Champion®

Installation Manual



PRO series Upright Conveyor Dishwashers

ModelsEUCC4EUCC6EUCCW4EUCCW6EUCCW8



www.championindustries.com

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ATTENTION

The model no., serial no., voltage, Hz and phase are needed to identify your machine and to answer questions.

<u>The machine data plate</u> <u>is located on the side of the top</u> <u>mounted control cabinet.</u> Please have this information ready if you call for service assistance.

INSTALLATION CODES

The installation of the dishwasher must comply with all local electrical, plumbing, health and safety codes or in the absence of local codes, installed in accordance with the applicable requirements in the National Electrical Code, NFPA 70, Canadian Electrical Code (CEC), Part 1, CSA C22.1; and the Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, NFPA 96.



NOTE:

Only qualified personnel familiar with the installation of food service equipment should attempt the installation of this machine. Damage or problems associated with improper installation will not be covered by the dishwasher limited warranty.



Two ways to REGISTER YOUR PRODUCT and ACTIVATE YOUR WARRANTY.



• Use your mobile phone or computer to go to our website at www.championindustries.com and register your product.

or

• Use the fax form on the next page.

PRODUCT REGISTRATION BY FAX

COMPLETE THIS FORM AND FAX TO:

(336) 661-1660 in the USA

1-(800) 204-0109 in Canada

Model	Serial #		
Date of Installation:/ /			
Company Name:			
Address:	(Streat)	State/Province	Zin/Postal Co
Telephone #: ()		State/FIDVIIICE	zip/r Usial CU
Contact:			
Installation Company:			
Address:			
Telephone #:			
Contact:			
AILURE TO REGISTER Y	OUR PRODUCT MAY V	OID YOUR WAI	RRANTY

Revision History

Specifications are subject to change based on continual product improvement. Dishwasher owners may a request a manual by calling 1(800) 858-4477 in the USA and 1(800) 263-5798 in Canada.

Revision	Revised	Serial Number	Description
Date	Pages	Effectivity	
9.18.20	All	J20094452	Released First Edition

Limited Warranty

LIMITED WARRANTY

Champion Industries (herein referred to as "The Company"), 3765 Champion Blvd., Winston-Salem, North Carolina 27105, and 2674 N. Service Road, Jordan Station, Ontario, Canada, LOR 1SO, warrants machines, and parts, as set out below.

Warranty of Machines: The Company warrants all new machines of its manufacture bearing the name "Champion and installed within the United States and Canada to be free from defects in material and workmanship for a period of one (1) year after the date of installation or fifteen (15) months after the date of shipment by The Company, whichever occurs first. [See below for special provisions relating to glasswashers.] Warranty registration must be submitted to The Company within ten (10) days after installation either online at Champion Industries website (http://www.championindustries.com/warranty-registration or by the fax form at the front of this manual. The Company will not assume any responsibility for extra costs for installation in any area where there are jurisdictional problems with local trades or unions.

If a defect in workmanship or material is found to exist within the warranty period, The Company, at its election, will either repair or replace the defective part or accept return of the machine for full credit; provided; however, as to glass-washers, The Company's obligation with respect to labor associated with any repairs shall end (a) 120 days after shipment, or (b) 90 days after installation, whichever occurs first. In the event that The Company elects to repair, the labor and work to be performed in connection with the warranty shall be done during regular working hours by a Champion authorized service technician. Defective parts become the property of The Company. Use of replacement parts not authorized by The Company will relieve The Company of all further liability in connection with its warranty. In no event will The Company's warranty obligation exceed The Company's charge for the machine. The following are not covered by The Company's warranty:

- a. Lighting of gas pilots or burners.
- b. Cleaning of gas lines.
- c. Replacement of fuses or resetting of overload breakers.
- d. Adjustment of thermostats.
- e. Adjustment of clutches.
- f. Opening or closing of utility supply valves or switching of electrical supply current.
- g. Cleaning of valves, strainers, screens, nozzles, or spray pipes.
- h. Performance of regular maintenance and cleaning as outlined in the operator's guide.
- i. Damages resulting from water conditions, accidents, alterations, improper use, abuse,
- tampering, improper installation, or failure to follow maintenance and operation procedures.
- j. Wear on Pulper cutter blocks, pulse vanes, and auger brush.

Examples of the defects not covered by warranty include, but are not limited to: (1) Damage to the exterior or interior finish as a result of the above, (2) Use with utility service other than that designated on the rating plate, (3) Improper connection to utility service, (4) Inadequate or excessive water pressure, (5) Corrosion from chemicals dispensed in excess of recommended concentrations, (6) Failure of electrical components due to connection of chemical dispensing equipment installed by others, (7) 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, (8) Failure to comply with local building codes, (9) Damage caused by labor dispute.

