



Phase Requirements & Booster Heaters

This Section Contains:

- ADS Machine Phase Requirements
- Booster sizing
- ADS B-13 Booster Instructions
- Heater Tanks?

Section 6

Phase Requirements and Booster Heaters

HOW TO ORDER MACHINES WITH DIFFERENT VOLTAGE REQUIREMENTS

(The Customer Must Specify the Voltage Requirements)

ADC-44 CONVEYOR

Three phase (III ph) voltage has only one specification:

208 or 240 volt 3 phase
60 amp circuit breaker
6 AWG for all three phase wires
10 AWG for ground

Single phase (I ph) voltage requires specific order information. Failure to specify the correct voltage can result in unsatisfactory performance or premature failure.

208 volt single phase
dual voltage connection
60 amp / 50 amp breakers

240 volt single phase
dual voltage connection
50 amp / 40 amp breakers

Two **6 AWG** wires
Two **8 AWG** wires
10 AWG for neutral
10 AWG for ground

Two **8 AWG** wires
Two **8 ASW** wires
10 AWG for neutral
10 AWG for ground

HT-25 HIGH-TEMP DOOR MACHINE

Three phase (III ph) voltage has only one specification:

208 or 240 volt 3 phase
40 amp circuit breaker
8 AWG for all three phase wires
10 AWG for neutral
10 AWG for ground

Single phase (I ph) voltage requires specific order information. Failure to specify the correct voltage can result in unsatisfactory performance or premature failure

208 volt single phase
dual voltage connection
60 amp / 30 amp breakers

240 volt single phase
dual voltage connection
50 amp / 30 amp breakers

Two **6 AWG** wires
Two **10 AWG** wires
10 AWG for neutral
10 AWG for ground

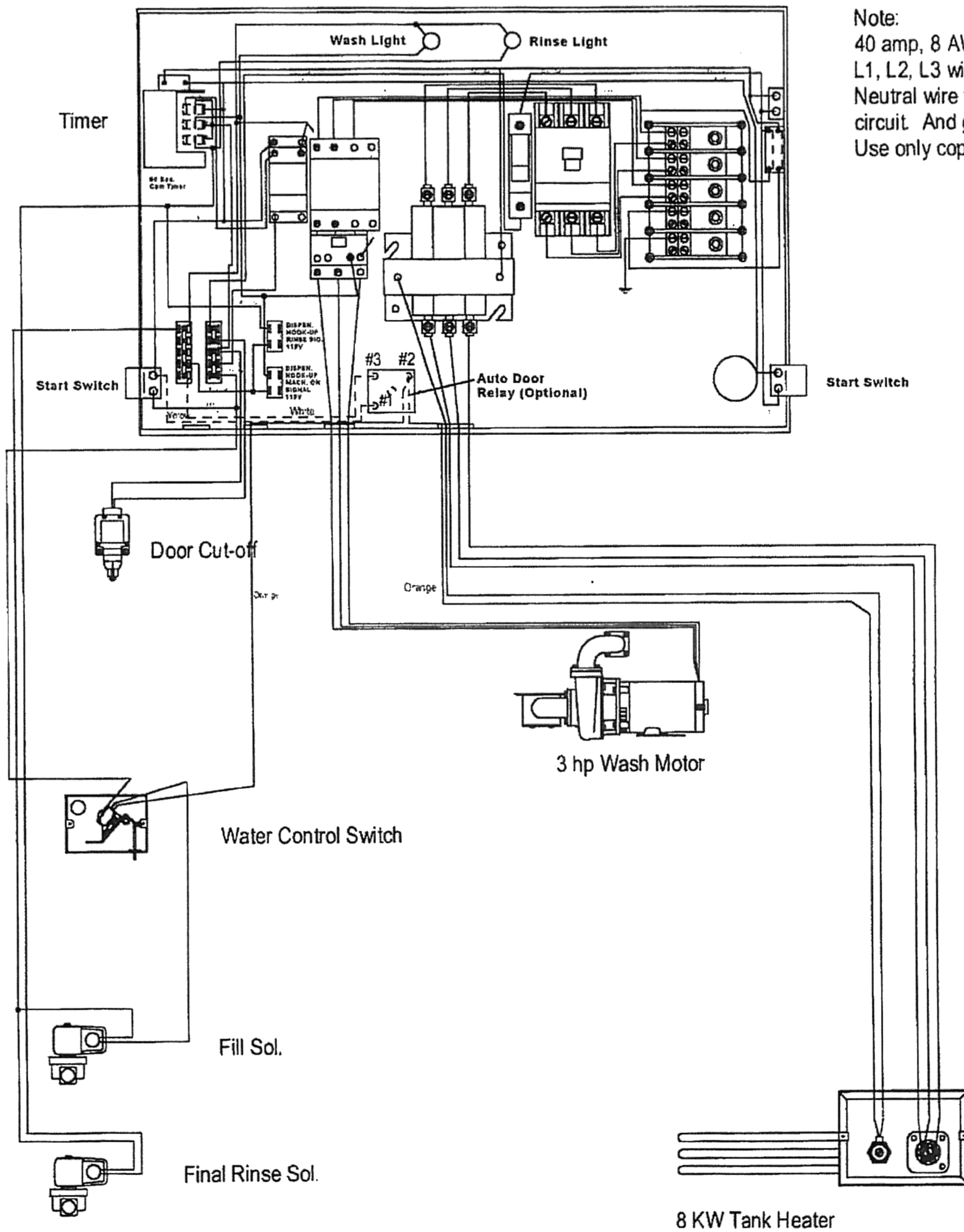
Two **8 AWG** wires
Two **108 ASW** wires
10 AWG for neutral
10 AWG for ground

SPECIAL ORDER

208 volt single phase
single voltage connections
90 amp breaker
Two **3 AWG** wires
10 AWG for neutral
10 AWG for ground

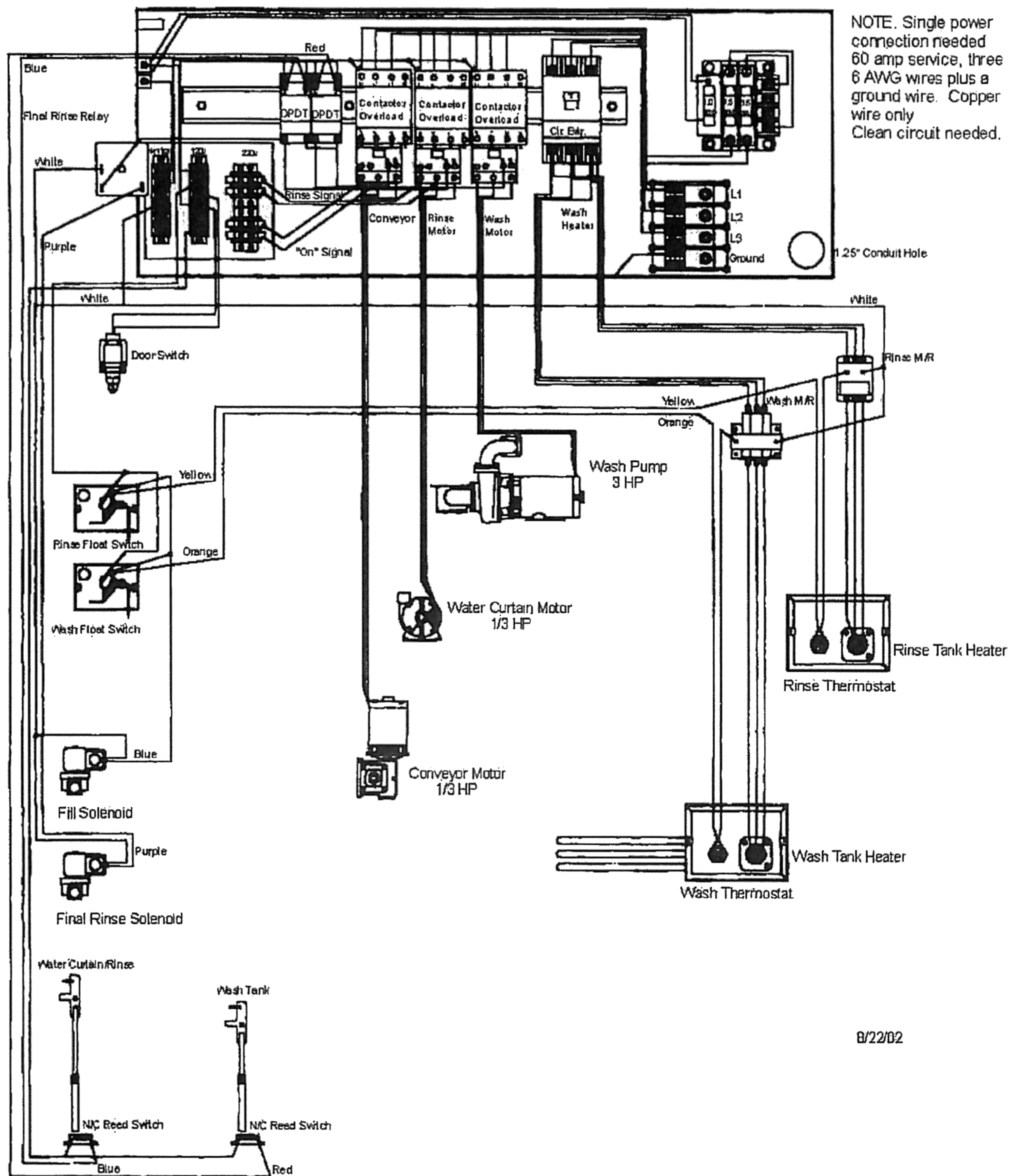
240 volt single phase
single voltage line connection
70 amp breaker
Two **4 AWG** wires
10 AWG for neutral
10 AWG for ground

HT-25 Wire Control, 3 Phase, 208/220v



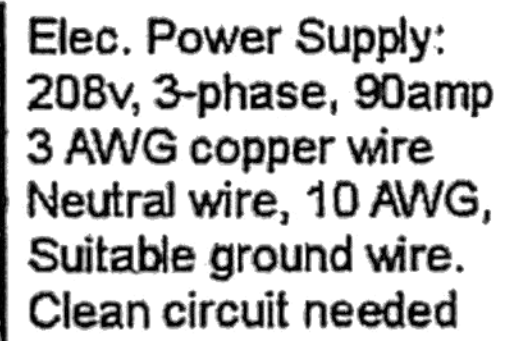
Note:
40 amp, 8 AWG on
L1, L2, L3 wires. W/
Neutral wire for control
circuit. And ground wire.
Use only copper wire.

ADC-44 Conveyor III Phase



8/22/02

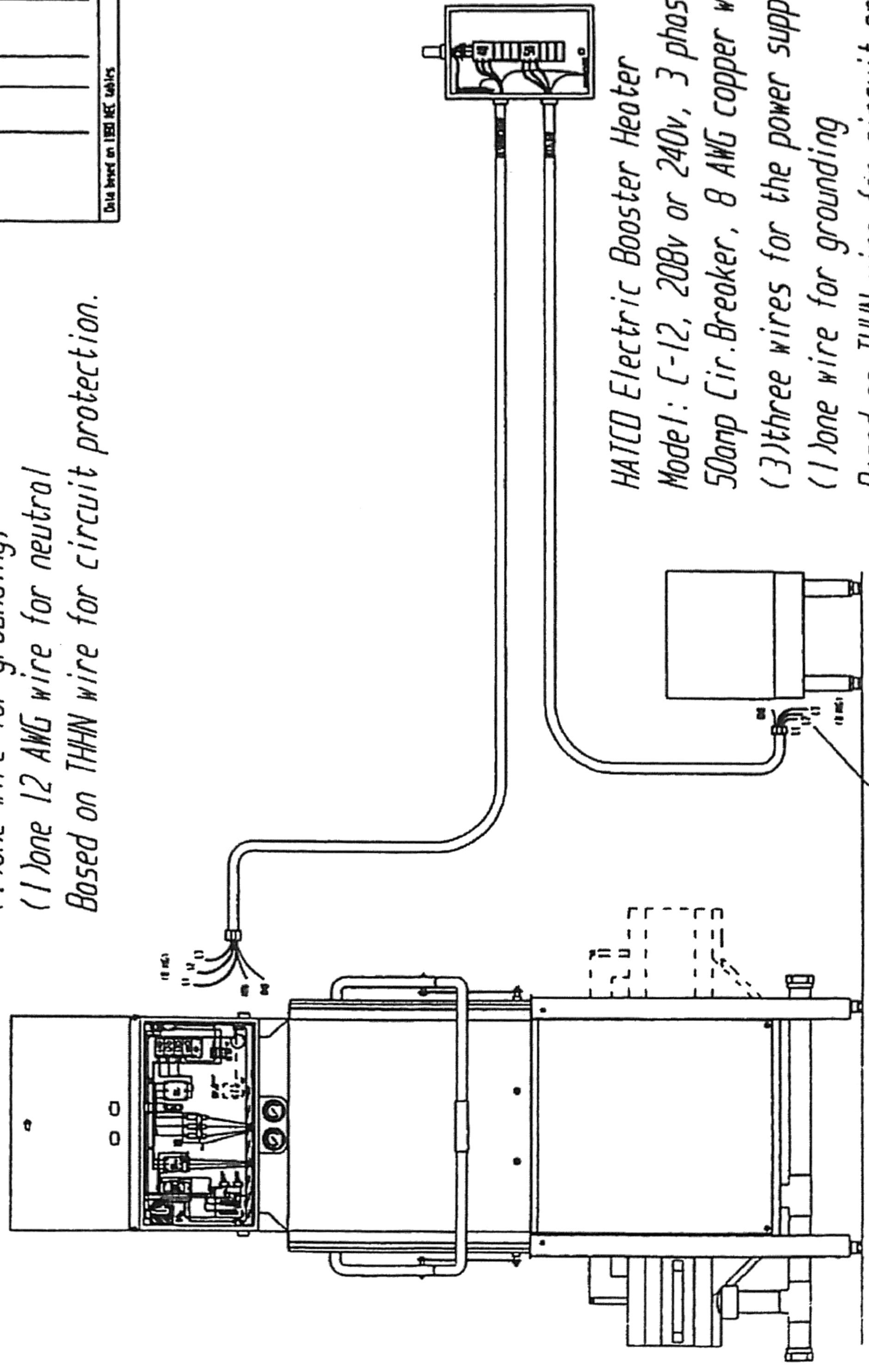
208v, 90a, 3 phase, 60Hz, 5 Wire Hookup



III Phase

COMMERCIAL DISHWASHING MACHINE
AMERICAN DISH SERVICE
Model: HT-25, 208v/240v, 3 phase,
40amp Cir. Breaker, 8 AWG copper wire
(3)three wires for the power supply,
(1)one wire for grounding,
(1)one 12 AWG wire for neutral
Based on THHN wire for circuit protection.

