11 | 1 | Bracket, Vacuum Breaker | 05700-004-18-91 |
| 12 | 1 | Shroud, Heat Exchanger | 05700-004-18-92 |
| 13 | 6 | Locknut, 10-24 Hex with Nylon Insert | 05310-373-01-00 |
| 14 | 6 | Washer, Flat | 05311-173-02-00 |
| 15 | 2 | Fan, 3.62 Square, 85-236 VAC, Corrosion-resistant | 05999-004-19-46 |
| 16 | 8 | Screw, 6-32 x 1 1/2" | 05305-004-19-80 |
| 17 | 4 | Locknut, 1/4-20 Hex with Nylon Insert | 05310-374-01-00 |

Click [here](#) for mounting instructions.





| ITEM | QTY | DESCRIPTION | PART NUMBER |
|------|-----|-------------------------------|-----------------|
| 1 | 1 | Guide Block, Door Lock | 09330-004-22-72 |
| 2 | 1 | Cover, Door Lock Mounting | 05700-004-22-80 |
| 3 | 1 | Rod, Interlock Weldment | 05700-004-23-15 |
| 4 | 1 | Solenoid, Horizontal, 1" Push | 04820-004-24-11 |
| 5 | 1 | Spring, Compression | 05935-004-24-10 |
| 6 | 1 | Base, Door Interlock Box | 05700-004-24-25 |
| 7 | 8 | Screw, 3/8" Pan Head | 05305-171-02-00 |
| 8 | 8 | Washer, Flat #10 | 05311-173-02-00 |
| 9 | 2 | Locknut, 1/4-20 | 05310-374-01-00 |
| 10 | 2 | Washer, 1/4-20 | 05311-174-01-00 |
| 11 | 1 | Fitting, Black | 05975-011-59-50 |
| 12 | 2 | Connector, 2-Conductor | 05935-004-03-49 |
| 13 | 1 | SJ Cord, 55" | 05700-004-24-31 |

The following instructions are for models equipped with the Door Interlock option. These instructions should only be used if the door interlock fails to unlatch and the doors won't open.

1. Turn machine off by flipping the power switch to "OFF."

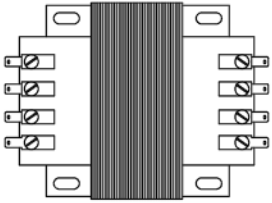


2. If this doesn't disengage the interlock rod, push the rod back by hand.

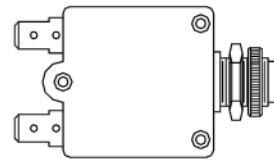
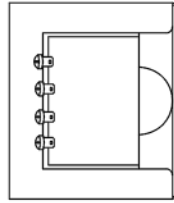


