

Installation Instructions

For Use With Model 50AH Horizontal Indoor
Single-Package Cooling Units



SAFETY CONSIDERATIONS

Installing and servicing air conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install or service air conditioning equipment.

Untrained personnel can perform basic maintenance, such as cleaning and replacing filters. All other operations should be performed by trained service personnel. When working on air conditioning equipment, observe precautions in literature and on tags and labels attached to unit.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available.

⚠ WARNING

Before installing or servicing unit, turn off main power to system. There may be more than one disconnect switch. Turn off accessory heater power if applicable. Electrical shock can cause personal injury.

INTRODUCTION

Model 88EN electric heater packages are designed to mount on the evaporator discharge flange of Model 50AH single-package cooling units. See Fig. 1 for accessory heater positioning and dimensions. The heater control box is accessible from the bottom for maintenance or service. See Table 1 for electric heater data and usage.

Clearance Requirements — All except 30 kW heater models are suitable for 0 in. clearance between heater enclosure plenum and duct to combustible materials. All 30 kW models (0300EA00, 0300CA00, 0300FA00) are suitable for one-in. clearance between heater enclosure plenum and the first 2 ft of duct to combustible materials.

ELECTRIC HEATER INSTALLATION

⚠ WARNING

Turn off power to unit.

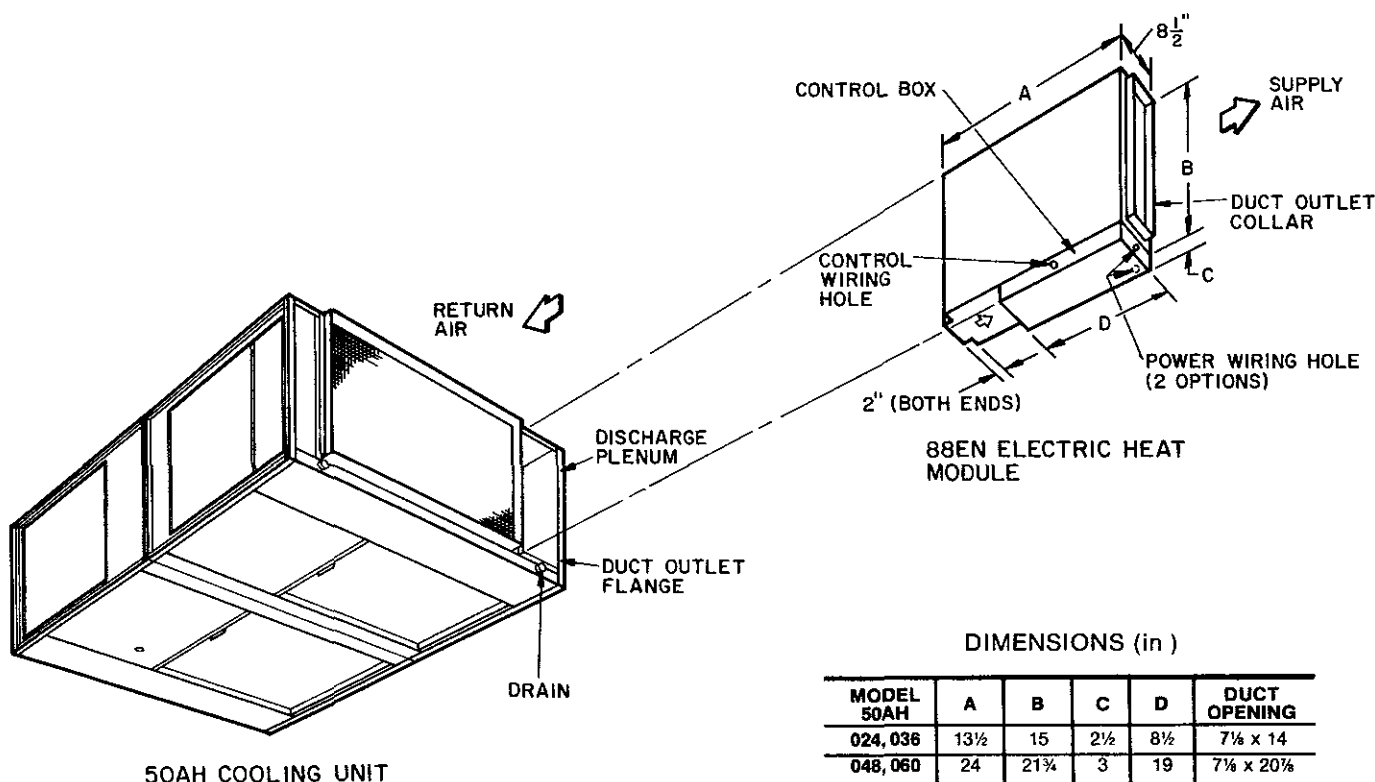


Fig. 1 — Accessory Electric Heater Installation

Table 1 — Electric Heater Data and Usage

ELECTRIC HEATER MODEL 88EN	USED WITH MODEL 50AH	VOLTS-PH (60 Hz)	CAP (kW)	BRANCH CIRCUIT		
				Heater Amps	MCA	MOCP (Amps)
0050CA00	024,036 1-Stage Heat	240-1	5.0	20.8	26.0	30
0075CA00		240-1	7.5	31.3	39.1	40