1" conduit hole (1.375 DIA)



Knockout hole

THREE PHASE DATA CHART					HT-25
TYPE	VOLTS	AMP	TRIP	WIRE	CONDUIT
VASH HIR	208	9	15amp	10 AWG	1/2"
VASH HIR	240	8	15amp	10 AWG	1/2"
VASH HIR (8KV)	208	29	40amp	8 AWG	3/4"
VASH HIR (12KV)	240	25	30amp	10 AWG	1/2"
VASH HIR	208	33	50amp	8 AWG	3/4"
VASH HIR	240	29	40amp	8 AWG	3/4"

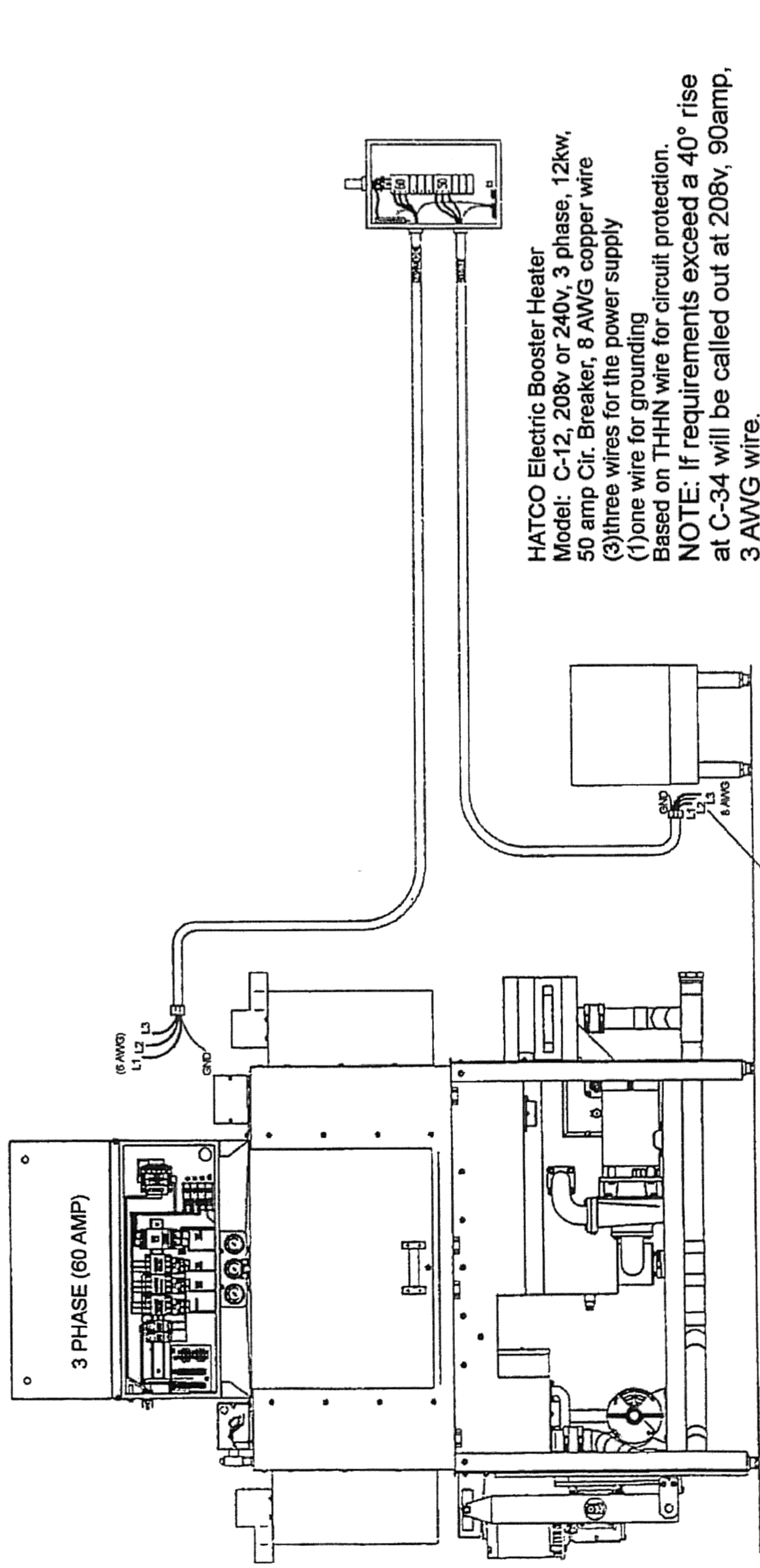
Data based on 1991 NEC tables

HATCO Electric Booster Heater
Model: C-12, 208v or 240v, 3 phase, 12kW
50amp Cir. Breaker, 8 AWG copper wire
(3)three wires for the power supply
(1)one wire for grounding
Based on THHN wire for circuit protection.

III Phase

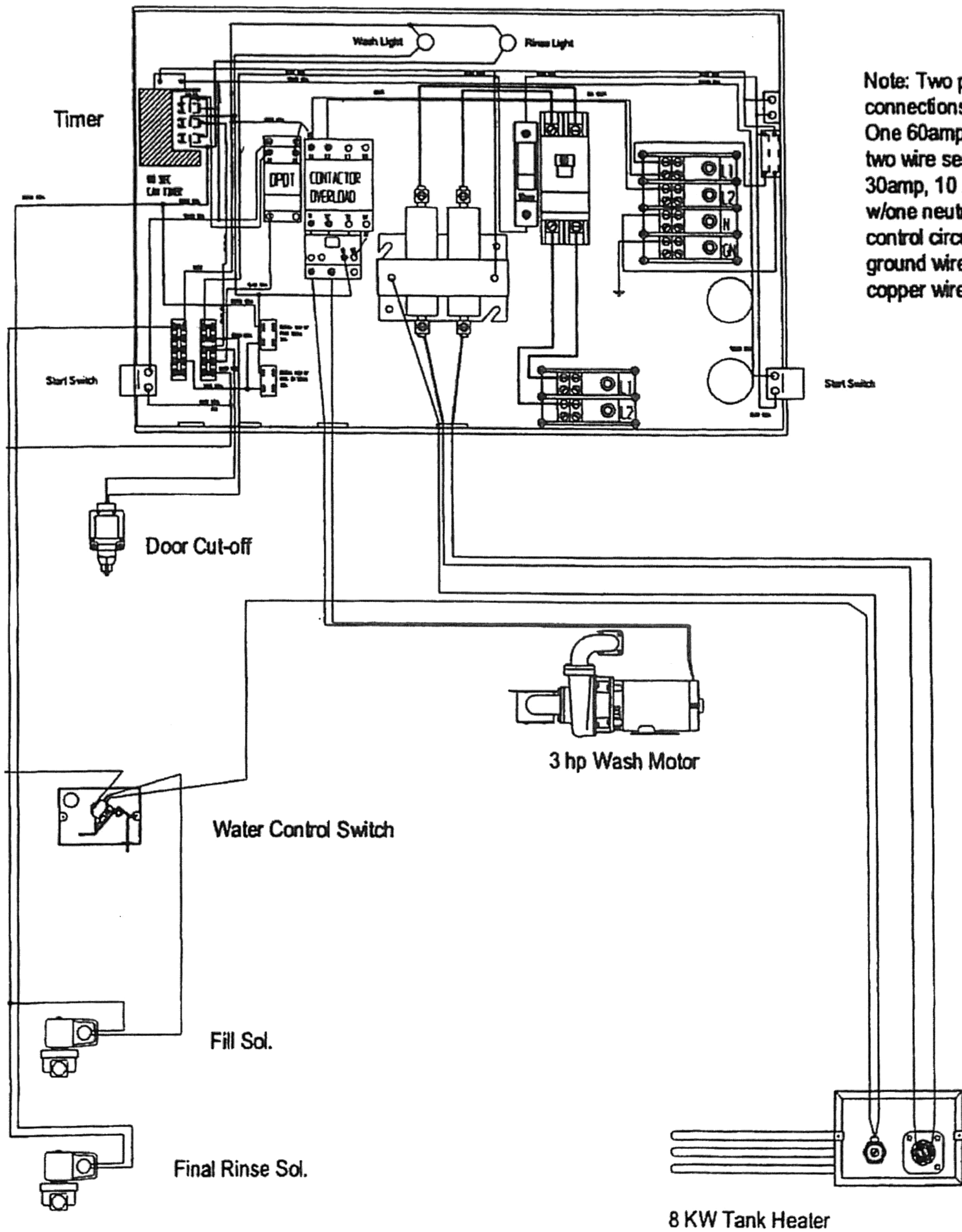
COMMERCIAL DISHWASHING CONVEYOR
AMERICAN DISH SERVICE
Model: ADC-44, 208/240v, 3 phase,
60 amp Cir. Breaker, 6 AWG copper wire,
(3)three wires for the power supply,
(1)one wire for grounding purposes
Based on THHN wire for circuit protection.

1" conduit hole (1.375 Dia.)



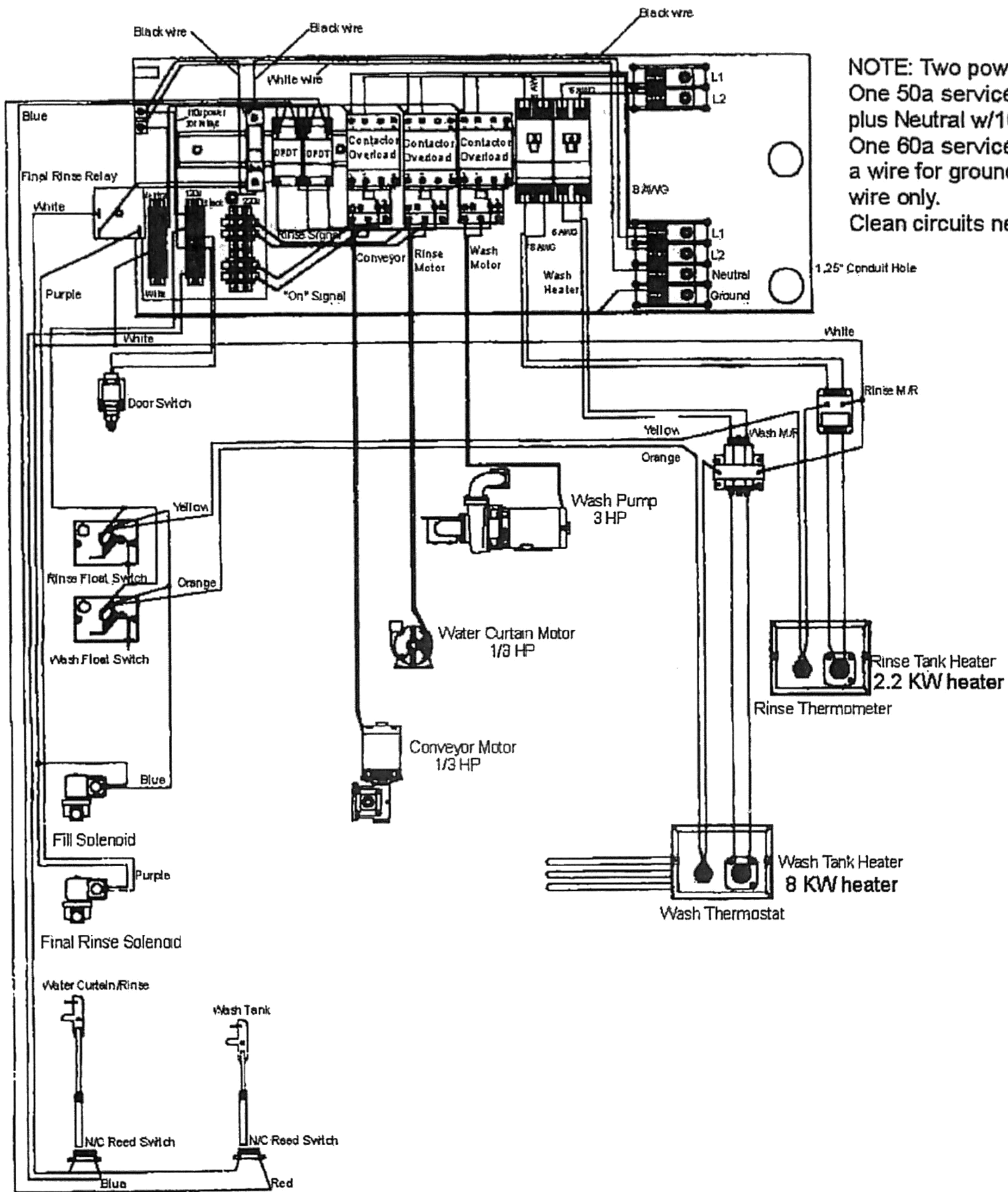
Knockout hole

HT-25 Wire Control, I Phase, 208/220v



Note: Two power connections needed. One 60amp, 6 AWG, two wire service. One 30amp, 10 AWG, w/one neutral wire for control circuit. And a ground wire. Use only copper wire.

ADC-44 Conveyor SINGLE PHASE CONTROL BOX



NOTE: Two power connections
One 50a service, w/8 AWG wires
plus Neutral w/10 AWG
One 60a service, w/6 AWG and
a wire for ground. Use copper
wire only.
Clean circuits needed.

I Phase

(DUAL VOLTAGE HOOKUP)

1" conduit hole (1.375 DIA)

COMMERCIAL DISHWASHING MACHINE AMERICAN DISH SERVICE

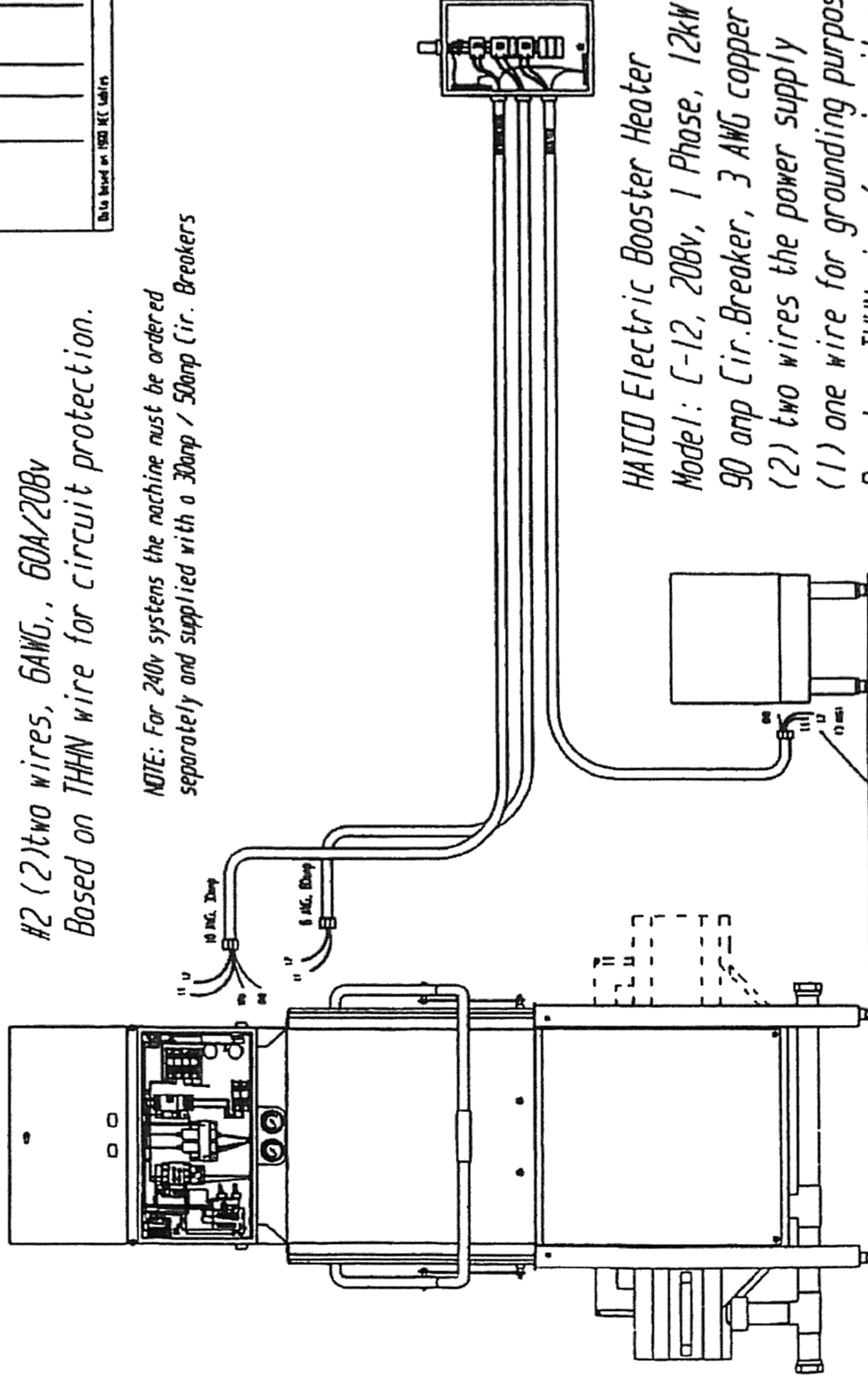
Model: HT-25, 208v, 1Phase, dual voltage
#1 (2)two wires, 10AWG, 30A/208v

(1)one wire, 12AWG for Neutral

(1)one wire for grounding purposes

#2 (2)two wires, 6AWG,, 60A/208v

Based on THHN wire for circuit protection.



