R-SERIES

ELECTRONIC RINSE ADDITIVE DISPENSER

Installation and Operating Instruction Manual

R-Series Rinse Dispenser

A. GENERAL DESCRIPTION

The dispenser is enclosed in a stainless steel cabinet with ON and FEED lamps visible from the front. The unit operates on 24 VAC, 50/60 Hz at 1 amp maximum.

The pump is automatically started when the pressure in the rinse water line causes the contacts of the built-in pressure switch to close. As an option, a pair of barrier screw terminals can be provided to allow easy connection of a remotely located start switch, in place of or in parallel with the built-in pressure switch contacts. A check valve is included in series with the built-in pressure switch assembly to protect service personnel from possible spray if the dishmachine were to be accidently cycled while replacing the pumping tube.

The special high pressure peristaltic pump delivers an accurate amount of rinse aid product into the pressure rinse line. Its delivery rate is not significantly affected by the line pressure, temperature, nor is it subject to clogging as are many other types of rinse pumps.

The standard flow rate is adjustable from 2 ml/minute to 20 ml/minute at pressures up to 40 psi. Other flow rates can be supplied-consult the factory for more information. The manual "PRIME" switch position allows the pump to run at approximately twice the maximum controlled speed (40 ml/minute for standard unit) to reduce priming times. This switch will return to the "OFF" position when released.

An optional low supply alarm is available which mounts in the dispenser cabinet and gives an audible alarm when the product is low. The sensor is built into the inlet line and requires no extra long wiring cable extending to the supply drum. Simply connect the inlet tubing to the bottom of the sensor. The sensor operates on the principle of measuring the weight of the liquid in the inlet tubing. The dispenser must be located so that the sensor is at least 24" above the top surface of the supply drum and the alarm will operate when approximately 15" or less product remains in the inlet line.

B. INSTALLATION INSTRUCTIONS

1. The dispenser is equipped with rubber feet to allow easy installation on any convenient horizontal surface:
   a. Near the dishmachine. As dry an area as possible is desirable.
   b. Close to supply container and at least 24" above the top of the container if the Low Supply Alarm option is used.

2. Wire 24 VAC power to the dispenser.
   a. This power source can be 50 or 60 Hz and must be capable of 1 amp.
   b. Connect to the electrical terminals indicated for 24 VAC on the wiring label inside dispenser.

3. Install 1/4" (6mm) polyethylene tubing to rinse line at dead side of rinse solenoid valve.
   a. Drill a 5/16" hole in the rinse pipe.
   b. Thread hole using a 1/8" NPT Tap.
   c. Screw in fitting supplied in accessory kit. **DO NOT OVERTIGHTEN.**

4. Run 1/4" (6mm) polyethylene tubing from rinse pump outlet to rinse injection point.
   a. Fasten tubing at pump into fitting at the output end of the pressure switch/check valve "tee".

5. Run 1/4" (6mm) polyethylene tubing from the pump inlet to the supply container. Be certain to secure the tubing at the pump with a "tie wrap".

C. SETUP & OPERATION

1. Prime the dispenser pushing the toggle switch at the rear of the unit down. This is a "momentary" type switch position and must be held down until the lines are primed.

2. The flow rate (standard) is approximately 2 ml/minute at minimum and 20 ml/minute at maximum. Set for desired rate with the control near the top of the control circuit board.

3. Set the toggle switch to the ON position and run the dishmachine through one cycle; observe that the rinse pump automatically starts when pressure is sensed in the rinse outlet.

4. As more cycles are run, adjust the flow rate if necessary to obtain the optimum results.

D. MAINTENANCE

1. General Cleaning: Keep the unit wiped clean of any residual chemical buildup that might corrode the stainless steel cabinet.

2. Replacing The Pump Tube:
   a. When To Replace: Due to the many variables involved, (i.e. chemical compatibility, viscosity of product, vacuum and pressure considerations, etc.) we cannot specify a set time to replace the "pump" tubes. We recommend closely monitoring the time it takes for the original tubes to reach the end of their "flex life" (elastomeric memory), then, simply plan on replacing the tubes on a routine basis well before the next expected "wear out" date arrives. This seems to be the preferred method of ensuring customer satisfaction, and certainly seems to be better than answering a service call just to change a "pump" tube.
   b. How To Lubricate And Replace Tubes:
      1. Remove the 4 screws that secure the front pump housing to the rear pump housing. The front housing can then be easily removed by hand.
      2. Remove the old tube and clean the inside of both housing halves to remove any residue.
      3. Apply a light coating (a finger tip dose is fine) of lubricant to a new piece of tubing before inserting it into the pump housing. Only the portion (inside radius) of the tubing that will make contact with the rollers need to be lubricated. Occasional lubrication during the "life" of the tube may help to extend tubing life.