0115CA00		240-1	11.5	47.9	59.9	60
0075EA00		208-3	5.6	15.6	19.5	20
		240-3	7.5	18.0	22.6	25
1150EA00		208-3	11.3	31.2	39.0	40
		240-3	15.0	36.1	45.1	50
0100EA00	048,060 2-Stage Heat	208-3	7.5	20.8	26.0	30
		240-1*	10.0	41.7	52.1	60
		240-3	10.0	24.1	30.1	35
0150EA00		208-3	11.3	31.2	39.0	40
		240-1*	15.0	62.5	78.1	80
		240-3	15.0	36.1	45.1	50
0200EA00		208-3	15.0	41.7	52.1	60
		240-1*	20.0	83.3	104.2	110
		240-3	20.0	46.9	58.6	60
0300EA00		208-3	22.5	62.5	78.2	80
		240-3	30.0	72.2	90.2	100
0300CA00		240-1	30.0	124.0	155.0	175
0100FA00		480-3	10.0	12.0	15.0	15
0150FA00		480-3	15.0	18.1	22.6	25
0200FA00		480-3	20.0	24.1	30.1	35
0300FA00		480-3	30.0	36.1	45.1	50

MCA — Minimum Circuit Ampacity
MOCP — Maximum Overcurrent Circuit Protection
(Fuses or Circuit Breaker)

*May be field converted to single-phase units

NOTES

- 1 Separate power source is required for all heaters. Control from base unit 50AH (24 v)
- 2 Refer to appropriate accessory heater wiring diagrams in this publication



Step 1 — Install Accessory Heater — Refer to Fig. 1

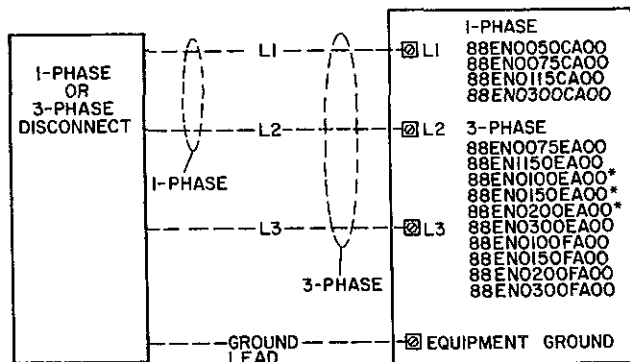
- 1 Position heater over discharge opening of Model 50AH cooling unit. Make sure airflow arrow faces away from unit.
- 2 Slip over outlet flange and use predrilled holes in heater outlet collar to drill 8 holes in unit outlet flange.
- 3 Secure with 8 field-supplied self-tapping screws.
- 4 If required, discharge duct may be secured to heater outlet collar using field-supplied screws through predrilled holes. Refer to base unit Installation, Start-Up and Service Instructions for duct installation details.

Step 2 — Install A Branch Circuit Disconnect

— Use a disconnect with overcurrent protection and of adequate size to handle unit heaters. See Table 1. Locate disconnect within sight from and readily accessible from base unit in accordance with NEC Section 440-14.