3. The door should now open.
4. Contact a qualified service agency to have the interlock serviced.

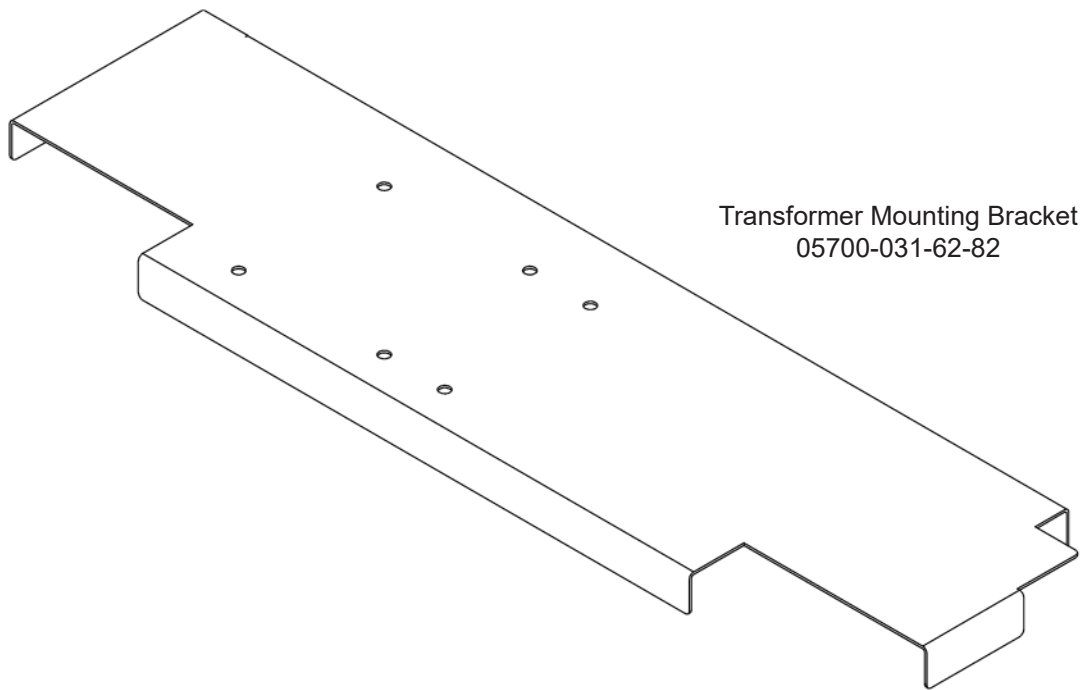
460 V MACHINE TRANSFORMER MOUNTING BOX



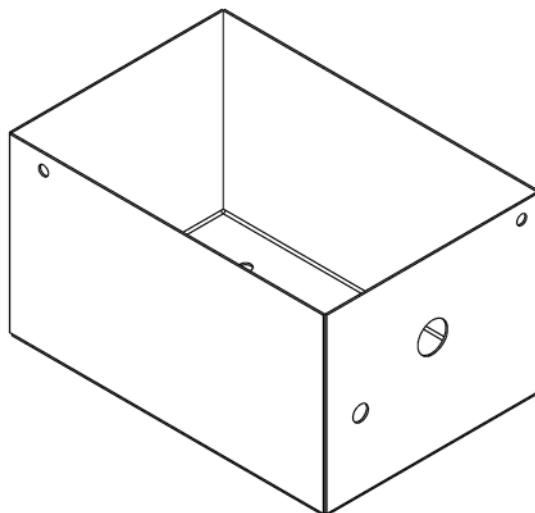
460 V Transformer
05950-111-65-93



2 A Circuit Breaker
05925-111-64-18



Transformer Mounting Bracket
05700-031-62-82



Transformer Mounting Box
05700-002-10-01

Transformer Mounting Box Top
(Not Shown)
05700-000-78-53

Call 1-880-800-5672 to order kits for HT 180 HH models and use the part numbers below:

| DESCRIPTION | PART NUMBER |
|-------------------------------|-----------------|
| Door Interlock Kit | 06401-004-03-23 |
| Door Magnet Cover Kit | 06401-004-07-73 |
| Drain Water Tempering Kit | 06401-004-07-86 |
| Exhaust Fan Contactor Kit | 05700-004-35-35 |
| False Panel Kit | 05700-002-52-89 |
| Phase Conversion Kit - HH | 06401-004-00-22 |
| Phase Conversion Kit - HH VER | 06401-004-00-23 |
| Go Box Kit* | 06401-003-62-04 |

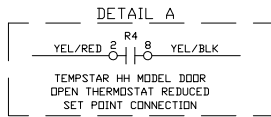
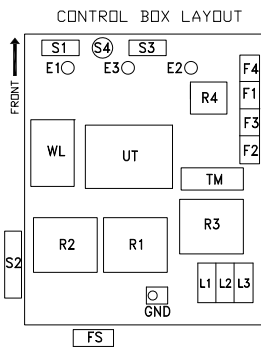
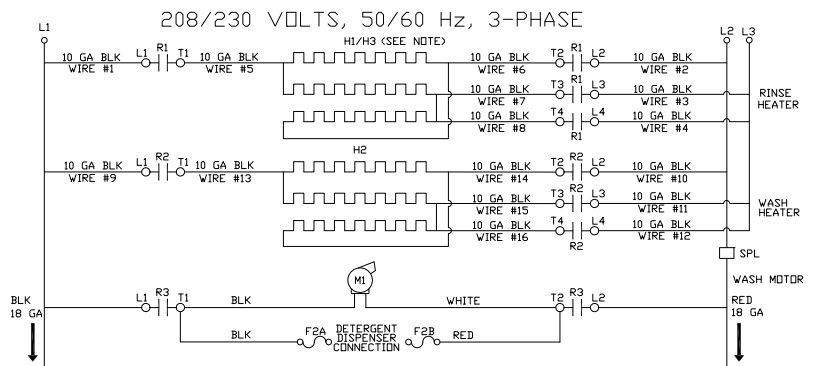
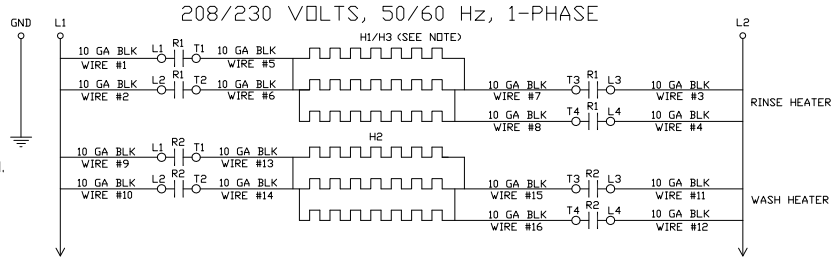
*The Go Box is a kit of the most-needed parts to successfully complete a repair in the first call 90% or more of the time.