Warranty of Parts: The Company warrants all new machine parts produced or authorized by The Company to be free from defects in material and workmanship for a period of 90 days from date of invoice. If any defect in material and workmanship is found to exist within the warranty period The Company will replace the defective part without charge.

DISCLAIMER OF WARRANTIES AND LIMITATIONS OF LIABILITY. THE COMPANY'S WARRANTY IS ONLY TO THE EXTENT REFLECTED ABOVE. THE COMPANY'S MAKE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED, TO ANY WARRANTY OF MERCHANTABILITY, OR FITNESS OF PURPOSE. THE COMPANY SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. THE REMEDIES SET OUT ABOVE ARE THE EXCLUSIVE REMEDIES FOR ANY DEFECTS FOUND TO EXIST IN THE COMPANY'S' DISHWASHING MACHINES AND THE COMPANY'S PARTS, AND ALL OTHER REMEDIES ARE EXCLUDED, INCLUDING ANY LIABILITY FOR INCIDENTALS OR CONSEQUENTIAL DAMAGES.

The Company does not authorize any other person, including persons who deal in Champion dishwashing machines to change this warranty or create any other obligation in connection with Champion dishwashing machines.

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PLUMBING AND ELECTRICAL DRAWING, (P&E)

- The P&E contains important information for the installation of the machine.
- Contact the factory before installing the machine if you do not have this document at the installation site.



UNPACKING

- Upon receipt, inspect the machine and its shipping containers for damage.
- <u>Immediately contact the carrier</u> and save all packing material for inspection.
- Accessories and hardware kits and are shipped inside the machine. Do not discard anything stored inside the machine.
- Do not remove any labels attached to the machine before assembly is complete.



NOTE:

Immediately register the machine warranty by scanning the QR code located on the machine control cabinet, by fax using the fax form at the front of this manual, or at the Champion Industries website at https://championindustries.com/ warranty-registration.

INSPECT THE INSTALLATION SITE

- Make sure the machine will pass through all doors, passageways and ceilings.
- Check the level and condition of the floors before placing the machine.
- Compare the size and location of the utilities, (water, electric, drain, ventilation etc.), and make sure they agree with the P&E and the machine.
- Test the electrical service(s) to ensure they correspond to the machine requirements.

PLACING THE MACHINE



CAUTION:

Remove the front panels. Inspect the bottom of the machine and note the location of piping before removing the machine sections from the pallets.

- Place the machine sections near their final locations leaving space between them for final assembly.
- Note the height of each section. The floor may not be level so final leveling will depend on variations in the floor.



ASSEMBLING THE TANK SECTIONS



Place the "C" (Wash/Rinse) Section in its final location and level it first.

- Turn the adjustable feet in completely and determine which section is highest due to floor variance. Adjust the "C" section height to accommodate the variation. Do not adjust the "C" section too high.
- Move the "A" section to the "C" section making sure the base and hood bolt holes line up. LEVEL SECTION "A" TO MATCH "C".

CAUTION: Make sure foam gasket is applied on all four sides of the section opening.

- Using the sealant (Fig.2), supplied in the hardware kit, apply a 1/2" bead around the foam gaskets. Sealant should squeeze out of the joints when tightened.
- There are three bolts along the base (Fig. 3), and twenty bolts around the hood. Use 5/16 x 3/4" bolts for the hood and 1/2 -13 x 1" for the base. Tighten the bolts in a manner that ensures the sections mate evenly.



Fig. 2 -1/2" Silicone Bead



Fig. 3 -Base Mounting Hole



CAUTION:

The conveyor tracks inside the machine must also be aligned as the sections are leveled. The tracks have a small amount of adjustment if needed.



Fig. 4 - Conveyor tracks must be aligned

• Repeat this process for the remaining sections making sure to check levels and adjust the legs so they all touch the floor.

U-CLIPS

The dishwasher section joints inside the dishwasher must be capped by a U-CLIP specifically designed to seal the joints and prevent leaks between the dishwasher sections.



Make sure the section joints have a foam gasket installed. If the gasket is missing, then the sections must be broken, a gasket installed, siliconed and then the sections bolted and re-leveled.

- Follow the steps below to install the section joint U-CLIPS.
 - 1. Apply a 1/2" bead of silicon at the section seam.
 - 2. Slide the U-CIIP over the section joint. Align the bolt holes.
 - 3. Bolt the U-CLIP using 5/16-18 x 1" bolts, washers and locknuts included in the hardware kit.
 - Wipe any excess silicon that may have squeezed out of the U-CLIP joint.