Step 3 — Bring Separate Power Leads Into Heater

— Route heater line power wiring from heater



— Field Wiring

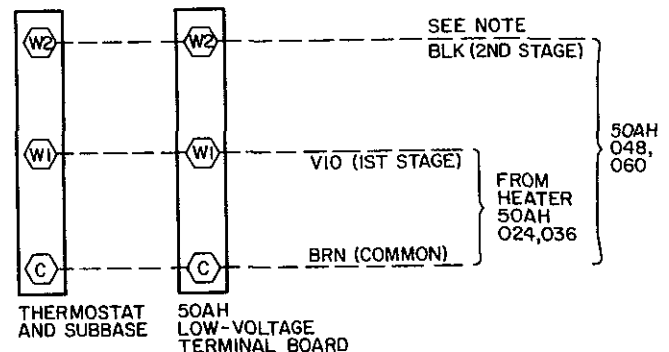
*May be field-converted to 1-phase

Fig. 2 — Line Power Connections

Table 2 — Thermostat Heat Anticipator Settings

HEATER MODEL NO 88EN	1ST STAGE	2ND STAGE
0050CA00	26	—
0075CA00	26	—
0115CA00	26	—
0075EA00	26	—
1150EA00	26	—
0100EA00	26	26
0150EA00	26	26
0200EA00	26	52
0300EA00	26	52
0300CA00	26	52
0100FA00	26	26
0150FA00	26	26
0200FA00	26	26
0300FA00	26	26

disconnect and connect to heater terminal block. Refer to Fig. 2 for line power connections.



Marked Terminal, Control Wiring Terminal Box

— Field Control Wiring

NOTE Wires are factory supplied and field connected

Fig. 3 — Control Wiring Connections

Step 4 — Connect Control Power Wiring (24 v) — Route heater control wiring from bottom of heater assembly to low-voltage terminal connections in 50AH unit control box See Fig 3

Step 5 — Connect Thermostat Leads — Refer to Fig 3 for connections to terminal board in control box

Step 6 — Adjust Thermostat for Electric Heat — Heat anticipator settings for room thermostat are provided in Table 2 These settings may be changed slightly to provide a greater degree of comfort on particular installations

SERVICE

Limit switch provides overtemperature protection
Switch malfunction prevents heating element from operating Replace switch if malfunction occurs

Table 3 — Electric Heater Static Pressure Drop (in wg)

MODEL 50AH	ELECTRIC HEATER MODEL 88EN	MIN* CFM	UNIT CFM								
			600	800	1000	1200	1400	1600	1800	2000	2200
024, 036 1-stage heat	0050CA00	400	.02	.04	.06	10	—	—	—	—	—
	0075CA00	510	03	06	10	16	—	—	—	—	—
	0115CA00	620	04	08	13	19	—	—	—	—	—
	0075EA00	320									
	1150EA00	720									
048, 060 2-stage heat	0100EA00	970	—	—	—	04	06	08	12	15	17
	0150EA00	1240	—	—	—	08	11	14	18	22	26
	0200EA00	1350									
	0300EA00	1220									
	0300CA00	1220	—	—	—	04	06	08	12	15	17
	0100FA00	1130									
	0150FA00	1360									
	0200FA00	1350	—	—	—	08	11	14	18	22	26
	0300FA00	1270									

*Minimum cfm required across heater

Electric Heater Wiring Diagrams (Fig. 4-14)

INDEX

HEATER MODEL NO. 88EN	WIRING DIAGRAM FIG. NO	HEATER MODEL NO. 88EN	WIRING DIAGRAM FIG NO
0050CA00	4	0200EA00	10
0075CA00	5	0300EA00	11
0115CA00	6	0300CA00	12
0075EA00	7	0100FA00	13
1150EA00		0150FA00	
0100EA00	8	0200FA00	14
0150EA00	9	0300FA00	

LEGEND (Fig 4-14)

Equip Gnd — Equipment Ground
HR — Heater Relay
HTR — Heater
LS — Limit Switch
LVTB — Low Voltage Terminal Board
TB — Terminal Block

Field Power Wiring
Field Control Wiring



Marked Terminal

Unmarked Terminal

NOTES

- 1 To be wired in accordance with NEC and local codes
- 2 If any of the original wires, as supplied must be replaced, use the same or equivalent
- 3 Wires factory supplied and field connected
- 4 Installer to mark "X" on 50AH base unit nameplate, for the heater Volt/Ph installed (Applies to Fig 8, 9 and 10 only)