WIRING

Knockout hole

SINGLE PHASE DATA CHART					HT-25
ITEM	VOLTS	AMP	CIR/BKR	WIRE	CONDUIT
WASH HIR	208	14.7	30amp	10 AWG	1/2"
	240	14	30amp	10 AWG	1/2"
WASH HIR (8KV)	208	43	60amp	6 AWG	1"
	240	38	50amp	8 AWG	3/4"
WASH HIR (12KV)	208	58	90amp	3 AWG	1"
	240	50	70amp	4 AWG	1"

Data based on 1990 NEC tables

NOTE: For 240v systems the machine must be ordered separately and supplied with a 30amp / 50amp Cir. Breakers

HATCO Electric Booster Heater
Model: C-12, 208v, 1 Phase, 12kW
90 amp Cir. Breaker, 3 AWG copper wire
(2) two wires the power supply
(1) one wire for grounding purposes
Based on THHN wire for circuit protection.

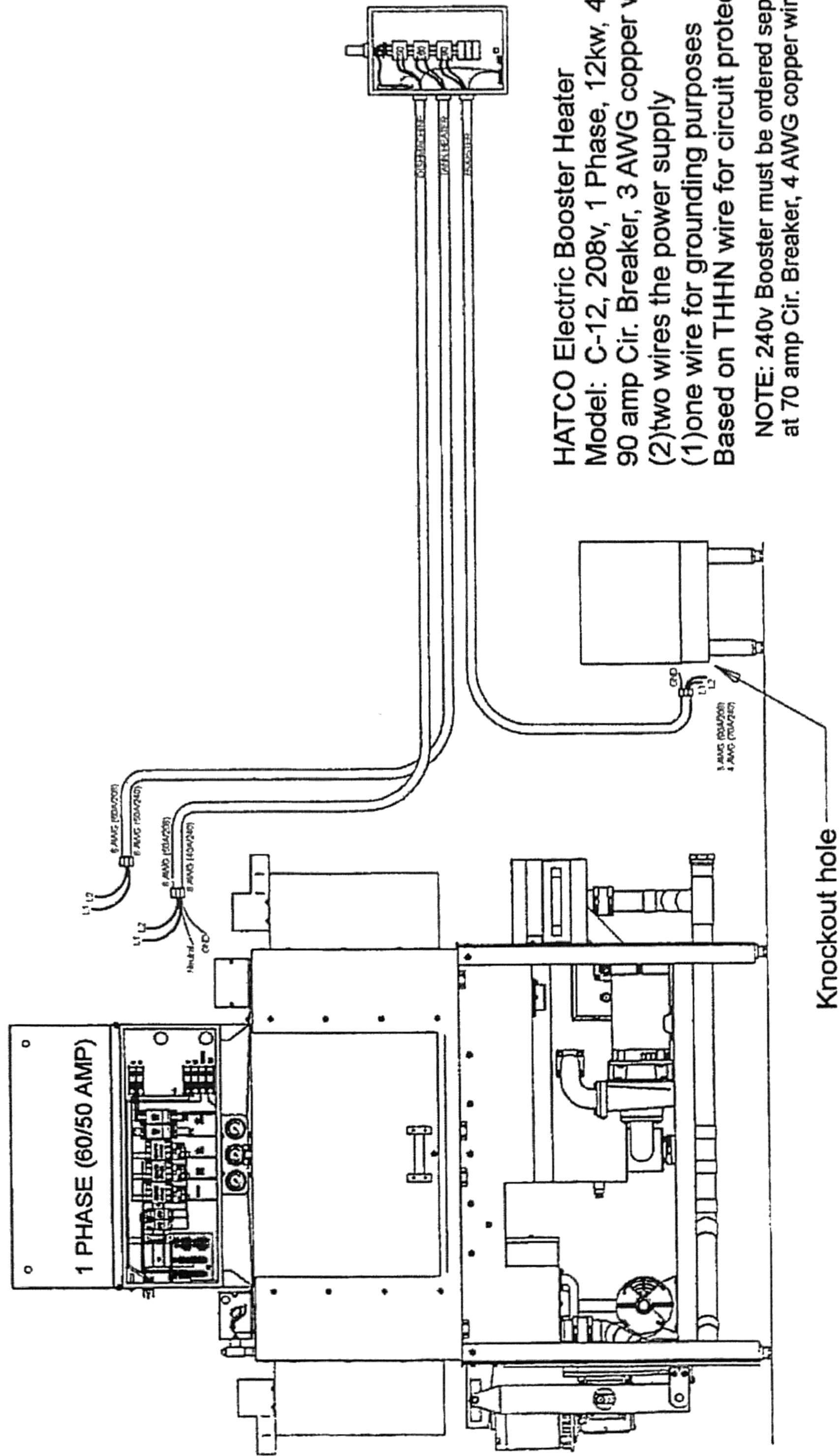
NOTE: 240v Booster must be ordered separately at 70 amp Cir. Breaker, 4 AWG Copper wire

I Phase

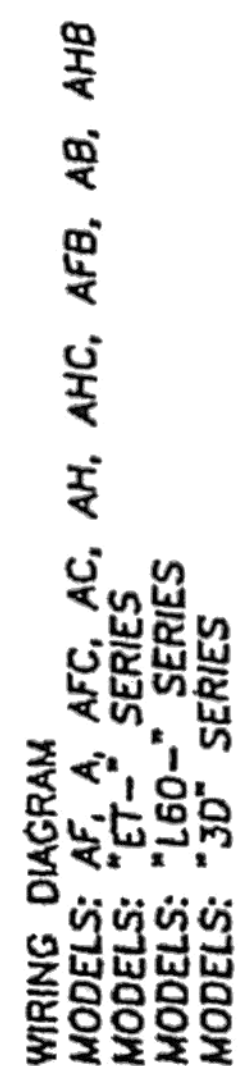
COMMERCIAL DISHWASHING CONVEYOR
 AMERICAN DISH SERVICE
 Model: ADC-44, 208/240v, 1 phase, dual voltage
 #1 (2)two wires, 8AWG, 50A/208v, 40A/240v
 (1)one wire, 12AWG, for Neutral
 (1)one wire for grounding purposes
 #2 (2)two wires, 6AWG, 60A/208v, 50A/240v
 Based on THHN wire for circuit protection.

SINGLE PHASE DATA CHART					ADC-44	
ITEM	VOLTS	AMPS	CIR/BKR	WIRE	CONDUIT	
WASH MTR	208	14.7	30amp	10 AWG	1/2"	
	240	14	30amp	10 AWG	1/2"	
RINSE MTR	208	2.9	15amp	14 AWG	1/2"	
	240	2.7	15amp	14 AWG	1/2"	
CONVEY MTR	208	2.9	15amp	14 AWG	1/2"	
	240	2.7	15amp	14 AWG	1/2"	
RINSE HTR	208	12.5	20amp	10 AWG	1/2"	
(2.25kw)	240	11.5	20amp	12 AWG	1/2"	
WASH HTR	208	43	60amp	6 AWG	1"	
(8kw)	240	38	50amp	8 AWG	1"	
WASH HTR	208	58	90amp	3 AWG	1"	
(12kw)	240	50	70amp	4 AWG	1"	

Data based on 1990 NEC tables



HATCO Electric Booster Heater
 Model: C-12, 208v, 1 Phase, 12kw, 40° rise
 90 amp Cir. Breaker, 3 AWG copper wire
 (2)two wires the power supply
 (1)one wire for grounding purposes
 Based on THHN wire for circuit protection.
 NOTE: 240v Booster must be ordered separately
 at 70 amp Cir. Breaker, 4 AWG copper wire.



ADS AMERICAN DISH SERVICE

TITLE: WIRING DIAGRAM

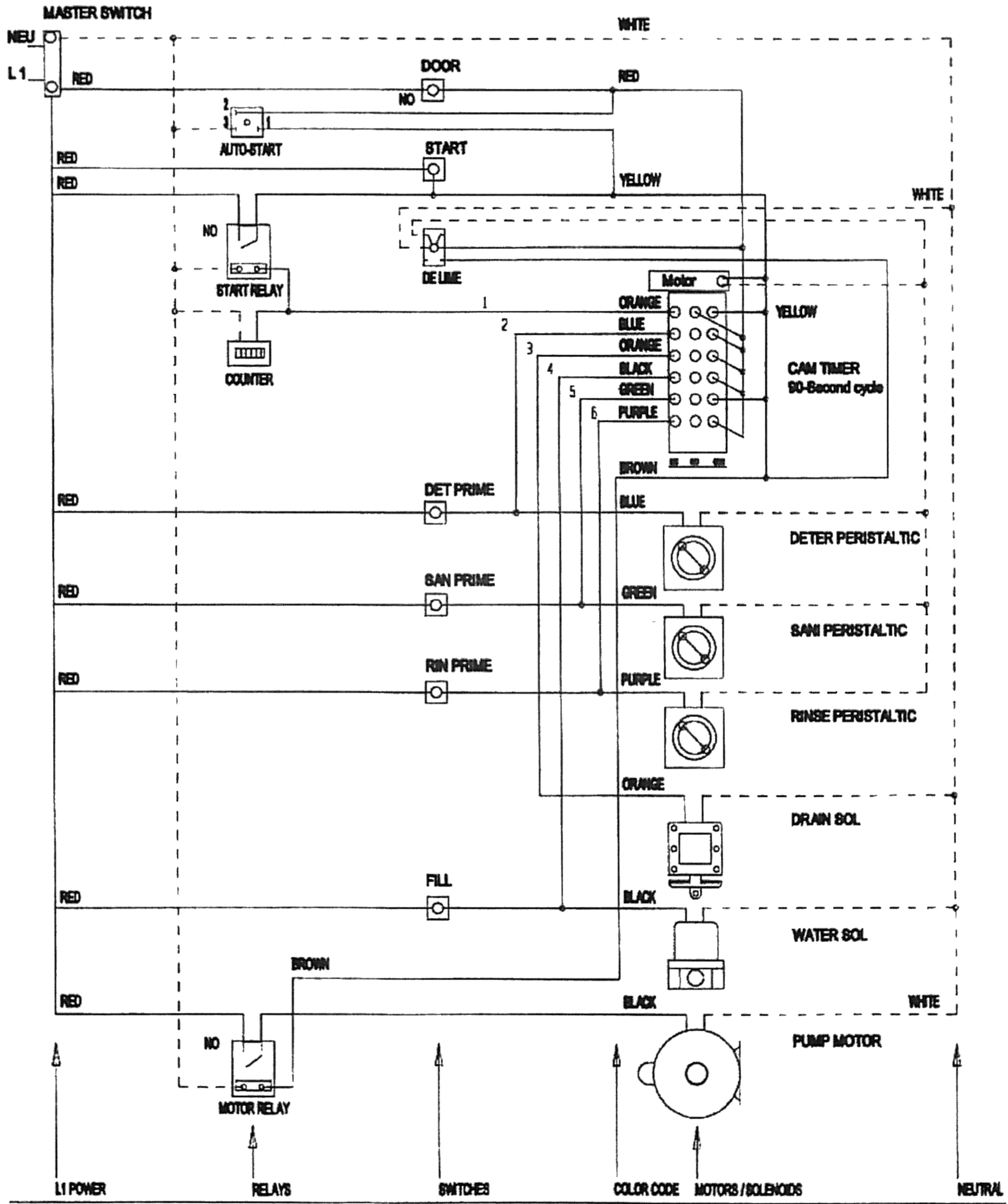
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SCALE:	NONE	DATE:	03/11/94	REVISION:
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ADS WIRE CHART (LADDER)

MODEL: AF-3D, AFB, AF

CONNECT TO ELEC SUPPLY SOURCE
USING 12-10 AWG COPPER WIRE
120 VOLT
CIRCUIT PROTECTION: 20 AMP BREAKER
OR FUSE WITH A 20 AMP RATING