HT-180 SCHEMATIC HH/HH-VER

LEGEND

- L1,L2,L3 POWER DISTRIBUTION BLOCK
- GND GROUND
- H1 RINSE HEATER
- H2 WASH HEATER
- H3 RINSE HEATER (SEE NOTE)
- M1 WASH MOTOR
- R1 RINSE HEATER CONTACTOR
- R2 WASH HEATER CONTACTOR
- R3 WASH MOTOR CONTACTOR
- R4 CONTROL RELAY
- F1 FUSE, CONSTANT VOLTAGE CONN.
- F2 FUSE, DETERGENT DISPENSER
- F3 FUSE, RINSE DISPENSER
- F4 FUSE, EXHAUST FAN
- S1 POWER SWITCH
- S2 DOOR SWITCH
- S3 AUTO/MANUAL (DELIME) SWITCH
- S4 CYCLE SELECTOR
- E1 POWER LIGHT
- E2 HEATER OVERLOAD LIGHT
- E3 CYCLE LIGHT
- HLTS1 HIGH LIMIT, WASH HEATER
- HLTS2 HIGH LIMIT, RINSE HEATER
- TS1 RINSE HEATER THERMOSTAT
- TS2 WASH HEATER THERMOSTAT
- HP HIGH WATER LEVEL PROBE
- WL WATER LEVEL CONTROL
- FS RINSE/FILL SOLENOID
- UT UNIVERSAL TIMER
- TM EXHAUST FAN TIMER
- PB1 RINSE TEMP PROBE
- PB2 WASH TEMP PROBE
- RF RECOVERY FANS (OPTIONAL)
- DI DOOR INTERLOCK (OPTIONAL)
- SPL SPLICE

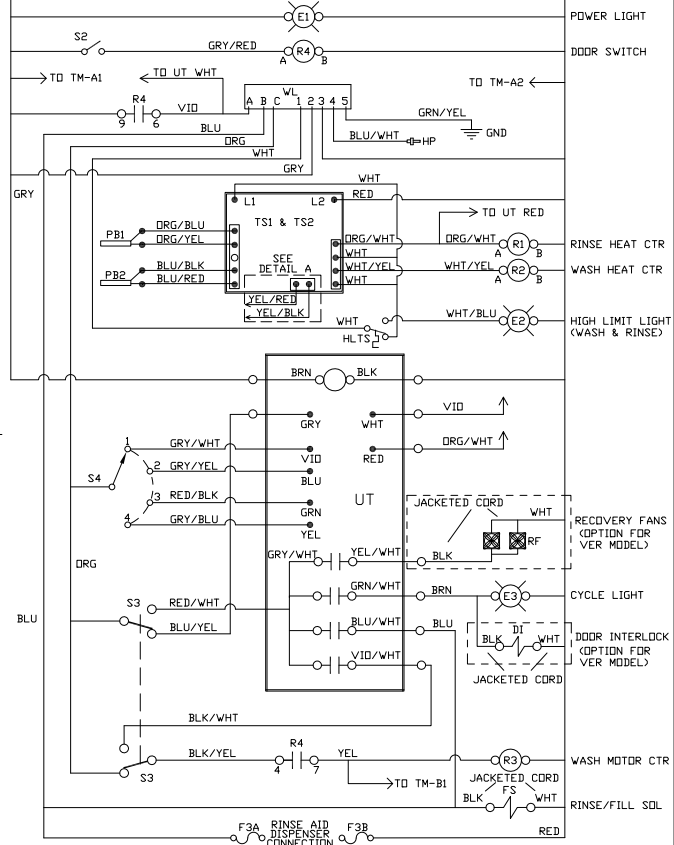
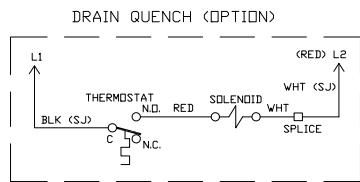
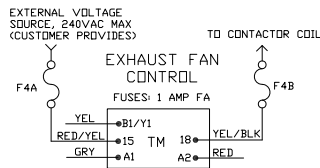
NOTE: ON HH-VER MODEL ONLY, H3 IS AN ADDITIONAL HEATER, WIRED IN PARALLEL WITH H1.