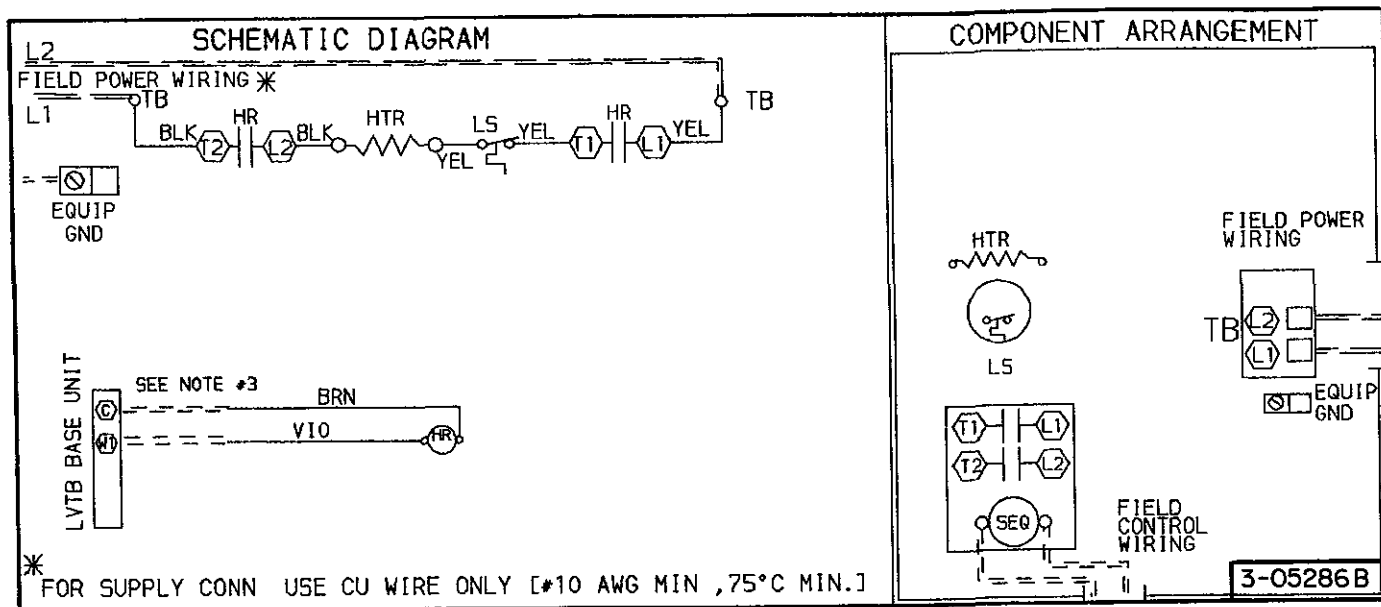


Fig. 4 — Model 88EN0050CA00

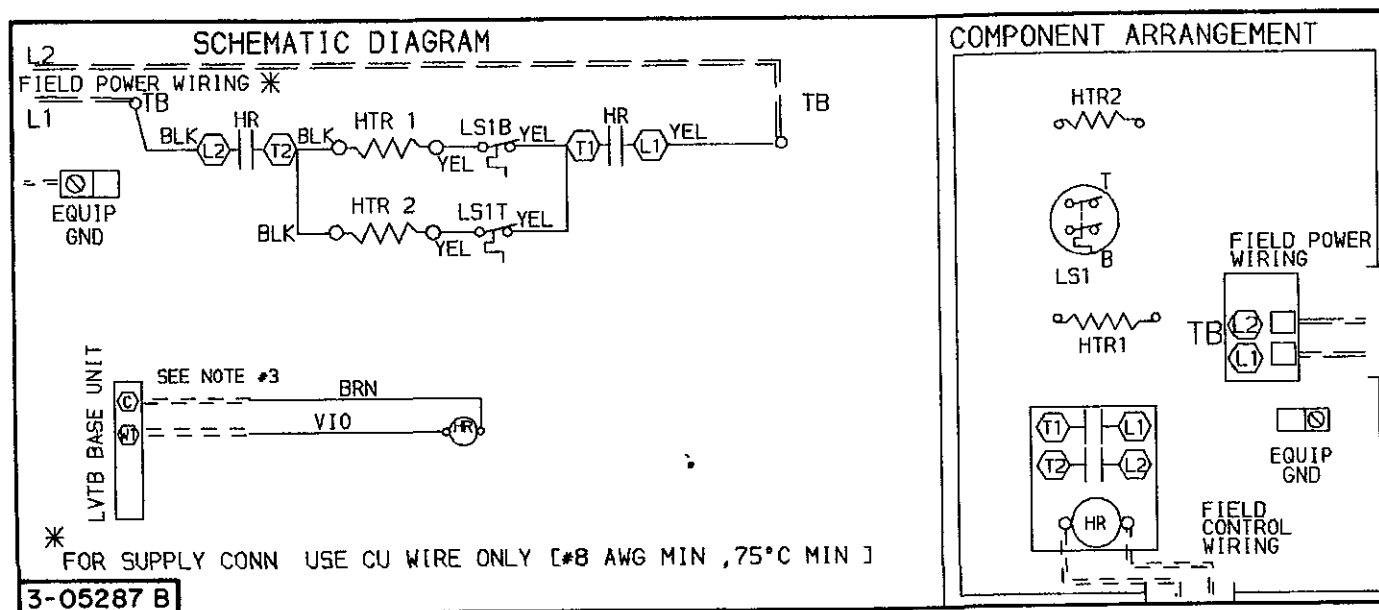


