

# INSTALLATION, OPERATION, AND SERVICE MANUAL



RACKSTAR® SERIES CONVEYOR DISHMACHINES

## MANUFACTURER'S LIMITED WARRANTY (APPLICABLE ONLY IN THE UNITED STATES AND CANADA)

#### **WARRANTY REGISTRATION:**

To register your Jackson Dishmachine's warranty go to **jacksonwws.com/warranty** or call 1-888-800-5672. Failure to register the Dishmachine will void the warranty.

#### **ONE YEAR LIMITED PARTS AND LABOR WARRANTY**

For a period of one (1) year from date of original installation of a new Jackson Dishmachine (but in no event to exceed eighteen (18) months from date of shipment from Jackson's factory), Jackson WWS, Inc. (Jackson) will repair or replace, at its discretion, any original part that proves defective in materials or workmanship at the time the Dishmachine was purchased; provided that (i) the Dishmachine has not been altered, (ii) the Dishmachine has been properly installed, maintained, and operated under normal use conditions and in accordance with the applicable installation, operation and service manual available on the Jackson website, and (iii) a warranty claim is reported to a Jackson Authorized Service Agency within the warranty period. This warranty includes replacement with Jackson specified genuine replacement parts, purchased directly from a Jackson Authorized Parts Distributor or Service Agency. Use of generic replacement parts may create a hazard and shall void this warranty.

#### THIS WARRANTY DOES NOT APPLY OUTSIDE THE UNITED STATES AND CANADA.

Jackson will pay the labor to repair or replace a defective original part as a part of the warranty, provided that a Jackson Authorized Service Agency performs the labor. Any repair or replacement work by anyone other than a Jackson Authorized Service Agency is the sole responsibility of the purchaser. Labor coverage is limited to regular hourly rates; Jackson will not pay overtime premiums or emergency service charges.

Accessory components (such as table limit switches, pressure regulators, and drain water tempering kits) that are not installed by Jackson at the factory and are shipped with the Dishmachine carry only a (1) one-year parts warranty. Labor to repair or replace these components is not included in the warranty or covered by Jackson. Booster heaters not manufactured by Jackson are not covered by this warranty but are warranted by their respective manufacturers. This warranty is void if any defect or failure is a direct result from shipping, handling, fire, water, accident, alteration, modification, misuse, abuse, flood, acts of God, burglary, casualty, attempted repair by unauthorized persons, use of replacement parts not authorized by Jackson, improper installation, installation not in accordance with local electrical and plumbing codes, if the serial number has been removed or altered, if the Dishmachine is used for any purpose other than originally intended, or if the equipment is installed for residential use.

Jackson does not authorize any other entity or person, including, without limitation, any entity or person who deals in Jackson Dishmachines, to change this warranty or create any other obligation in connection with Jackson Dishmachines.

#### **TRAVEL LIMITATIONS:**

Jackson limits warranty travel time to the customer site within 50 miles of the Jackson authorized service agent's office and during regular business hours. Jackson will not pay for travel time and mileage that exceeds these limits, or any fees such as those for air or boat travel without prior authorization.

#### REPLACEMENT PARTS WARRANTY:

For a period of (90) ninety days from the date of installation by a Jackson Authorized Service Agency (but in no event to exceed (180) one-hundred-eighty days from the date of purchase from a Jackson Authorized Parts Distributor or Service Agency), Jackson will repair or replace, at its discretion, any Jackson genuine replacement parts that prove defective in materials or workmanship at the time the replacement parts were installed. This warranty does not include paying the labor to repair or replace the replacement part. This warranty is subject to all conditions, exclusions and limitations applicable to the Dishmachine.

## MANUFACTURER'S LIMITED WARRANTY (CONT.) (APPLICABLE ONLY IN THE UNITED STATES AND CANADA)

#### **PRODUCT CHANGES:**

Jackson reserves the right to make changes in design and specification of any component of the Dishmachine as engineering or necessity requires.

#### **DISCLAIMER OF WARRANTIES:**

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, THAT ARE NOT SET FORTH HEREIN. OR THAT EXTEND BEYOND THE DURATION HEREOF.

#### **LIMITATION OF REMEDIES AND LIABILITIES:**

YOUR SOLE AND EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY SHALL BE PRODUCT REPAIR OR REPLACEMENT AS PROVIDED HEREIN.

UNDER NO CIRCUMSTANCES WILL JACKSON BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THE NATURE OF PENALTIES. JACKSON'S LIABILITY ON ANY CLAIM OF ANY KIND WITH RESPECT TO THE GOODS OR SERVICES COVERED HEREUNDER SHALL IN NO CASE EXCEED THE PRICE OF THE GOODS OR SERVICES OR PART THEREOF WHICH GIVES RISE TO THE CLAIM.

#### **ITEMS NOT COVERED:**

THIS WARRANTY DOES NOT COVER (1) ADJUSTMENTS INCLUDING, BUT NOT LIMITED TO, TIMER CAMS, THERMOSTATS, DOORS, TANK HEATER ADJUSTMENTS OR CLUTCHES; (2) AIR FREIGHT OR OVERNIGHT FREIGHT; (3) ANY AMOUNT EXCEEDING ORIGINAL PURCHASE PRICE; (4) CLEANING OF DRAIN VALVES, GAS LINES, RINSE/WASH NOZZLES, STRAINERS, SCREENS, OR SPRAY PIPES; (5) CLEANING OR DELIMING OF THE DISHMACHINE OR ANY COMPONENT INCLUDING, BUT NOT LIMITED TO, WASH ARMS, RINSE ARMS AND STRAINERS; (6) CONDITIONS CAUSED BY THE USE OF INCORRECT (NON-COMMERCIAL) GRADE DETERGENTS; (7) CORROSION FROM CHEMICALS DISPENSED IN EXCESS OF RECOMMENDED CONCENTRATIONS: (8) COSMETIC DAMAGE. INCLUDING BUT NOT LIMITED TO, SCRATCHES, DENTS, CHIPS. AND OTHER DAMAGE TO THE DISHMACHINE FINISHES, UNLESS SUCH DAMAGE RESULTS FROM DEFECTS IN MATERIALS AND WORKMANSHIP AND IS REPORTED TO JACKSON WITHIN (30) THIRTY DAYS FROM THE DATE OF INSTALLATION; (9) DAMAGE CAUSED BY LABOR DISPUTE; (10) DAMAGES RESULTING FROM IMPROPER CONNECTION TO UTILITY SERVICE; (11) DAMAGES RESULTING FROM WATER CONDITIONS, INADEQUATE OR EXCESSIVE WATER PRESSURE, ACCIDENTS, ALTERATIONS, IMPROPER USE, ABUSE, HANDLING, OVERLOADS, TAMPERING, IMPROPER INSTALLATION OR FAILURE TO FOLLOW MAINTENANCE AND OPERATING PROCEDURES: (12) DISCOLORATION, RUST OR OXIDATION OF SURFACES RESULTING FROM CAUSTIC OR CORROSIVE ENVIRONMENTS, INCLUDING, BUT NOT LIMITED TO, HIGH SALT CONCENTRATIONS, HIGH MOISTURE OR HUMIDITY, OR EXPOSURE TO CHEMICALS; (13) ELECTRIC BOOSTERS, FEED LINES, FLEX HOSE, FUSES, GARBAGE DISPOSALS, OR GAS PILOTS; (14) EXCESSIVE LIME, MINERAL, OR ALKALINE BUILDUP; (15) EXPENSES DUE TO DISCONNECTION. DELIVERY, RETURN AND REINSTALLATION: (16) FAILURE OF ELECTRICAL COMPONENTS DUE TO CONNECTION OF CHEMICAL DISPENSING EQUIPMENT INSTALLED BY OTHERS; (17) FAILURE OF FACILITY WATER HEATER TO MAKE TEMPERATURE; (18) FAILURE TO MAINTAIN WATER HARDNESS LOWER THAN 3.0 GRAINS, PH BETWEEN 7.0 AND 8.5 AND TOTAL DISSOLVED SOLIDS BELOW 250 PPM; (19) FAILURE TO COMPLY WITH LOCAL ELECTRICAL BUILDING CODES; (20) LEAKS OR DAMAGE RESULTING FROM SUCH LEAKS CAUSED BY THE INSTALLER, INCLUDING THOSE AT MACHINE TABLE CONNECTIONS, OR BY CONNECTION OF CHEMICAL DISPENSING EQUIPMENT INSTALLED BY OTHERS; (21) OPENING OR CLOSING OF UTILITY SUPPLY VALVES OR SWITCHING OF ELECTRICAL SUPPLY CURRENT: (22) PERFORMANCE OF REGULAR MAINTENANCE AND CLEANING AS OUTLINED IN THE OPERATOR'S GUIDE; (23) REMOVAL OR REINSTALLATION OF INACCESSIBLE DISHMACHINES OR BUILT-IN FIXTURES THAT INTERFERE WITH SERVICING, REMOVAL OR REPLACEMENT OF THE DISHMACHINE; (24) REPLACEMENT WEAR ITEMS INCLUDING, BUT NOT LIMITED TO, CURTAINS, DRAIN BALLS, DOOR GUIDES, GASKETS, O-RINGS, SEALS, SQUEEZE TUBES, AND BEARINGS; (25) RESIDENTIAL USE; (26) USE WITH UTILITY SERVICE OTHER THAN THAT DESIGNATED ON THE RATING PLATE.

## **REVISION HISTORY**

Revision	Date	Made by	Process	Details
А	9-21-16	JH	N/A	Initial release of manual.
В	10-25-16	JH	N/A	Corrected delime instructions. Corrected P/Ns for item #6 on pg. 42. Updated pg. 13 to change the pressure regulator from standard to optional. Updated Miscellaneous Electrical Components page. Added a Door Assemblies page. Added a Frame Assembly page. Added Display Fault Codes.
С	1-19-18	JH	8438 8504 8524 8526 8546 8547 8569 8570 8578 8579	Added the Energy Recovery unit to the manual. Changed maximum water hardness to 3 GPG. Added a Connection Points section to pg. 24. Changed detergent connection point location on pg. 24. Added links to external device and exhaust fan timer instructions to pg. 25. Added Steam unit dimensional drawings. Changed inlet steam flow pressure to 10-30 PSI. Changed plumbing throughout to single-point connection. Added dispenser connection fuses and P/Ns to pg. 41. Updated Pawl Bar Assembly, pg. 57. Corrected Rack Paddle Assembly, pg. 58. Replaced item #12 on pgs. 59 and 60 with new part. Added Drive Plate components to pg. 60. Added communication cable to Display Assembly page. Added a Frame Assembly page. Replaced item #7 on pg. 66 with new part. Changed P/N of Drive Link on pg. 67. Added Booster Heater Add-on Kit to pg. 70. Updated schematics.
D	3-13-18	JH	N/A	Updated dimensional drawings with depiction of drain air-gap and associated specifications.  Updated Drain Line Connection section to be more descriptive and added depiction of drain air-gap and associated specifications.
E	9-10-20	JH	8553 8586 8609 8615 8623 8626 8627 8629 8654 8735 8736	Added 600 V unit to the manual. Added HH unit to the manual. Updated Electrical Requirements pgs. Added instructions hyperlink icon and linked to applicable documents throughout. Added section on adjusting doors. Added section on motor rotation. Added section on table limit switch option. Revised connection points section. Updated curtain sizes. Corrected delime instructions. Added high-limit thermostat. Updated inlet plumbing assemblies. Updated Wash and Pre-wash Arm sections. Updated pre-wash plumbing assembly. Created Rack Rails section and added all rails and components. Updated schematics.
F	2-15-23	JH	8758 8837 8899 22-1337	Revised dimensional drawings to include rack opening width. Corrected chemical-sanitizing unit water temps in Operating Parameters section. Added information about Turbo Rinse. Included wording about Energy Recovery units and hoods. Expanded Connection Points section. Added manifold washers and nuts to Wash System and Pre-wash System pages. Updated Motor Overloads page. Changed striker limit switch P/N. Added fuse-strip bracket assembly to Miscellaneous Electrical Components section. Updated wash and pre-wash motor P/Ns. Added 1-phase wash motor, drive motor, boosters, and booster kits. Revised rack drive assembly and 66 rack rails. Changed lower pre-wash arm P/N. Added ware guides to Miscellaneous section. Updated schematics. Added 1-phase schematic.
G	10-20-23	JH	22-1126	Reverted back to old door P/Ns. Updated rack drive assembly. Corrected top panel P/N. Added P/Ns for HH upper wash arms. Sustaining updates throughout.



## Warewashing Systems

RackStar® 44
RackStar® 66

Electrically-heated rack conveyor machine, available in chemical-sanitizing and hot-water-sanitizing models.

RackStar® 44ER RackStar® 66ER

Electrically-heated, hot-water-sanitizing rack conveyor machine with Energy Recovery System.

RackStar® 44S RackStar® 66S

Steam-heated, hot-water-sanitizing rack conveyor machine.

Models also available with Higher Hood (25-inch Dish Clearance)

The manufacturer provides technical support for all of the dishmachines 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

**CFM** - Cubic Feet per Minute

**ER** - Energy Recovery

**GHT** - Garden Hose Thread

**GPM** - Gallons per Minute

**GPG** - Grains per Gallon

**HP** - Horse Power

Hz - Hertz

ID - Inside Diameter

kW - Kilowatts

MIN - Minimum

NFPA - National Fire Protection Association

**NPT** - National Pipe Thread

ppm - Parts per Million

PSI - Pounds per Square Inch

V - Volts

**40°** ↑ - 40-degree Rise

**70°** - 70-degree Rise

## 44" ELECTRIC/STEAM DIMENSIONS

#### 44" LEFT-TO-RIGHT

#### **LEGEND**

A - Electrical Connection

B - Main Water Inlet

(1/2" NPT, 110 °F MIN (18 kW Booster), 140 °F MIN (12 kW Booster), or 180 °F MIN

(No Booster or Supplied from Steam Booster))

C - Drain Connection

(1 1/2" NPT)

D - Vent Connections

(Including Dampers)
E - Steam Connection

(3/4" NPT)

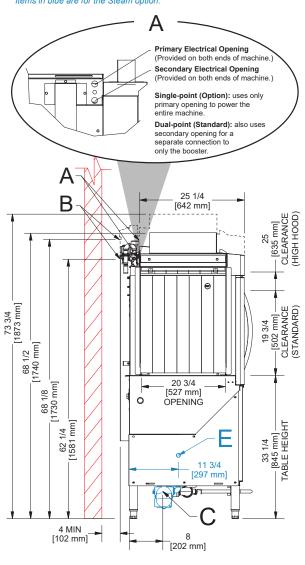
——— - Open Door

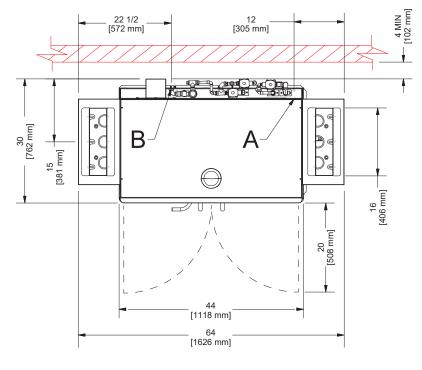
------ - High Hood Option

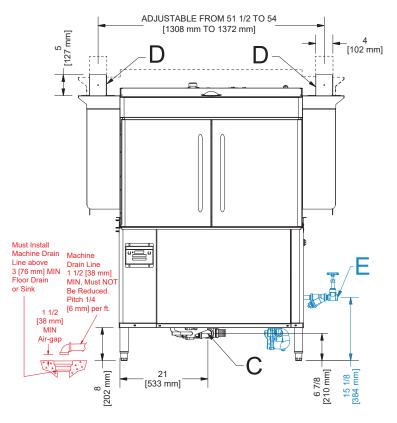
All dimensions from the floor can be increased 1 3/4" using the machine's adjustable feet.

Items in red are not supplied with the machine.

Items in blue are for the Steam option.







## 44" ELECTRIC/STEAM DIMENSIONS

#### 44" RIGHT-TO-LEFT

#### **LEGEND**

A - Electrical Connection

B - Main Water Inlet

(1/2" NPT, 110 °F MIN (18 kW Booster), 140 °F MIN (12 kW Booster), or 180 °F MIN

(No Booster or Supplied from Steam Booster))

C - Drain Connection

(1 1/2" NPT)

D - Vent Connections

(Including Dampers)

E - Steam Connection (3/4" NPT)

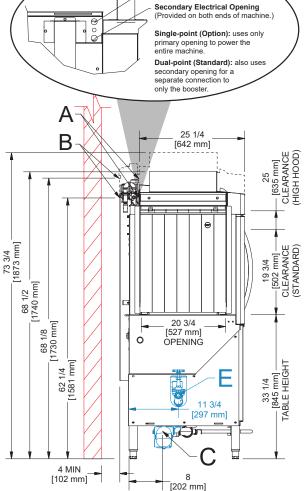
— - Open Door

----- - High Hood Option

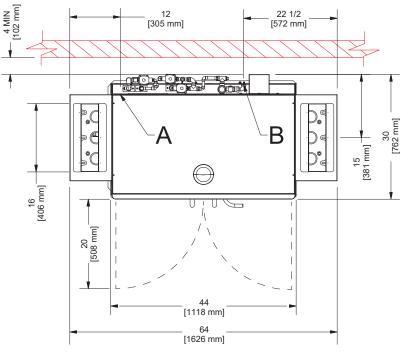
All dimensions from the floor can be increased 1 3/4" using the machine's adjustable feet.

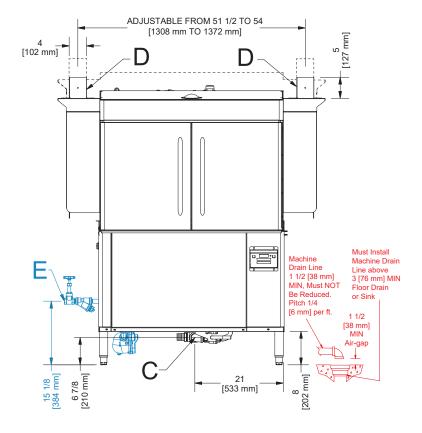
Items in red are not supplied with the machine.

Items in blue are for the Steam option.



**Primary Electrical Opening** (Provided on both ends of machine





## 66" ELECTRIC/STEAM DIMENSIONS

#### 66" LEFT-TO-RIGHT

#### **LEGEND**

A - Electrical Connection
B - Main Water Inlet
(1/2" NPT, 110 °F MIN (18 kW Booster),
140 °F MIN (12 kW Booster), or 180 °F MIN
(No Booster or Supplied from Steam Booster))
C - Drain Connection

(1 1/2" NPT)
D - Vent Connections
(Including Dampers)

E - Steam Connection (3/4" NPT)

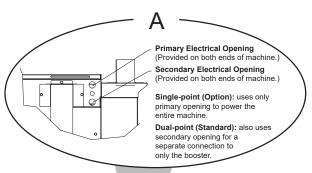
— — - Open Door

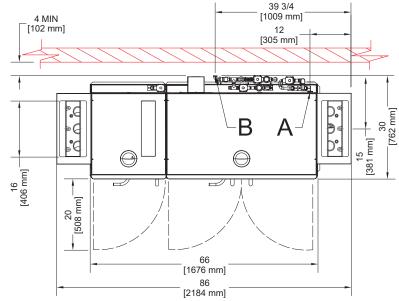
----- - High Hood Option

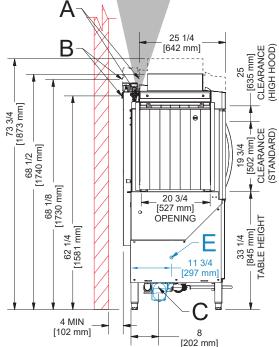
All dimensions from the floor can be increased 1 3/4" using the machine's adjustable feet.

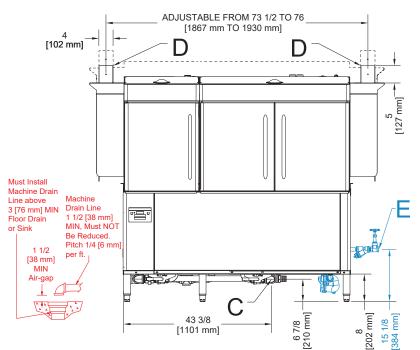
Items in red are not supplied with the machine.