   Special Note: Use "Vaseline™" to lubricate Silicone and Viton tubes. Use a "silicone" lubricant such as Dow Corning F- 111 to

lubricate Nordel and BetaTube tubes. CFLEX and Latex tubes do not require lubrication. Caution: Too large an application of lubricant, or using an incompatible lubricant can cause premature pump tube wear.

4. Carefully insert the new tube so that it fits tightly against the rear pump housing half. To ensure proper tube placement, rotate the "roller" assembly once or twice while holding the tube in place. Then, press the front housing against the rear housing so that the screw holes mate up and screw in the 4 screws. Only 6 to 8 "inch pounds" of torque are required to tighten the pump housing.

3. Caring For The Roller Assembly: Whenever you change a pump tube, use a standard 3/32 inch "hex" driver to make sure that the roller is tight on the motor shaft. Use a few drops of "3 in 1" oil to lubricate the roller sleeves and the roller pins. Remove the roller assembly before lubricating and wipe off any excess oil because it may attack the tubing and cause premature wear.

F. TROUBLESHOOTING GUIDE

1. Pump will not turn and "ON" lamp is off.
   a. Check fuse. If blown replace with a 2 amp, AGC type.
   b. Check that 24 VAC is getting to the 24 VAC input terminals. Use Voltmeter.
   c. Check 24 VAC wiring for loose connection.
   d. Replace circuit board.

2. Pump will not turn and "ON" lamp is on.
   a. Check for binding. Adjust pump and lubricate.
   b. Check wiring to motor; loose connectors.
   c. Check voltage to motor. When in "PRIME", voltage should be about 27 VDC. If about 27 VDC is measured; replace motor. If near 0 volts is measured; remove one wire to the motor and measure the voltage at the circuit board connectors. (This removes the motor from the circuit). If voltage is now near 27 VDC; replace motor. If still near 0 volts; replace circuit board.

3. Pump primes but will not feed automatically - "FEED" lamp "OFF".
   a. Check connections from pressure switch to circuit board.
   b. "SHORT" the pressure switch at the rear of the switch
      1. If pump runs, investigate pressure switch or actual water pressure. (It may be very low.)
      2. If "FEED" lamp still does not go "ON", replace circuit board. (Double check connections first.)
   c. Toggle switch defective or bad wiring connectors.

4. Pump "PRIMES" but will not feed automatically - "FEED" lamp is "ON".
   a. Turn rate control clockwise. It is possible the control is set to zero flow.
   b. Replace circuit board.

5. Pump operates normally, but no product is pumped into the rinse.
   a. Inlet tubing not in supply container.
   b. Broken pump tubing.
   c. Hole in inlet tubing or pump tubing.
   d. No product.
   e. Wrong pump tubing in pump head.

F. Accessories and Spare Parts

Special Note: The items listed in the reference drawings in the back of the manual provide a breakdown of Rinse Pump parts.

PC Board, 24V	50-05533-01
Motor, Rinse 12VDC	26-S-1872
Prime Switch	56-S-1820
Pressure Switch	03-08237-00
Pump Tube, Rinse	03-05324-040
Check Valve	06-01001-00
Roller Assembly	03-05333-710
Fuse, AGC 2 Amp	62-S-1209
Brass Rinse Line Polyflow Fitting	41-S-1768
Polyflow Nut & Sleeve	41-S-2354
Pump Head, Front	37-06654-00
Pump Head, Rear	03-06914-00