Fig 5 — Model 88EN0075CA00

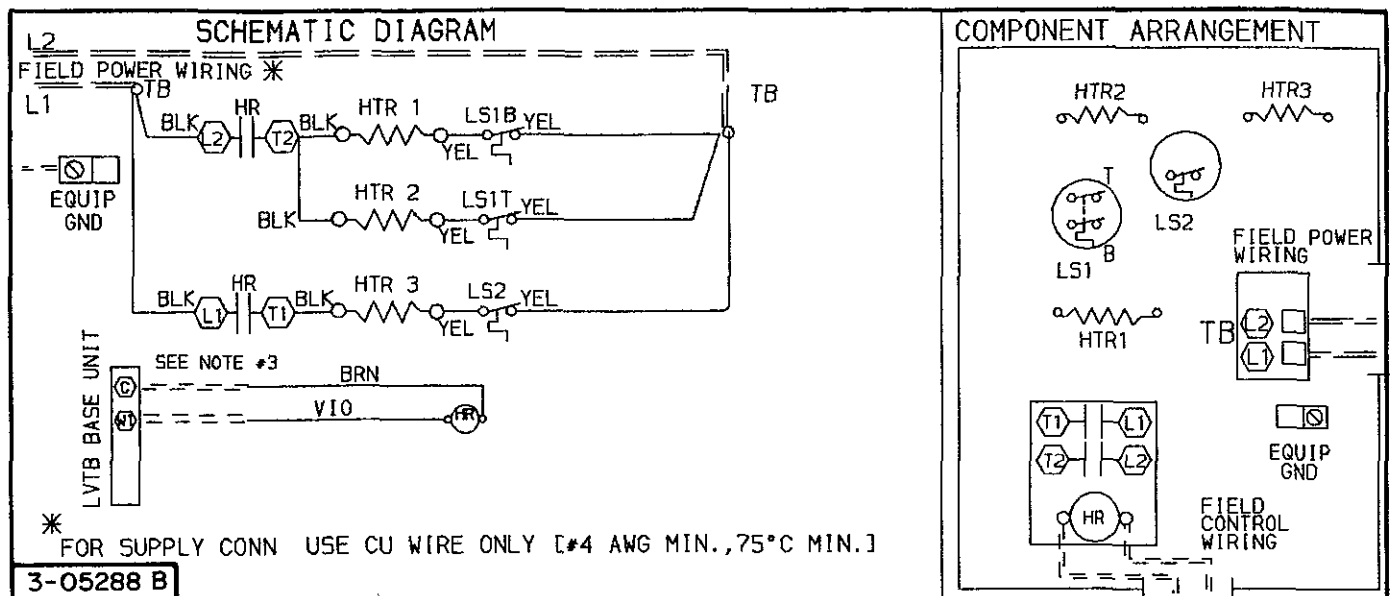