Items in blue are for the Steam option.



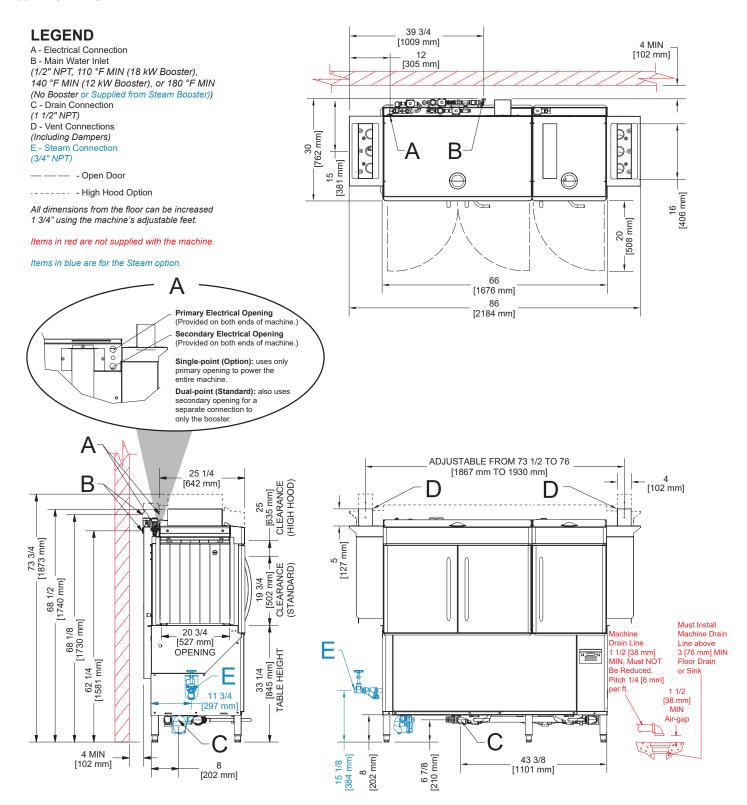






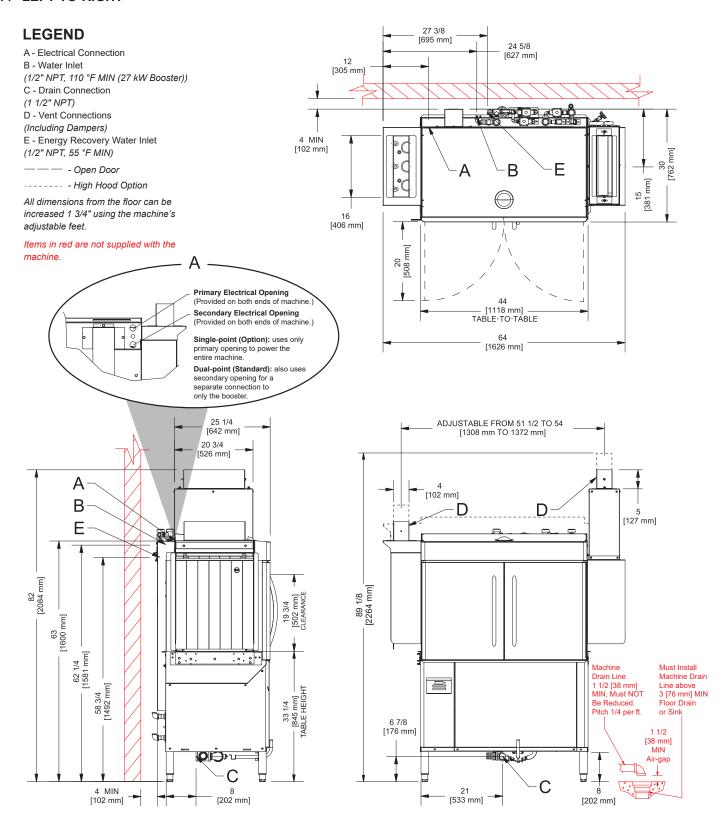
## 66" ELECTRIC/STEAM DIMENSIONS

#### 66" RIGHT-TO-LEFT



## 44" ENERGY RECOVERY DIMENSIONS

#### 44" LEFT-TO-RIGHT



## 44" ENERGY RECOVERY DIMENSIONS

12 [305 mm]

27 3/8

[695 mm]

24 5/8

[627 mm]

#### 44" RIGHT-TO-LEFT

#### **LEGEND**

A - Electrical Connection

B - Water Inlet

(1/2" NPT, 110 °F MIN (27 kW Booster))

C - Drain Connection

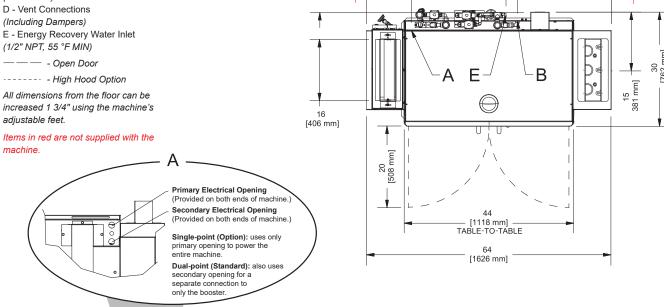
(1 1/2" NPT)

D - Vent Connections

(Including Dampers)

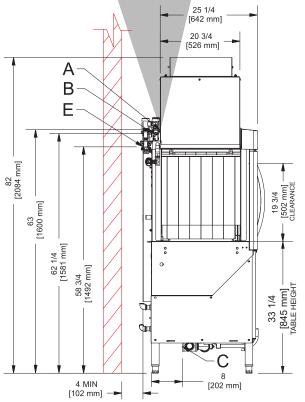
increased 1 3/4" using the machine's adjustable feet.

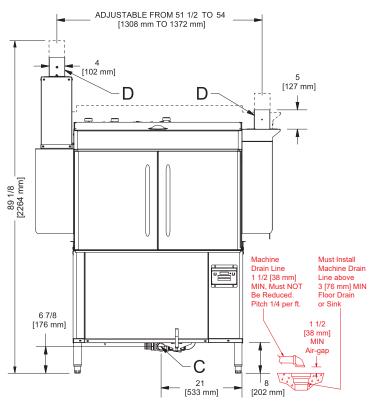
machine.



4 MIN

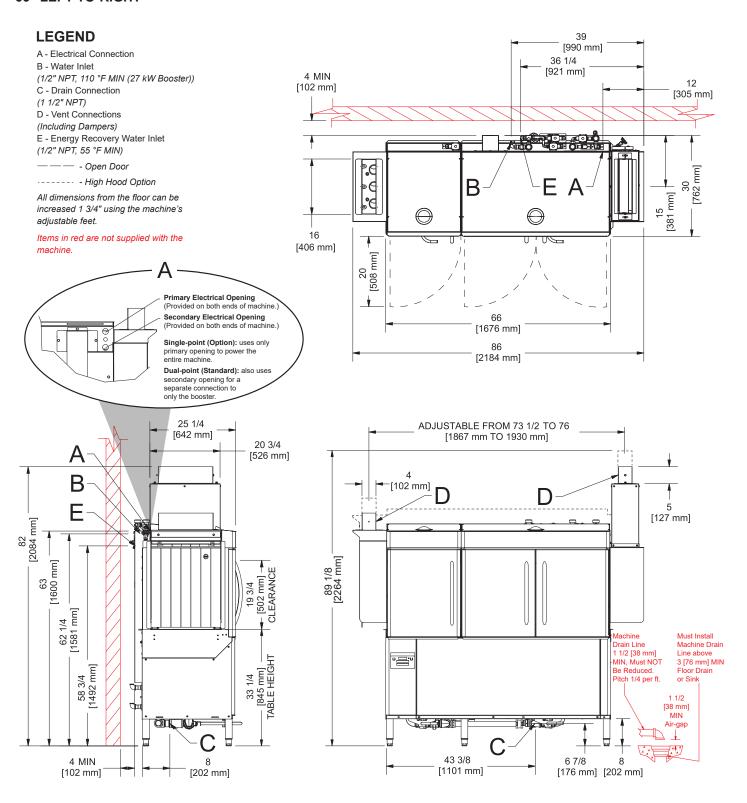
[102 mm]





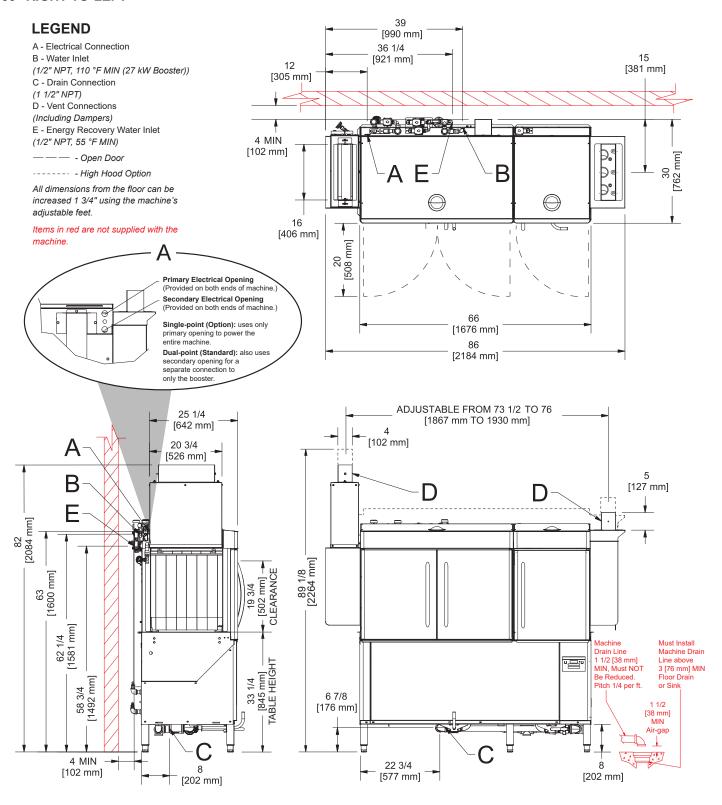
## 66" ENERGY RECOVERY DIMENSIONS

#### 66" LEFT-TO-RIGHT

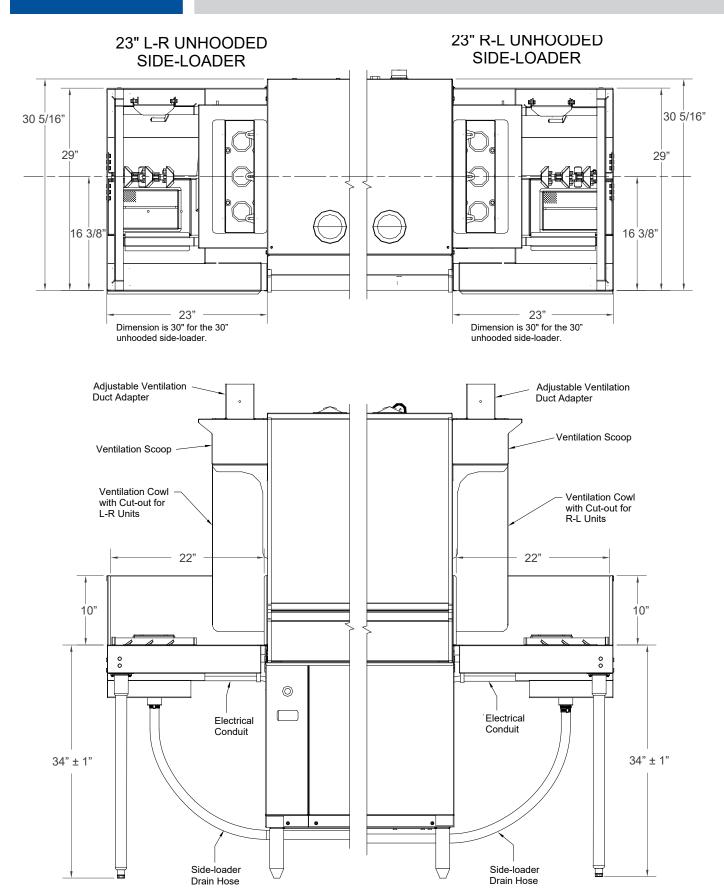


## 66" ENERGY RECOVERY DIMENSIONS

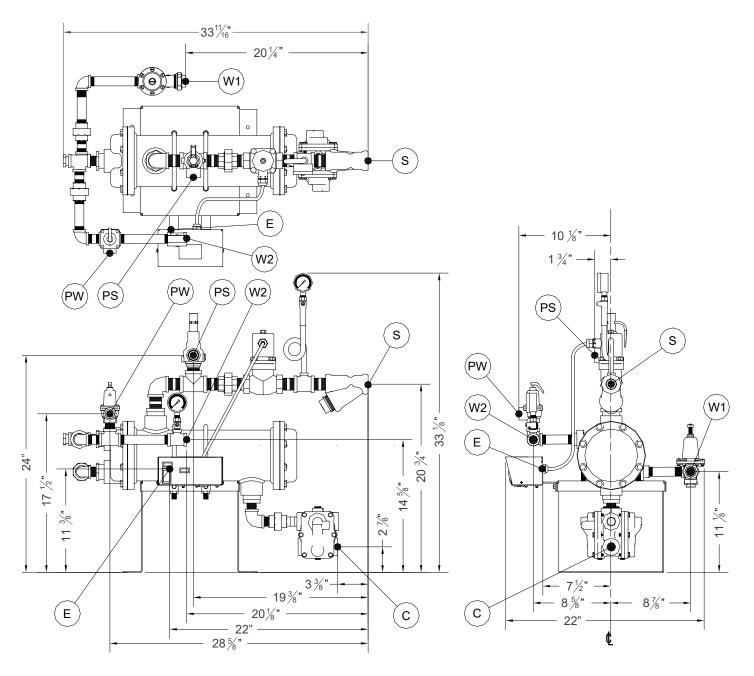
#### 66" RIGHT-TO-LEFT



## SIDE-LOADER DIMENSIONS



## STEAM BOOSTER DIMENSIONS



Click icon for the Steam Booster manual.



E	Main Electrical Connection (7/8" Hole)
W1	Main Inlet Water Connection (3/4" NPT, 110 °F MIN, 20 ± 5 PSI)
W2	Water Outlet Connection (3/4" NPT)
PW	Water Pressure Relief Outlet (3/4" NPT)

PS	Steam Pressure Relief Outlet (1" NPT)
S	Steam Supply to Booster (1" NPT)
С	Steam Condensate Connection (3/4" NPT)



## **OPERATING PARAMETERS**

Operating Capacity:	RackStar 44	RackStar 66	RackStar 44S	RackStar 66S	RackStar 44ER	RackStar 66ER
Racks per Hour	223	223	223	223	223	223
Dishes per Hour	5,575	5,575	5,575	5,575	5,575	5,575
Glasses per Hour	8,028	8,028	8,028	8,028	8,028	8,028

Tank Capacity (Gallons):	RackStar 44	RackStar 66	RackStar 44S	RackStar 66S	RackStar 44ER	RackStar 66ER
Wash Tank	25	25	25	25	25	25
Pre-wash Tank	N/A	15.8	N/A	15.8	N/A	15.8

Electrical Loads:	RackStar 44	RackStar 66	RackStar 44S	RackStar 66S	RackStar 44ER	RackStar 66ER
Wash Motor HP	3	3	3	3	3	3
Drive Motor HP	1/4	1/4	1/4	1/4	1/4	1/4
Pre-wash Motor HP	N/A	2	N/A	2	N/A	2
Wash Heater kW	15	15	N/A	N/A	15	15
Booster Heater kW	40° ↑   70° ↑   12   18*	<b>40°</b> ↑ <b>70°</b> ↑ 12 18*	N/A	N/A	27	27

<sup>\*</sup>On 208/60/3 machines, the booster heater is rated at 17.2 kW.

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 may change without notice.

## **OPERATING PARAMETERS**

HOT-WATER SANITIZING Water Temperatures (°F):	RackStar 44	RackStar 66	RackStar 44S	RackStar 66S	RackStar 44ER	RackStar 66ER	
Pre-wash Temperature	N/A	110-140	N/A	110-140	N/A	110-140	
Minimum Wash Temperature	160	160	160	160	160	160	
Incoming Rinse Temperature	180	180	180	180	180	180	
Minimum Incoming Water Temperat	Minimum Incoming Water Temperature						
12 kW Booster (40° Rise)	140	140	N/A	N/A	N/A	N/A	
18 kW Booster (70° Rise)	110	110	N/A	N/A	N/A	N/A	
27 kW Booster (ER Only)	N/A	N/A	N/A	N/A	110	110	
No Booster	180	180	180 (from Steam Booster)	180 (from Steam Booster)	N/A	N/A	
Minimum Incoming Cold Water Temperature (ER Units Only)	N/A	N/A	N/A	N/A	55	55	

CHEMICAL SANITIZING Water Temperatures (°F):	RackStar 44	RackStar 66	RackStar 44S	RackStar 66S	RackStar 44ER	RackStar 66ER
Pre-wash Temperature	N/A	110-140	N/A	N/A	N/A	N/A
Minimum Wash Temperature	120*	120*	N/A	N/A	N/A	N/A
Incoming Rinse Temperature	120*	120*	N/A	N/A	N/A	N/A
Minimum Incoming Water Temperature	120*	120*	N/A	N/A	N/A	N/A

<sup>\*120 °</sup>F minimum, 140 °F recommended.

Other Water Requirements:	RackStar 44	RackStar 66	RackStar 44S	RackStar 66S	RackStar 44ER	RackStar 66ER
Water Flow Pressure (PSI)	15	15	15	15	15	15
Flow Rate Minimum (GPM)	1.3	1.3	1.3	1.3	1.3	1.3
Water Line Size (NPT)	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Drain Line Size (NPT)	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"

Steam Requirements:	RackStar 44	RackStar 66	RackStar 44S	RackStar 66S	RackStar 44ER	RackStar 66ER
Steam Line for Wash Tank (NPT)	N/A	N/A	3/4"	3/4"	N/A	N/A
Steam Flow Pressure (PSI)	N/A	N/A	10-30	10-30	N/A	N/A
Consumption @ 15 PSI (lbs/hr)	N/A	N/A	60	60	N/A	N/A



Always refer to machine data plate for specific electrical and water requirements. Material provided on this page is for reference only and may change without notice.

## **ELECTRICAL REQUIREMENTS**

## ELECTRICAL REQUIREMENTS



All electrical ratings provided in this manual are for reference only. Always refer to machine data plate to get exact electrical information for this machine. **All electrical work performed on machines should be done in accordance with applicable local, state, territorial, and national codes**. Work should only be performed by qualified electricians and authorized service agents.

If machine is equipped with a booster heater, note the heater has its own electrical connection and therefore requires a separate service (single-point connection is available as an option on three-phase machines only). Amperage loads for motors and heaters are listed on machine data plate for the installation/service technician.

#### **Available Electrical Characteristics:**

- 208 V, 60 Hz, Three-phase
- 230 V, 60 Hz, Three-phase
- 460 V, 60 Hz, Three-phase
- 600 V, 60 Hz, Three-phase
- 208 V, 60 Hz, Single-phase
- 230 V, 60 Hz, Single-phase



#### **Available Wash Tank Heaters:**

15 kW

#### **Available Booster Tank Heaters\*:**

- None (standard)
- 12 kW (40 °F rise in temperature)
- 18 kW\*\* (70 °F rise in temperature)
- 27 kW (ER three-phase units only)

\*Booster tank heaters not available on NB or chemical-sanitizing models.

#### Booster heaters require a separate electrical connection unless singlepoint option is selected.

<sup>\*\*</sup>On 208/60/3 machines, the booster heater is rated at 17.2 kW.





Local codes may require more stringent protection than what is displayed here and on the data plate. Always verify with an electrical service contractor that circuit protection is adequate and meets all applicable national and local codes. Numbers in this manual are for reference and may change without notice. If using a third-party external booster, consult booster manufacturer for booster information. With dual-point connection (standard), booster heater has its own connection. Imbalanced wild leg goes to L3. Also see Motor Rotation section.