NOTE: PART NUMBERS ARE SUBJECT TO CHANGE, ALWAYS VERIFY PART NUMBERS WHEN ORDERING

R-2100 SERIES W/O SHROUD

Final Assembly

DRW # 06637-XX REV L

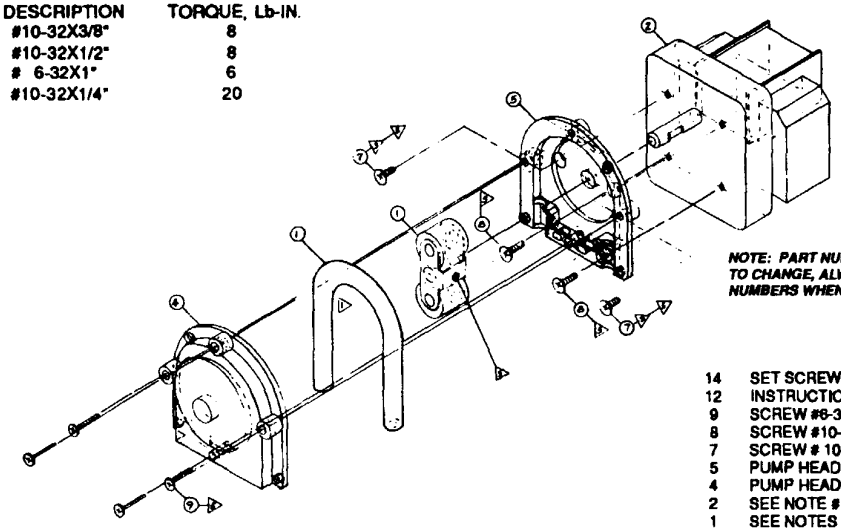
SHT 2 of 3

R-2100 SERIES W/O SHROUD
Final Assembly
DRW # 06637-XX REV L
SHT 3 of 3

NOTES:
1. Item #2 (Motor will look different then Motor shown)
2. Standard Rinse Motor part # is 26-S-1872
3. Standard Rinse Tubing part # is 03-05324-040 026881
4. Standard Roller Assembly part # is 03-05333-710

5 TORQUE SPECIFICATIONS:

ITEM #	DESCRIPTION	TORQUE, Lb-IN.
7	#10-32X3/8"	8
8	#10-32X1/2"	8
9	# 6-32X1"	6
14	#10-32X1/4"	20



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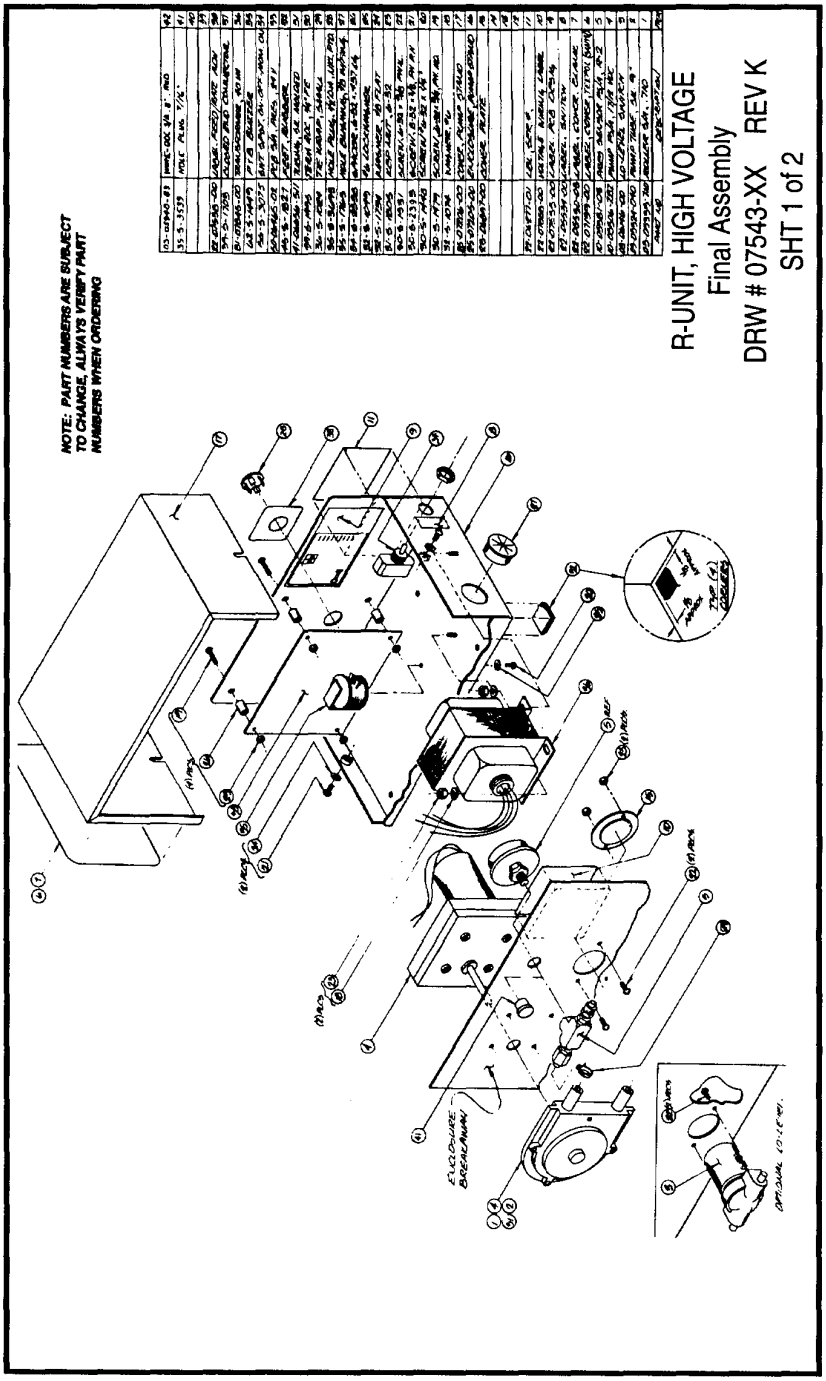
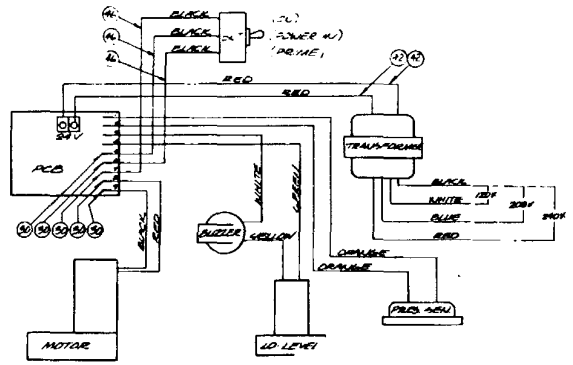
14	SET SCREW #10-32X1/4"	30-S-1045
12	INSTRUCTION SHEET (NOT SHOWN)	20-05922-00
9	SCREW #6-32X3/4" (PAN HEAD)	30-S-1479
8	SCREW #10-32X1/2" (FLAT HEAD)	30-S-1047
7	SCREW # 10-32X3/8" (FLAT HEAD)	30-S-1048
5	PUMP HEAD (REAR) S/A	13-06914-02
4	PUMP HEAD (FRONT)	37-06854-00
2	SEE NOTE # 2	
1	SEE NOTES #3 & 4	