UT DIP-SWITCH SETTINGS

| | | | | | |
|----|----|---|---|---|---|
| HH | 0 | 0 | 0 | 0 | 1 |
| | 1 | 1 | 1 | 4 | 3 |
| | 8 | 7 | 6 | 5 | 4 |
| | 2 | 1 | 1 | 2 | 1 |
| | ON | | | | |

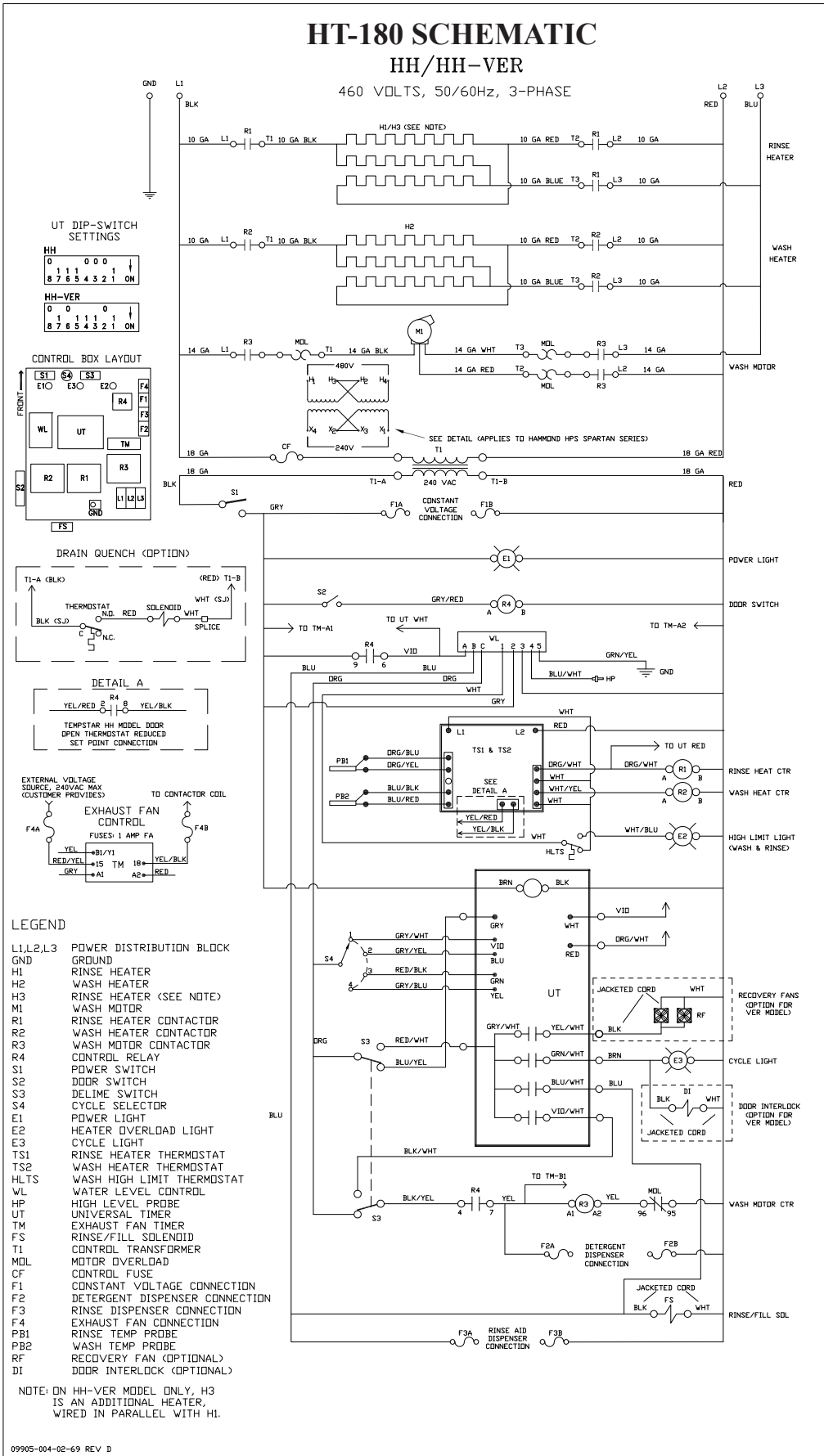
| | | | | | |
|--------|----|---|---|---|---|
| HH-VER | 0 | 0 | 0 | 0 | 1 |
| | 1 | 1 | 1 | 1 | 1 |
| | 8 | 7 | 6 | 5 | 4 |
| | 3 | 2 | 1 | 2 | 1 |
| | ON | | | | |