#### RackStar 44 Dual-point Connection (Standard)

#### RackStar 44 - 70° Machine Terminal Block

Volts	Phase	Freq	Wash Motor	Drive Motor	Wash Heater	Total Load	MCA	МОР
208	3	60 Hz	9.2 A	1.1 A	41.6 A	51.9 A	54.2 A	60 A
230	3	60 Hz	8.6 A	1.1 A	34.6 A	44.3 A	46.4 A	50 A
460	3	60 Hz	4.3 A	0.7 A	17.3 A	22.3 A	23.4 A	25 A

#### **Booster Terminal Block**

Booster Heater	MCA	МОР							
47.9 A	49.2 A	50 A							
43.3 A	44.6 A	45 A							
21.7 A	23.0 A	25 A							

#### RackStar 44 - 40° ↑ Machine Terminal Block

Volts	Phase	Freq	Wash Motor	Drive Motor	Wash Heater	Total Load	MCA	МОР
208	3	60 Hz	9.2 A	1.1 A	41.6 A	51.9 A	54.2 A	60 A
230	3	60 Hz	8.6 A	1.1 A	34.6 A	44.3 A	46.4 A	50 A
460	3	60 Hz	4.3 A	0.7 A	17.3 A	22.3 A	23.4 A	25 A

#### **Booster Terminal Block**

Booster Heater	MCA	МОР
33.3 A	34.6 A	35 A
28.9 A	30.2 A	35 A
14.4 A	15.7 A	20 A

#### RackStar 44 - ER Machine Terminal Block

Volts	Phase	Freq	Wash Motor	Drive Motor	Wash Heater	Total Load	MCA	МОР
208	3	60 Hz	9.2 A	1.1 A	41.6 A	51.9 A	54.2 A	60 A
230	3	60 Hz	8.6 A	1.1 A	34.6 A	44.3 A	46.4 A	50 A
460	3	60 Hz	4.3 A	0.7 A	17.3 A	22.3 A	23.4 A	25 A

#### **Booster Terminal Block**

Booster Heater	MCA	МОР
74.9 A	76.2 A	80 A
65.0 A	66.3 A	70 A
32.5 A	33.8 A	35 A





Local codes may require more stringent protection than what is displayed here and on the data plate. Always verify with an electrical service contractor that circuit protection is adequate and meets all applicable national and local codes. Numbers in this manual are for reference and may change without notice. If using a third-party external booster, consult booster manufacturer for booster information. With dual-point connection (standard), booster heater has its own connection. Imbalanced wild leg goes to L3. Also see Motor Rotation section.

#### RackStar 66 Dual-point Connection (Standard)

#### RackStar 66 - 70°

Volts	Phase	Freq	PW Motor	Wash Motor	Drive Motor	Wash Heater	Total Load	MCA	МОР
208	3	60 Hz	6.2 A	9.2 A	1.1 A	41.6 A	58.1 A	60.4 A	65 A
230	3	60 Hz	6.2 A	8.6 A	1.1 A	34.6 A	50.5 A	52.6 A	60 A
460	3	60 Hz	3.1 A	4.3 A	0.7 A	17.3 A	25.4 A	26.5 A	30 A

Booster Heater	MCA	МОР
47.9 A	49.2 A	50 A
43.3 A	44.6 A	45 A
21.7 A	23.0 A	25 A

#### RackStar 66 - 40°

Volts	Phase	Freq	PW Motor	Wash Motor	Drive Motor	Wash Heater	Total Load	MCA	МОР
208	3	60 Hz	6.2 A	9.2 A	1.1 A	41.6 A	58.1 A	60.4 A	65 A
230	3	60 Hz	6.2 A	8.6 A	1.1 A	34.6 A	50.5 A	52.6 A	60 A
460	3	60 Hz	3.1 A	4.3 A	0.7 A	17.3 A	25.4 A	26.5 A	30 A

Booster Heater	MCA	МОР
33.3 A	34.6 A	35 A
28.9 A	30.2 A	35 A
14.4 A	15.7 A	20 A

#### RackStar 66 - ER

Volts	Phase	Freq	PW Motor	Wash Motor	Drive Motor	Wash Heater	Total Load	MCA	МОР
208	3	60 Hz	6.2 A	9.2 A	1.1 A	41.6 A	58.1 A	60.4 A	65 A
230	3	60 Hz	6.2 A	8.6 A	1.1 A	34.6 A	50.5 A	52.6 A	60 A
460	3	60 Hz	3.1 A	4.3 A	0.7 A	17.3 A	25.4 A	26.5 A	30 A

Booster Heater	MCA	МОР
74.9 A	76.2 A	80 A
65.0 A	66.3 A	70 A
32.5 A	33.8 A	35 A





Local codes may require more stringent protection than what is displayed here and on the data plate. Always verify with an electrical service contractor that circuit protection is adequate and meets all applicable national and local codes. Numbers in this manual are for reference and may change without notice. With single-point connection (option), booster heater shares a connection with machine. Imbalanced wild leg goes to L3. Also see Motor Rotation section.

#### RackStar 44 Single-point Connection (Option)

#### RackStar 44 - 70°

Volts	Phase	Freq	Wash Motor	Drive Motor	Wash Heater	Booster Heater	Total Load	MCA	МОР
208	3	60 Hz	9.2 A	1.1 A	41.6 A	47.9 A	99.8 A	102.1 A	110 A
230	3	60 Hz	8.6 A	1.1 A	34.6 A	43.3 A	87.6 A	89.7 A	95 A
460	3	60 Hz	4.3 A	0.7 A	17.3 A	21.7 A	44.0 A	45.1 A	50 A

#### RackStar 44 - 40°

Volts	Phase	Freq	Wash Motor	Drive Motor	Wash Heater	Booster Heater	Total Load	MCA	МОР
208	3	60 Hz	9.2 A	1.1 A	41.6 A	33.3 A	85.2 A	87.5 A	95 A
230	3	60 Hz	8.6 A	1.1 A	34.6 A	28.9 A	73.2 A	75.3 A	80 A
460	3	60 Hz	4.3 A	0.7 A	17.3 A	14.4 A	36.7 A	37.8 A	40 A

#### RackStar 44 - ER

Volts	Phase	Freq	Wash Motor	Drive Motor	Wash Heater	Booster Heater	Total Load	MCA	МОР
208	3	60 Hz	9.2 A	1.1 A	41.6 A	74.9 A	126.8 A	129.1 A	140 A
230	3	60 Hz	8.6 A	1.1 A	34.6 A	65.0 A	109.3 A	111.4 A	120 A
460	3	60 Hz	4.3 A	0.7 A	17.3 A	32.5 A	54.8 A	55.9 A	60 A

#### RackStar 44 - NB

Volts	Phase	Freq	Wash Motor	Drive Motor	Wash Heater	Booster Heater	Total Load	МСА	МОР
208	3	60 Hz	9.2 A	1.1 A	41.6 A	N/A	51.9 A	54.2 A	60 A
230	3	60 Hz	8.6 A	1.1 A	34.6 A	N/A	44.3 A	46.4 A	55 A
460	3	60 Hz	4.3 A	0.7 A	17.3 A	N/A	22.3 A	23.4 A	25 A

#### RackStar 44 - S

Volts	Phase	Freq	Wash Motor	Drive Motor	Wash Heater	Booster Heater	Total Load	MCA	МОР
208	3	60 Hz	9.2 A	1.1 A	N/A	N/A	10.3 A	12.6 A	20 A
230	3	60 Hz	8.6 A	1.1 A	N/A	N/A	9.7 A	11.9 A	20 A
460	3	60 Hz	4.3 A	0.7 A	N/A	N/A	5.0 A	6.1 A	15 A





Local codes may require more stringent protection than what is displayed here and on the data plate. Always verify with an electrical service contractor that circuit protection is adequate and meets all applicable national and local codes. Numbers in this manual are for reference and may change without notice. With single-point connection (option), booster heater shares a connection with machine. Imbalanced wild leg goes to L3. Also see Motor Rotation section.

#### RackStar 66 Single-point Connection (Option)

#### RackStar 66 - 70°

Volts	Phase	Freq	PW Motor	Wash Motor	Drive Motor	Wash Heater	Booster Heater	Total Load	MCA	МОР
208	3	60 Hz	6.2 A	9.2 A	1.1 A	41.6 A	47.9 A	106.0 A	108.3 A	115 A
230	3	60 Hz	6.2 A	8.6 A	1.1 A	34.6 A	43.3 A	93.8 A	95.9 A	100 A
460	3	60 Hz	3.1 A	4.3 A	0.7 A	17.3 A	21.7 A	47.1 A	48.2 A	50 A

#### RackStar 66 - 40°

Volts	Phase	Freq	PW Motor	Wash Motor	Drive Motor	Wash Heater	Booster Heater	Total Load	MCA	МОР
208	3	60 Hz	6.2 A	9.2 A	1.1 A	41.6 A	33.3 A	91.4 A	93.7 A	100 A
230	3	60 Hz	6.2 A	8.6 A	1.1 A	34.6 A	28.9 A	79.4 A	81.5 A	90 A
460	3	60 Hz	3.1 A	4.3 A	0.7 A	17.3 A	14.4 A	39.8 A	40.9 A	45 A

#### RackStar 66 - ER

Volts	Phase	Freq	PW Motor	Wash Motor	Drive Motor	Wash Heater	Booster Heater	Total Load	MCA	МОР
208	3	60 Hz	6.2 A	9.2 A	1.1 A	41.6 A	74.9 A	133.0 A	135.3 A	140 A
230	3	60 Hz	6.2 A	8.6 A	1.1 A	34.6 A	65.0 A	115.5 A	117.6 A	125 A
460	3	60 Hz	3.1 A	4.3 A	0.7 A	17.3 A	32.5 A	57.9 A	59.0 A	60 A

#### RackStar 66 - NB

Volts	Phase	Freq	PW Motor	Wash Motor	Drive Motor	Wash Heater	Booster Heater	Total Load	MCA	МОР
208	3	60 Hz	6.2 A	9.2 A	1.1 A	41.6 A	N/A	58.1 A	60.4 A	65 A
230	3	60 Hz	6.2 A	8.6 A	1.1 A	34.6 A	N/A	50.5 A	52.6 A	60 A
460	3	60 Hz	3.1 A	4.3 A	0.7 A	17.3 A	N/A	25.4 A	26.5 A	30 A

#### RackStar 66 - S

Volts	Phase	Freq	PW Motor	Wash Motor	Drive Motor	Wash Heater	Booster Heater	Total Load	MCA	МОР
208	3	60 Hz	6.2 A	9.2 A	1.1 A	N/A	N/A	16.5 A	18.8 A	25 A
230	3	60 Hz	6.2 A	8.6 A	1.1 A	N/A	N/A	15.9 A	18.1 A	25 A
460	3	60 Hz	3.1 A	4.3 A	0.7 A	N/A	N/A	8.1 A	9.2 A	15 A

## INSTRUCTIONS

#### INSPECTION

Do not throw away the packaging if damage is evident! Before installing machine, check packaging and machine for damage. If packaging is damaged, the machine might also be damaged. If there is damage to both packaging and machine, do not throw away 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 machine while in transit. If so, do not return machine to manufacturer. Instead, contact carrier and ask them to send a representative to the site to inspect damage and complete an inspection report. Carrier and dealer that sold the machine must be contacted within 48 hours of receiving machine.

#### UNPACKING

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

**LEVELING** The machine is designed to operate while level. This is important to prevent any damage to machine during operation and to ensure best results. The machine comes equipped with adjustable bullet feet, which can be turned using a pair of pliers. Verify machine is level front-to-back and side-to-side before making any electrical or plumbing connections.

## **DOORS**

**ADJUSTING** A level machine is important for proper door function as well. If machine is level and doors are still not functioning properly:

1. Identify top door hinges, located in top-front of machine.



- 2. Loosen three nuts on each hinge, which allows doors to be adjusted.
- 3. Adjust doors to their proper position.
- 4. Tighten-down three nuts on each hinge.

#### **PLUMBING**

Plumber MUST flush the incoming water line!

All plumbing connections must adhere to local, state, territorial, and national codes. The installing plumber is responsible for ensuring incoming water lines are flushed of debris before connecting the machine. Note that chips and materials from cutting processes can become lodged in solenoid valves and prevent them from opening or closing. Any valves found to be fouled or defective because of foreign matter left in the water line and any subsequent water damage are not the responsibility of the manufacturer.

A water hardness test MUST be performed.

If water hardness tests at greater than 3 GPG, install the Scaltrol Water Treatment system (see Plumbing Options page) into water line before machine's incoming water connection point. If water hardness tests at lower than 3 GPG, install water supply line directly to machine's incoming water connection point. Iron in water line can cause staining. A filter designed to remove iron from water supply is highly recommended for supplies in excess of 0.1 ppm.

### INSTRUCTIONS

#### **PLUMBING**



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.

The manufacturer has an optional water pressure regulator (supplied on ER units only) to accommodate areas where water pressure fluctuates or is higher than the recommended pressure (see Plumbing Options page). The machine uses a flow pressure of 15 PSI for the incoming water line. Do not confuse static pressure with flow pressure. Static pressure occurs when there is no flow and the valves are closed. Flow pressure occurs when water is running into the machine. Pressure regulator should be adjusted to proper flow pressure indicated on the data plate.

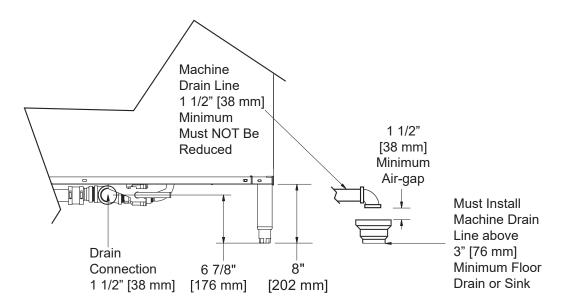
Water supply line must be 1/2" NPT minimum and must be able to provide water at minimum temperature indicated on machine data plate. A shut-off valve (not supplied) should be installed to isolate machine from water system in the event service is required. An optional shock absorber (not supplied) should also be installed on the incoming water line (see Plumbing Options page). This prevents water hammer (hydraulic shock) from causing damage to the equipment.

See Connection Points section for more information on plumbing connections.

## CONNECTION

**DRAIN LINE** The machine has a gravity-discharge drain. All piping to machine drain must be a minimum 1 1/2" NPT and must not be reduced. There must be a minimum 1 1/2" air-gap between machine drain line and floor drain or sink. Floor drain or sink must be a minimum 3" NPT. If a grease trap is required by code, it should have a flow capacity of 5 GPM. 44" models have one drain connection point and 66" models have two (connected and drained into one facility floor drain or sink).

See Connection Points section for more information on drain line connection.



## **INSTRUCTIONS**

## STEAM LINE CONNECTION





Steam models come with lines to connect to source steam. Connect steam lines to the machine as all applicable codes provide. See machine data plate for information concerning steam flow pressure.

Click icon for Steam Booster manual.

# ELECTRICAL POWER CONNECTIONS



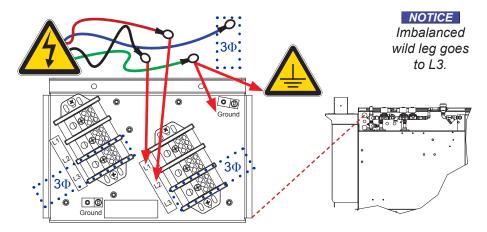


Disconnect electrical power at the breaker or disconnect switch and tag-out in accordance with procedures and codes.

All electrical connections must be made in accordance with applicable portions of local, state, territorial, and national codes.

Refer to data plate for machine operating requirements, machine voltage, total amperage and serial number.

- 1. Locate main power terminal blocks (one block each for machine and booster heater for dual-point, one block for single-point) at top of machine.
- 2. Remove top cover to access terminal blocks.
- 3. Route incoming power lines within conduit that will connect via fittings to prepunched holes in back of control box.
- Install power and ground wires to lugs as indicated by appropriate decals in control box. Use copper conductors only. Use of an anti-oxidation agent is permissible on power connections.



- 5. Tighten all connections.
- 6. Verify incoming voltage matches voltage indicated on data plate.



**NOTICE** For dual-point connection, machine has a separate power connection from the rinse booster heater and the circuit protection requirements are different for each. Refer to the machine data plate for information on minimum circuit protection.



**CAUTION!** Improperly connecting external devices can cause damage to the machine and/or electrical infrastructure! See the External Device Wiring section.

## **INSTRUCTIONS**

### MOTOR **ROTATION**



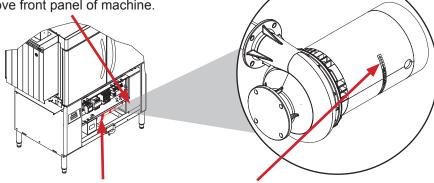




**CAUTION!** On 3-Phase machines only, correct pump motor rotation must be verified before operation!

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.

- 1. Follow "Power Up" section.
- 2. Remove front panel of machine.



- 3. Locate wash pump motor and identify arrow decal which shows correct motor rotation (if no decal is present, correct rotation is toward back of machine).
- 4. Push delime button on display.
- 5. Observe rotation of motor and quickly push delime button again.
- 6. If rotation is incorrect, disconnect electrical power and reverse L1 and L2 connections at terminal block shown in previous section.



**CAUTION!** ER models must use vents, not a hood!

**VENTILATION** The machine should be located with an adequate exhaust hood or ventilation system with provisions for venting. This is essential to permit efficient removal of condensation exhaust. Ensure the exhaust system is acceptable in accordance with applicable codes and standards.

> NOTICE Any damage caused by steam and/or moisture due to improper ventilation is NOT covered under the warranty.

Dishmachine ventilation requirements:

Load End: 200 CFM Unload End: 200 CFM

The exhaust system must be sized to handle this volume for the machine to operate properly.

**THERMOSTATS** Thermostats on this machine have been set at the factory for the wash tank and should only be adjusted by an authorized service agent.

## **SWITCH OPTION**

**TABLE LIMIT** There are two Table Limit Switch options available. See Miscellaneous/Options page for ordering information. Click on icons below for install guides.

#### Striker Switch



#### Whisker Switch



### INSTRUCTIONS

### CHEMICAL FEEDER EQUIPMENT





WARNING! Some chemicals used in dishwashing can 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.

This machine does not come with an integral chemical supply/feeder system and must be connected to a third-party chemical dispenser (see Connection Points section) that meets the requirements of NSF Standard 29. Contact a chemical supplier about connecting a dispenser to the machine. Chemical dispensers must be set for the type and concentration of chemicals being used.

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

The machine can operate in either hot-water-sanitizing mode or chemical-sanitizing mode and comes configured for one or the other. Sanitizing mode of machine is marked above machine's data plate.

If machine is operated in chemical-sanitizing mode, ensure an appropriate chlorine-based sanitizer is used in the final rinse line.

See Connection Points section for more information on chemical connections.

## CONNECTION POINTS

L-R unit shown.

Bulkhead Opening for Conductivity Probe

Booster Heater Electrical Opening (provided on both sides of unit)

Booster Heater Electrical Opening (provided on both sides of unit)

Detergent Tube Connection

Point\*\*
(rinse side of unit)

L-R unit shown.

\*See next page for details.

\*\*See next page for rinse-aid and sanitizer tube connections.

07610-004-33-05-G

23

**Drain Connection** 

## INSTRUCTIONS

24

## CONNECTION POINTS

L-R units shown.

Water connections shown to the right.

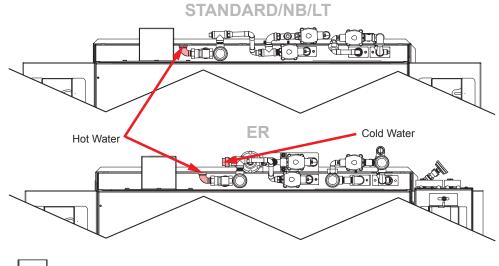
L-R unit shown.

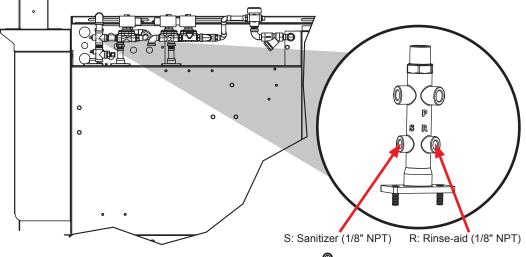
Rinse-aid and sanitizer tube connections shown to the right.