Fig 6 — Model 88EN0115CA00

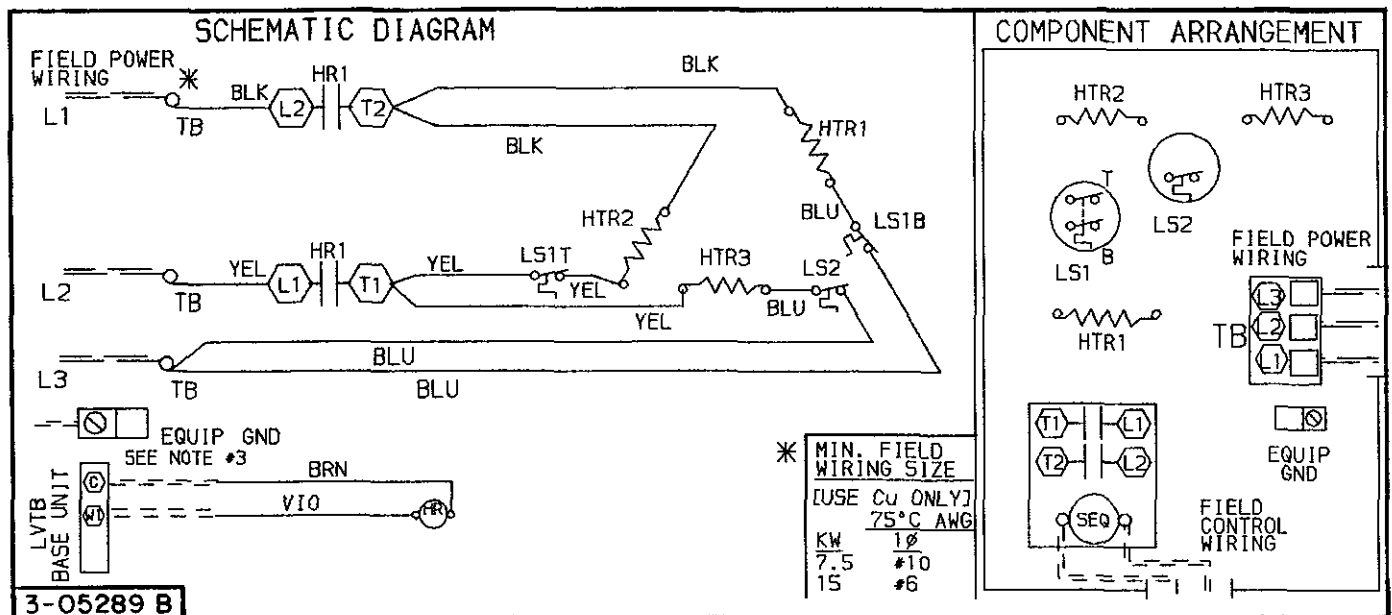


Fig. 7 — Models 88EN0075EA00; 88EN1150EA00