ASSEMBLING THE CONVEYOR BELT



CAUTION:

Moving conveyor parts can cause injury. Use caution when assembling the belt



NOTE:

The conveyor belt is usually installed in the tank sections prior to shipment but may on occasion be shipped separately on pallets. The following instructions explain the procedure to install the belt in the field.

The load and the unload sections of the dishwasher have removable panels.

- 1. Start at the unload end of the machine and note the location of the top and side panels
- 2. Lift the unload top panel up and off.
- 3. Lift the end panel straight up. Note the guides on the sides of the hood as you remove the panel.
- 4. Lift the side panels off the right and left sides.
- Lift the end panel straight up and off the unload end of the machine. Remove the retaining bolts and remove drive gear cover.
- 6. Set the panels and covers aside in a safe location.



Fig. 5 - Belt peg notches face the load end.



Perform the following procedure to assemble the belt:

- 1. Remove the drive sprocket key so the shaft freewheels.
- 2. Start at the unload end of the machine and unroll a belt section around the end sprockets until about 1.5 feet of belt rests on the conveyor upper track.
- 3. From the load end, unroll another section toward the load end.
- 4. Use an assembled portion of the belt as an assembly guide.
- Join the sections together by feeding a conveyor rod through the links, spacers and rollers. Install a cotter pin on each end of the rod.



Remove the drive sprocket key.



Roll the first section of conveyor belt from the unload section toward the load section.



Connect the conveyor belt sections with a rod, spacers, and washers included in the hardware kit.

ADJUSTING THE CONVEYOR BELT



- 1. The take-up assemblies adjust belt tension. They are located on each side of the load end conveyor shaft. (A).
- 2. Loosen the adjusting bolt locknuts then turn the adjusting bolts CW to tighten the belt.
- 3. Make sure the belt tension is even on both sides.
- 4. Adjust the belt tension as you manually remove the slack in the bottom portion of the belt.
- 5. Check the belt tension by lifting the upper conveyor belt at the load end of the dishwasher (B).
- 6. The proper belt tension is achieved when the top of the conveyor belt rods are even with the top of the belt access hole. (C).
- 7. Tighten the adjusting bolt locknuts to hold the belt adjustment.
- 8. Check that the conveyor belt tracks evenly on the conveyor drive sprockets during operation.
- 9. Adjust the take-up assemblies as required. (D).
- 10. Proper tracking requires that the rollers seat evenly in the conveyor belt drive sprockets.
- 11. The belt metal links must not rub the sides of the belt sprockets. (E).
- 12. Replace the key in the drive sprocket.



CAUTION:

Do not overtighten the belt.



ADJUSTING THE CONVEYOR JAM SWITCH



CAUTION:

Moving conveyor parts can cause injury. Use caution when assembling the belt

The conveyor anti-jam switch is located at the unload end of the machine and is adjusted after the belt is installed and the conveyor is running.



- 1. Check the conveyor jam switch arm to ensure the arm applies tension on the chain. Adjust the tension spring nut (B) if required.
- 2. With the conveyor belt running, hold the belt to with approximately 165 lbs. force to stop the belt.
- 3. The conveyor jam switch should stop the belt drive.
- 4. If it does not, then loosen the switch mounting bolts, (A), and slightly move the switch upward.
- 5. Apply stopping force to the belt and continue to adjust the switch position until the belt stops when resistance is applied according to Step 2 above.
- 6. Re-install the drive cover.



OPTIONAL VARIABLE FREQUENCY DRIVE, (VFD).

- The VFD controls the speed of the AC conveyor drive motor.
- Refer to the Diagnostics Manual, P/N 117173, for the VFD programming instructions.



Fig. 6 - VFD



Fig. 7 -The VFD is located behind the drive motor.

CHECKING THE BAFFLES

- Tank baffles direct water back into the tank. The belt should not interfere with their movement.
- Make sure the baffles move up and down without interference.



Fig. 8 - Baffles shown with belt removed.

Fig. 9 - Baffles should move freely.

CONNECT CROSS-FLOW PIPING

- Stainless steel crossflow piping between the tanks are connected by hoses.
- Hoses are pushed back and secured on one end of the piping.
- Loosen the hose clamps and re-position the hoses evenly on the piping.



Fig. 10 - Crossflow piping.

SEALING SECTION JOINTS

• Dishwasher sections must be sealed with the foodgrade sealant provided with the machine. Perform the following procedure to seal the joints.



Fig. 11 -Ensure tank sections are level.