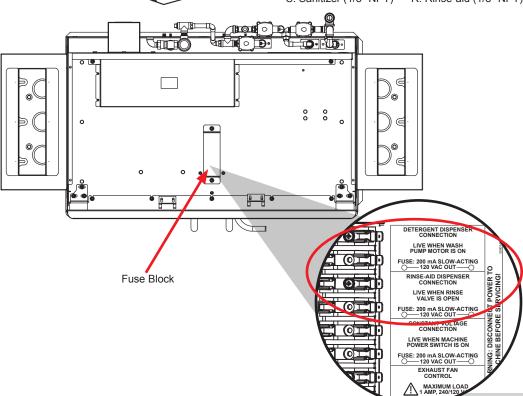
#### L-R unit shown.

View of machine to the right is a top view with the panel removed.

Rinse-aid and detergent dispenser connections shown to the right.







## **INSTRUCTIONS**

## EXTERNAL DEVICE WIRING

Click icon for external device (exhaust fan, etc.) wiring instructions. They can also be accessed by navigating to them on our website. Follow the instructions carefully when wiring any external device.



## EXHAUST FAN TIMER

Click icon for instructions on programming the exhaust fan timer. The instructions can also be accessed by navigating to them on our website.



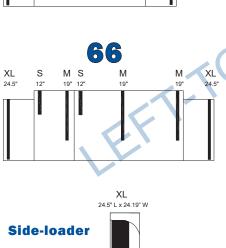
#### **CURTAINS**

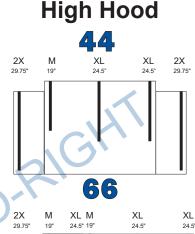
Curtains must be installed properly for machine to operate correctly. Curtains are used to control air currents inside the machine and assist in maintaining the heat necessary to keep energy costs down.

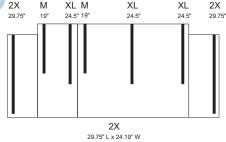
The machine has decals marking curtain locations, starting at load end and ending at unload end. The illustrations below indicate the curtain size to be placed on curtain hooks provided. If any curtain components are missing, they must be obtained and installed before operation. The machine will be configured for either Left-to-Right or Right-to-Left operation. Direction is from load end to unload end, as shown below.

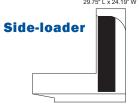
# XL S M M XL 24.5" 12" 19" 19" 24.5"

Low Hood









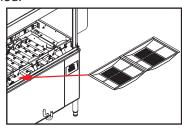
CAUTION! When side-
loader option is present,
there are different part
numbers for curtain
and rod for load end of
machine.
macimie.

Legend	Length	Part #
S	12"	08415-131-73-44
М	19"	08415-002-14-41
XL	24.25"	08415-002-47-37
2X	29.75"	08415-004-49-64
Rod	20.50"	05700-003-77-52

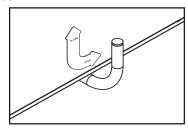
Side-loader Option	Part #
XL (Load End)	08415-003-84-88
2X (Load End)	08415-004-69-54
Rod (Load End)	05700-003-84-57

**PREPARATION** Before operating machine, verify:

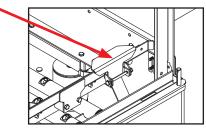
Strainers are installed.



Drain valve is closed.



• Actuator switches move with relative freedom and do not bind.



· Curtains are installed correctly.

### **POWER UP** To place the machine in standby, press power button on display.



1. Machine automatically checks for proper water level in wash tank. If not, machine will begin to fill until appropriate level is reached.



- 2. If wash tank temperature is not at minimum level for mode of operation, wash heater will energize. Refer to machine data plate for minimum temperatures needed to operate machine correctly. It might take several minutes for the wash tank to heat up, depending on initial temperature of the water.
- 3.If machine is equipped with a booster heater, the booster will turn on when machine turns on.
- 4.If machine is heated with a steam booster, the steam booster must be turned on in accordance with its manufacturer's instructions.
- 5. Do not attempt to start machine until:
  - a. Filling stops.
  - b. Appropriate wash tank temperature is reached.

### **INSTRUCTIONS**

FIRST RACK The first rack of ware can reduce the temperature of the wash tank and might need to be run through again. This might be necessary any time the machine has not been operated for an extended period of time, although this is dependent on the type of ware being used, its temperature, and the ambient temperature of the kitchen area. To ensure proper operation, always observe wash and rinse temperatures when first starting machine.

#### WARE **PREPARATION**

Proper preparation of ware is essential for the smooth, efficient operation of this machine. Any ware placed in the machine should have all solid food waste and scraps removed. Ware should also be sprayed-down before entering the machine.

Place cups and glasses upside-down in racks so they don't hold water during the cycle. Pre-soak flatware in warm water to help remove food. Load plates and saucers in the same direction, with the food surface facing the unload end of the machine.

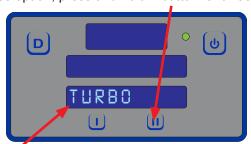
## **RACK OF WARE**

WASHING A This machine is designed to wash ware placed in a rack. Ware should not be placed in the machine unless it is properly secured in a dish rack.

> To start a cycle, gently push rack into the machine on the load end. Once the wash actuator has moved sufficiently, the machine will automatically begin to convey the dish rack through the machine. The entire cycle is automatic.

**TURBO RINSE** Turbo Rinse option is a longer rinse, ensuring optimal rinse and sanitization.

1. To select Turbo Rinse option, press and hold II button for three seconds.



- 2. Display will show "Turbo."
- 3. Press and hold I button for three seconds to revert to Econo Rinse. Machine reverts to Econo Rinse (default) when turned off.

#### OPERATIONAL INSPECTION



Operators should periodically review the following items while the machine is operating. These items are important for operating the machine efficiently.

- Review wash and rinse temperatures and compare to minimums on data plate.
- Verify pan strainers are not becoming clogged. Keeping these free of soil and debris allows better water flow through machine and helps prevent redeposit issues.
- Machine is designed to run at a minimum of 15 PSI. Any lower and there will not be enough rinse water to properly remove detergent from the ware.
- Wash and rinse arm nozzles should be free of debris. Open nozzles are essential to the operation of the machine.

## **INSTRUCTIONS**

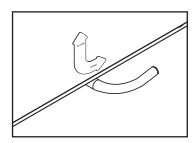
- **SHUTDOWN &** 1. Press power button to shutdown machine.
  - 2. Open access door and allow steam/heat to escape. CLEANING

    2. Open access door and allow to drain.

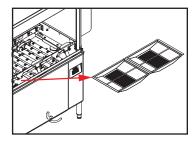
    3. Turn drain handle to OPEN and allow tub to drain.



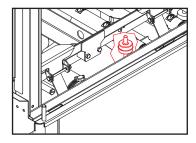
WARNING! Wash tank water will be hot.



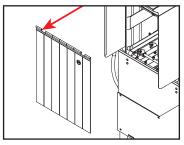
4. Remove strainers, hand-scrape foodsoil into trash, and spray with pre-rinse hose.



5. Rinse float switch off, rinse tank out, and inspect tank for debris.

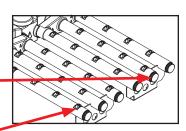


6. Remove curtains, scrub with mild detergent and brush and air-dry.



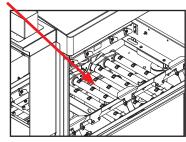
- 7. Wash & Rinse Arms:
  - a. As needed, fill tub with water.
  - b. Remove end-caps from arms.
  - c. Run an empty rack through machine.
  - d. If necessary:
    - i. Clean nozzles with a brush.
    - ii. Use a small wire or toothpick to remove remaining debris/lime deposits from the nozzles.
    - iii. Flush arms with water.
    - iv. Replace end-caps and securely tighten.

Self-cleaning arms do not require daily cleaning.



# SHUTDOWN & CLEANING

**SHUTDOWN &** 8. Spray or wipe out interior of machine.



- 9. Ensure curtains, rinse arms, strainers, and wash arms are clean and securely in place.
- 10. Use stainless steel polish to clean and protect outside of machine.

# DISPLAY

#### **DISPLAY** Checking Cycle Count

While machine is powered off, press and hold power button. Total cycle count will display for several seconds, followed by a normal .ON state.

#### General

- 1. When main power is first connected to machine, display sequences through its LEDs to show all are functional.
- 2. Machine then goes into Standby Mode (blank display).
- 3. Press power button.
- 4. Display shows "Heating" until wash tank reaches operating temperature.



5. Display shows "Ready" when machine is ready to use.



#### INSTRUCTIONS

# DISPLAY INSTRUCTIONS

#### **DISPLAY** Operational Messages

DISPLAY	CONDITION
"Check doors"	A door is not fully closed or a switch is not being triggered.
"Filling"	Wash tank is filling with water.
"Heating"	Wash tank is heating.
"Delime"	Delime button has been pressed.
"Ready"	Machine is ready for operation.
"Wash Temp"	Rack of ware is progressing through wash section.
Alternates "Wash Temp" & "Rinse Temp"	Rack of ware is progressing through rinse section.

# DELIME INSTRUCTIONS





WARNING! Deliming solution can cause chemical burns. Follow instructions provided with deliming solution.

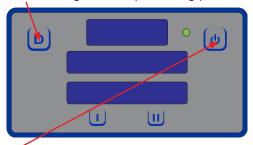
This equipment is not recommended for use with deionized water or other aggressive fluids. Use of deionized water or other aggressive fluids will result in corrosion and failure of materials and components. Use of deionized water or other aggressive fluids will void the manufacturer's warranty.

Consult chemical supplier's instructions before deliming machine.

- 1. Disconnect or turn-off chemical feeder pumps.
- 2. Turn machine power off and drain machine.
- 3. Ensure machine is clean and all parts are in place.
- 4. Ensure doors are closed and press power button to begin filling.
- 5. Fill machine with correct amount of delime solution as recommended by chemical supplier.
- 6. Wash tank holds 25 gallons and pre-wash tank holds 15.8 gallons.

After chemicals are added:

- 7. Ensure doors are closed.
- 8. Press delime button and run machine length of time recommended by chemical supplier.
- 9. Press delime button again to stop deliming process.



- 10. Press power button to shut machine off.
- 11. Wait five minutes, open doors and inspect inside of machine. If machine is not delimed, drain and re-fill machine, then repeat steps 5–10.
- 12. When deliming is complete, drain and re-fill machine. Then run machine two cycles to remove residual deliming solution.
- 13. Drain and re-fill machine.
- 14. Re-connect chemical feeder pumps.
- 15. Machine is ready to use.

#### **MAINTENANCE**

#### PREVENTATIVE MAINTENANCE

# PREVENTATIVE MAINTENANCE

Manufacturer highly recommends any maintenance and repairs not specifically discussed in this manual be performed only by QUALIFIED SERVICE PERSONNEL. Unqualified personnel performing maintenance may void the warranty, lead to larger problems, or cause harm to the operator. Contact a QUALIFIED SERVICE AGENCY with any questions or concerns.

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



- 1. Ensure water temperatures match those listed on machine data plate. There can be a variety of reasons why water temperature could be too low.
- 2. Ensure all strainers are clean and in place, laying flat, before operating machine. When cleaning out strainers, do NOT beat on waste cans. Wipe out strainers with a rag and rinse under a faucet if necessary. Use a toothpick to dislodge any stubborn debris.
- 3. Ensure all wash and rinse arms are secure in machine before operating.
- 4. Ensure drains are closed before operating.
- 5. Remove as much soil as possible from ware before loading into racks.
- 6. Do not overfill racks.
- 7. Ensure glasses are placed upside-down in the rack.
- 8. Ensure all chemicals have been verified at the correct concentrations.
- 9. Clean machine every 24 hours or at end of workday per instructions in this manual.
- Follow all safety procedures, whether listed in this manual or put forth by local, state, or national codes/regulations.

### TROUBLESHOOTING

#### **TROUBLESHOOTING**





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

OBSERVATION	POSSIBLE CAUSE	REMEDY
Machine will not fill after door is closed. Power "ON" light is illuminated.	Faulty rinse solenoid valve.     Faulty door switch.	Repair or replace valve as required.     Verify wiring of switch; if correct, replace switch.
Machine will not fill after door is closed. Power "ON" light is NOT illuminated.	<ol> <li>Service breaker tripped.</li> <li>Machine not connected to power source.</li> <li>Faulty power source.</li> </ol>	Reset; if breaker trips again, contact an electrician to verify amp draw of machine.      Verify machine has been properly connected to power source.      Verify working power source.
Machine will not run after door is closed. Power "ON" light is illuminated and unit is filling.	Wash motor faulty/damaged.     Wash motor contactor faulty.	Verify wash motor is getting power; if so, replace motor.     Check for continuity; if contacts are open, replace contactor.
Machine runs continuously in wash cycle.	Machine is in Delime mode.	Select an automatic cycle by choosing I or II on display.
Wash heater does not work.	Faulty heater element.     Faulty heater contactor.	Check element for continuity; if open, replace heater.     Replace contactor.
Machine fills slowly and/or rinse is weak.	<ol> <li>Clogged or obstructed rinse arms.</li> <li>Low incoming water pressure.</li> <li>Y-strainer is clogged</li> </ol>	Remove and clean rinse arms.     Adjust water pressure regulator to ensure 15 PSI flow.     Clean out Y-strainer.

### TROUBLESHOOTING

#### **TROUBLESHOOTING**





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

OBSERVATION	POSSIBLE CAUSE	REMEDY
No indication of pressure.	Water turned off.     Pressure transducer disconnected.     Pressure transducer defective.	<ol> <li>Turn water on.</li> <li>Verify wiring.</li> <li>Replace pressure transducer.</li> </ol>
Wash water not reaching required temperature.	reaching required	
completely.		Remove obstruction.     Adjust feet to level machine.
Water leaks at wash pump.	Wash pump seal defective.     Pump drain hose not tight.     Loose hoses (hose clamps) on wash pump.	1. Replace seal.  2. Tighten.  3. Tighten hose clamps.
Will not rinse. 2. Faulty timer. 2		Repair or replace rinse solenoid.     Replace timer.     Werify water at 15 PSI is connected to machine.
Dishes are not coming clean.  1. Machine temperatures are not a minimum requirements.  2. No detergent or too much detergent.		Verify incoming water, rinse water, and wash water match required temperatures listed on machine data plate.      Adjust detergent concentration as required for amount of water in machine.

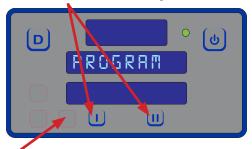
#### **PROGRAMMING**

# PROGRAM SELECTION MODE

To access program selection mode, machine should be on and not in operation (accessing this mode during operation will interrupt the process).

Programming buttons (up-arrow, down-arrow, and select) are hidden on display and are shown below outlined with red dots.

1. Press and hold I and II buttons until "Program" starts flashing (2–3 seconds).



- 2. Press Select Button.
- 3. Use up-arrow button to change program number to "5" for low-temp machines or "6" for high-temp machines.



- 4. Press select button.
- 5. "Program" will flash.
- 6. Press delime button to exit.



#### **PROGRAMMING**

#### **SETUP MODE**

To access setup mode, machine should be on and not in operation (accessing this mode during operation will interrupt the process).

1. Press and hold up-arrow and down-arrow buttons until "Setup" starts flashing (2–3 seconds).



- 2. Display then changes to "Version" and shows firmware versions.
- 3. Use up-arrow button to cycle through categories (will be flashing).
  - Language
  - Temperature Scale
  - · Wash Temperature
  - Boost Temperature

- Wash Offset
- Rinse Offset
- · Boost Offset
- Spare Offset



- 4. Press select button to choose category.
  - Regardless of category, Steps 5–7 remain the same.
- 5. Use up-arrow button to change options (will be flashing). Numerical options are shown in top window.



- 6. Press select button to accept changes.
- 7. Press delime button to exit.

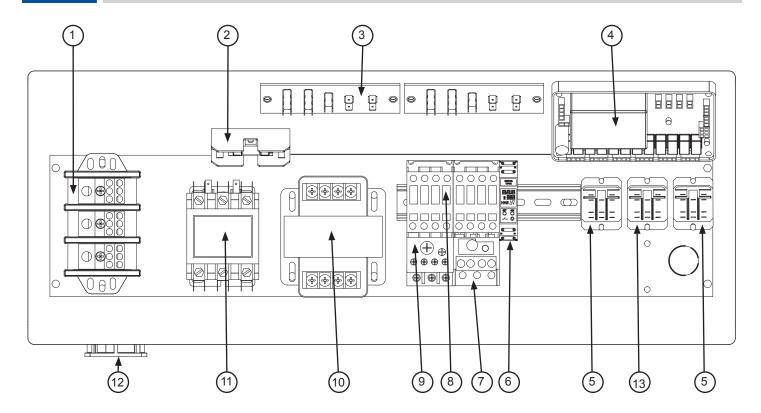
## FAULT CODES

DISPLAY SHOWS	POSSIBLE CAUSES	REMEDY	
"F4 Service needed," "Check incoming power"	Incoming power not properly connected.     L3 is missing (3-phase units only).	Check connections to heater.     Verify L3 is present and connected properly.	
"F6 Service needed," "No water in wash tank"	1. Low or no water pressure.  2. Faulty inlet valve or fill relay.  3. Contactor to wash heater not turning off.  4. Faulty temperature input (T1) on IO module.  5. Faulty temperature probe (T1).  6. Faulty float switch allows heaters to operate with no water in tub.	<ol> <li>Verify incoming water pressure is 15 PSI.</li> <li>Verify fill relay is supplying voltage to fill solenoid. Replace faulty component.</li> <li>Check for welded contacts. Verify output from IO module turns off when above set temperature.</li> <li>Substitute a 1.2 kΩ resistor for T1, and verify wash heater turns off. If not, replace IO module.</li> <li>Verify T1 resistance is correct with respect to temperature (see table on next page). If not, replace T1.</li> <li>Replace float switch.</li> </ol>	
"F7 Service needed," "Check wash tank thermostat"	1. Contactor to wash heater not turning off.  2. Faulty temperature input (P10) on IO module.  3. Faulty temperature probe (T1).	<ol> <li>Check for welded contacts. Verify output from IO module turns off when above set temperature.</li> <li>Substitute a 1.2 kΩ resistor for T1, verify wash heater turns off. If not, replace IO module.</li> <li>Verify T1 resistance is correct with respect to temperature (see table on next page). If not, replace T1.</li> </ol>	
"F8 No water in wash tank," "Check inlet water and door"	Malfunction of fill solenoid or fill relay.     Door is open, which inhibits fill mode.     Faulty door switch.	Replace faulty solenoid or fill relay.     Close door to activate door switch.     Replace or adjust door switch.	
F11 Service needed  -check wash tank thermostat	Faulty temperature probe (T1).	Replace probe that connects to P10.	
F12 Service needed – check booster thermostat	Faulty temperature probe (T3).	Replace probe that connects to P13.	
F13 Communication error. Check 6-pin cable	1. Loose connection in 6-pin cable between display board and IO module.  2. Faulty 6-pin cable between display board and IO module.  3. Faulty communication port on IO module or display board.	1. Fully disconnect 6-pin cable at each end and reconnect each end until a click is heard.  2. Inspect for broken wire or unseated terminal by gently pulling on each wire at each end of the cable. Reseat any loose terminals by inserting fully into housing using longnosed pliers. Replace cable if broken wire is found.  3. Temporarily substitute a verified good display board, and check if F13 message recurs. If so, replace with a good IO module.	