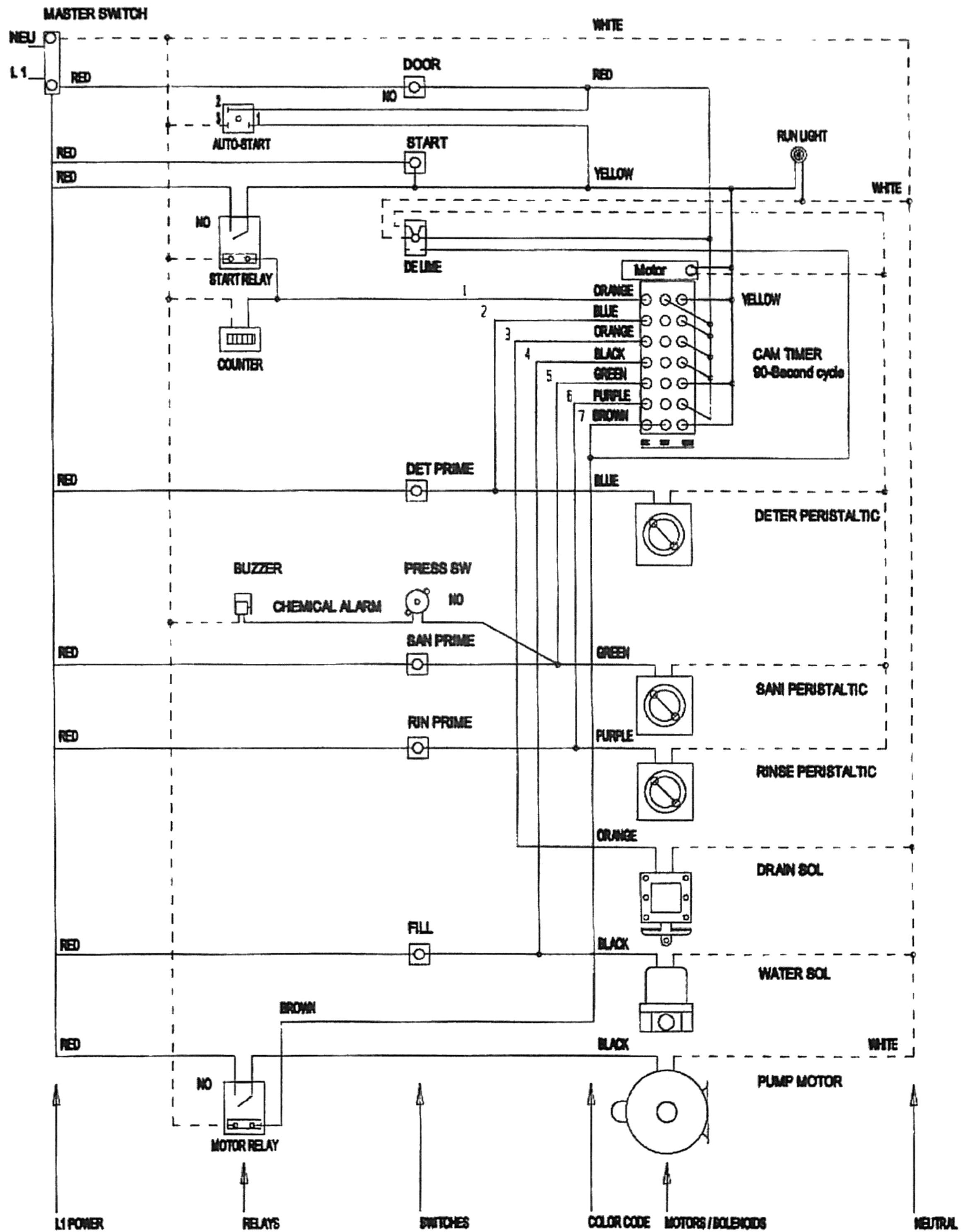


ADS WIRE CHART (LADDER)

MODEL: AF-3DS, 5CD

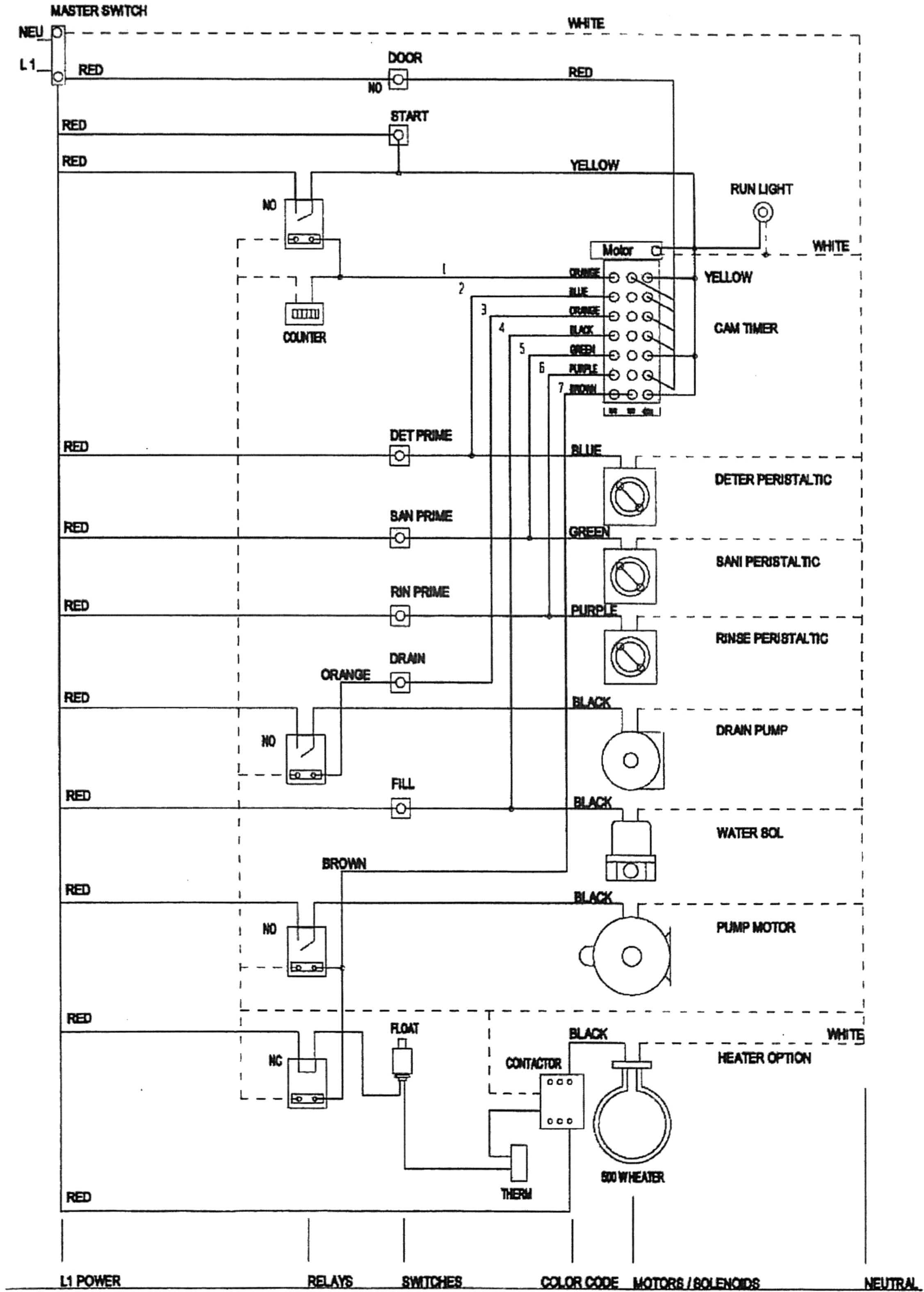
1205

CONNECT TO ELEC SUPPLY SOURCE
USING 12-10 AWG COPPER WIRE
120 VOLT
CIRCUIT PROTECTION: 20 AMP BREAKER
OR FUSE WITH A 20 AMP RATING



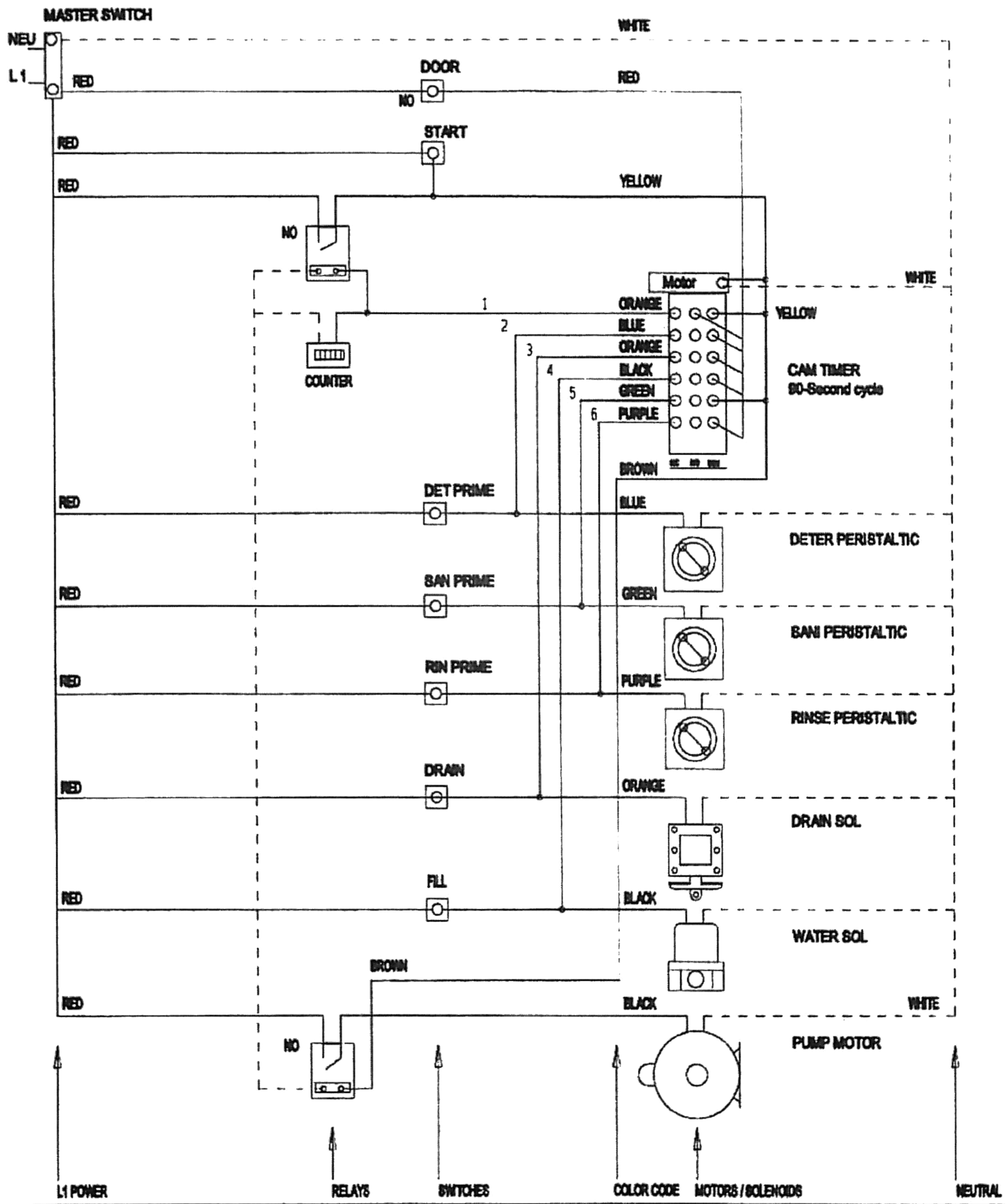
MODEL: ET PUMP DRAIN

CONNECT TO ELEC SUPPLY SOURCE
USING 12-10 AWG COPPER WIRE
120 VOLT
CIRCUIT PROTECTION: 20 AMP BREAKER
OR FUSE WITH A 20 AMP RATING



ADS WIRE CHART (LADDER) MODEL: ET-AF SERIES

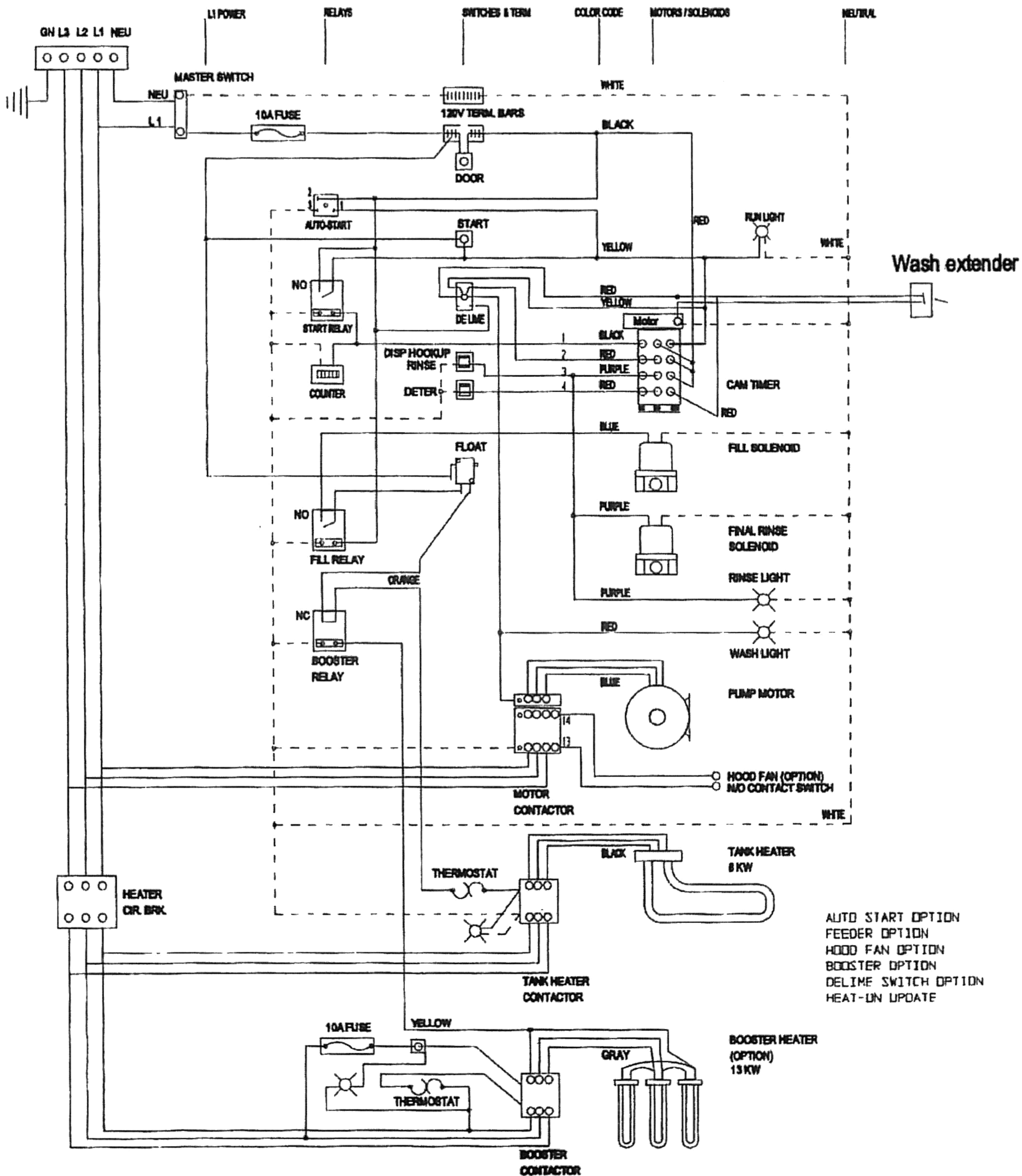
CONNECT TO ELEC SUPPLY SOURCE
USING 12-10 AWG COPPER WIRE
120 VOLT
CIRCUIT PROTECTION: 20 AMP BREAKER
OR FUSE WITH A 20 AMP RATING



ADS Wire Chart (Ladder)