HT-180 SCHEMATIC

HH/HH-VER

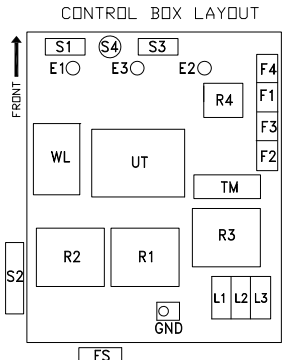
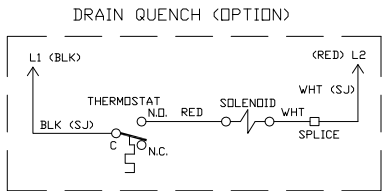
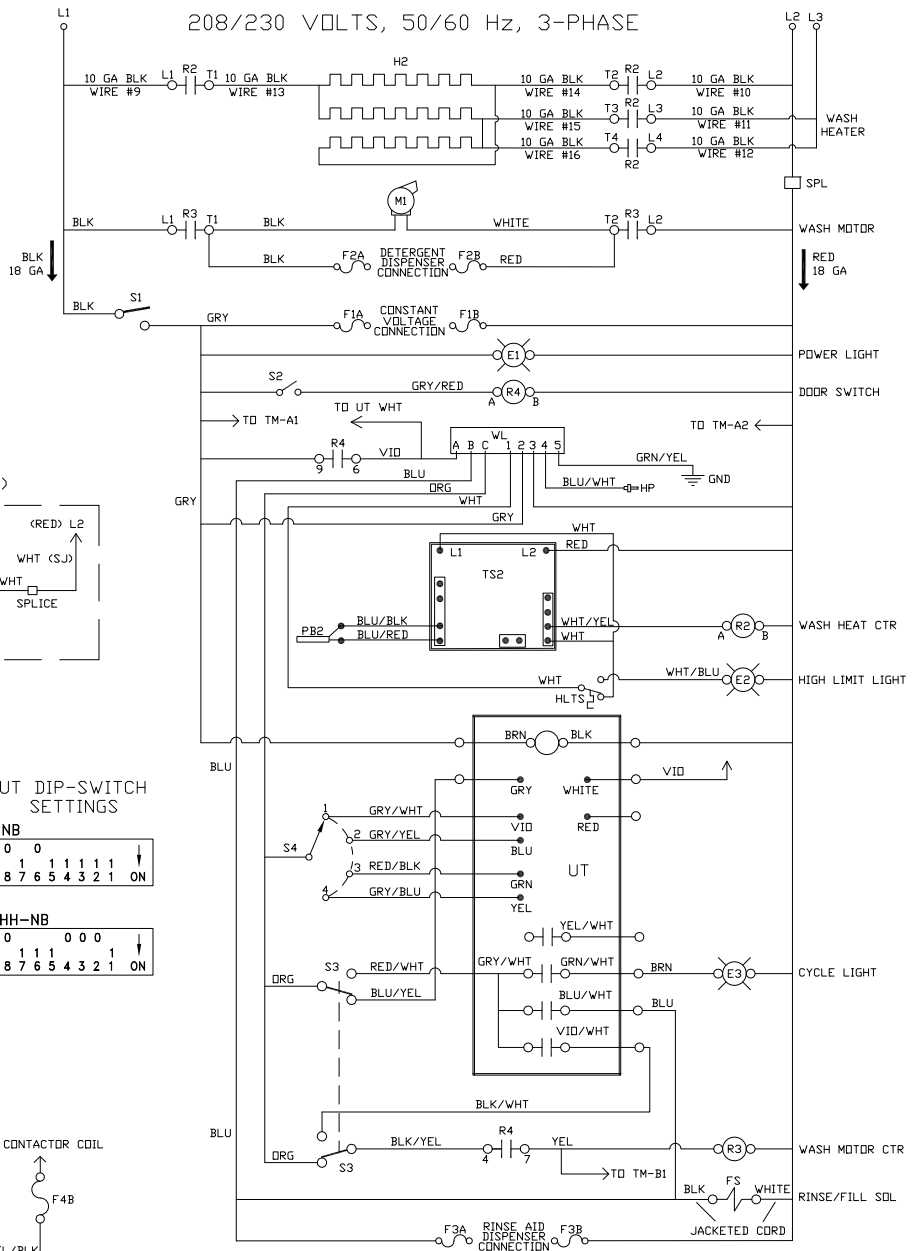
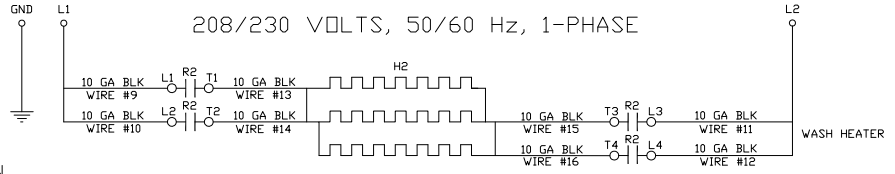
460 VOLTS, 50/60Hz, 3-PHASE



