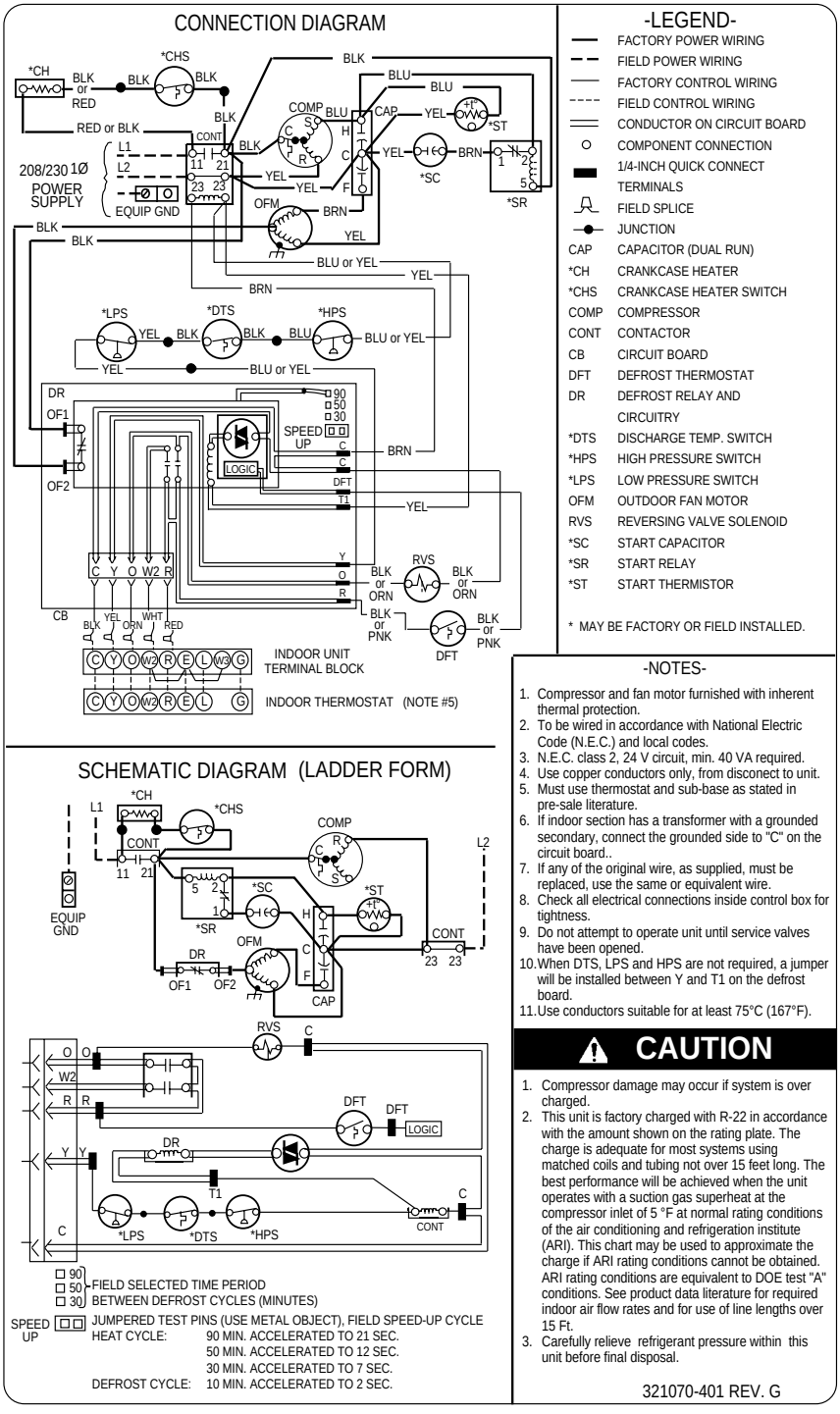