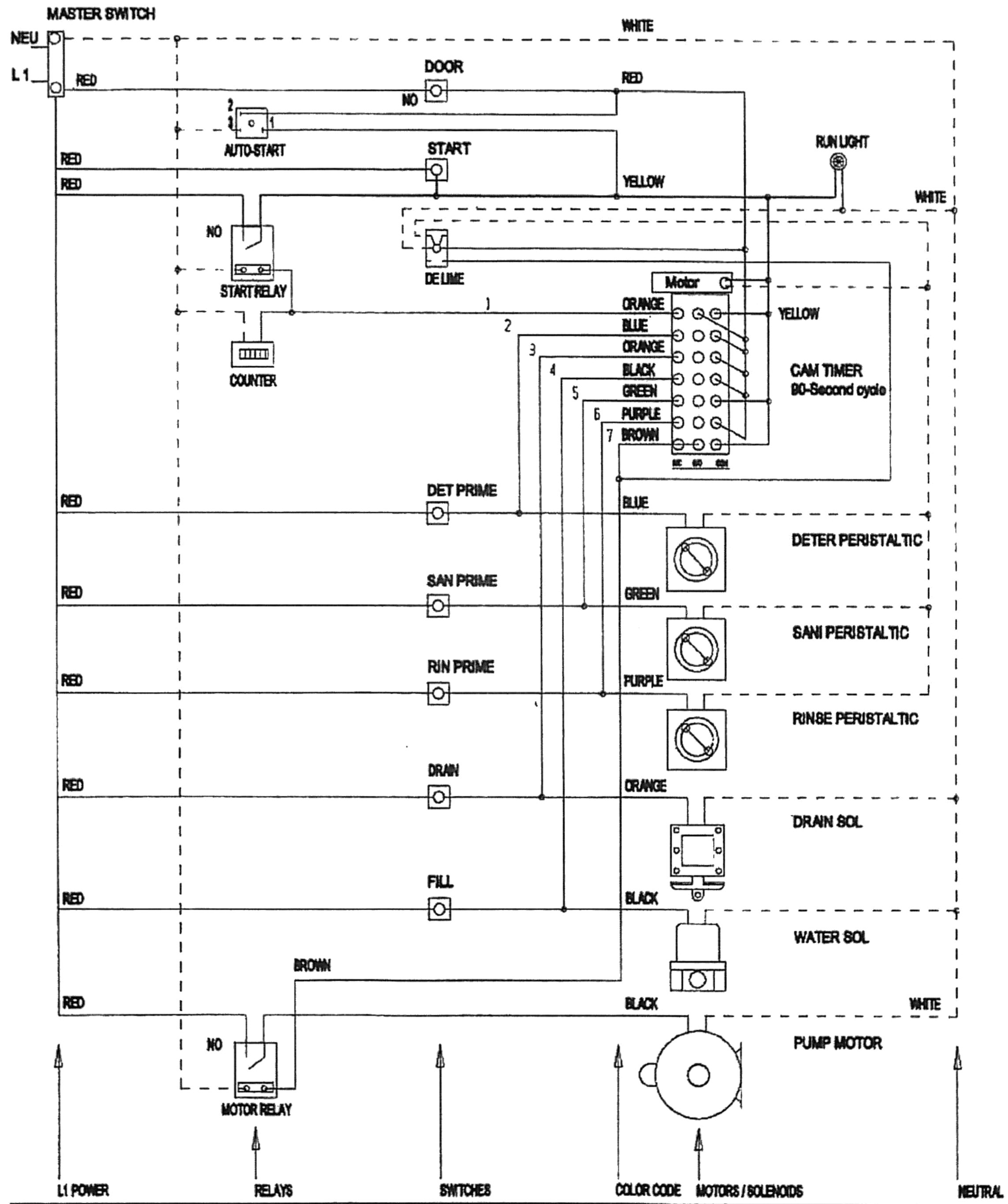
Model: HT-34/25 INCLUDING ALL OPTIONS OF 2005

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ADS WIRE CHART (LADDER) MODEL: L3DW

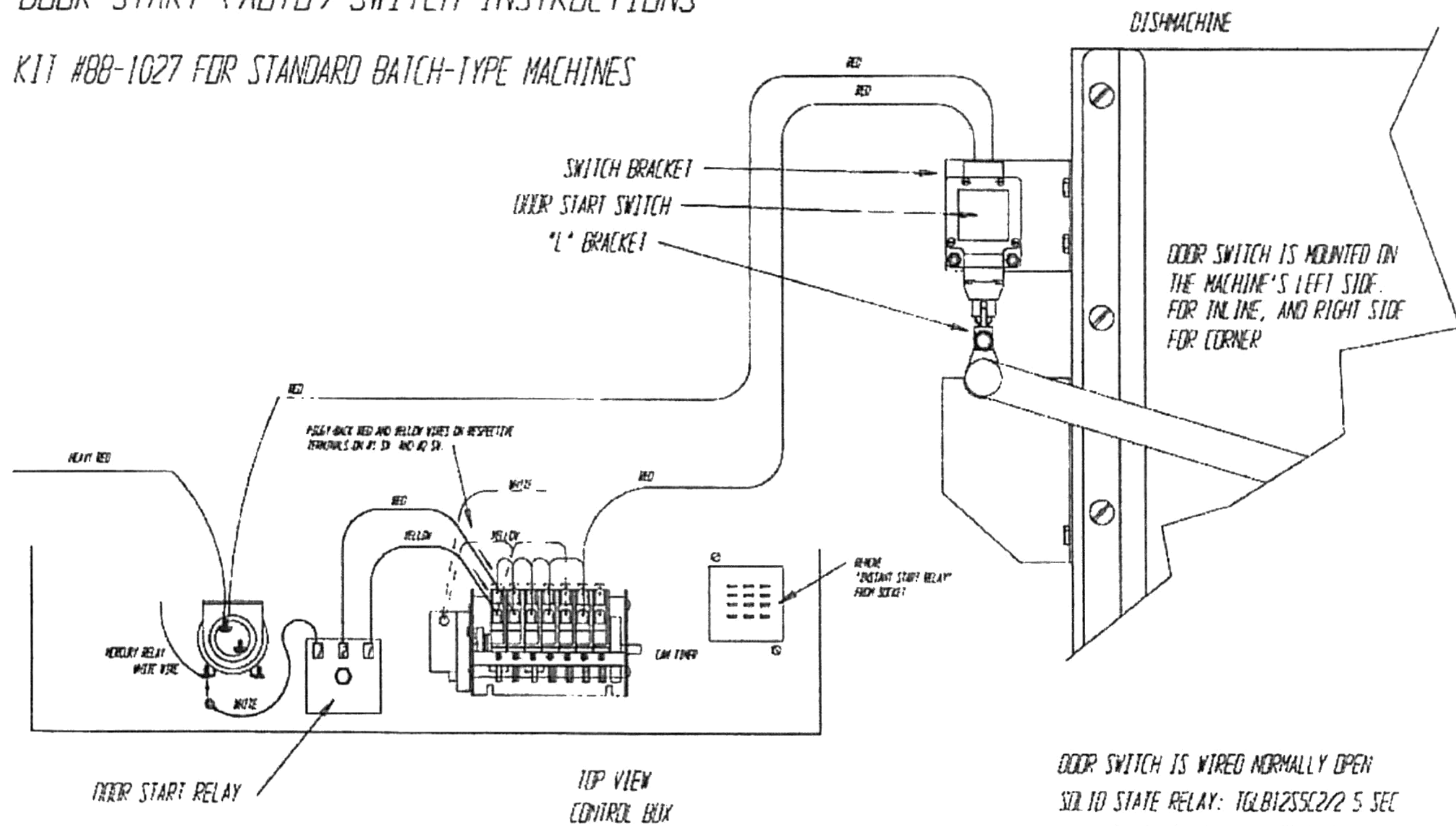
CONNECT TO ELEC SUPPLY SOURCE
USING 12-10 AWG COPPER WIRE
120 VOLT
CIRCUIT PROTECTION: 20 AMP BREAKER
OR FUSE WITH A 20 AMP RATING



AMERICAN DISH SERVICE

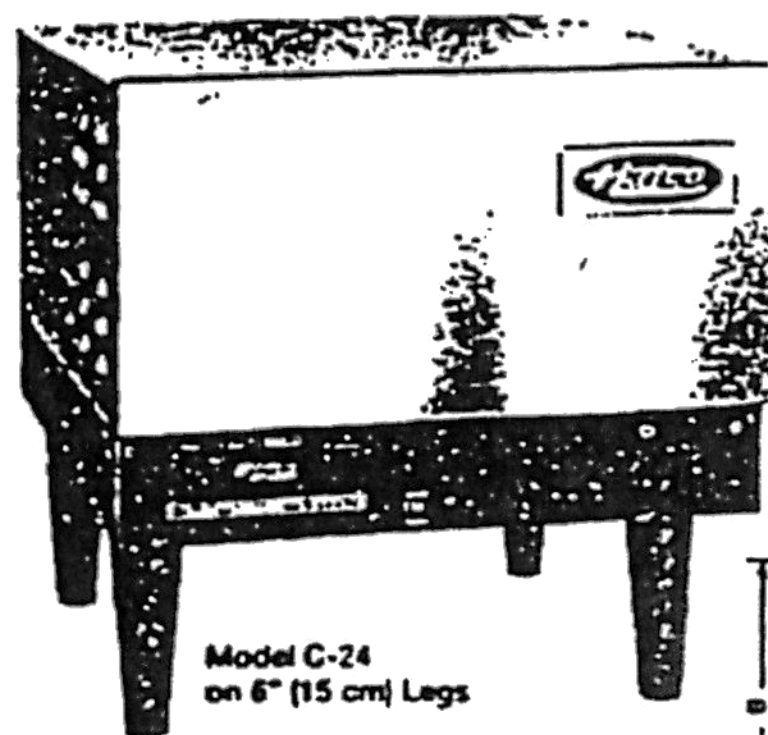
DOOR START (AUTO) SWITCH INSTRUCTIONS

KIT #88-1027 FOR STANDARD BATCH-TYPE MACHINES



ADS (Hatco) Booster Heater Specifications										7/29/98	Payzant
Model	KW	40F Rise	70F Rise	Ship. Wt.	ADS Price	Amp/208/3ph	Amp/208/1ph	Amp/240/3ph	Amp/240/1ph		
C-4	4 kW	40 gph	23 gph	105 lbs.		N/A	30a, 10AWG	N/A	30a, 10AWG		
C-5	5 kW	50 gph	29 gph	105 lbs.		N/A	30a, 10AWG	N/A	30a, 10AWG		
C-6	6 kW	60 gph	34 gph	118 lbs.		40a, 8AWG	40a, 8AWG	30a, 10AWG	40a, 8AWG		
C-7	7 kW	70 gph	40 gph	118 lbs.		40a, 8AWG	50a, 8AWG	40a, 8AWG	40a, 8AWG		
C-9	9 kW	90 gph	52 gph	118 lbs.		50a, 8AWG	60a, 6AWG	50a, 8AWG	50a, 8AWG		
C-12	12 kW	120 gph	69 gph	120 lbs.		50a, 8AWG	90a, 3AWG	40a, 8AWG	70a, 4AWG		
C-13	13.5 kW	135 gph	77 gph	120 lbs.		50a, 8AWG	90a, 3AWG	50a, 8AWG	70a, 4AWG		
C-15	15 kW	151 gph	86 gph	120 lbs.		60a, 6AWG	90a, 3AWG	50a, 3AWG	90a, 3AWG		
C-17	17.2 kW	173 gph	99 gph	120 lbs.		60a, 6AWG	N/A	N/A	N/A		
C-18	18 kW	181 gph	103 gph	120 lbs.		N/A	125a, 1AWG	60a, 6AWG	100a, 3AWG		
C-24	24 kW	241 gph	138 gph	142 lbs.		100a, 3AWG	150a, 1/0	90a, 3AWG	125a, 1AWG		
C-27	27 kW	271 gph	155 gph	142 lbs.		100a, 3AWG	175a, 2/0	90a, 3AWG	150a, 1/0		
C-30	30 kW	301 gph	172 gph	142 lbs.		125a, 3AWG	200a, 3/0	90a, 3AWG	175a, 2/0		
C-36	36 kW	361 gph	206 gph	142 lbs.		125a, 1AWG	225a, 4/0	125a, 1AWG	200a, 3/0		
C-39	39 kW	391 gph	244 gph	142 lbs.		150a, 1/0	250a, 250kcmil	125a, 2AWG	225a, 4/0		
C-45	45 kW	452 gph	258 gph	142 lbs.		175a, 2/0	N/A	150a, 1/0	250a, 250kcmil		
C-54	54 kW	542 gph	310 gph	142 lbs.		200a, 3/0	N/A	175a, 2/0	N/A		
C-58	58.5 kW	588 gph	335 gph	142 lbs.		225a, 4/0	N/A	200a, 3/0	N/A		
C4 - C18	21" long	21" tall	13" wide								
C24 & up	24" long	18" tall	18" wide								
All tanks	6 Gallons										
Must spec	140F or 180F										
Volt avail.	208v, I & III	240v, I & III	480v, III								

Compact



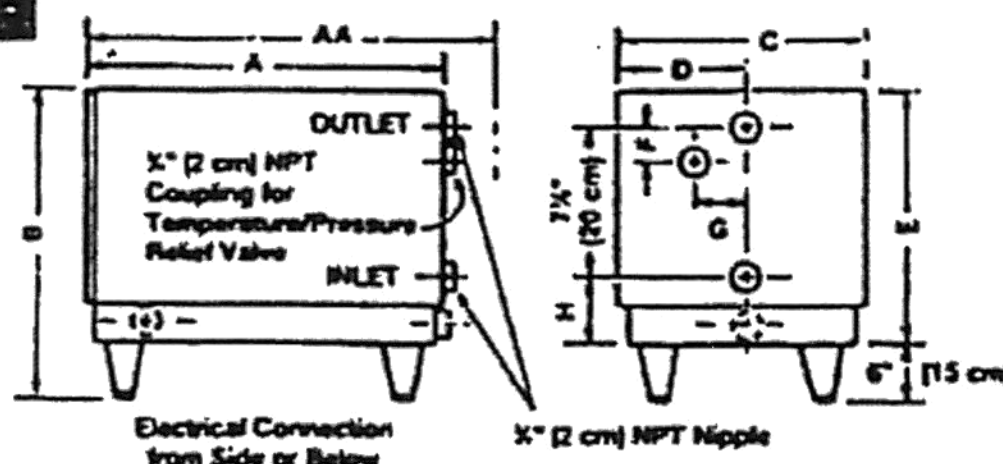
Model C-24
on 6" (15 cm) Legs



Model C-18



Model MC-10



Electrical Connection
from Side or Below

X" (2 cm) NPT Nipple

SIDE VIEW

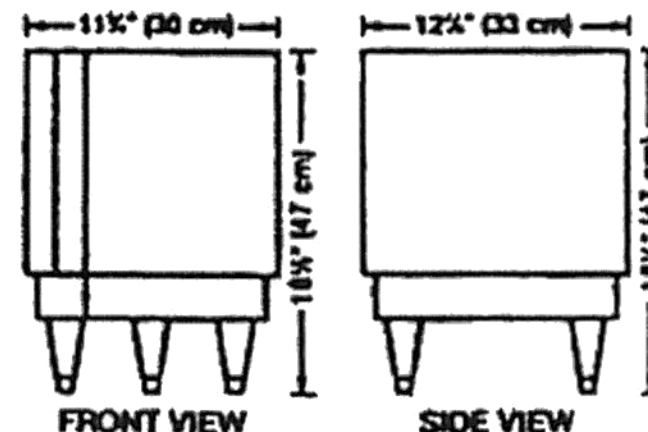
REAR VIEW

Model	A	AA*	B	C	D	E	F	G	H
4 to 18kw	20 1/2" (53 cm)	26" (66 cm)	19 1/2" (50 cm)	13" (33 cm)	5 1/2" (17 cm)	13 1/2" (35 cm)	3/4" (2 cm)	2 1/2" (6 cm)	3 1/2" (9 cm)
24 to 58kw	24" (61 cm)	30 1/2" (78 cm)	18" (46 cm)	18" (46 cm)	6" (15 cm)	12" (31 cm)	2 1/2" (6 cm)	3 1/2" (9 cm)	2" (5 cm)

*Includes Temperature & Pressure Relief Valve.