**HT-180 SCHEMATIC
NB/HH-NB**

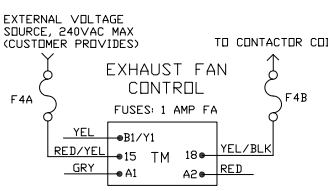
LEGEND

- L1,L2,L3 POWER DISTRIBUTION BLOCK
- GND GROUND
- H2 WASH HEATER
- M1 WASH MOTOR
- R2 WASH HEATER CONTACTOR
- R3 WASH MOTOR CONTACTOR
- R4 CONTROL RELAY
- F1 CONSTANT VOLTAGE CONNECTION
- F2 DETERGENT DISPENSER FUSE BLOCK
- F3 RINSE DISPENSER FUSE BLOCK
- F4 EXHAUST FAN FUSE BLOCK
- S1 POWER SWITCH
- S2 DOOR SWITCH
- S3 AUTO/MANUAL (DELIME) SWITCH
- S4 CYCLE SELECTOR
- E1 POWER LIGHT
- E2 HEATER OVERLOAD LIGHT
- E3 CYCLE LIGHT
- HLTS WASH HEATER HIGH LIMIT
- TS2 WASH HEATER THERMSTAT
- HP HIGH WATER LEVEL PROBE
- WL WATER LEVEL CONTROL
- FS RINSE/FILL SOLENOID
- UT UNIVERSAL TIMER
- TM EXHAUST FAN TIMER
- PB2 WASH TEMP PROBE
- SPL SPLICE