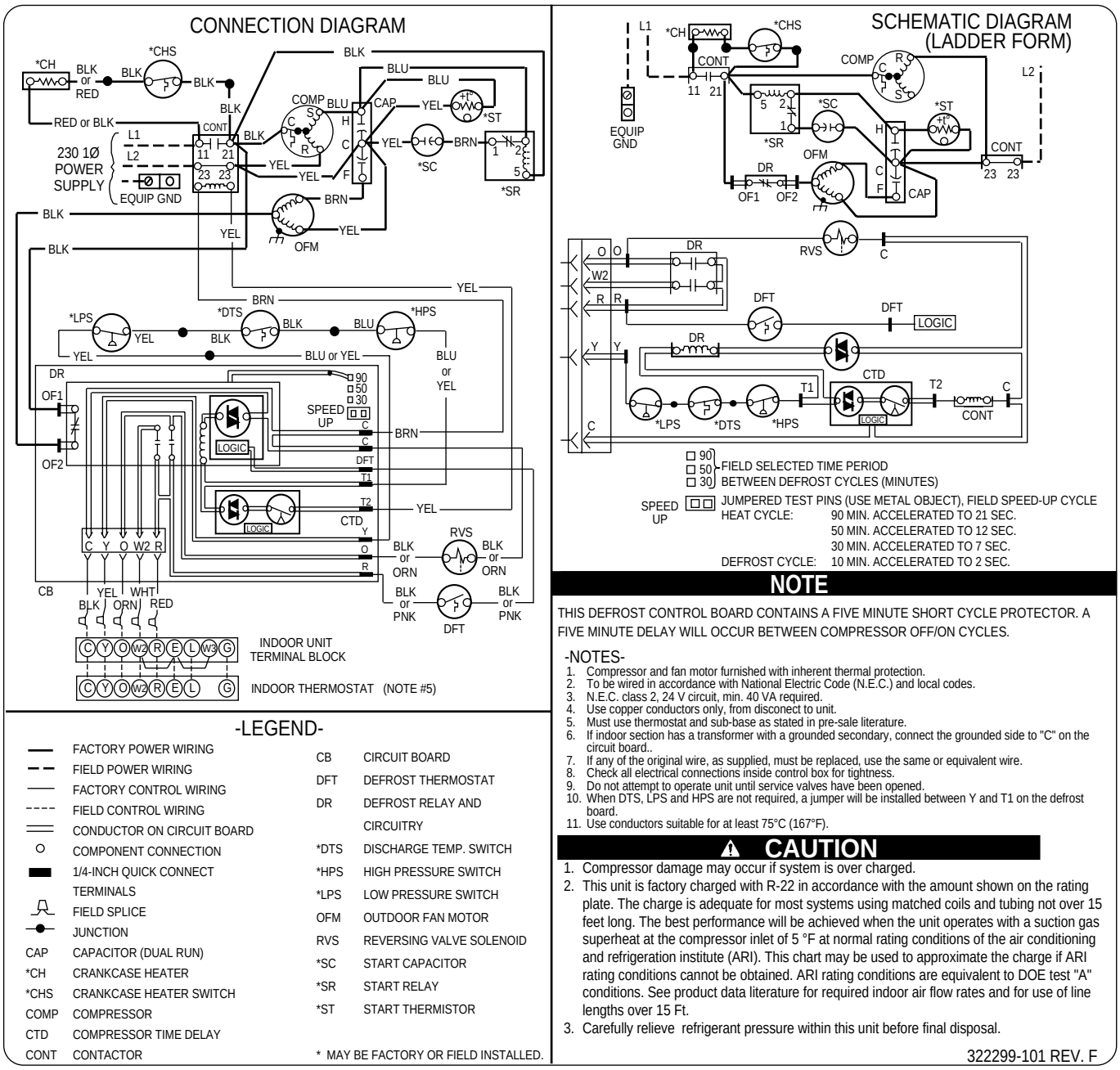
Wiring Diagrams