Working pressure of tanks, 150 psi (1034 kPa) - tested at 300 psi (2069 kPa).

IMPORTANT - Booster must be installed in horizontal position with inlet at lowest point for proper operation.



FRONT VIEW

SIDE VIEW

The Hatco Compact booster water heater provides all the 180° F. (82° C.) final rinse water required to sanitize and flash-dry dishes and flatware. The space saving Compact is easy to install next to the dishwasher with slide brackets or on 6" 15 cm legs. Storage capacity is 6 gallons (23 liters).

ALL MODELS INCLUDE:

basic heater, Castone® tank with 10 year warranty, temperature/pressure relief valve, pressure reducing valve, two temperature/pressure gauges, high temperature limit control and a low water cut-off to prevent element burnout due to low water condition.

Hatco booster heaters are factory pre-plumbed and pre-wired with calibrated immersion thermostat and high temperature limit switch. Service area is accessible from the front to permit easy installation, even next to other equipment.

stainless steel front panel and silver gray hammertone body standard on all Compact models. Available with slide brackets for mounting under a dishtable.

For LOW-TEMP dishmachines, specify 140° F. (60° C.) thermostat setting. See Hatco Selector Chart for sizing to most dishwashers.

ACCESSORIES

All Stainless Steel Body and Base

Slide Brackets

Adjustable Stainless Steel Legs

(6" to 8") (15 to 20 cm)

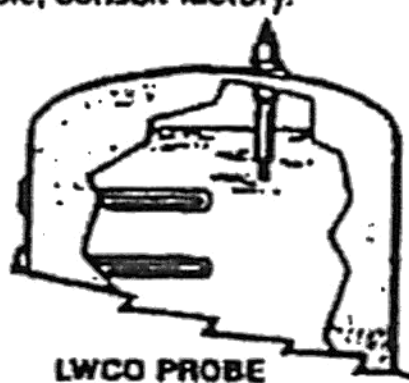
Shock Absorber-to reduce

water hammer

Pilot Light and On-Off Switch

LOW WATER CUT-OFF (LWCO)

The Hatco LWCO feature on booster heaters eliminates the chance of element burnout in the event the tank is only partly filled while unit is on.



LWCO PROBE

IMPORTANT: When ordering specify: Model Number, Wattage, Voltage, Phase, Accessories, Mounting Brackets or Legs.

SPECIFICATIONS

Model	KW	40° F. (22° C.) Rise	70° F. (39° C.) Rise	Ship. Wt.
C-4A	4	40 gph (151 lph)	23 gph (87 lph)	105 lbs. (48 kg)
C-5A	5	50 gph (189 lph)	29 gph (110 lph)	105 lbs. (48 kg)
C-6*	6	60 gph (227 lph)	34 gph (129 lph)	118 lbs. (54 kg)
C-7*	7	70 gph (265 lph)	40 gph (151 lph)	118 lbs. (54 kg)
C-9*	9	90 gph (341 lph)	52 gph (197 lph)	118 lbs. (54 kg)
C-12	12	120 gph (454 lph)	69 gph (261 lph)	120 lbs. (54 kg)
C-13	13.5	135 gph (511 lph)	77 gph (292 lph)	120 lbs. (54 kg)
C-15	15	151 gph (572 lph)	86 gph (326 lph)	120 lbs. (54 kg)
C-17*	17.2	173 gph (655 lph)	99 gph (375 lph)	120 lbs. (54 kg)
C-18§	18	181 gph (685 lph)	103 gph (390 lph)	120 lbs. (54 kg)
C-24	24	241 gph (912 lph)	138 gph (522 lph)	142 lbs. (64 kg)
C-27	27	271 gph (1026 lph)	155 gph (587 lph)	142 lbs. (64 kg)
C-30	30	301 gph (1139 lph)	172 gph (651 lph)	142 lbs. (64 kg)
C-36	36	361 gph (1367 lph)	206 gph (780 lph)	142 lbs. (64 kg)
C-39	39	391 gph (1480 lph)	224 gph (848 lph)	142 lbs. (64 kg)
C-45*	45	452 gph (1711 lph)	258 gph (977 lph)	142 lbs. (64 kg)
C-54*	54	542 gph (2052 lph)	310 gph (1174 lph)	142 lbs. (64 kg)
C-58*	58.5	588 gph (2226 lph)	335 gph (1268 lph)	142 lbs. (64 kg)

* Only 6, 7 & 9KW Models can be field converted to single or three phase (open delta on 3 phase). Larger branch circuit required than for balanced 3 phase of equal KW. (Balanced 3 phase available in 4-9 KW models, consult factory.)

Δ 480v available in single phase only.

• 17.2KW models available in 208v 3 phase only.

§ 18KW models not available in 208v 3 phase.

• Not available in 208v single phase

277v single phase available,

consult factory.

Model	KW*	Phase	Voltage	Ship. Wt.
MC-10	9.9	1 or 3	208 volts	48 lbs. (22 kg)
MC-11	11.4	1 or 3	240 volts	48 lbs. (22 kg)

* Available in 10.5 KW, consult factory for details.

The Mini-Compact includes: basic heater, stainless steel tank, temperature/pressure relief valve, pressure reducing valve, two temperature/pressure gauges, high temperature limit control and low water cut-off to prevent element burnout due to low water condition.

B13 BOOSTER HEATER INSTRUCTIONS

Effective 9/16/02

IMPORTANT

Make sure the booster is full of water before connecting electrical power to the equipment. Failure to do so will result in damaged heater elements, there is no water level control inside the pressure tank.

If the Pressure Relief Valve (PRV) opens and vents off steam and water, the cause comes from excessive heating of water. This condition is a result of exceeding factory settings on the thermostat or a failed thermostat. Return the thermostat to the original setting (approx. 11:00 on the dial). Clockwise decreases temperature.

If the PRV continues to vent steam, replace the thermostat. Elements, which have continued to heat after the PRV opened, will need replacement. You can check their function by testing for amps. Each leg should draw approx. 25 amps

Failure mode of repeated venting of PRV: Incoming water to booster is below 140° F, output of combined primary water heater and booster's rise of 40° F fails to reach required 180° F at final rinse. Personnel attempt to remedy by turning up thermostat on booster, which boils the water and turns to steam. PRV vents away all the vessel's water causing the booster elements to burn up. Booster controls continue to call for heated final rinse but elements have failed. Control circuit remains locked to booster and does not allow HT-25 wash tank's control to operate. Tank temperature drops in the HT-25. Personnel try to remedy by increasing temperature in wash tank. When power is restored to wash tank control circuit, water boils in the wash tank. Cause: inadequate incoming temperature to booster, improper adjustment of equipment.

For Installation By Qualified Service Personnel Only

Do not attempt to adjust factory thermostat settings. The thermostat has been set at the factory to 185° F, to avoid risk of scalding do not alter the factory setting. The maximum pressure going to the booster is 80 psi.

Installation Notes

The ADS booster heater can be installed freestanding or attached to ADS machines.

1. The freestanding version has four legs that screw into socket bolts on the bottom. The bottom of the booster will then stand 8" off the floor.
2. On inline machines, the booster can be attached to the dishmachine legs with 5/16" bolts (a standoff is also available when needed for clearance).
3. A minimum clearance between the booster and surrounding surfaces is 3 inches.
4. There are no user instructions; there is no operation or maintenance of the booster system designed for used application. All service and maintenance of the booster should only be done by trained, authorized personnel.
5. The booster should only be installed on flooring of ceramic tile, cement, or similar waterproof environments.
6. No exhaust air or venting is necessary for the 13 kW booster. But the unit should not be installed in a confined or concealed space; it should be placed in an open room with free circulating air around the cabinet.
7. Make sure the booster has a proper ground connected to the ground lug in the cabinet.
8. The main power must be disconnected before servicing.

Pressure Vessel

The ADS booster is a pressure vessel, meaning you can attach incoming pressure water line to it, then plumb a line directly to your dishmachine. Water pressure is stored in the heater, when hot water is needed; the machine solenoid opens and fills the dishmachine with heated water.

Degree of Rise

Rise refers to the amount of water increased in temperature during a given period of time. A 40° rise rated for 86 gallons per hour (GPH) means the heater will booster 86 gallons of water 40° during 60 minutes. If incoming water is 110° F, then you can expect 86 gallons will reach 150° F.

Explanation: When incoming water temperature drops, but the heater is still set at 150° F, the result is wide swings between the set temperature and lower recovery points. This wide swing will seem like the heater control is no longer working correctly, but it is just too great a rise from the incoming temperature. When sizing a booster, have the primary temperature available; subtract that from the desired temperature (180° F), the difference will be the amount of rise the booster needs to produce. Include the amount of water the machine will use continuously in one hour. These two numbers will spec the booster needed.

Example: Desired high-temp sanitizer of 180°, minus incoming house temperature of 140° results in a requirement for a boosted supply of 40° rise @ 58 GPH for the HT-25 single tank high temp dishmachine. Remember to oversize, a margin is better than having to return and upgrade.

$$\begin{array}{r} 180 \text{ (min. required sanitizing temperature)} \\ - 140 \text{ (house temperature)} \\ \hline 40 @ 58 \text{ GPH (GPH is demand of dishmachine)} \end{array}$$

Electrical hookup 13.5 kW

The power requirement is 208v, 3-phase, with a 40 amp breaker, 8 AWG wire, 60Hz. Total amp draw is 25 amps. The power is connected directly into the contactor. Power for the control circuit (which is 208v) is also attached to the incoming L1 and L2 screw terminals on the contactor.

IMPORTANT:

Make sure booster is full of water before applying any power to the equipment. Failure to do so will result in the elements burning out.

Factory Installed Booster on HT-25

If a HT-25 is ordered with booster attached, it can be wired into the machine so there is only one electrical service connection. The factory will build the HT-25 in a modified format that alternates between booster and sustainer; this provides a total operating amp draw of only 35 amps with booster and dishmachine combined. The wall circuit breaker or fuses will be rated for 50 amps with 8-gauge wire, and will supply the power for both units. There is branch protection within the dishmachine for the booster. The package comes pre-plumbed and wired; there is a single water connection of ¾" pipe at the rear of the booster. With a total amp load of 35, single plumbing connection, single electrical connection and breaker, and attached booster, this package makes a faster installation. A total water demand of 58 GPH, at 72 racks per hour makes the HT-25/Booster factory package the most energy competitive of high temps.

Note: this option is only available in 3 phase, there is no single-phase booster available.

Plumbing Inlet

By code, it is necessary to plumb in a water valve at the bottom of the incoming line for draining the vessel. Provide the inlet line with a shut-off valve and a new **pressure-reducing valve (PRV)**. It is likely that the existing pressure reducing valve, if one is being used for previously installed equipment, is in need of replacement. The ADS booster comes with a Pressure Relief Valve. Do not remove; do not use as a drain valve

CAUTION: To avoid water damage or personal scald injury, install a drain pipe to the PRV running to a safe position. Make the drain pipe as short as possible

140° F for AF, ET, L, 3D, 13.5 kW, 25 amp draw, 3-ph, 208-240v, 2.4 gal. tank; 40° rise, 86 GPH
180° F on HT-25, 13.5 kW, 25 amp draw, 3-ph, 208-240v, 2.4 gal. tank, 40° rise, 58 GPH

**AMERICAN DISH SERVICE
MODEL B-13 BOOSTER HEATER
PARTS PRICING**

		<u>Dealer Net</u>
091-3008	Master Switch	\$ 6.66
291-7101	Light	3.93
389-6604	O-ring, Heater Seal	1.00
391-3005	Contactor	75.14
391-3007	Thermostat	41.29
391-5104	Wire Harness	28.04
391-9006	Heater Element	10.27
391-9101	Fuse Block	14.61
391-9102	Fuse, 10 amp	4.64