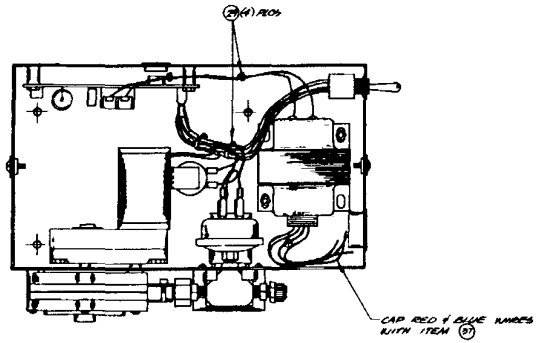
CAUTION:
DO NOT EXCEED TORQUE SPECIFICATIONS
OVERTIGHTENING MAY DAMAGE PUMP HOUSINGS

PUMP & MOTOR, MODULE KIT
DRW # 05306-XX REV V
SHT 1 of 1


NOTE: PART NUMBERS ARE SUBJECT TO CHANGE, ALWAYS VERIFY PART NUMBERS WHEN ORDERING
R-UNIT, HIGH VOLTAGE
Final Assembly
DRW # 07543-XX REV K
SHT 1 of 2



WIRING DIAGRAM
(NO SCALE)



WIRE ROUTING
(TOP VIEW OF UNIT)

WIRE ROUTING TABLE

FROM	TO	WIRE DESCRIPTION	WIRE P/N
TRANSFORMER	PCB 24 VAC	18 GA RED 18" LG	03-05940-89
TRANSFORMER	PCB 24 VAC	18 GA RED 18" LG	03-05940-89
PCB (1)	PROB. ASSY.	18 GA ORANGE 15" LG	03-05940-84
PCB (2)	PROB. ASSY.	18 GA ORANGE 15" LG	03-05940-84
BUZZER	LO-LEVEL	18 GA YELLOW/RED 25" LG	03-05940-85
BUZZER	PCB (3)	18 GA WHITE 15" LG	03-05940-86
LO-LEVEL	PCB (4)	18 GA GREEN 15" LG	03-05940-87
SHT (24V)	PCB (6)	18 GA BLK X 5"	03-05940-79
SHT (POWER IN)	PCB (5)	18 GA BLK X 5"	03-05940-79
SHT (PRIME)	PCB (7)	18 GA BLK X 5"	03-05940-79
MOTOR	PCB (8)	RED	EXISTING
MOTOR	PCB (9)	BLACK	EXISTING
POWER IN	TRANSFORMER	WHITE	EXISTING
POWER IN	TRANSFORMER	BLACK	EXISTING
PCB (1)	PCB (2)	18GA BLK X 3" LG	03-05940-140

03-05940-79	WIRE 8 GA. TRANS 3/4 BLK 5"	#6
14-08570-000	BOX, PKG. 11 1/8 X 8 5/8 X 6	#5
14-08710-00	FOAM, SIDE A, PKG, H.V.R UNIT	#4
14-08710-01	FOAM, SIDE B, PKG, H.V.R UNIT	#3
PART NO.	DESCRIPTION	ITEM

NOTE: PART NUMBERS ARE SUBJECT TO CHANGE, ALWAYS VERIFY PART NUMBERS WHEN ORDERING

R-UNIT, HIGH VOLTAGE
Final Assembly
DRW # 07543-XX REV K
SHT 2 of 2