#### **RESISTANCE-TO-TEMPERATURE VALUES**

R (kΩ)	°F
11.58	69.8
10.37	75.2
9.30	80.6
7.78	89.6
3.05	140.0
2.54	150.8
2.18	159.8
1.58	179.6
1.45	185.0
1.33	190.4
1.16	199.4
0.96	212.0

### **CONTROL BOX**



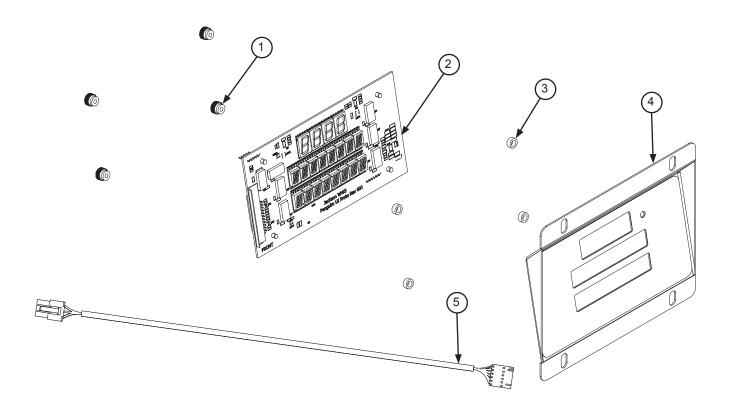
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Terminal Block, 3-pole	05940-011-48-27
2	1	Fuse Holder Fuse, 1 A (208/230 V) (Not Shown) Fuse, 1/2 A (380/460 V) (Not Shown)	05920-011-72-89 05920-002-67-23 05920-011-72-88
3	2	Terminal Board	05940-002-78-97
4	1	I/O Module	06401-004-76-12
5	2	Relay	05945-111-72-51
6*	1	Timer, Universal Digital Multi-timer*	05945-004-22-78
7	1	Overload	See Motor Overloads page.
8	2 (3 for 66)	Contactor, Wash Motor	05945-004-25-79
9	1	Overload	See Motor Overloads page.
10	1	Transformer, 208 V	05950-011-75-59
10		Transformer, 230/460 V	05950-011-68-35
11	1	Contactor, 3-pole, 50 A (3-phase) Contactor, 4-pole, 50 A (1-phase)	05945-002-24-70 05945-111-68-37
12	1	Fan	05999-004-30-62
13	1	Relay	05945-111-35-19

<sup>\*</sup>Click icon for timer programming instructions.





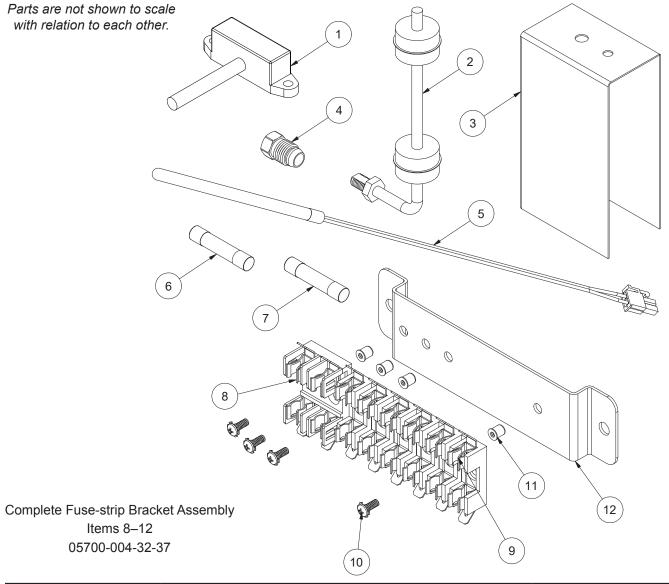
## Complete Display Assembly 05700-004-31-50



ITEM	QTY	DESCRIPTION	PART NUMBER
1	4	Nut, Thumb, 6-32 Nylon	05310-002-83-12
2	1	Board, Populated Circuit	05945-004-46-18
3	4	Spacer, Display Board	05999-004-19-75
4	1	Membrane Switch and Panel Assembly	05700-004-59-65
5	1	Communication Cable	05700-004-33-64
	1	Cover, Display Board (Not Shown)	05700-004-35-60

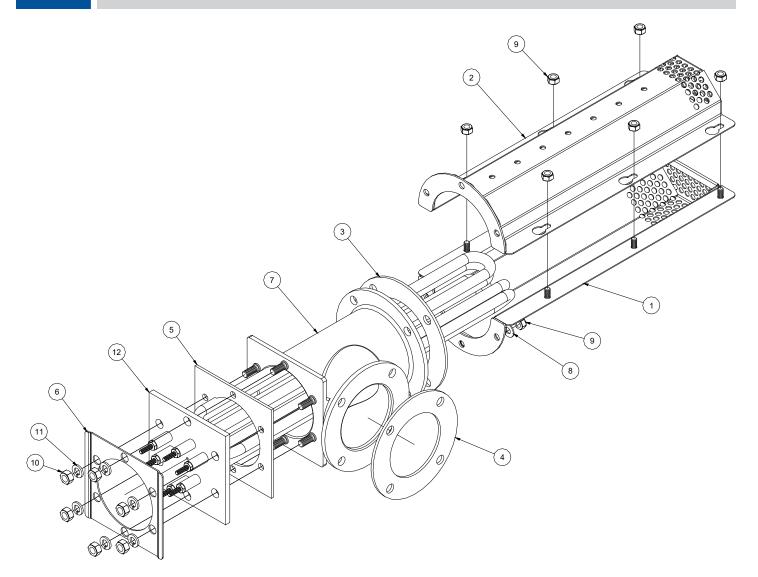


### MISCELLANEOUS ELECTRICAL COMPONENTS



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Actuator Switch	05930-111-68-44
2	1	Float Switch	06680-121-70-71
3	1	Float Switch Cover	05700-004-71-80
4	1	Probe Fitting, Brass	05310-924-02-05
5	1	Thermistor Probe	06685-004-34-58
6	6	Fuse, 200 mA Slow-acting	05999-004-44-33
7	2	Fuse, 1 A Fast-acting	05999-004-47-87
8	1	Fuse Holder, 2-pole	05920-401-03-14
9	1	Fuse Holder, 6-pole	05920-002-42-13
10	4	Screw, 6-32 x 3/8"	05305-002-25-91
11		Fastener, 6-32	05340-118-04-00
12	1	Bracket, Fuse-strip	05700-004-32-36

## WASH HEATER & SHROUD



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Lower Heater Shroud	05700-003-74-21
2	1	Upper Heater Shroud	05700-003-74-24
3	1	Gasket, Suction Casting	05330-003-75-89
4	1	Gasket, Pump Suction	05330-003-75-87
5	1	Gasket, Heater	05330-200-02-70
6	1	Heater Box Rails	05700-003-74-72
7	1	Wash Pump Suction	05700-003-77-63
8	2	Washer, 1/4-20	05311-174-01-00
9	9	Locknut, 1/4-20 Hex with Nylon Insert	05310-374-01-00
10	6	Nut, Hex 5/16-18	05310-275-01-00
11	6	Lockwasher, 5/16" Split	05311-375-01-00
12	1	Wash Heating Element, 15 kW	See Wash Heaters page.
13	1	Thermostat, High-limit (Not Shown)	05930-011-49-43

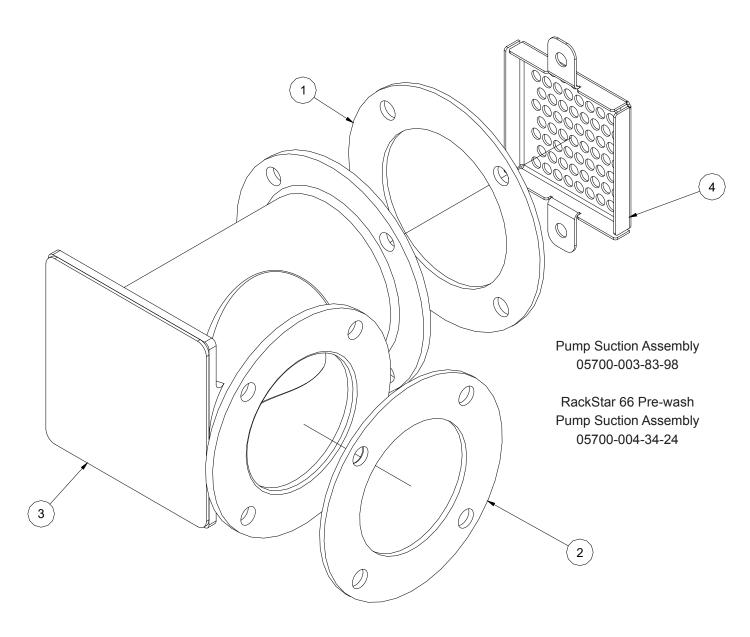


VOLTAGE	PHASE	KW	PART NUMBER	CONTACTOR
208	1	15	04540-121-68-45	05945-111-68-38
230	1	15	04540-121-68-46	05945-111-68-38
208	3	15	04540-121-68-45	05945-002-24-70
230	3	15	04540-121-68-46	05945-002-24-70
460	3	15	04540-121-68-47	05945-002-24-70
600	3	15	04540-002-39-93	05945-002-24-70

**NOTICE** When replacing wash heaters, it's highly recommended to change the gasket as well. Once installed, gaskets become compressed and are subject to extreme temperature changes. Replacing gasket with heater might prevent future leaks.

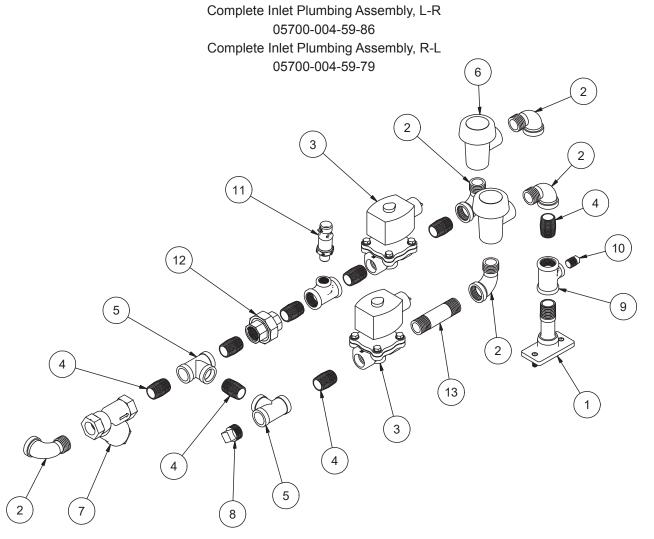
Nuts used to secure heater to casting should be torqued to 16 in-lbs. After tightening, machine should be allowed to heat up and operate normally for approximately 30 minutes. Secure power to machine and check nuts once more to verify they are torqued to 16 in-lbs.





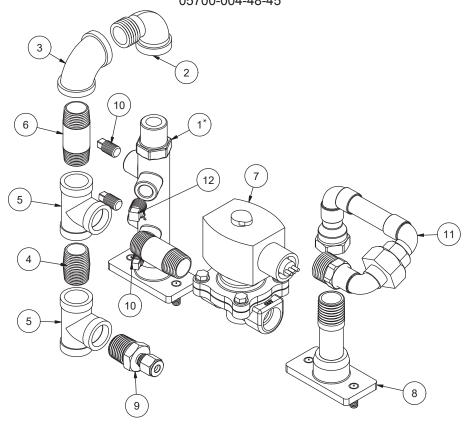
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Gasket, Suction Casting	05330-003-75-89
2	1	Gasket, Pump Suction	05330-003-75-87
3	1	Pre-wash Pump Suction Weldment	05700-003-82-27
4	1	Strainer, Pre-wash Pump	05700-003-81-28





ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Manifold, Tank Fill	05700-004-38-64
2	5	Elbow, 90-degree 1/2" Street Brass	04730-206-08-00
3	2	Solenoid Valve, 1/2"	04810-003-71-55
4	8	Nipple, 1/2" Close Brass	04730-207-15-00
5	2	Tee, 1/2" Brass	04730-211-27-00
6	2	Vacuum Breaker, 1/2" Brass	04820-003-06-13
7	1	Y-Strainer, 1/2"	04730-217-01-10
8	1	Plug, 1/2" Brass Pipe	04730-209-03-00
9	2	Tee, 1/2" x 1/2" x 1/4"	04730-002-22-56
10	1	Plug, 1/4" Brass	04730-209-01-00
11	1	Transducer, Pressure	05945-004-17-01
12	1	Union, 1/2" x 1/2" Brass	04730-003-62-44
13	1	Nipple, 1/2" x 3" Brass	04730-004-20-10

Complete Rinse Plumbing Assembly, L-R 05700-004-48-52
Complete Rinse Plumbing Assembly, R-L 05700-004-48-45



ITEM	QTY	DESCRIPTION	PART NUMBER
1*	1	Rinse Injector, L-R	05700-003-76-82
	<u> </u>	Rinse Injector, R-L	05700-003-76-83
2	1	Elbow, 90-degree 1/2" Street Brass	04730-206-08-00
3	1	Elbow, 1/2" Brass	04730-011-42-96
4	1	Nipple, 1/2" Close Brass	04730-207-15-00
5	2	Tee, 1/2" Brass	04730-211-27-00
6	2	Nipple, 1/2" Brass, 2" Long	04730-207-19-00
7	1	Solenoid Valve, 1/2"	04810-003-71-55
8	1	Manifold, Turbo Rinse, Water In	05700-004-38-67
9	1	Fitting, Comp. 1/2" x 1/4"	05700-004-36-74
10	3	Plug, 1/8" Brass	04730-209-07-37
11	1	Piping Manifold, L-R	05700-004-48-42
	'	Piping Manifold, R-L	05700-004-48-46
12	1	Plug, 1/4" Brass	04730-209-01-00
13	2	Gasket for Items 1 and 8 (Not Shown)	05330-003-75-91

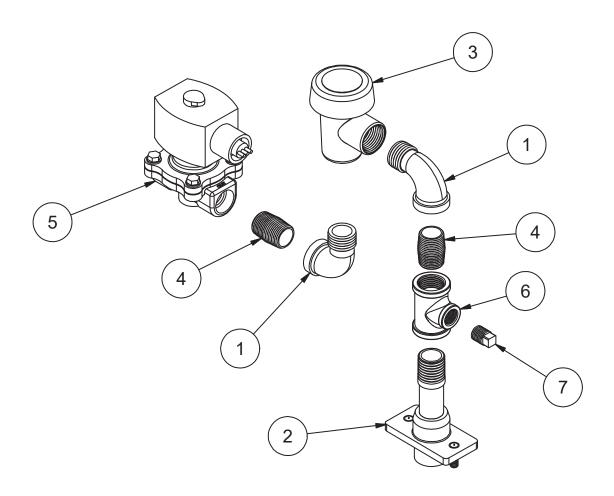
<sup>\*</sup>See Connection Points section for chemical connections.



## PRE-WASH FILL PLUMBING

46

## Complete Pre-wash Fill Plumbing Assembly 05700-004-59-80



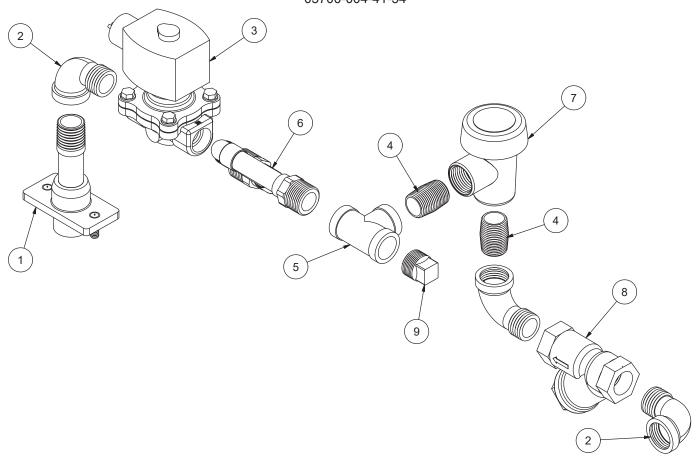
ITEM	QTY	DESCRIPTION	PART NUMBER
1	2	Elbow, 90-degree 1/2" Street Brass	04730-206-08-00
2	1	Manifold, Tank Fill	05700-004-38-64
3	1	Vacuum Breaker, 1/2" Brass	04820-003-06-13
4	2	Nipple, 1/2" Close Brass	04730-207-15-00
5	1	Solenoid Valve, 1/2"	04810-003-71-55
6	1	Tee, 1/2" x 1/2" x 1/4"	04730-002-22-56
7	1	Plug, 1/4" Brass	04730-209-01-00

## PARTS

### ENERGY RECOVERY PLUMBING

Complete ER Fill Plumbing Assembly, L-R\* 05700-004-41-53

Complete ER Fill Plumbing Assembly, R-L\* 05700-004-41-54



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Manifold, Tank Fill	05700-004-38-64
2	3	Elbow, 90-degree 1/2" Street Brass	04730-206-08-00
3	1	Solenoid Valve, 1/2"	04810-003-71-55
4	2	Nipple, 1/2" Close Brass	04730-207-15-00
5	1	Tee, 1/2" Brass	04730-211-27-00
6	1	Piping Manifold, Single-point Tubing	05700-004-48-43
7	1	Vacuum Breaker, 1/2" Brass	04820-003-06-13
8	1	Y-Strainer, 1/2"	04730-217-01-10
9	1	Plug, 1/2" Brass Pipe	04730-209-03-00

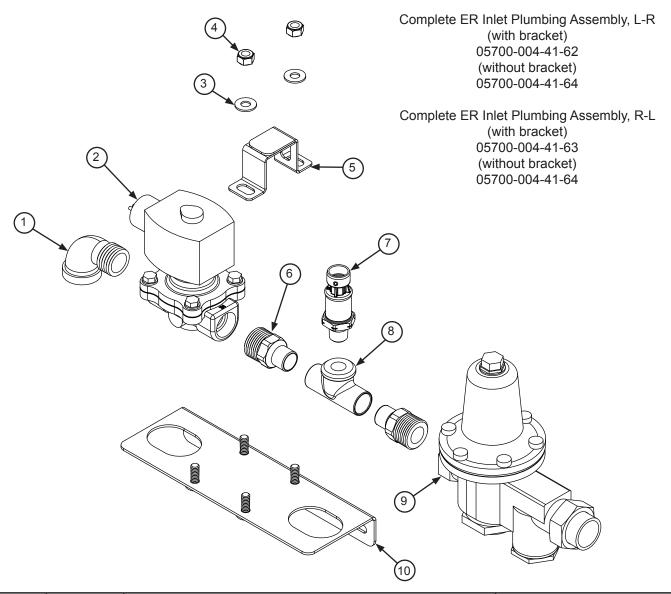
NOTICE \*For areas with low ground-water temperature, a thermostatic mixing valve should be used:

Complete ER Fill Plumbing Assembly with Mixing Valve, L-R 05700-004-42-94

Complete ER Fill Plumbing Assembly with Mixing Valve, R-L 05700-004-42-95

#### **PARTS**

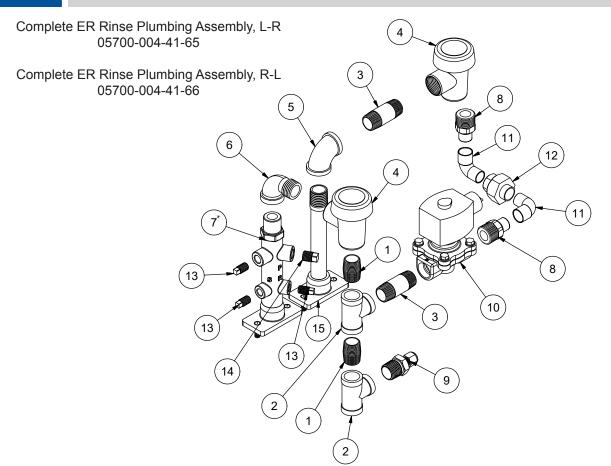
#### ENERGY RECOVERY PLUMBING



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Elbow, 90-degree 1/2" Street Brass	04730-206-08-00
2	1	Valve, 1/2"	04810-003-71-55
3	2	Washer, 1/4-20	05311-174-01-00
4	2	Locknut, 1/4-20 Hex with Nylon Insert	05310-374-01-00
5	1	Clip, ER Inlet Bracket	05700-004-41-58
6	2	Adapter, 1/2"	04730-011-59-53
7	1	Pressure Transducer	05945-004-17-01
8	1	Tee, 1/2" x 1/2" x 1/4" Female	04730-411-25-01
9	1	Pressure Regulator	04820-100-04-07
10	1	Bracket, ER Inlet, L-R	05700-004-41-55
10	1	Bracket, ER Inlet, R-L	05700-004-41-56

# PARTS

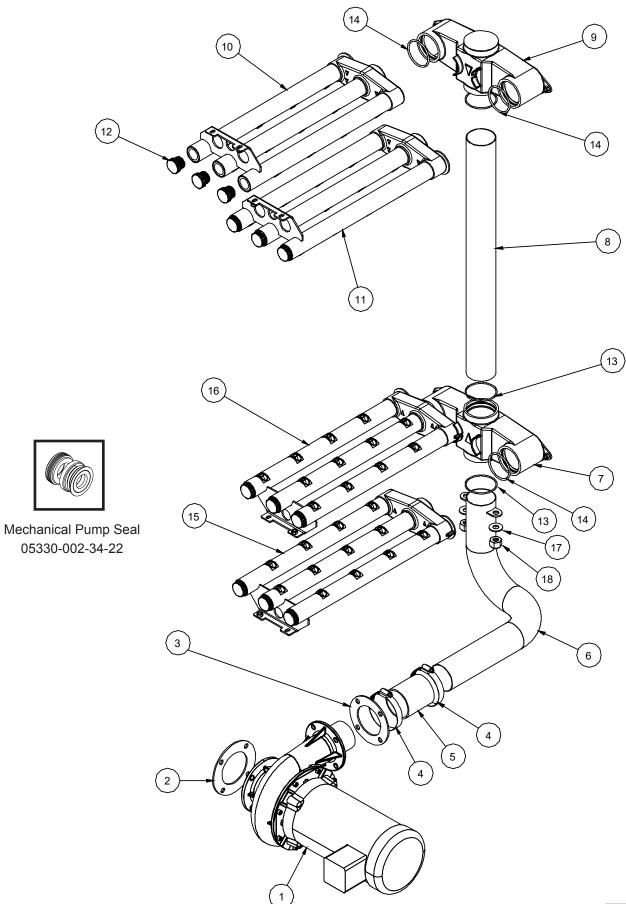
### ENERGY RECOVERY PLUMBING



ITEM	QTY	DESCRIPTION	PART NUMBER
1	2	Nipple, 1/2" Close Brass	04730-207-15-00
2	2	Tee, 1/2" Brass	04730-211-27-00
3	2	Nipple, 1/2 Brass, 2" Long	04730-207-19-00
4	2	Vacuum Breaker, 1/2" Brass	04820-003-06-13
5	1	Elbow, 90-degree 1/2" Brass	04730-011-42-96
6	1	Elbow, 90-degree 1/2" Street Brass	04730-206-08-00
7*	1	Rinse Injector, L-R	05700-003-76-82
	1	Rinse Injector, R-L	05700-003-76-83
8	2	Adapter, 1/2"	04730-011-59-53
9	1	Fitting, Comp. 1/2" x 1/4"	05700-004-36-74
10	1	Valve, 1/2"	04810-003-71-55
11	2	Elbow, 1/2"	04730-406-31-01
12	1	Union, 1/2"	04730-412-05-01
13	3	Plug, 1/8" Brass	04730-209-07-37
14	1	Plug, 1/4" Brass	04730-209-01-00
15	1	Turbo Rinse Injector	05700-004-32-61

<sup>\*</sup>See Connection Points section for chemical connections.