- Check sections and make sure they are level (Fig. 11).
- Mask the joints with quick-release tape and apply a bead of sealant (Fig. 12).
- Wipe excess sealant with a damp cloth or paper towel (Fig. 13).
- Remove masking tape to finish the section seal (Fig. 14).
- Sealant should fill the joint evenly. (Fig. 15).



Fig. 12 -Mask joint and apply sealant.



Fig. 13 -Smoothly remove excess sealant.



Fig. 14 -Remove masking tape.



Fig. 15 -Sealant fills joint evenly.

PLUMBING CONNECTIONS

Hot Water Connection



CAUTION: The installing plumber must flush debris from the water supply line before connecting it to the dishwasher.

MINIMUM 3/4" NPT HOT WATER SUPPLY LINE.

- Hot water supply connection is located underneath the unload section of the machine.
- Install a 3/4" or larger shut-off valve in the supply line as close to the machine for servicing
- Refer to the machine data plate located on the top-mounted control cabinet for the proper flowing pressure. Adjust the PRV to maintain the listed flowing pressure when the machine is running.
- A water hardness of 3 Grains/US Gal./0.83 Imp. Gal./5.3 L or less is recommended.



NOTE:

A water hammer arrestor (meeting ASSE-1010 standard or equivalent, (supplied by others), and installed in the common water supply line at the service connection.



Fig. 16 - Electric heat.



Fig. 17 - Steam heat.

BOOSTER	MINIMUM INCOMING	MAXIMUM INCOMING	MINIMUM/MAXIMUM
RISE °F/°C	WATER TEMPERATURE	SUPPLY FLOWING PRESSURE	OPERATING FLOWING PRESSURE
40°F/22°C	- 140°F/60°C	60 PSI	20-22 PSI
RISE		414 kPa	138-152 kPa
70°F/39°C	- 110°F/ 43°C	60 PSI	20-22 PSI
RISE		414 kPa	138-152 kPa
NO	- 180°F/ 82°C	60 PSI	20-22 PSI
BOOSTER		414 kPa	138-152 kPa

PLUMBING CONNECTIONS (continued)

- CONNECT WATER LINE COMPRESSION FITTINGS USING TEFLON TAPE. ENSURE FITTINGS ARE TIGHT (FIG. 12).
- REMOVE SHIPPING TIES AND INSTALL SOLENOID COILS ON THE WATER SUPPLY VALVES (FIG. 13).
- ASSEMBLE THE FLUSHING NOZZLE PIPING LOCATED ON THE LOAD END OF THE MACHINE (FIG. 14).



Fig. 18 - Connect compression fittings.



Fig. 19 - Connect water solenoid coils.



Fig. 20 - Connect flushing nozzle piping.

PLUMBING CONNECTIONS

Cold Water Connection Drain Water Tempering, (DWT)



CAUTION: The installing plumber must flush debris from the water supply line before connecting it to the dishwasher.

1/2" NPT COLD WATER SUPPLY LINE

MINIMUM INCOMING	MAXIMUM INCOMING
WATER TEMPERATURE	SUPPLY PRESSURE
36°F/2°C	60 PSI/414 kPa



NOTE: Install a 1/2" NPT or larger shut-off valve in the cold water supply line as close to the dishwasher as possible for servicing.



Fig. 21 - DWT 1/2" NPT cold water connection.

DRAIN CONNECTION



- Gravity Drain 2" NPT connection located at the load end of the machine.
- Max flow is 62 US Gal./Minute
- Use a direct or indirect connection to the building drain in accordance with all local codes.
- The drain valves are electric. They are open when the dishwasher power is OFF and closed when the power is ON.



Fig. 22 - Electric drain valve.

OPERATING THE DRAIN VALVE MANUALLY



- To manually operate the new valve, four 2.5mm socket allen screws must be removed, the valve coil removed, and the valve globe rotated with pliers.
- The valve coil has an indicator line showing valve position. Ensure valve is reassembled in the same position.





Remove four 2.5mm coil retaining allen screws.



Remove the coil from the valve body.



Using pliers, turn the valve body key to the vertical position to open valve.

Reassemble in reverse order.

ELECTRICAL CONNECTIONS



The installation of the dishwasher must comply with all local electrical, plumbing, health and safety codes or in the absence of local codes, installed in accordance with the applicable requirements in the National Electrical Code, NFPA 70, Canadian Electrical Code (CEC), Part 1, CSA C22.1; and the Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, NFPA 96.



WARNING:

Electrocution may occur when working on energized circuits. There may be more than one power source connected to the machine. Disconnect power at the main breaker or service disconnect switch, then lock out and tag all circuits to indicate that work is being performed.