UT DIP-SWITCH SETTINGS

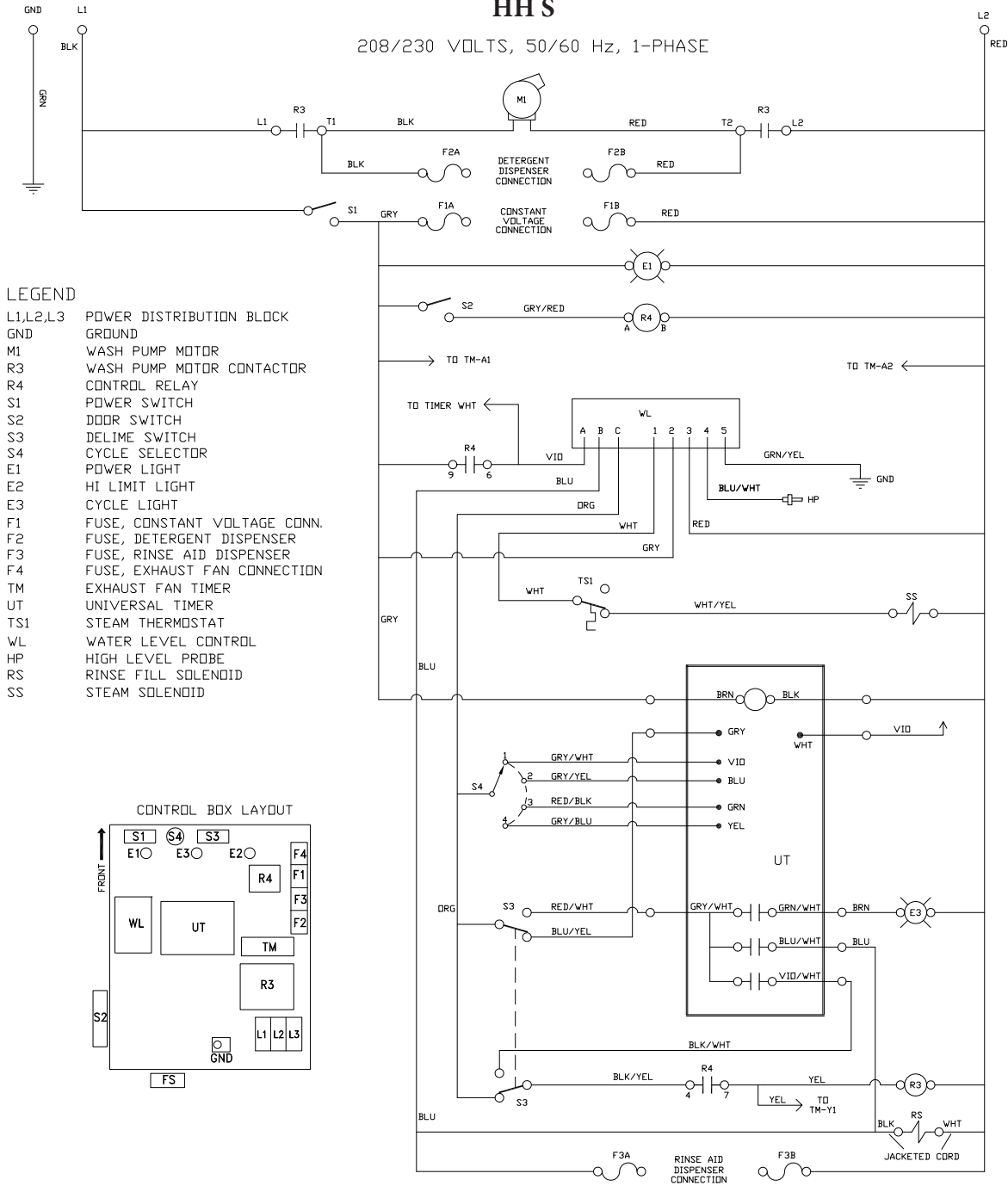
| | | | | | | | |
|-------|---|---|---|---|---|---|------|
| NB | | | | | | | |
| 0 | 0 | | | | | | |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | ↓ |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 ON |
| HH-NB | | | | | | | |
| 0 | | | | 0 | 0 | 0 | |
| 1 | 1 | 1 | 1 | | 1 | | ↓ |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 ON |



09905-003-75-97 REV C

HT-180 SCHEMATIC HH S

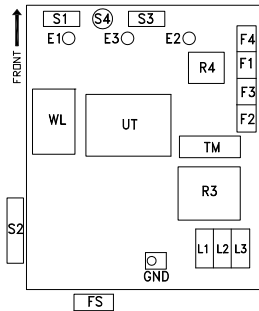
208/230 VOLTS, 50/60 Hz, 1-PHASE



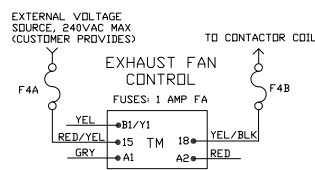
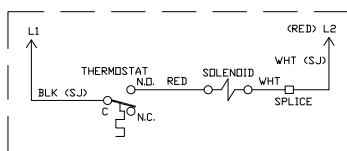
LEGEND

