

INSTALLATION INSTRUCTIONS

Conveyor Dishmachines ADC-44, ADC-66

If you have questions, call 800-922-2178 or visit our website at: www.AmericanDish.com

BEFORE YOU BEGIN:

American Dish Service provides this information as a service to our customers. Keep all instructions for future reference. ADS reserves the right to alter or update this information at any time. Should you desire to make sure that you have the most up-to-date information, we would direct you to the appropriate document on our web site: www.americandish.com.

Set out below are the specifications and requirements that you must use and follow to properly install the type or types of equipment listed above. **It is your obligation as the customer to ensure that the machine is installed safely and properly, and when completed, the machine is left in proper and safe working order.** Electrical, Plumbing, and Chemical hookup must be performed by qualified personnel who will ensure that the equipment is installed in accordance with all applicable Codes, Ordinances, and Safety requirements. **Failure to follow these requirements will void the warranty. ADS assumes no liability or control over the installation of the equipment. Product failure due to improper installation is not covered under the ADS Warranty.**

WARNING:

When working on the conveyor, always disconnect power to conveyor and tag out before servicing. Beware of moving gear and drive on conveyor. Heaters will remain hot immediately after emptying the wash and rinse tanks. Turn off machine at master switch before opening for inspection.

IMPORTANT:

Single-phase ADC-44 and three-phase ADC-66 require a 10 gauge neutral and suitable ground. It is recommended that new dishmachines be installed using new circuit breakers.

NOTE TO INSTALLER:

TABLES ARE CRITICAL TO PROPER DISH MACHINE OPERATION. NO TABLE DRAINS (quick drains) OR SINKS WITHIN 20" ON SOIL TABLE. NO SINKS OR DRAINS ON CLEAN TABLES. Slant tables toward the machine and ANCHOR to machine lip with 1/4-20 bolts supplied. Table lip must not rub on the conveyor bar. If needed, cut half-round for clearance. TRAY TRACKS are not adjustable up or down. Fasten tables flush to machine. Curves or "bands" on clean table seldom work, recommend using ADS table limit switch.

FOR YOUR SAFETY

Read and observe all **CAUTIONS** and **WARNINGS** shown throughout these instructions. While performing installations described in this booklet **APPROVED** Personal Protective Equipment, including **SAFETY EYE-WEAR** must be worn.

IMPORTANT - Dishmachine **MUST** be installed allowing for servicing of the motors and the conveyor. Do not install chemical dispensers on the top of the control box or dishmachine. If you receive a damaged dishmachine, immediately contact your dealer.

Optional Accessories -

Table Limit Switch - Turns operation OFF when tables are too short and racks pile up on clean table.

Rack Timer - Counts minutes of operation.

Pant Leg Vents - For exhaust connection (comes standard on high temperature machine).

Electrical

Electrical ADC-44 (3-phase)

The power supply (208 volt - 60 amps) must consist of three (3) **six**-gauge wires and a suitable ground. The 60 amp breaker or fuse must be on a clean circuit to the machine. ADS has provided a conduit hole (1 3/8" for 1" conduit) for electrical service in the back of the control box. Attach the six-gauge wires to the main distribution block in the control box, to terminals marked L1, L2, & L3. Attach ground wire to main distribution block and tighten all wires.

240 Volt Delta System: If you have 240 volt, delta system, attach the high leg (200 volt line) to L3. Attach your 120 volt wires to L1 and L2.

Remove front panels and check rotation of motors. A rotation arrow is provided on the wash pump motor. If motors are running in reverse, turn off main power and switch incoming power wires on L1 & L2. Verify proper rotation and tighten all wires.

Caution: Before powering machine, check all screw terminals in control box on top of the machine, power box, and both heater boxes located under the tanks. Screws can loosen in transit. Loose connections on high load terminals will cause wire burning and component damage during machine operation and will not be covered under ADS warranty.

Electrical ADC-44 (single-phase "DUAL" circuits with 10-gauge neutral)

ADS has provided two (2) conduit holes (1 3/8" for 1" conduit) for electrical service in the back of the control box.

Warning: Label building circuit breakers, noting DUAL supply to dishmachine.

Circuit One: The power supply (208 volt - 50 amps) must consist of two (2) **eight**-gauge wires, a ten gauge neutral, and a suitable ground. Attach the two (2) eight-gauge wires to the main distribution block (four poles) in the control box to terminals marked L1 & L2. Attach the ten-gauge neutral and the ground wire to their proper terminal locations as marked on the main distribution block (4 pole). Attach ground wire to main distribution block and tighten all wires.

Circuit Two: The wash heater is powered on a separate circuit, using two (2) **six**-gauge wires (208 volt - 60 amp). The 60 amp breaker or fuse must be on a clean circuit to the machine. Using the second conduit hole, attach the wires to the wash heater distribution block (2 pole) and tighten both wires.

Caution: Before powering machine, check all screw terminals in control box on top of the machine, power box, and both heater boxes located under the tanks. Screws can loosen in transit. Loose connections on high load terminals will cause wire burning and component damage during machine operation and will not be covered under ADS warranty.