- COMPARE THE ELECTRICAL SUPPLY WITH THE MACHINE ELECTRICAL CONNECTION DATA PLATE BEFORE CONNECTING POWER TO THE MACHINE.
- THE CONNECTION DATA PLATE IS ADJACENT TO THE INPUT TERMINAL BLOCK.



Fig. 23 - Input power block.

TANK SECTION INTERWIRING



- Connecting wires between the tank sections are disconnected and the sealtite conduit is rolled back to the appropriate section.
- The terminal boxes are located on the center base of each section.
- When the tank sections are completely joined, the conduit is rolled back to the adjacent tank and the wires reconnected as required.
- Terminal block terminals are marked with the corresponding numbers in the conduit wires.



Fig. 24 - Tank section terminal block.

CHANGING MOTOR ROTATION

- All motors are phased the same at the factory.
- Reverse L1 and L2 at the input terminal block to change motor direction of all motors.
- Fig. 23 shows the rotation arrow label on a rear pump housing.



Fig. 25 -All motors are phased the same at the factory.

ELECTRIC BOOSTER CONNECTION



- The electric booster cabinet is located at the unload end of the machine.
- The booster cabinet is a separate power connection from the dishwasher.
- Check the Machine Electrical Connection Data Plate before connecting power to the input terminal block.



Fig. 26 -Electric booster power cabinet.

STEAM CONNECTION



- MINIMUM 2" NPT main steam supply line. Wash tank = 1" NPT and external booster =34" NPT.
- Steam connection located at the unload end of the machine.
- High pressure steam supply is 10-30 PSI, low pressure is 7-10 PSI.
- Steam condensate line for the machine is 3/4" NPT, 1/2" NPT for booster.
- Condensate lines must be gravity drain with no back pressure. A condensate lift pump may be required if line is above the machine base.



Fig. 27 - Main Steam Supply Line is 2" NPT

Consult the P&E for Specific Consumption Requirements

Examples of steam consumptions

- (Example Only) TANK HEAT: lbs./hr. = 125 LBS.HR. @ 15 PSI.
- (Example Only) STEAM BOOSTER: lbs./hr. = 120LBS./HR. FOR 70°F @ 15 PSI.

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Installation
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VENTILATION - VENT HOOD FAN CONTROL



Standard model installations using an approved vent hood may require a vent fan signal. This signal is supplied by the dishwasher control circuit. A qualified installer must connect a signal circuit to the fuse holder and a common neutral terminal provided.



CAUTION: To prevent damage to the dishwasher do not connect the vent fan motor to Line Power 120VAC, 0.5 Amp fused connection terminals. Damage to any component caused by improper installation is not covered by the limited warranty.

The fused 120VAC Line Power only supplies an external vent fan contactor (supplied by others), and is limited to 0.5 AMP maximum load. The 120VAC is powered whenever main power is on.





VENTILATION - PANT LEG DUCT SETTING



- Load end = 200 CFM @ 1/4" SP, 71L/sec.
- Unload end = 400 CFM @ 1/4" SP, 189 L/Sec.
- Minimum of six air changes per hour is recommended.
- Two 4" x 16" vent stack with adjustable dampers are supplied with machine.



NOTE:

Loosen the wing-nut holding the damper handle and turn it to open or close the damper to adjust the steam exiting the machine.



Fig. 29 - Vent ducts.

DETERGENT DISPENSER CONNECTION



- Use a non-chlrinated commercial grade detergent.
- A 7/8" diameter hole for a detergent sensor is provided in the wash tank.
- Detergent injection point supplied by others.
- A fused 120 VAC 0.5 A max load detergent signal connection is provided inside the top-mounted control cabinet.
- The detergent signal is enabled whenever the dishwasher power is on.

WASH TANK CAPACITIES (US GAL.)			
TANK	MODEL		
SIZE	EUCCW	EUCC	
C4	38	31	
C6	24	19	
C8	38	31	



NOTE:

Consult the chemical supplier for the proper detergent and the detergent injection point.



Fig. 30 -Detergent fuse block is located inside the top control cabinet.



Fig. 31 -Detergent sensor location provided in side of wash tank.

RINSE-AID DISPENSER CONNECTION



- RINSE-AID CONSUMPTION = 58 US GAL./HR.
- 1/8" NPT PIPE PLUG PROVIDED IN FINAL RINSE PIPING.
- FUSED 120VAC 1.0 AMP MAX LOAD RINSE AID SIGNAL CONNECTION IS PROVIDED INSIDE THE CONTROL CABINET.



Fig. 32 -Rinse-aid fuse block is located inside the top control cabinet.



NOTE: Consult the chemical supplier for the proper rinse-aid.



Rinse-aid injection point.