- L1,L2,L3 POWER DISTRIBUTION BLOCK
- GND GROUND
- M1 WASH PUMP MOTOR
- R3 WASH PUMP MOTOR CONTACTOR
- R4 CONTROL RELAY
- S1 POWER SWITCH
- S2 DOOR SWITCH
- S3 DELIME SWITCH
- S4 CYCLE SELECTOR
- E1 POWER LIGHT
- E2 HI LIMIT LIGHT
- E3 CYCLE LIGHT
- F1 FUSE, CONSTANT VOLTAGE CONN.
- F2 FUSE, DETERGENT DISPENSER
- F3 FUSE, RINSE AID DISPENSER
- F4 FUSE, EXHAUST FAN CONNECTION
- TM EXHAUST FAN TIMER
- UT UNIVERSAL TIMER
- TS1 STEAM THERMOSTAT
- WL WATER LEVEL CONTROL
- HP HIGH LEVEL PROBE
- RS RINSE FILL SOLENOID
- SS STEAM SOLENOID

CONTROL BOX LAYOUT



DRAIN QUENCH (OPTION)

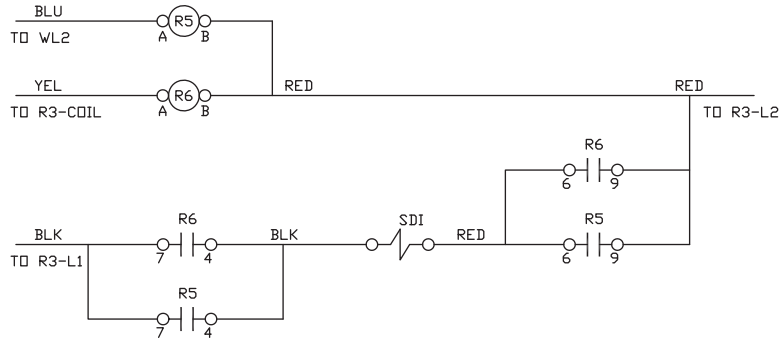


UT DIP-SWITCH SETTINGS

| STEAM | | | | | | | |
|-------|---|---|---|---|---|---|----|
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| | | | | | | | ON |

| HH-STEAM | | | | | | | |
|----------|---|---|---|---|---|---|----|
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| | | | | | | | ON |

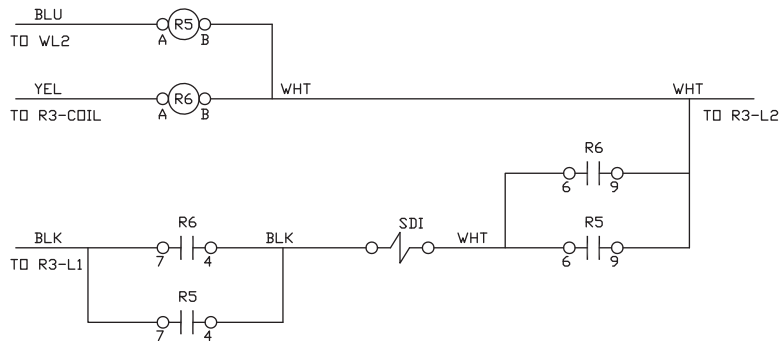
**HT 180 SDI OPTION
FOR 208/230 VAC CIRCUIT**



LEGEND

- R5 RELAY, RINSE
- R6 RELAY, WASH
- SDI SOLENOID, SAFETY DOOR INTERLOCK

**HT 180 SDI OPTION
FOR 120 VAC CIRCUIT**



LEGEND

- R5 RELAY, RINSE
- R6 RELAY, WASH
- SDI SOLENOID, SAFETY DOOR INTERLOCK

NOBLE DOOR-TYPE DISHMACHINES



Noble Warewashing • Lancaster, Pennsylvania
www.nobleproducts.biz
For Service Call 1-888-800-5672