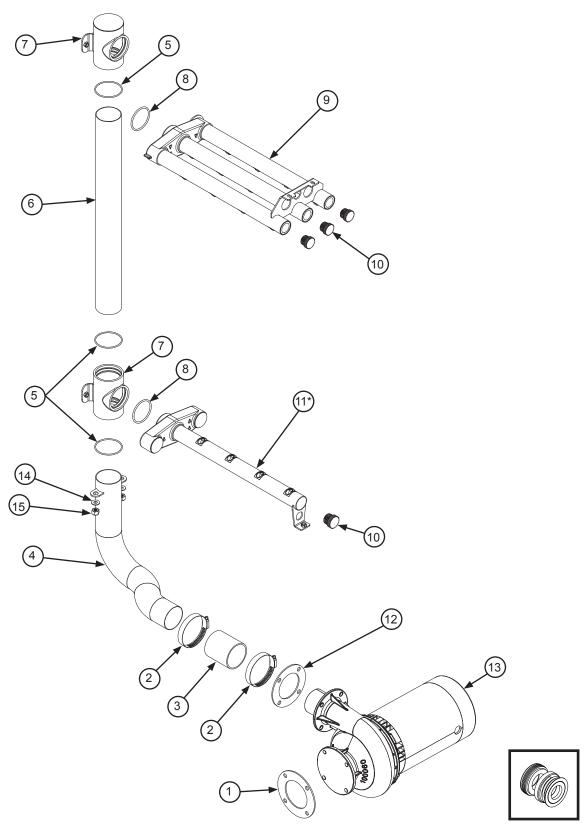
### WASH SYSTEM





ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Pump & Motor Assembly	See Table Below
2	1	Gasket, Pump Suction	05330-003-75-87
3	1	Gasket, Pump Discharge	05330-003-75-88
4	2	Hose Clamp, Range 2 9/16" to 3 1/2"	04730-003-15-40
5	1	Hose, Wash Pump Discharge	05700-003-77-62
6	1	Lower Wash Manifold, L-R Lower Wash Manifold, R-L	05700-004-27-39 05700-004-30-27
7	1	Casting, Wash Manifold	09515-003-71-50
8	1	Tube, Manifold Riser	05700-003-72-37
9	1	Upper Wash Manifold	05700-003-73-66
10	1	Wash Arm, Top-right Wash Arm, Top-right, HH L-R	05700-003-75-79 05700-004-69-50
11	1	Wash Arm, Top-left Wash Arm, Top-left, HH R-L	05700-003-75-80 05700-004-69-51
12	12	Cap, Threaded	04730-603-12-00
13	3	O-ring, Silicone, 0.103 Dia., 2 1/2" x 2 11/16" OD	05330-003-73-71
14	4	O-ring, Silicone, 0.139 Dia., 2 1/4" ID x 2 1/2" OD	05330-003-73-72
15	1	Wash Arm, Bottom-right	05700-004-27-43
16	1	Wash Arm, Bottom-left	05700-004-27-42
17	2	Washer, 1/4-20	05311-174-01-00
18	2	Nut, Nylon Lock, 1/4-20	05305-374-01-00

PUMP & MOTOR ASSEMBLY	PART NUMBER
Wash Pump, 3 HP, 208 V, 60 Hz, 3-Phase	05700-004-84-95
Wash Pump, 3 HP, 230 V, 60 Hz, 3-Phase	05700-004-84-95
Wash Pump, 3 HP, 460 V, 60 Hz, 3-Phase	05700-004-84-95
Wash Pump, 3 HP, 600 V, 60 Hz, 3-Phase	05700-005-05-14
Wash Pump, 3 HP, 208-230 V, 50-60 Hz, 1-Phase	05700-004-95-11



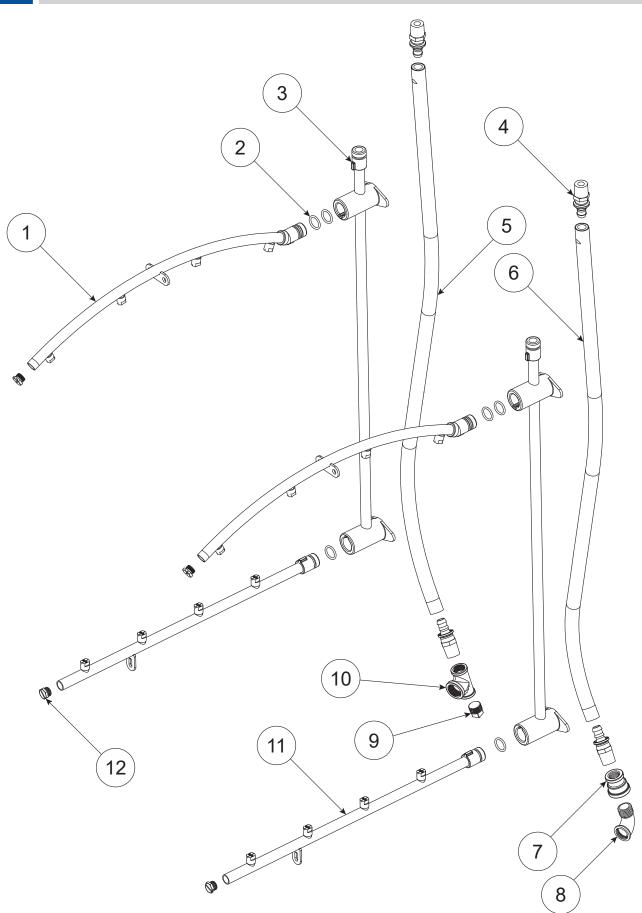
Mechanical Pump Seal 05330-002-34-22



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Gasket, Pump Suction	05330-003-75-87
2	2	Hose Clamp	04730-003-15-40
3	1	Hose, Wash Pump Discharge	05700-003-77-62
4	1	Manifold, Pre-wash System	05700-004-31-60
5	3	O-ring, Silicone, 0.103 Dia., 2 1/2" x 2 11/16" OD	05330-003-73-71
6	1	Tube, Manifold Riser	05700-003-81-53
7	2	Casting, Pre-wash Manifold	09515-003-77-22
8	2	O-ring, Silicone, 0.139 Dia., 2 1/4" ID x 2 1/2" OD	05330-003-73-72
9	1	Pre-wash Arm	05700-003-75-79
10	4	Cap, Threaded	04730-603-12-00
11*	1	Pre-wash Arm, Lower	05700-004-64-87*
12	1	Gasket, Pump Discharge	05330-003-75-88
13	1	Pre-wash Motor	See Table Below
14	2	Washer, 1/4-20	05311-174-01-00
15	2	Nut, Nylon Lock, 1/4-20	05305-374-01-00

PUMP & MOTOR ASSEMBLY	PART NUMBER
Pre-wash Pump, 2HP, 208 V, 60 Hz, 3-Phase	05700-004-84-96
Pre-wash Pump, 2HP, 230 V, 60 Hz, 3-Phase	05700-004-84-96
Pre-wash Pump, 2HP, 460 V, 60 Hz, 3-Phase	05700-004-84-96
Pre-wash Pump, 2HP, 600 V, 60 Hz, 3-Phase	05700-005-05-15
Pre-wash Pump, 3 HP, 208-230 V, 50-60 Hz, 1-Phase	05700-004-95-11

<sup>\*</sup>Machines before 19/378950 use 05700-003-80-96.



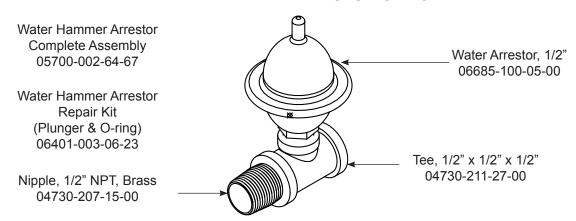
## RINSE SYSTEM



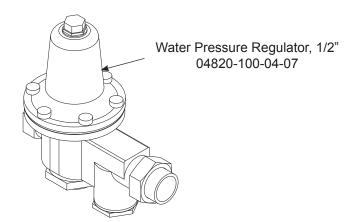
ITEM	QTY	DESCRIPTION	PART NUMBER
1	2	Upper Rinse Arm	05700-003-76-02
2	6	O-ring, Silicon, 0.103 Dia., 11/16" x 7/8" OD	05330-003-77-82
3	2	Rinse Manifold Rinse Manifold, HH	05700-003-76-79 05700-004-49-62
4	4	Fitting, 1/2" Male Swivel Brass	04730-004-19-62
5	1	47" Hose (Specify Length When Ordering) 47" Hose Assembly (Hose and Fittings)	04720-004-19-81 05700-004-48-24
6	1	38" Hose (Specify Length When Ordering) 38" Hose Assembly (Hose and Fittings)	04720-004-19-81 05700-004-31-81
7	1	Coupling, 1/2" to 3/4"	04730-204-07-00
8	1	Elbow, 3/4" Street Brass	04730-206-04-34
9	1	Plug, 1/2" Brass	04730-209-03-00
10	1	Tee, Reducing, 3/4" to 1/2"	04730-004-39-00
11	2	Lower Rinse Arm	05700-004-32-95
12	4	End-cap, Rinse Arm	05700-004-49-88

#### **PLUMBING OPTIONS**

#### WATER HAMMER ARRESTOR OPTION

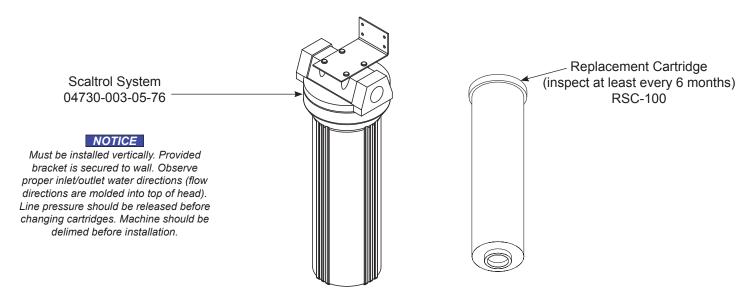


#### PRESSURE REGULATING VALVE OPTION\*



NOTICE \*PRV comes standard on ER units only.

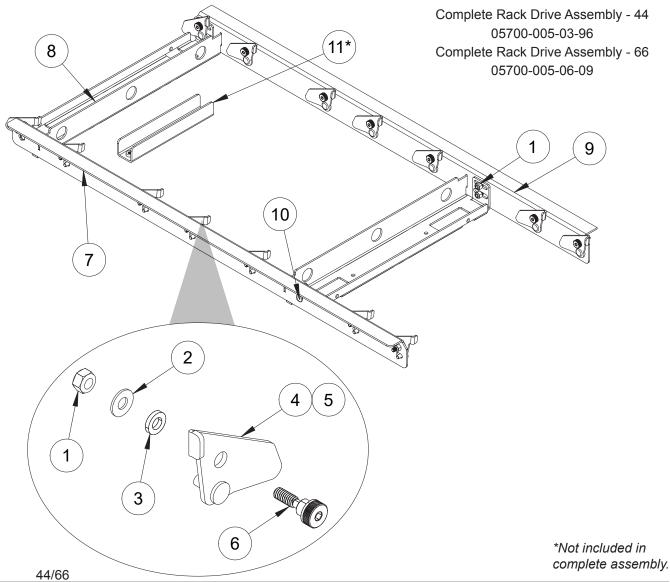
#### WATER TREATMENT OPTION





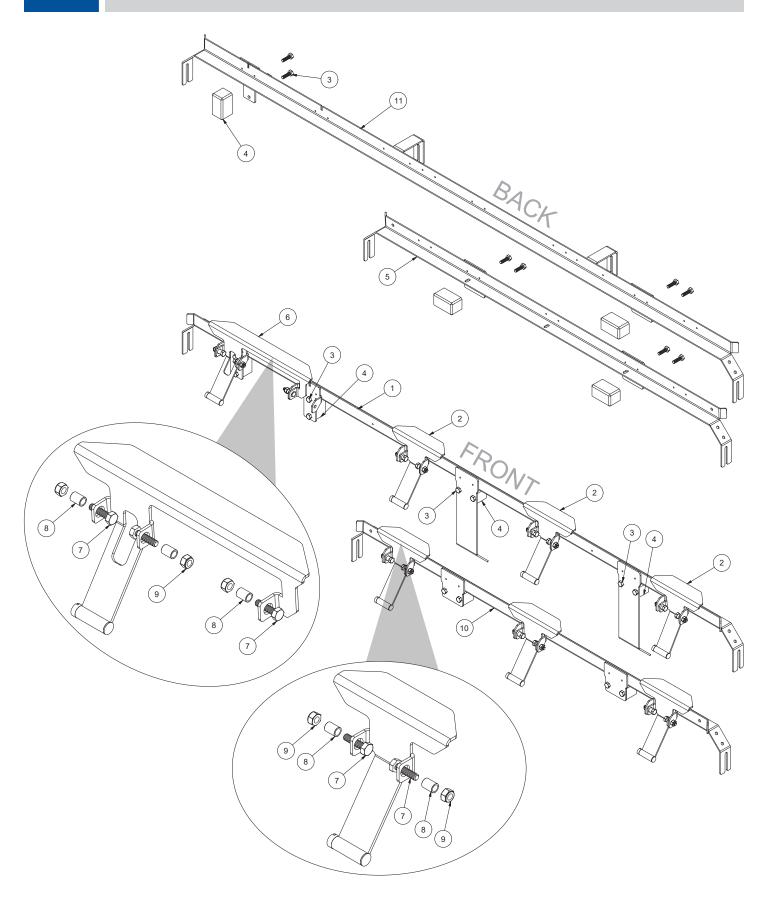
### RACK DRIVE

57



ITEM	QTY	DESCRIPTION	PART NUMBER
1	18/26	Locknut, 1/4-20 Hex with Nylon Insert	05310-374-01-00
2	14/22	Washer, 1/4-20	05311-174-01-00
3	14/22	Washer, Flat, 0.406 ID x 0.750 OD	05311-004-29-35
4	7/11	Rack Catch, Left	05700-004-29-32
5	7/11	Rack Catch, Right	05700-004-29-33
6	14/22	Bolt, Shoulder, 3/8" x 1/4", 1/4-20	05306-004-29-34
7	1	Rack Drive, Right - 44 Rack Drive, Right - 66	05700-005-03-91 05700-005-04-03
8	2	Rack Drive Frame	05700-005-03-95
9	1	Rack Drive, Left - 44 Rack Drive, Left - 66	05700-005-03-93 05700-005-04-04
10	4	Screw, 1/4-20 x 5/8"	05305-002-20-30
11*	1	Guide, Rack Drive	05700-004-29-36



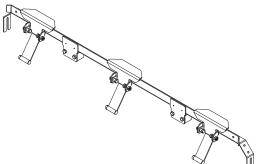




44/66

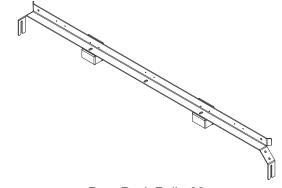
ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Front Rack Rail - 44	05700-004-26-87
2	3	Paddle Switch	05700-004-26-89
3	8/12	Screw, 1/4-20 x 7/8" Hex	05305-274-05-00
4	4/6	Glide Block	05700-004-11-75
5	1	Rear Rack Rail - 44	05700-004-22-95
6	0/1	Paddle Switch, Pre-wash, 66 L-R Paddle Switch, Pre-wash, 66 R-L	05700-004-34-03 05700-004-34-06
7	6/9	Screw, 1/4-20 x 1" Hex	05305-274-27-00
8	6/9	Spacer, Rack Guide	05700-011-71-44
9	6/9	Locknut, 1/4-20 Hex with Nylon Insert	05310-374-01-00
10	1	Front Rack Rail - 66 L-R Front Rack Rail - 66 R-L	05700-004-65-05 05700-004-70-66
11	1	Rear Rack Rail - 66	05700-004-65-06



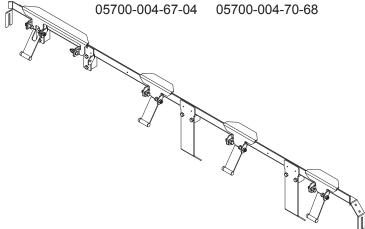


Front Rack Rail - 66
Complete Assembly
Left-to-Right Right-to-Left

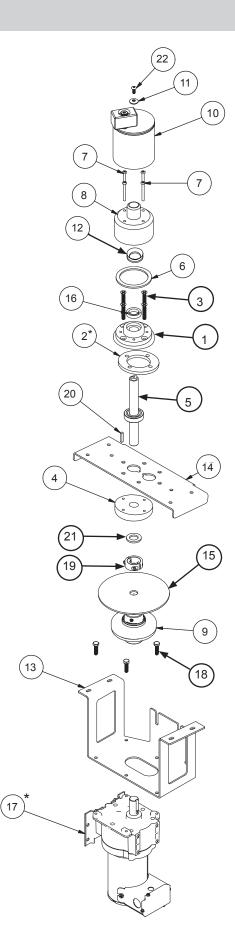
Rear Rack Rail - 44 Complete Assembly 05700-004-26-86



Rear Rack Rail - 66 Complete Assembly 05700-004-67-05



### DRIVE ASSEMBLY



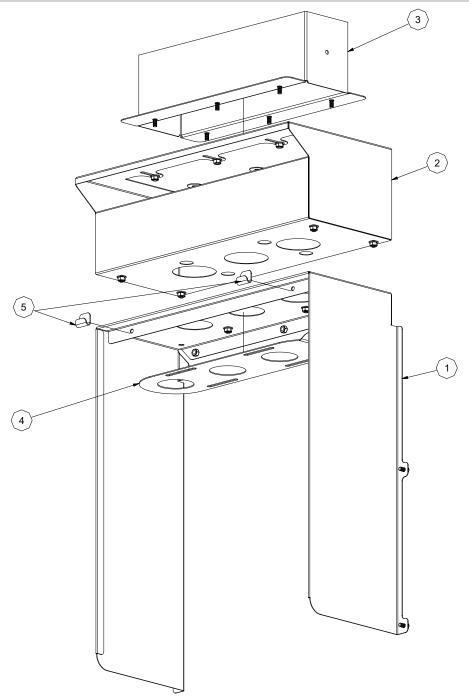
Drive Assembly 05700-004-29-95

## DRIVE ASSEMBLY

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Drive Casting, Top	09515-004-17-06
2	1	Gasket, Drive Casting	05330-004-20-31
3	4	Screw, 1/4-20 x 1 1/2" Hex	05305-004-55-76
4	1	Drive Casting, Bottom	09515-004-17-03
5	1	Drive Shaft	05700-004-29-79
6	1	Gasket, Drain Seat	05700-002-04-42
7	4	Screw, 10-32 x 1 3/4"	05306-003-92-52
8	1	Drive Shaft Cover	05700-004-29-46
9	1	Clutch-Drive, 3/4" x 3/4"	06105-004-29-41
10	1 1 1 1	Drive Plate Complete Assembly Drive Block, Brass (Not Shown) Washer, 3/8" ID (Not Shown) Nut, Low-profile, 3/8-16 with Nylon Insert (Not Shown)	05700-004-29-49 05700-004-23-01 05311-004-48-71 05310-004-48-72
11	1	Washer, Bonded Sealing 1/4" x 3/4"	05311-002-77-79
12	1	Seal, V-ring	05330-004-52-14
13	1	Motor Plate	05700-004-19-38
14	1	Motor Support Plate	05700-004-26-97
15	1	Gasket, Clutch	05330-004-28-88
16	1	Seal, Viton Oil Shaft, 3/4" ID	05330-004-29-06
17*	1	Drive Motor, 3-Phase Drive Motor, 1-Phase	06105-004-29-53 06105-004-29-54
18	4	Bolt, 1/4-28 x 1" Hex Head	05306-004-30-91
19	1	Collar, Drive Shaft	05700-011-89-18
20	1	Key, 3/16" x 9/10" Long	05700-011-89-17
21	1	Bearing, Thrust, 3/4" Shaft x 1 9/16" ID	03120-004-37-10
22	1	Screw, 10-32 x 1/2" with Sealing O-ring	05305-004-26-70

<sup>\*</sup>Part not included in complete assembly and must be ordered separately.