Electrical ADC-66 (3-phase with 10-gauge neutral)

The power supply (208 volt - 90 amps) must consist of three (3) **three**-gauge wires, a ten-gauge neutral, and a suitable ground. The 90 amp breaker or fuse must be on a clean circuit to the machine. ADS has provided a conduit hole (1 3/4" for 1 1/4" conduit) for electrical service in the back of the control box. Attach the three-gauge wires to the main distribution block in the control box, to terminals marked L1, L2, & L3. Attach the ten-gauge neutral and the ground wire to their proper terminal locations as marked on the main distribution block and tighten all wires.

240 Volt Delta System: If you have 240 volt (delta system) attach the high leg (200 volt line) to terminal marked L3. Attach your 120 volt, three-gauge wires to terminals marked L1 & L2.

Remove front panels and check rotation of motors. A rotation arrow is provided on the wash pump motor. If motors are running in reverse, turn off main power and switch incoming power on L1 & L2. Verify proper rotation and tighten all wires.

Caution: Before powering machine, check all screw terminals in control box on top of the machine, power box, and both heater boxes located under the tanks. Screws can loosen in transit. Loose connections on high load terminals will cause wire burning and component damage during machine operation and will not be covered under ADS warranty.

Plumbing

Connect Water Supply for Hot Water Sanitizer

Important: Always check for local plumbing codes before installing. Flush water lines before connecting to dishmachine.

Connect 3/4" MPT water supply line to 90 degree elbow for filling with hot water.

Connect 1/2" MPT final rinse line (180 degree minimum @ 20 PSI flow) from booster heater to conveyor 1/2 FPT connection point. This connection is located by the pressure regulator (provided) on the conveyor plumbing.

To adjust pressure, turn adjustment screw (at top of regulator) counter-clockwise to decrease pressure.

See Dispenser Hookup below.

Connect Water Supply for Chemical Sanitizer

Important: Always check for local plumbing codes before installing. Flush water lines before connecting to dishmachine.

Connect 3/4" MPT water supply line to 90 degree elbow for filling with 120 degree minimum hot water @ 20 PSI minimum flow. To adjust pressure, turn adjustment screw (at top of regulator) counter-clockwise to decrease pressure.

See Dispenser Hookup below.

Drain Requirements

Follow local codes

Gravity drain line is 2" copper

Close petcocks on power scrapper pump (ADC-66), wash, and pumped rinse pumps before operating

ADS provides a 2" copper, common drain located on the soil side of the dishmachine (ADC-66 on either side). To prevent clogging, run drain lines as straight as possible. Do not plumb with tight elbows or 180 degree bends. Use of floor sinks for drains can cause flooding. Always run gravity drain lines downhill.

Dispenser Hook Up

(WEAR APPROVED SAFETY EYE-WEAR)

Dispenser Hookup

ADS provides two (2) ports (1/8" IPS, female) in mixing chamber for dispenser check valves.

Single-phase ADC-44 and three-phase ADC-66 provide 120 volt dispenser signals.

Probe hole (7/8") is provided in wash tank for probe installation (install probe before operating machine)

Detergent hole (7/8") is provided for bulk head fitting (install fitting before operating machine)

ADC-44 3-phase (provides 208/240 volt dispenser signals) - Connect to chemical dispenser terminal blocks located at left hand corner of control box, labeled detergent and rinse.

ADC-44 single-phase (provides 120 volt dispenser signals) - Connect to chemical dispenser terminal blocks located at the left hand corner of control box, labeled detergent and rinse.

ADC-66 3-phase (provides 120 volt dispenser signals) - Connect to chemical dispenser terminal blocks located at left hand corner of control box, labeled detergent and rinse.

A hole for the detergent fitting (barb) is located in the side of the wash tank behind heater power box. To access the probe hole, remove front panels. Probe hole is located behind the wash pump.

Warning: You must wear approved SAFETY EYE-WEAR before connecting chemicals. Chemicals can destroy the plumbing and stainless of the dishmachine. Do not mount dispensers on top of the control box or run chemical lines over controls or plumbing. Always secure chemical lines and check regularly for leaks.

Pre-Test Check List

-WARNING: Check to be sure power is OFF. Switch power off at circuit breaker(s).

-Open door and remove all packaging, including cardboard supports under wash heater. Do not dispose of packing material until you remove spray arms and curtains.

Caution: Packing materials contain your conveyor curtains, upper and lower wash arms, pumped rinse arms, control box key. In addition, ADC-66 requires installing of the packaged end shield, scrap box and your power scrapper arms which also located inside the machine.

-Install wash and pumped rinse spray arms. Lower wash arm has eight spray tubes and upper wash arm has four. Install each by inserting keyed "T" end into bracket at front of tank, push back until round socket is inserted on the wash manifold (on rear wall), and position "T" bracket latch to secure arms in place. Install power scrapper arms (ADC-66 only) and pumped rinse spray arms. Each arm has a locking tab. Lower arm locking tabs are on the same side as the spray jets. Upper arm locking tabs are opposite the spray jets. Insert the tab into the index slot of each manifold socket until socket catch locks in place. Note: Make sure that spray jets on bottom arms spray up, and top arms spray down.