ADS Booster

B-13.5

Wire Diagram

208-240v, 3ph, 13.5kw

Total draw 25amp

Thermostat

ON light

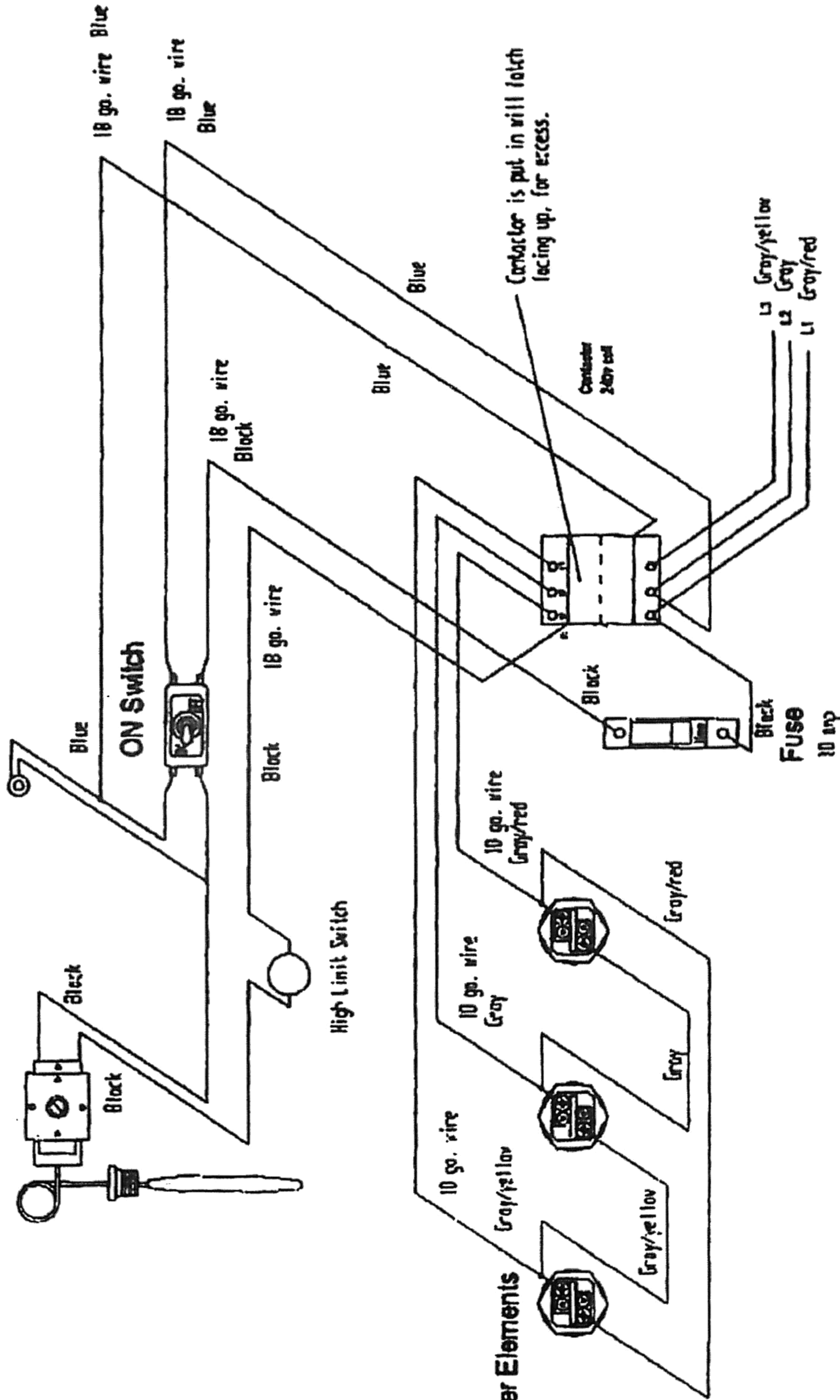
ON Switch

High Limit Switch

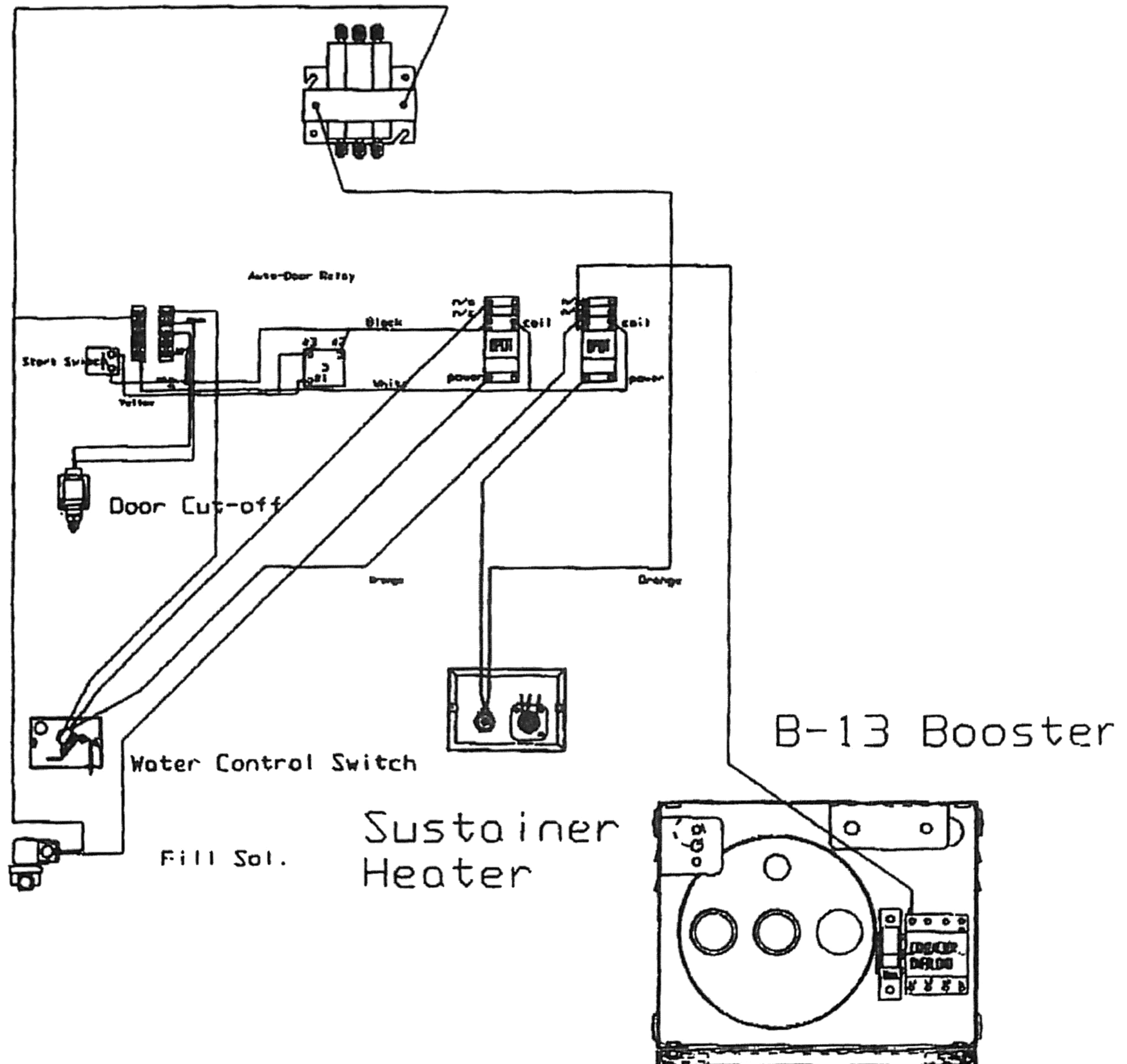
Heater Elements

Contactors
240v coil

Fuse
10 amp



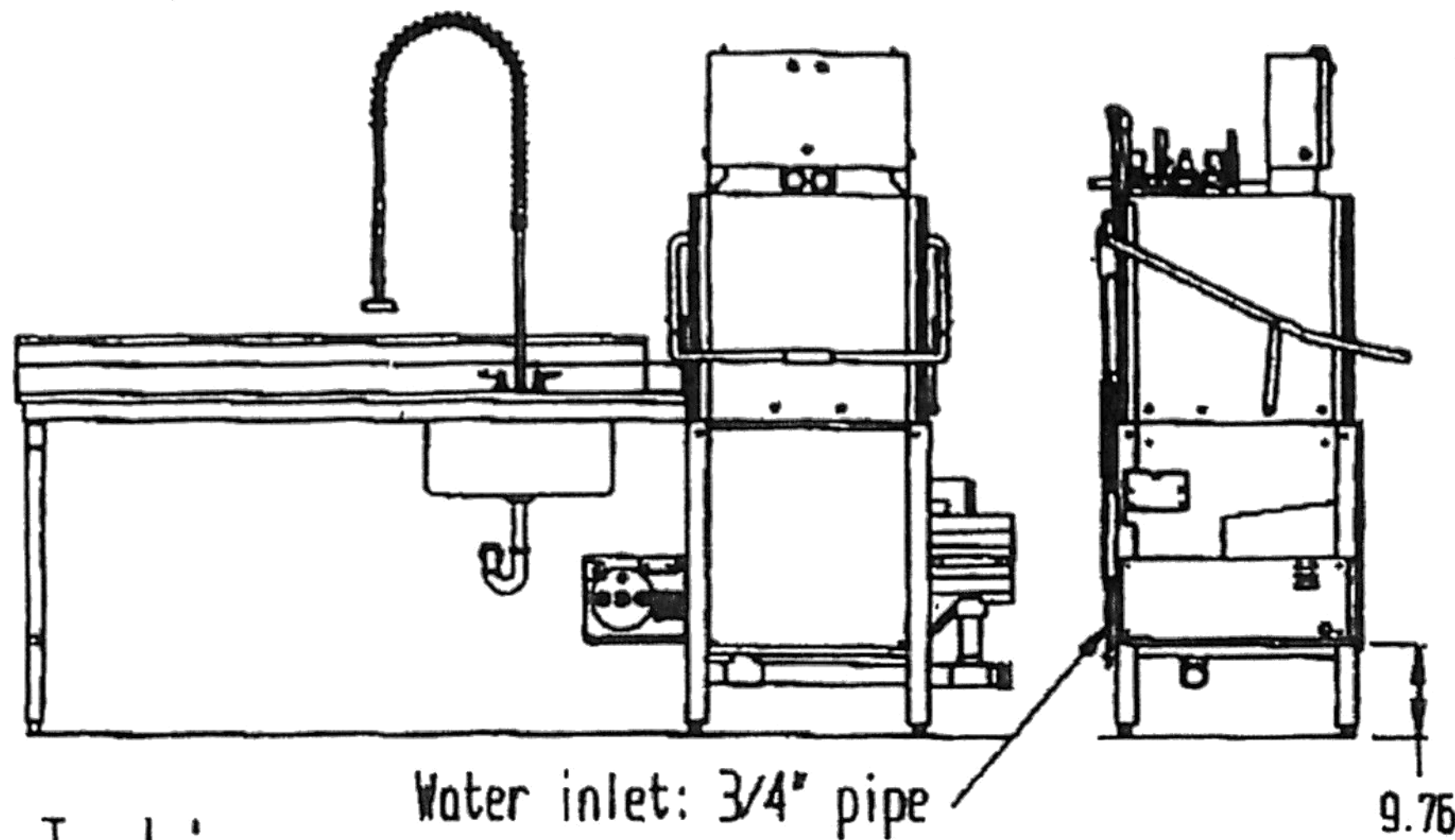
HT-25 With booster



AMERICAN DISH SERVICE

HT-25/Booster

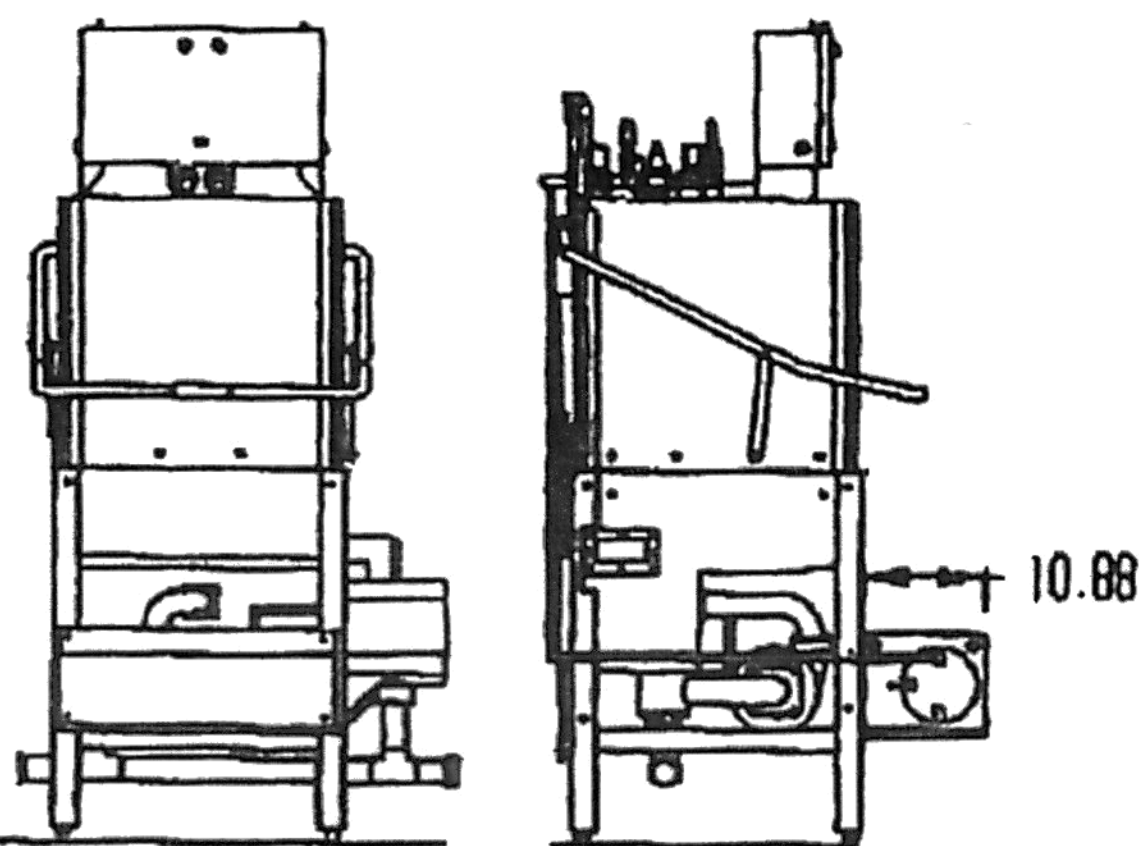
Single-point electrical
hook-up, 50amp for
both HT-25 and Booster.