# VENTILATION COWL



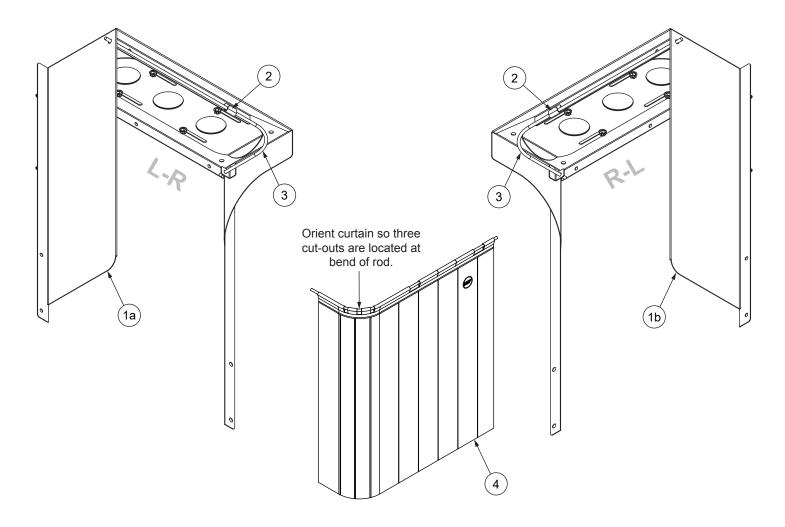
ITEM	QTY	DESCRIPTION	PART NUMBER
1	2	Vent Cowl Vent Cowl, HH	05700-004-34-01 05700-004-49-37
2	2	Vent Scoop	05700-004-29-68
3	2	Vent Duct Adapter	05700-003-75-73
4	2	Damper, Vent Scoop	05700-003-74-76
5	4	Curtain Hook	05700-003-17-98



### VENTILATION COWL FOR UNHOODED SIDE-LOADER

To attach curtain and rod to Vent Cowl, ensure curtain is oriented as depicted and follow steps below:

- · Insert rod into hole at rear of Vent Cowl.
- · Insert rod into bracket at front of Vent Cowl.
- Gently lift rod at curtain cut-out over and onto curtain hook ensuring ends of rod stay inserted in holes.



ITEM	QTY	DESCRIPTION	PART NUMBER
1a 1	1	Vent Cowl, L-R Side-loader	05700-004-38-27
		Vent Cowl, L-R Side-loader, HH	05700-004-69-21
1b 1	1	Vent Cowl, R-L Side-loader	05700-004-38-28
		Vent Cowl, R-L Side-loader, HH	05700-004-69-17
2	1	Curtain Hook	05700-003-17-98
3	1	Curtain Rod	05700-003-84-57
4	1	Curtain, Side-loader	See Curtains section.



## **MOTOR OVERLOADS**

Pre-Wash Motor (66 Only)

Volts	Phase	Freq	Motor Overload
208	3	60 Hz	05945-004-25-88
230	3	60 Hz	05945-004-25-88
460	3	60 Hz	05945-004-25-87

#### **Wash Motor**

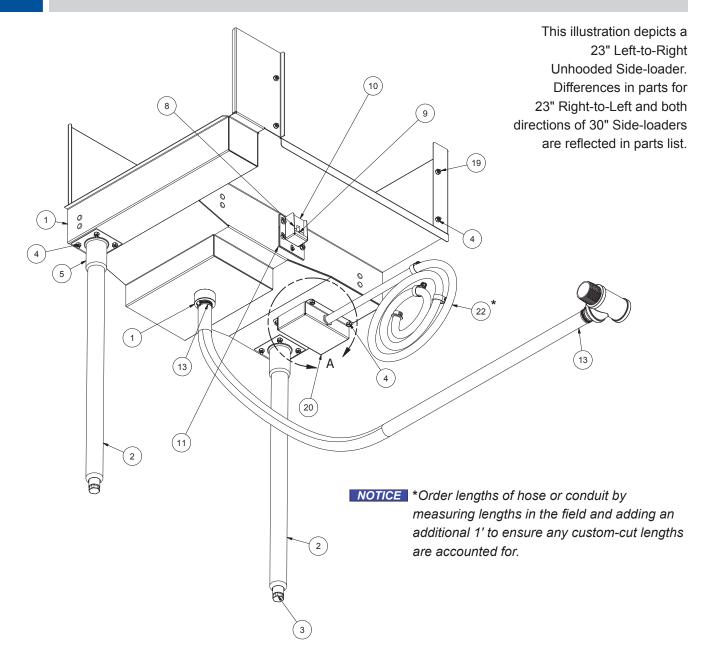
Volts	Phase	Freq	Motor Overload
208	3	60 Hz	05945-004-25-88
230	3	60 Hz	05945-004-25-88
460	3	60 Hz	05945-004-25-87

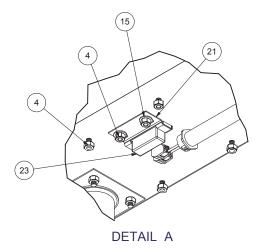
#### **Drive Motor**

Volts	Phase	Freq	Motor Overload
208	3	60 Hz	05945-004-25-80
230	3	60 Hz	05945-004-25-80
460	3	60 Hz	05945-004-25-85

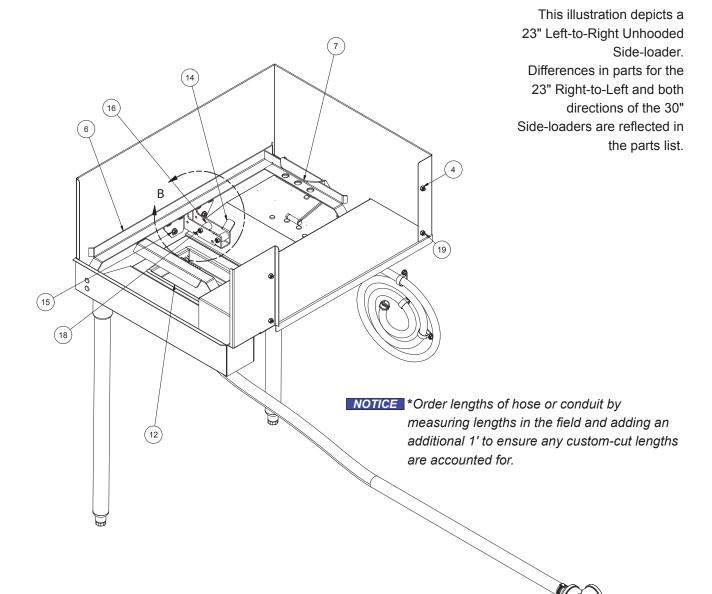
**NOTICE** Overloads are for 3-phase only.

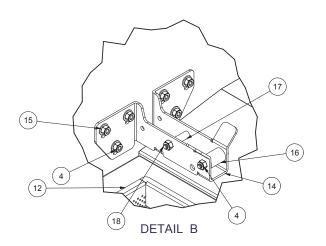
#### SIDE-LOADERS





#### SIDE-LOADERS





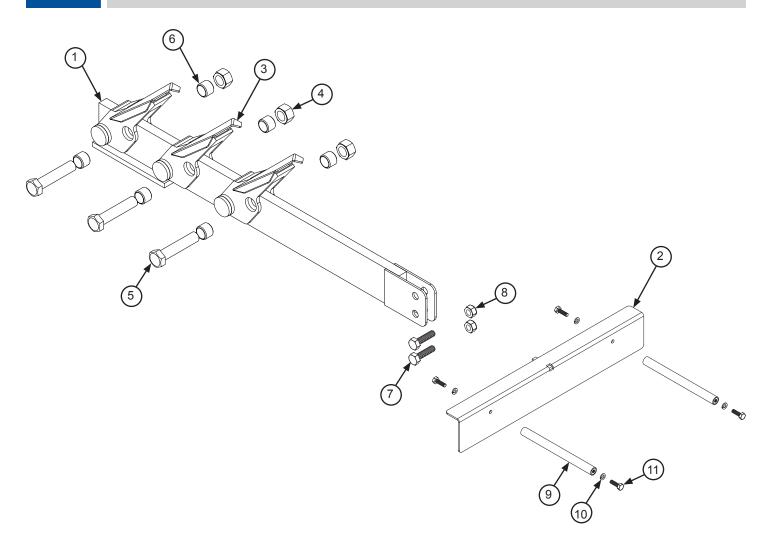


## SIDE-LOADERS

ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Tub Weldment, 23" Side-loader L-R Tub Weldment, 23" Side-loader R-L Tub Weldment, 30" Side-loader L-R Tub Weldment, 30" Side-loader R-L	05700-004-37-44 05700-004-38-03 05700-003-88-46 05700-003-88-39
2	2	Support Leg	05700-021-87-59
3	2	Adjustable Foot	05340-108-01-03
4	39	Locknut, 1/4-20 Hex with Nylon Insert	05310-374-01-00
5	2	Leg Socket	05700-002-56-14
6	1	Track, Side-loader L-R	05700-003-90-00
Ö	'	Track, Side-loader R-L	05700-003-89-95
7	1	Actuator Switch Assembly	05700-004-53-51
8	1	Gutter, Pawl Bar	05700-021-66-86
9	1	Guide Block Bottom-slotted	05700-011-69-50
10	1	Guide Block Top-slotted	05700-011-69-49
11	1	Gasket, Drive Gutter	05330-011-68-55
12	1	Strainer	05700-021-85-10
13	1	Drain Assembly, Side-loader	05700-004-38-17
14	1	Bracket, Loader Pawl Bar Support	05700-003-87-39
15	16	Washer, 1/4"	05311-174-01-00
16	2	Roller	05700-011-68-16
17	2	Roller Shaft	05700-011-68-14
18	2	Screw, 1/4-20 x 1 3/4" Hex	05305-274-10-00
19	4	Bolt, 1/4-20 x 1/2"	05305-274-02-00
20	1	Cover, Side-loader Switch	05700-003-87-41
21	1	Bracket, Limit Switch	05700-021-71-18
22	1	Conduit and Wiring, Side-loader	05700-004-38-53
23	1	Magnetic Reed Switch	05930-111-68-44



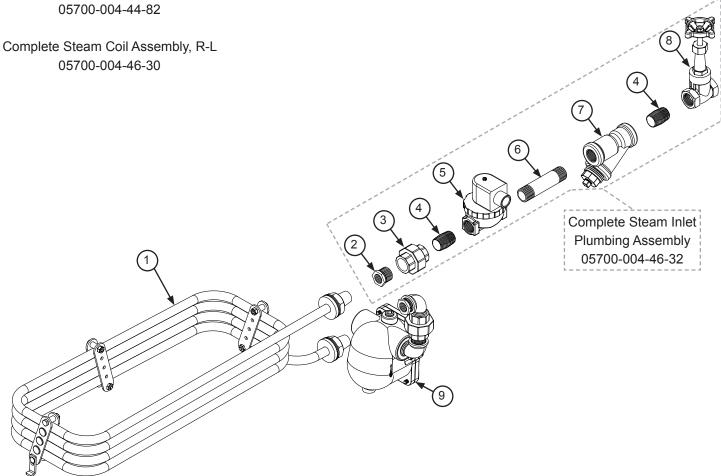
### SIDE-LOADER DRIVE LINKAGE



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Pawl Bar, Side-loader	05700-021-86-88
2	1	Drive Linkage, Side-loader	05700-004-37-81
3	3	Pawl Dog with Wing	05700-021-86-79
4	3	Locknut, 3/8-16 with Nylon Insert	05310-011-72-55
5	3	Bolt, 3/8-16 x 1 3/4" Hex	05306-011-36-94
6	6	Spacer, Pawl Bar Dog	05700-011-71-45
7	2	Screw, 1/4-20 x 1" Hex	05305-274-27-00
8	2	Locknut, 1/4-20 Hex with Nylon Insert	05310-374-01-00
9	2	Drive Link	05700-004-46-82
10	4	Lockwasher, Spring	05311-274-01-00
11	4	Screw, 1/4-20 x 7/8"	05305-274-05-00



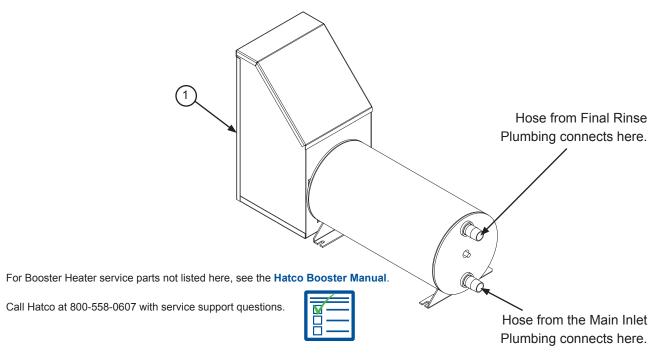
Complete Steam Coil Assembly, L-R 05700-004-44-82



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Steam Coil	05700-004-36-15
2	1	Reducer, 3/4" to 1/2" Black Iron	04730-911-02-34
3	1	Union, 3/4" Black Iron	04730-912-01-00
4	2	Nipple, 3/4" Black Iron	04730-907-01-00
5	1	Valve, Steam, 3/4"	04820-011-87-39
6	1	Nipple, 3/4" Black Iron, 4" Long	04730-907-02-34
7	1	Y-strainer, Steam, 3/4"	04730-217-01-32
8	1	Gate Valve, Steam, 3/4"	04820-100-19-00
9	1	Steam Condensate Assembly, L-R	05700-004-46-56
) a	1	Steam Condensate Assembly, R-L	05700-004-46-33



## BOOSTER HEATER\* (ELECTRIC)



ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Booster Heater	See Chart Below

BOOSTER HEATER	PART NUMBER
12 kW (40 °F Rise) 208 V, 3-Phase	04540-004-30-83
12 kW (40 °F Rise) 230 V, 3-Phase	04540-004-30-82
12 kW (40 °F Rise) 460 V, 3-Phase	04540-004-30-81
12 kW (40 °F Rise) 600 V, 3-Phase	04540-004-55-86
17.2 kW (70 °F Rise) 208 V, 3-Phase	04540-004-29-75
18 kW (70 °F Rise) 230 V, 3-Phase	04540-004-29-77
18 kW (70 °F Rise) 460 V, 3-Phase	04540-004-30-77
18 kW (70 °F Rise) 600 V, 3-Phase	04540-004-55-87
27 kW (ER) 208 V, 3-Phase	04540-004-41-68
27 kW (ER) 230 V, 3-Phase	04540-004-41-69
27 kW (ER) 460 V, 3-Phase	04540-004-41-70
27 kW (ER) 600 V, 3-Phase	04540-004-55-88

BOOSTER HEATER	PART NUMBER
12 kW (40 °F Rise) 208 V, 1-Phase	04540-004-30-80
12 kW (40 °F Rise) 230 V, 1-Phase	04540-003-76-59
18 kW (70 °F Rise) 208 V, 1-Phase	04540-004-29-76
18 kW (70 °F Rise) 230 V, 1-Phase	04540-004-30-78

<sup>\*</sup>Booster tank heaters not available on NB or chemical-sanitizing models.



# BOOSTER HEATER ADD-ON KIT\* (ELECTRIC)

Find machine's applicable electrical configuration and booster type (70-degree, 40-degree, or ER) in table below and use associated part number to order.

Click icon for install instructions.

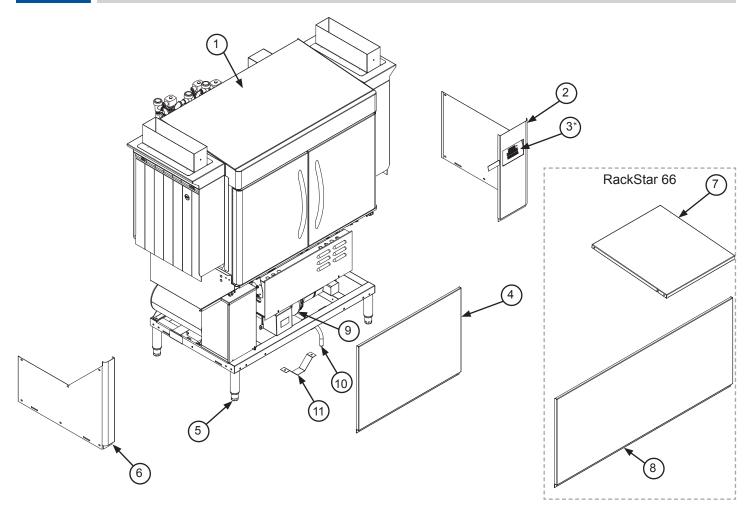


BOOSTER HEATER KIT	PART NUMBER
12 kW (40 °F Rise) 208 V, 3-Phase	05700-004-48-38
12 kW (40 °F Rise) 230 V, 3-Phase	05700-004-48-41
12 kW (40 °F Rise) 460 V, 3-Phase	05700-004-48-39
12 kW (40 °F Rise) 600 V, 3-Phase	05700-004-91-88
17.2 kW (70 °F Rise) 208 V, 3-Phase	05700-004-48-31
12 kW (40 °F Rise) 208 V, 1-Phase	05700-004-65-78
12 kW (40 °F Rise) 230 V, 1-Phase	05700-004-36-33
18 kW (70 °F Rise) 230 V, 3-Phase	05700-004-48-32
18 kW (70 °F Rise) 460 V, 3-Phase	05700-004-48-33
18 kW (70 °F Rise) 600 V, 3-Phase	05700-004-91-90
27 kW (ER) 208 V, 3-Phase	05700-004-91-91
27 kW (ER) 600 V, 3-Phase	05700-004-91-92

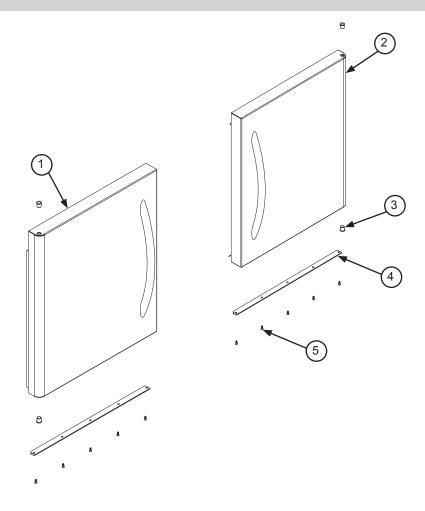
BOOSTER HEATER KIT	PART NUMBER
12 kW (40 °F Rise) 208 V, 1-Phase	05700-004-65-78
12 kW (40 °F Rise) 230 V, 1-Phase	05700-004-36-33
18 kW (70 °F Rise) 208 V, 1-Phase	05700-004-35-18
18 kW (70 °F Rise) 230 V, 1-Phase	05700-004-44-14

<sup>\*</sup>Booster tank heaters not available on NB or chemical-sanitizing models.





ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Hood Dress Panel	05700-004-45-83
	1	Left Dress Panel, L-R	05700-004-30-60
2	'	Right Dress Panel, R-L	05700-004-31-93
3	1	Display	See Display Assembly page.
4	1	Front Dress Panel, RackStar 44	05700-004-30-44
5	1	Adjustable Foot	05340-011-71-74
C	1	Right Dress Panel, L-R	05700-004-30-59
6	1	Left Dress Panel, R-L	05700-004-31-92
7	1	Pre-wash Hood Dress Panel	05700-004-30-08
8	1	Front Dress Panel, RackStar 66	05700-004-34-48
9	1	Drain Valve	04820-111-71-46
10	1	Drain Handle Complete Assembly	05700-004-31-89
10	1	Drain Handle Only	05700-004-31-90
11	1	Support Bracket, Drain Hose	05700-004-56-71
-	-	Screw, Dress Panel (Not Shown)	05306-004-42-04

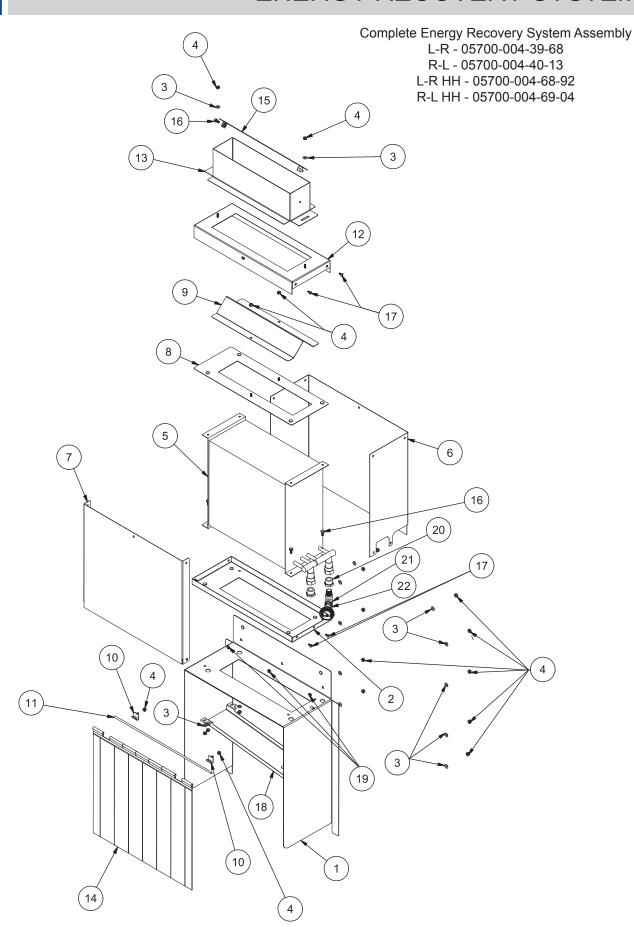


ITEM	QTY	DESCRIPTION	PART NUMBER
1	1	Left Door Assembly	05700-004-17-45
1	1	Left Door Assembly, HH	05700-004-49-44
2	1	Right Door Assembly	05700-004-17-44
2	I	Right Door Assembly, HH	05700-004-49-46
3	4	Bearing, Flanged Sleeve	03120-004-39-92
4	2	Door Seal	09330-004-17-41
5	10	Screw, 10-32 x 1/2"	05305-011-44-51
		Door Assembly, Pre-wash, L-R	05700-004-32-76
6	1	Door Assembly, Pre-wash, R-L (Not Shown)	05700-004-44-35
		Door Assembly, Pre-wash, L-R, HH	05700-004-49-70
		Door Assembly, Pre-wash, R-L, HH	05700-004-50-25



Door Switch 05930-002-36-80

#### **ENERGY RECOVERY SYSTEM**





#### ENERGY RECOVERY SYSTEM

ITEM	QTY	DESCRIPTION	PART NUMBER
	1	Vent Cowl, L-R	05700-004-36-36
1		Vent Cowl, L-R HH	05700-004-68-91
	1	Vent Cowl, R-L	05700-004-40-16
		Vent Cowl, R-L HH	05700-004-69-03
2	1	Mounting Plate	05700-004-36-32
3	20	Washer, 1/4-20	05311-174-01-00
4	24	Locknut, 1/4-20 Hex with Nylon Insert	05310-374-01-00
5	1	Coil, Heat Exchanger	04420-004-40-73
6	1	Side Cover, Left	05700-004-41-17
7	1	Side Cover, Right	05700-004-41-18
8	1	Top Coil Support	05700-004-40-40
9	1	Air Baffle	05700-004-36-66
10	2	Curtain Hook	05700-003-17-98
11	1	Curtain Rod	05700-003-77-52
12	1	Coil Housing Top	05700-004-36-73
13	1	Collar, Vent Scoop	05700-004-36-71
14	1	Curtain, 20 1/2" x 19"	08415-002-14-41
14		Curtain, HH 20 1/2" x 29 3/4"	08415-004-49-64
15	1	Baffle, Vent Cowl	05700-002-11-47
16	5	Screw, 1/4-20 x 5/8" Hex	05305-274-24-00
17	10	Screw, 10-32 x 1/2"	05305-011-39-36
18	1	Drip Tray	05700-004-42-09
19	3	Locknut, 1/4-20 Low Profile with Nylon Insert	05310-374-02-00
20	2	Bushing, 3/4" to 1/2" Hex, Brass	04730-002-56-27
21	1	Plumbing, Temperature Gauge, Coil	05700-004-42-88
22	1	Check Valve, 1/2"	04730-004-79-79

#### Hoses for Energy Recovery System (Not Shown)

DESCRIPTION	PART NUMBER
Hose, Inlet (Blue)	05700-004-42-29
Hose, Coil Outlet (Red)	05700-004-42-30
Hose, Booster Outlet (Red)	05700-004-42-31
Hose, 1/2" x 23" (Blue)	05700-004-42-32
Hose, 1/2" x 47" (Red)	05700-004-42-33
Hose, 1/2" x 38" (Red)	05700-004-42-34
Hose, 1/2" x 5" (Blue)	05700-004-42-89

### PARTS

#### MISCELLANEOUS/OPTIONS

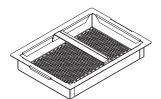
#### **Miscellaneous Parts**



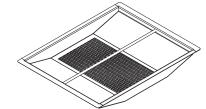
Curtain Bracket, Middle 05700-004-32-75



Curtain Bracket, End 05700-004-21-24



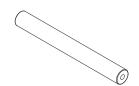
Strainer, Pre-wash 05700-004-69-74



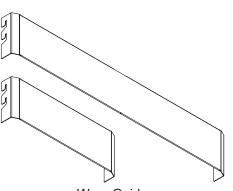
Strainer, Wash Tank 44 05700-004-29-02



Strainer, Wash Tank 66 05700-004-09-43

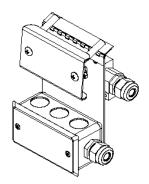


Pre-wash Connecting Rod 05700-004-56-16

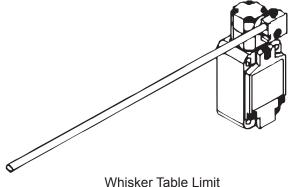


Ware Guide 05700-004-27-17 Pre-wash Ware Guide (66 Only) 05700-004-39-03

#### **Options**

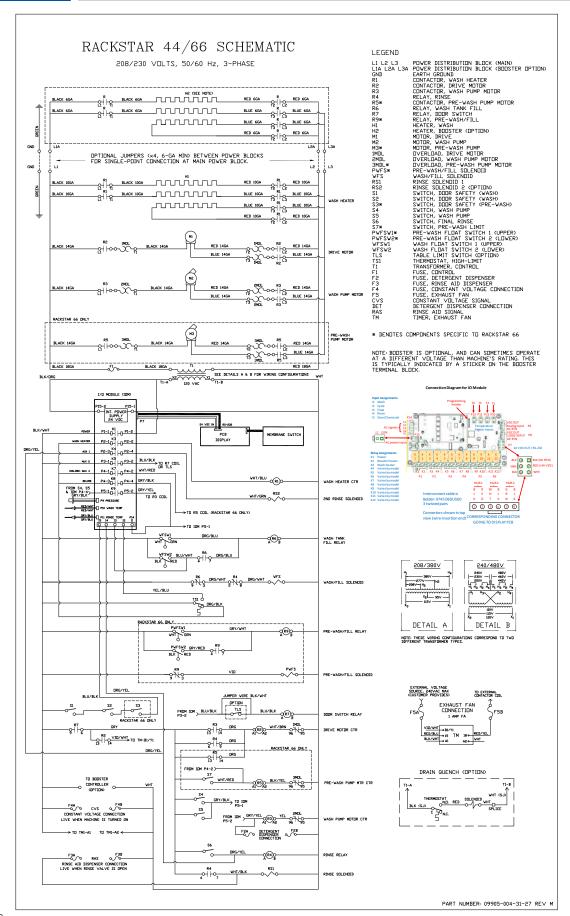


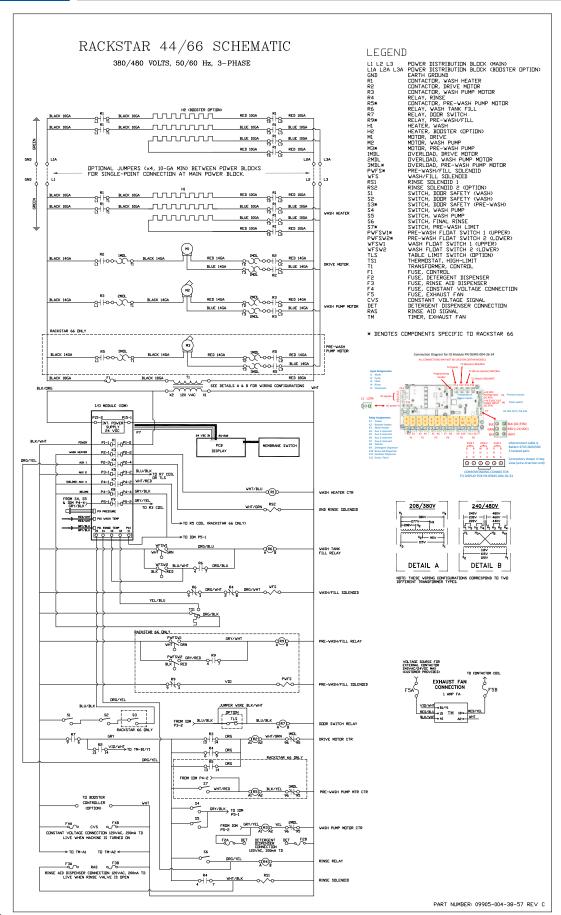
Striker Table Limit Switch Option 05700-002-62-94

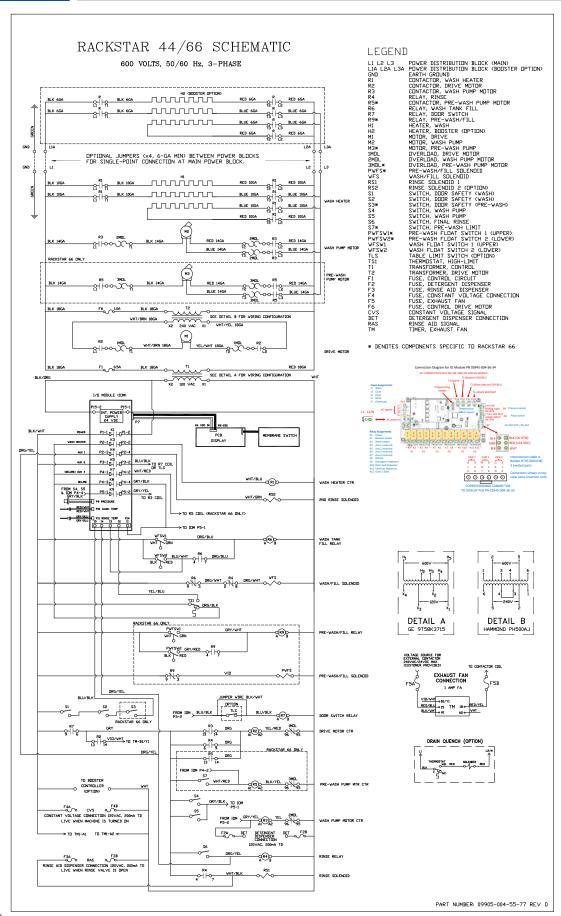


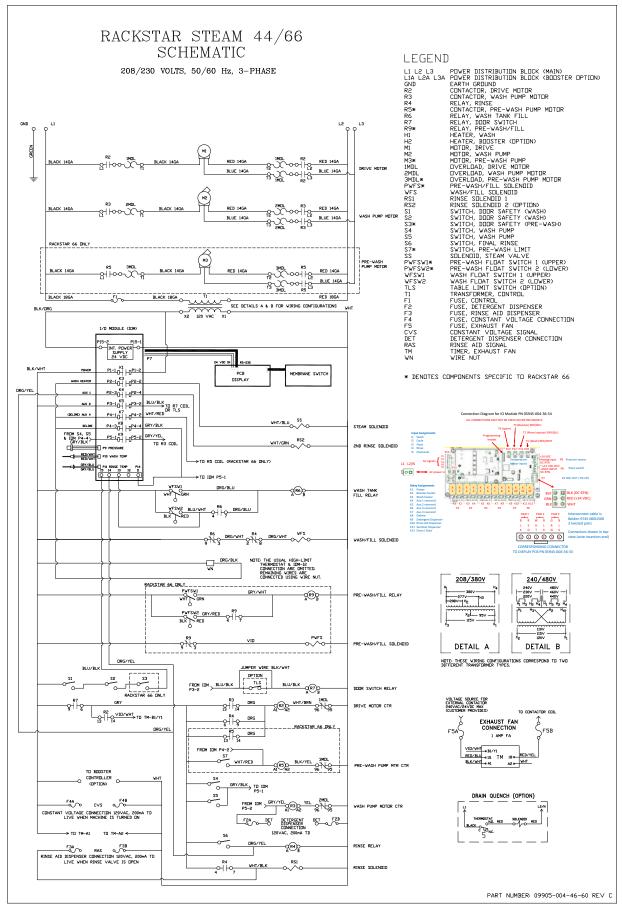
Switch Option 05700-002-06-83

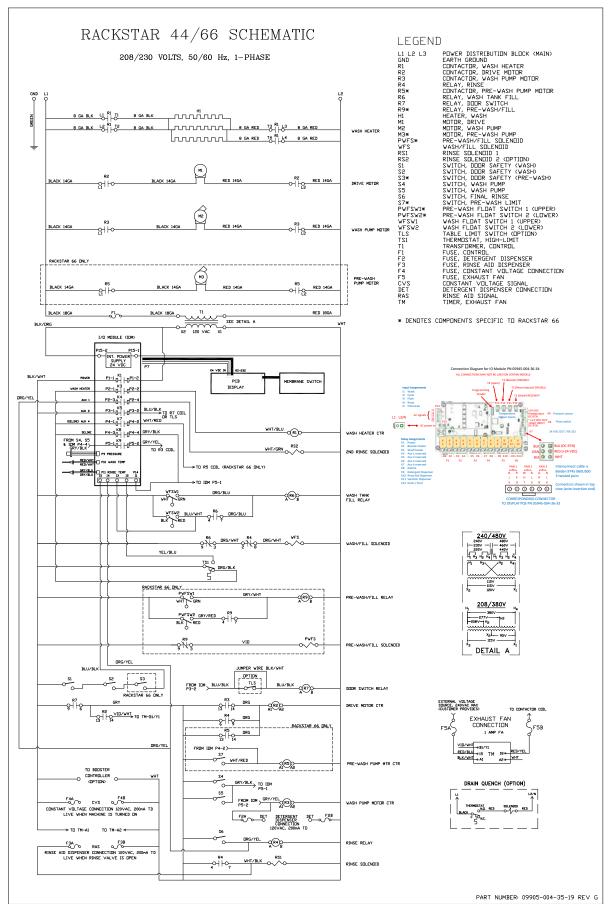


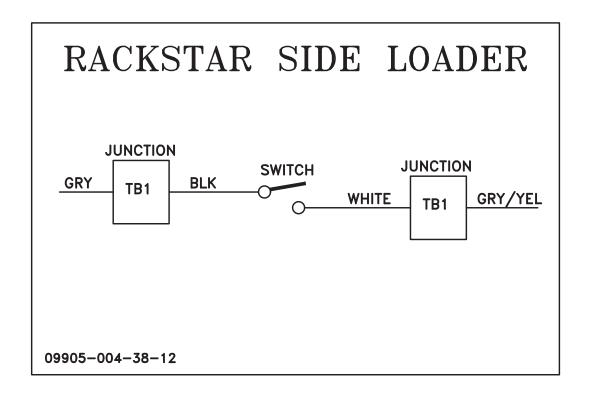






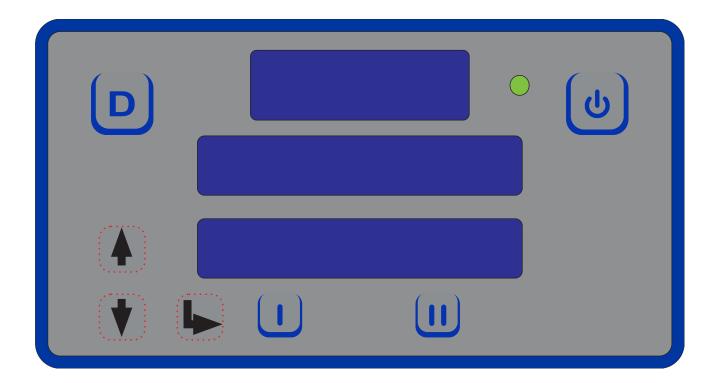


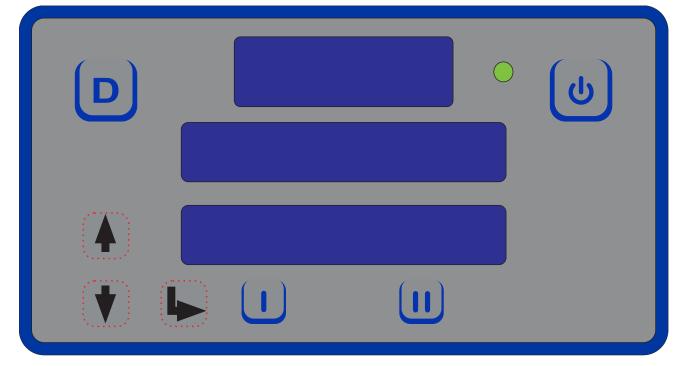




#### **DISPLAY TEMPLATE**

This page can be copied and the display templates cut-out. Lay the cut-out over the display and use the Up-arrow, Downarrow, and Select Buttons to locate the hidden programming buttons.







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