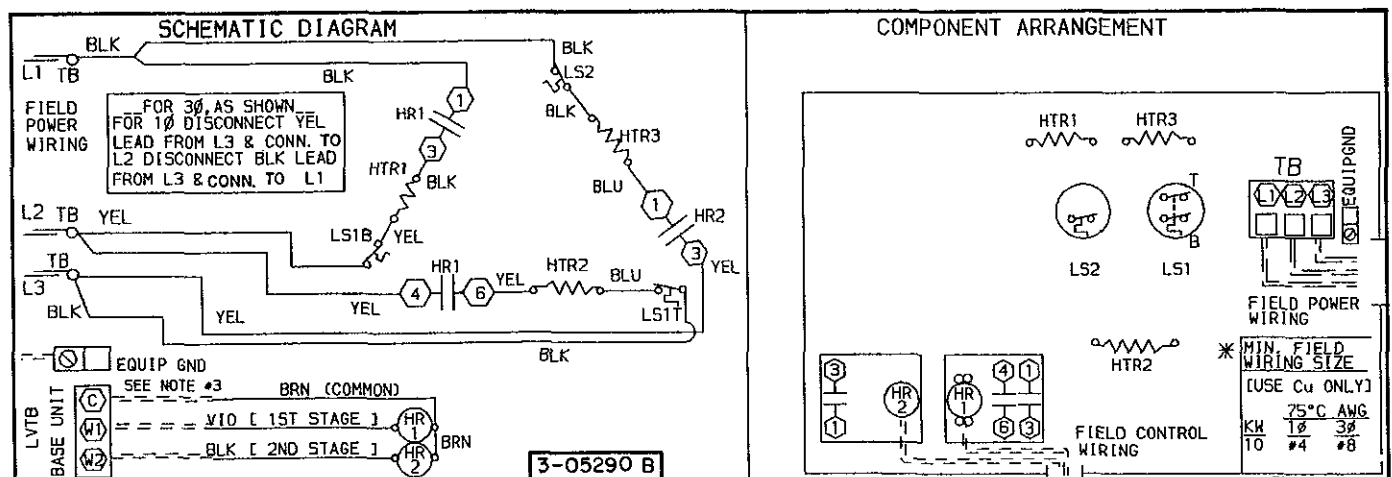
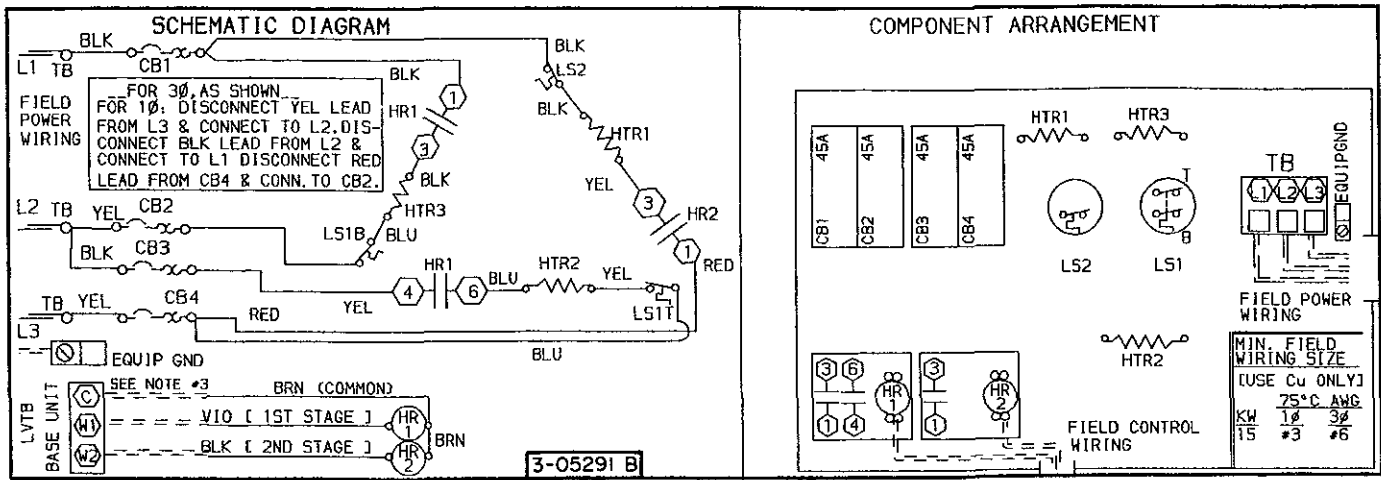