-Inspect all dishracks for broken ladders. **Dispose of any broken dishracks.**

-Allow for one rack (20") minimum distance between pre-rinse sink and entrance of machine on soil dishtable. **No Quick Drains or Scrap Troughs.**

-Check clean dishtable and install table limit switch if four (4) racks cannot exit.

Again, No Quick Drains or Scrap Troughs.

-Review clean dishtable lip on table and make sure it doesn't rub on conveyor drive.

If Table Rubs, Notch Table.

-Make sure that dishtables are slanted, at an angle, towards the dishmachine and that they are bolted and sealed.

-Tighten all wire connections in control and heater boxes. **Loose wires will cause damage to dishmachine.**

-Before turning on water, if chemical dispenser is not installed, plug both probe and chemical injection holes in wash tank. Plug mixing chamber ports.

-Turn on water supply. Check for leaks. Tighten connections if needed.

-Verify incoming water temperatures and final rinse pressure (20 PSI minimum flow).

-Remove protective film if present from control panels and access door.

Dishmachine Wet Test

- To operate, turn on main power source breaker and switch dishmachine master switch to ON position. Water will automatically fill to an operational level. Open access door and verify that incoming fill water is adjusted to first fill the wash tank, which overflows and fills the power scrapper tank (ADC-66 only). The last tank to fill is the **pumped rinse tank**. If fill sequence is improper, adjust the diverter plate at back of hood. Slotted holes allow diverter plate to move side to side, adjusting direction of water to tanks.
Service Note: Water stream into pumped rinse tank should be the size of a pencil. Adjust until fill sequence is correct. **During initial operation (first rack) additional water will be automatically added to complete the fill. This is normal operation.**
- Test dishrack movement by inserting dishrack into soil side of machine until it catches on the first conveyor dog. The rack should smoothly enter the dishmachine. Dishrack should lip in and fit flush on the conveyor and alignment should allow dishracks to smoothly enter and exit the dishmachine. **The dishmachine tray track will not adjust up or down. It is fixed. Tables must sit on the tank lip. Verify that tables are bolted to the machine, and once bolted, sealed (with silicone caulking) at all four corners.** Check that all the brands of dishracks can fit between the dishmachine's tray track rails without binding. If binding occurs, adjust the **REAR** tray track (in or out) at all three (3) attachment points until binding is eliminated. You must adjust evenly at all three points to maintain proper alignment. **Never adjust the front tray track.**
- The front tray track has sequence bars that turn on the pumps at each station of the dishmachine's operation. There is a sequence bar for the power scrapper (ADC-66 only), wash, and final rinse. To confirm proper operation, insert dishrack and verify each section is operating properly.
 - Power Scrapper Section (ADC-66)** - Run one dishrack through machine. Following initial fill, pumps will equalize after being operated once.
 - Wash Section** - Verify that wash sequence bar starts wash pump when dishrack hits wash sequence bar and stops when dishrack exits that section of the dishmachine.
 - Final Rinse Section** - The last sequence bar will control the final rinse and pumped rinse. The pumped rinse should come on when the dishrack comes in contact with the bar. After a six second delay, the final rinse will come on. All functions should stop when the dishrack exits the machine.
- Sequence bar magnets activate the reed switches which are normally **ON**. The switch turns off when a magnet comes within 1/2" of the switch. Reed switches are mounted on the outside of the tanks. To test, hold a strong, hand-held magnet next to the reed switch. If hand-held magnet turns off the reed switch but sequence bar does not, you will need to adjust the sequence bar magnet for that section. The sequence bar magnet should be within a 1/8" of the bottom of the tank in the resting position.
- The wash and pumped rinse tank temperatures are maintained by sustainer heaters. Verify tank temperatures. There are three (3) gauges mounted under the control box. Gauges are marked Wash/Rinse/Final Rinse. Wash tank temperatures should be 140 degrees for chemical sanitizing and 160 degrees for hot water sanitizing. The pumped rinse tank temperature should be 120 degrees for chemical sanitizing and 160 degrees for hot water sanitizing. If tank temperatures are low, increase by adjusting the heater thermostats behind the front panels. There are two thermostats, one for each tank. **Increase by turning center rod of thermostat counter clock-wise or turn left. Decrease by turning clockwise or turn right. Adjust thermostats in small increments. Heaters are not on when water levels are low and fill is activated.**
- Final rinse temperatures are 120 degrees for chemical sanitizers and 180 degrees for hot water sanitizing. To increase final rinse temperatures turn up the thermostat on the booster heater (hot water sanitizing) or hot water heater (chemical sanitizing). **WARNING: Danger of scalding if the temperature is too high.**
- Install curtains. There are two short and two long curtains. Longer curtains are mounted at each end of dishmachine.
- If exhaust vents (pant leg vents) are attached to dishmachine, do not exceed 400 CFM's per individual pant leg.