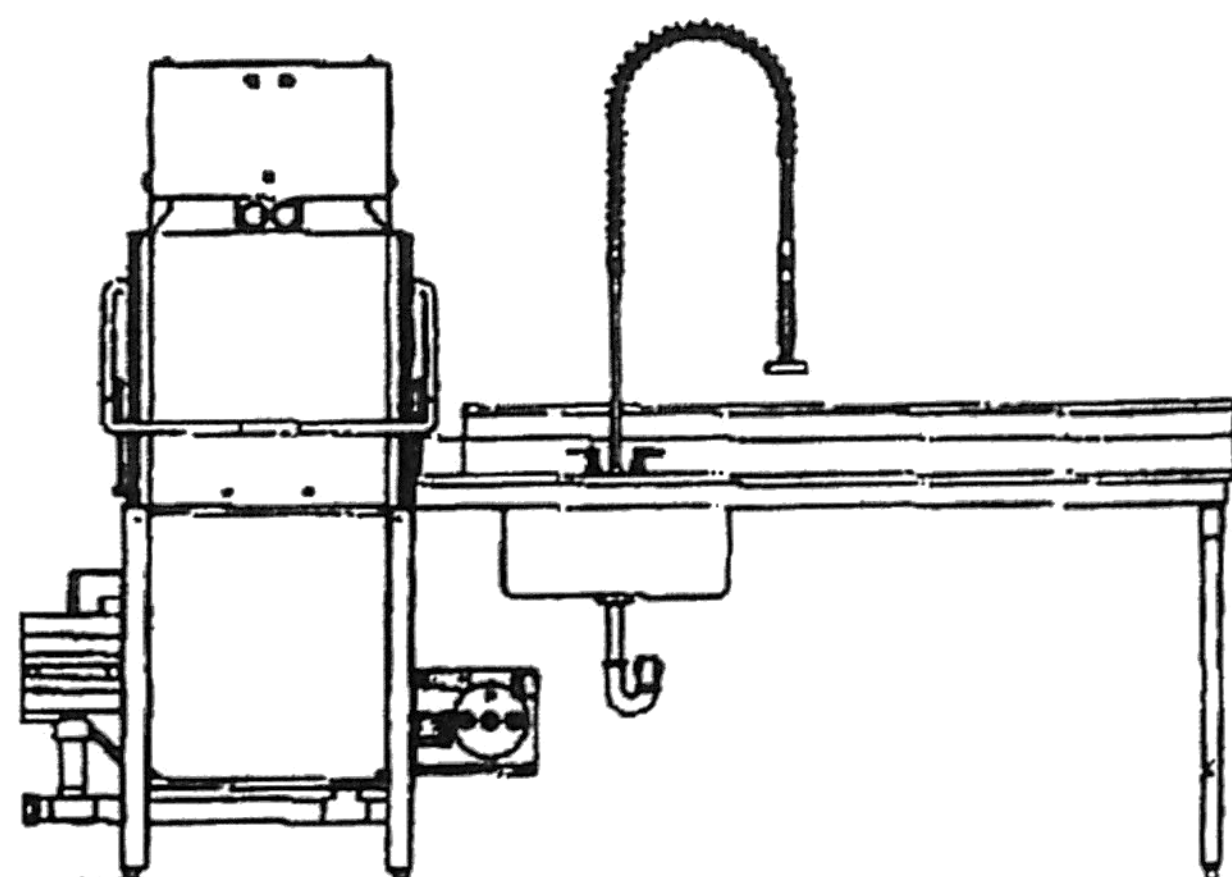
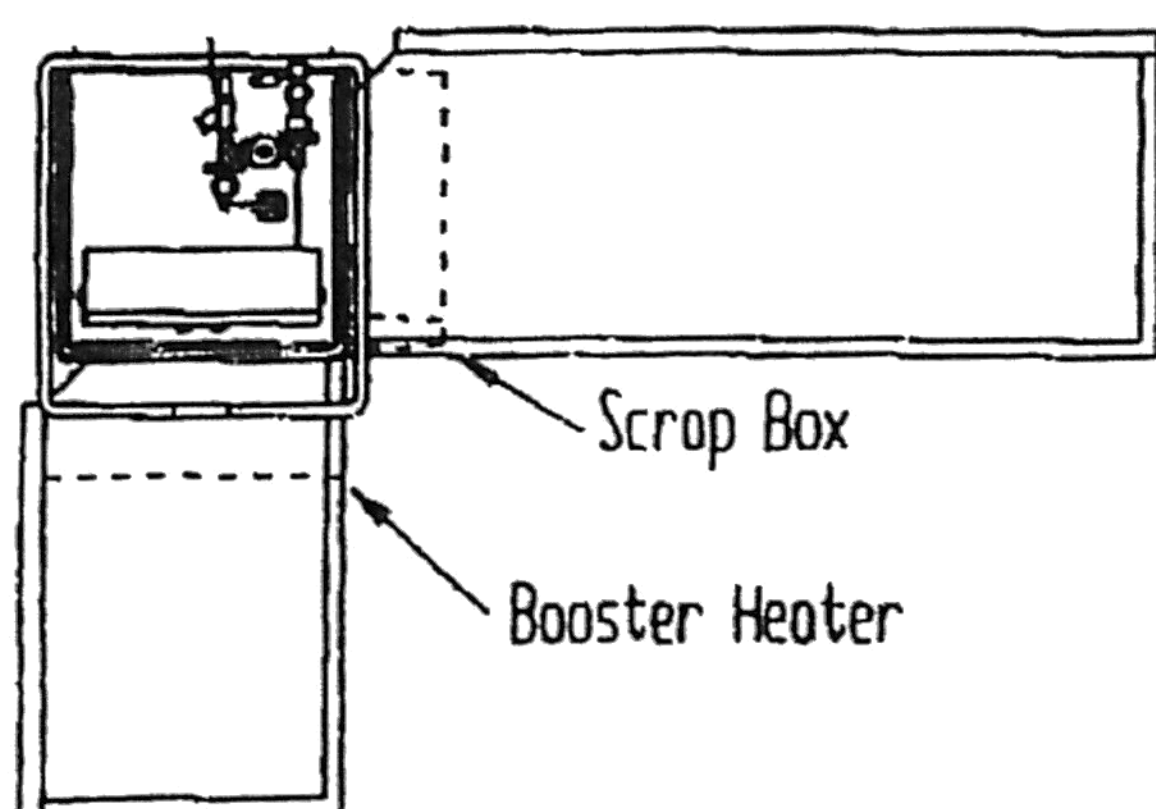
Inline can install
heater on either side
(scrap box would
alternate)

Inline

Note: Pump and heater
are serviced by removing
scrap box, not the heater

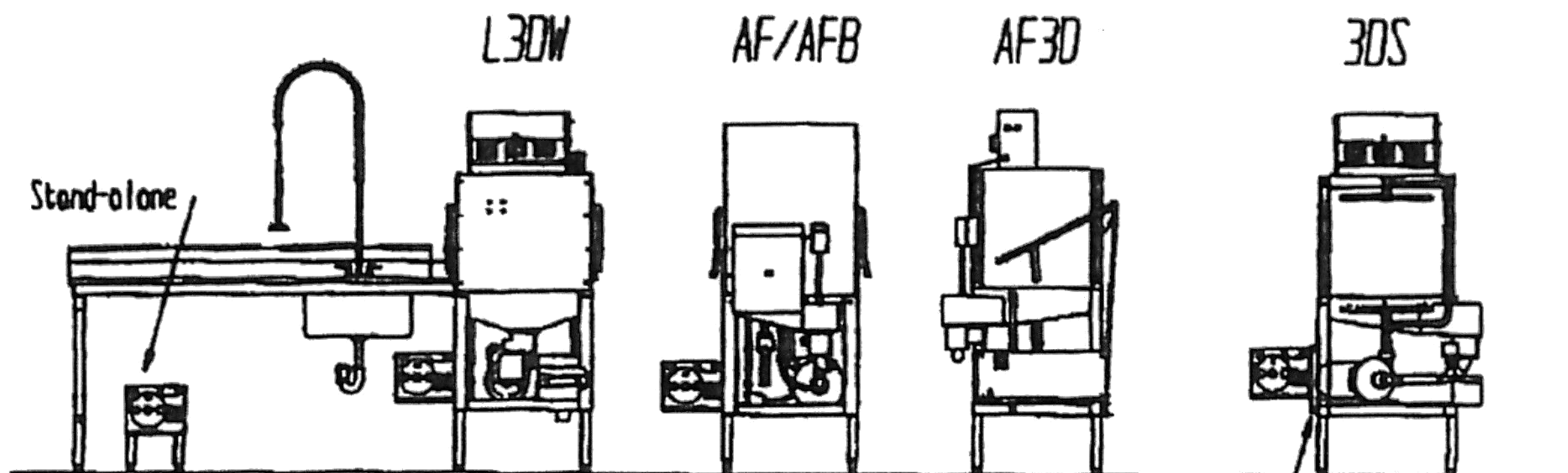


Corner (only layout available)

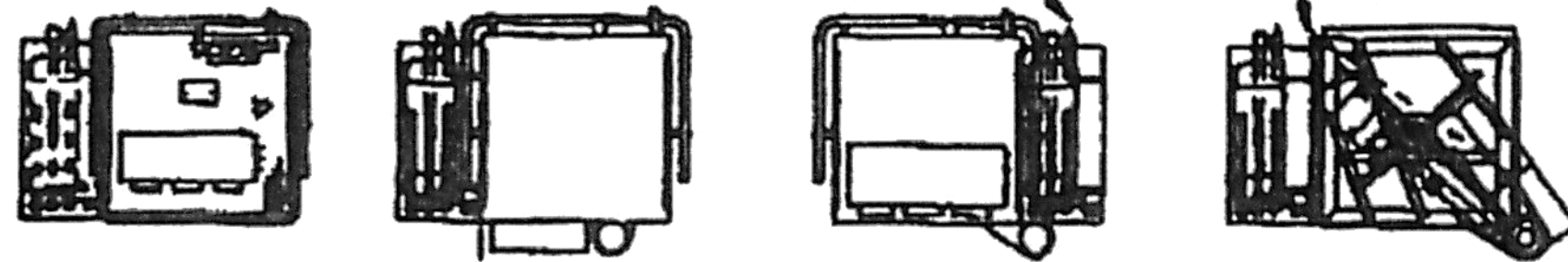


AMERICAN DISH SERVICE

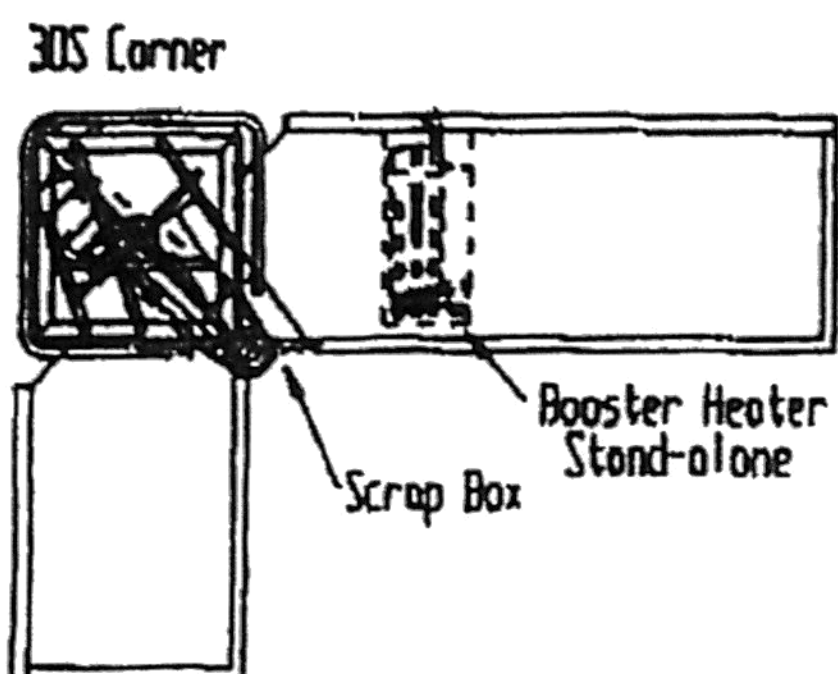
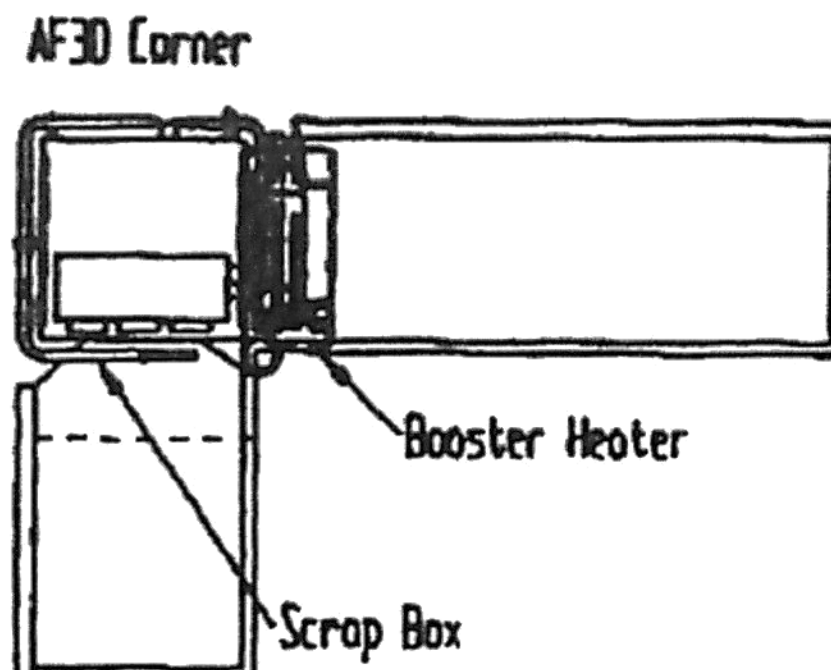
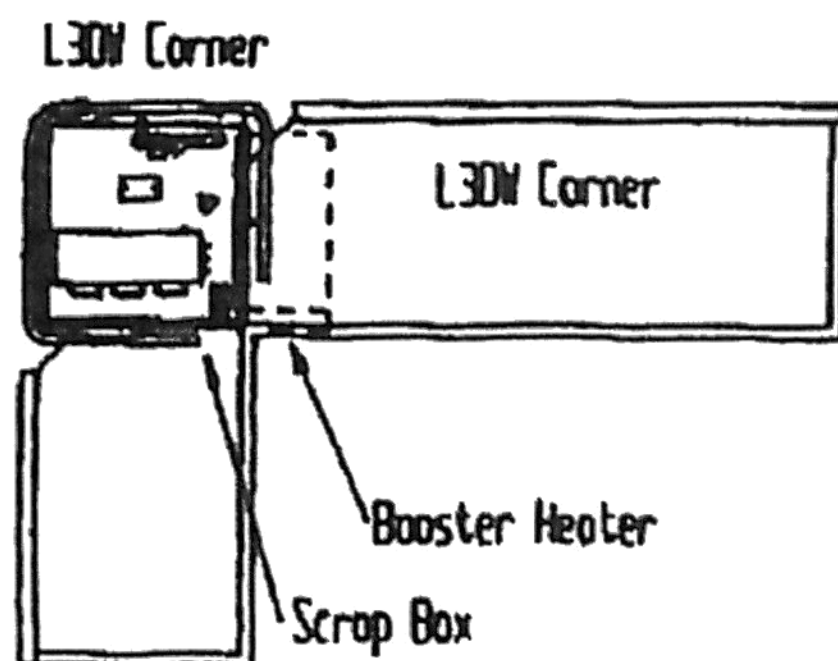
Booster Options



Inline Options



Corner Options



ADS Booster Model B-13
 140F, 13.5kw, 25a draw
 3ph, 208-240v, 40 degree
 rise, 86 GPH

AMERICAN DISH SERVICE

March 23, 1999

NOTICE:

Commercial Kitchen, Venting of Dishmachines

The *new* venting language of the Uniform Mechanical Code was established in 1991, and states that "Hoods shall be installed at or above all commercial-type... dishwashing machines and similar equipment..." (1991 UMC, section 2003.1, p 153). The words "shall be" means that it is required, and in violation of code when the hood is absent.

The hood is defined as duct work, pantleg, capture point, or overhood (canopy). Calculations are provided to determine CFM, hood length, air compensating factors, and discharge (Example: 300 CFM for dishmachine pantleg, soil side).

The Uniform Mechanical Code was further enlarged in 1994, identifying the dishmachine hood as type II construction; and in 1996, departments of environmental health began to endorse this section of the Mechanical Code with its own Plan Check guide. The health department guide gives acceptable styles of layout for hoods and ventilation. Health departments require that these dishmachine hoods be listed with Underwriters Laboratories, Inc. The Plan Check calls for a UL listing card on all hoods.

American Dish Service installation recommendations will follow all code sections that apply to hoods and venting. Local code enforcement should be contacted before dishroom layout is signed off.

Reference: Uniform Mechanical Code 1994, Chapter 5, Part 2, Section 507 – 598.1, 508.2.1.
Hood Plan Check Guide, Department of Environmental Health, Alameda County, Ca., 1996.

Notice created by R. Payzant, American Dish Service, Technical Support Material

ADS Service Bulletin

“Tankless” or “Flash” Water Heaters (Not Recommended for Commercial Dishmachines)

The correct minimum rate of FLOW to our typical machine is 518 GPH, given a constant flow from a ½” pipe at 17 psi. Although the dishmachines only use a small portion from that stream, that minimum rate of flow is needed for proper operation.

Of late, the appearance of “Tankless” or “Flash” water heaters in the market has caused misunderstandings and problems for normal dishmachine installations. The “tankless” design principle reduces the flow so heat can enter the water. Pressure is reduced and flow is reduced. Commercial dishmachines are designed to use maximum flow from city water sources. Standard commercial tank water heaters are recommended for proper operation of the ADS dishmachines.

ADS IS RECOMMENDING THAT NO TANKLESS OR INSTANT FLASH HEATER BE USED IN OUR MACHINE’S INSTALLATIONS. WARRANTY MAY NOT BE EXTENDED WHERE TANKLESS WATER HEATERS ARE USED.

American Dish Service, January 2007