Fig. 8 — Model 88EN0100EA00



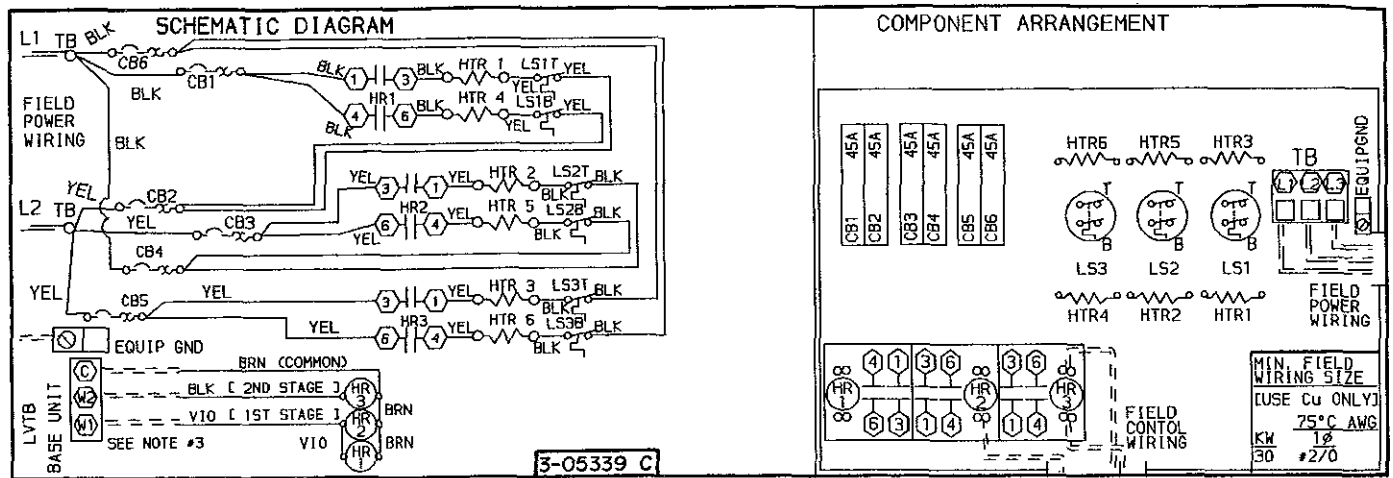


Fig. 12 — Model 88EN0300CA00

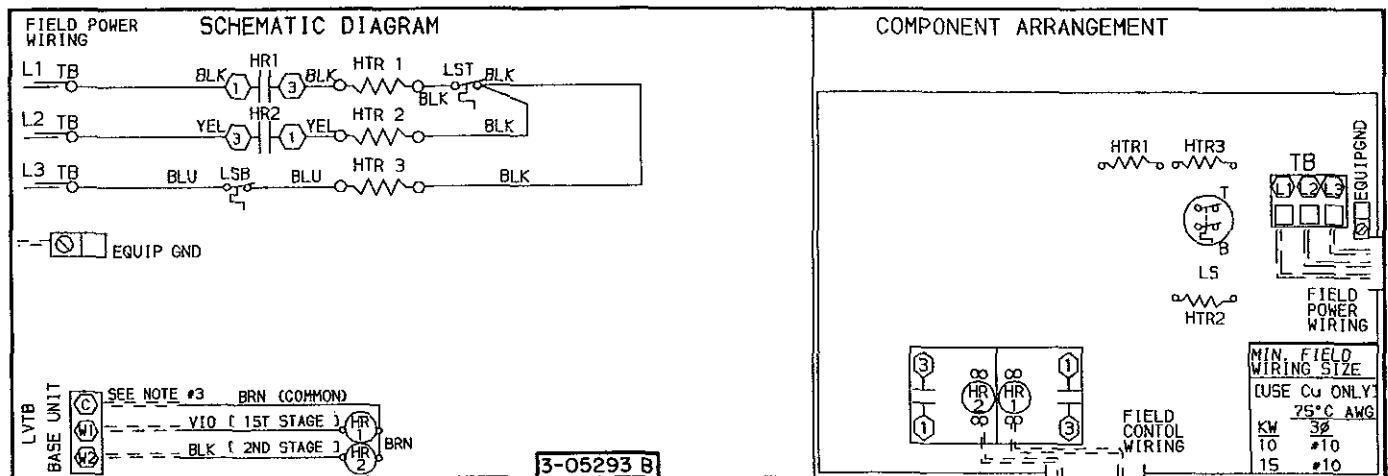


Fig. 13 — Models 88EN0100FA00; 88EN0150FA00

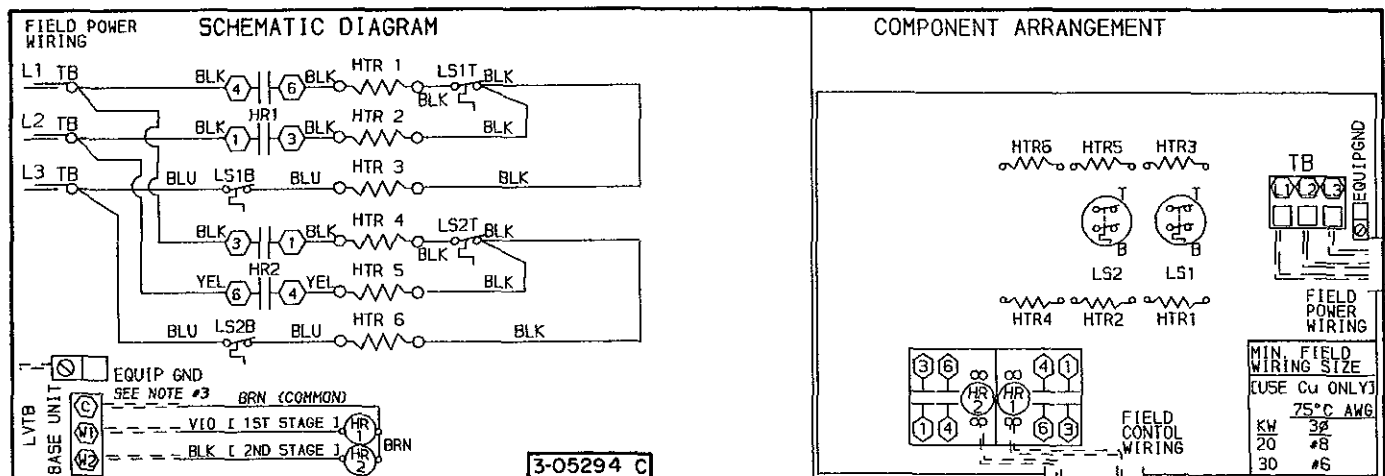


Fig. 14 — Models 88EN0200FA00; 88EN0300FA00

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