A97166

Fig. 1—38YC(C, G, S) 018 (30), 024 (30), 030 (30, 31), 036 (31, 32) 208-230v, 1 Phase, 60 Hertz



NOTE

THIS DEFROST CONTROL BOARD CONTAINS A FIVE MINUTE SHORT CYCLE PROTECTOR. A FIVE MINUTE DELAY WILL OCCUR BETWEEN COMPRESSOR OFF/ON CYCLES.

-NOTES-

1. Compressor and fan motor furnished with inherent thermal protection.
2. To be wired in accordance with National Electric Code (N.E.C.) and local codes.
3. N.E.C. class 2, 24 V circuit, min. 40 VA required.
4. Use copper conductors only, from disconect to unit.
5. Must use thermostat and sub-base as stated in pre-sale literature.
6. If indoor section has a transformer with a grounded secondary, connect the grounded side to "C" on the circuit board..
7. If any of the original wire, as supplied, must be replaced, use the same or equivalent wire.
8. Check all electrical connections inside control box for tightness.
9. Do not attempt to operate unit until service valves have been opened.
10. When DTS, LPS and HPS are not required, a jumper will be installed between Y and T1 on the defrost board.
11. Use conductors suitable for at least 75°C (167°F).

⚠ CAUTION

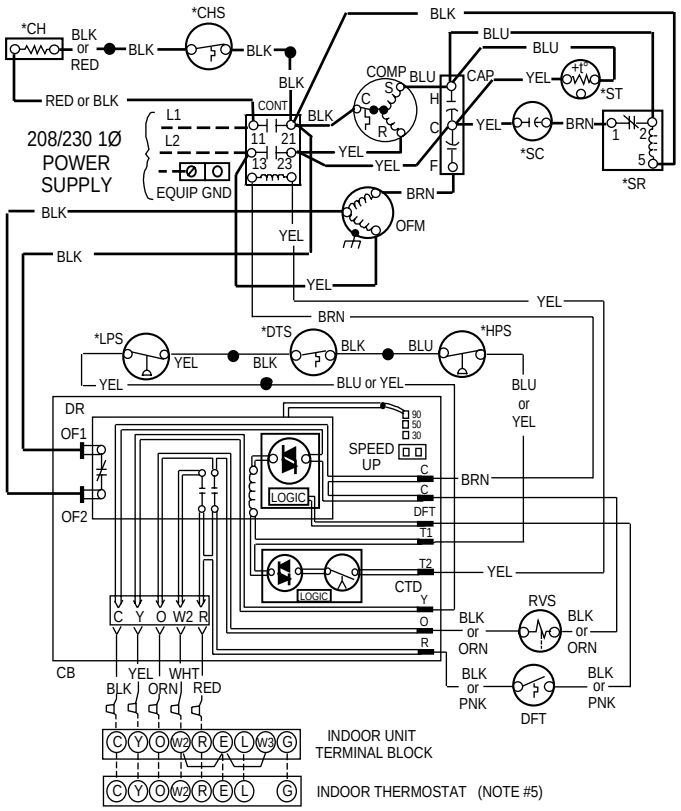
1. Compressor damage may occur if system is over charged.
2. This unit is factory charged with R-22 in accordance with the amount shown on the rating plate. The charge is adequate for most systems using matched coils and tubing not over 15 feet long. The best performance will be achieved when the unit operates with a suction gas superheat at the compressor inlet of 5 °F at normal rating conditions of the air conditioning and refrigeration institute (ARI). This chart may be used to approximate the charge if ARI rating conditions cannot be obtained. ARI rating conditions are equivalent to DOE test "A" conditions. See product data literature for required indoor air flow rates and for use of line lengths over 15 Ft.
3. Carefully relieve refrigerant pressure within this unit before final disposal.

322299-101 REV. F

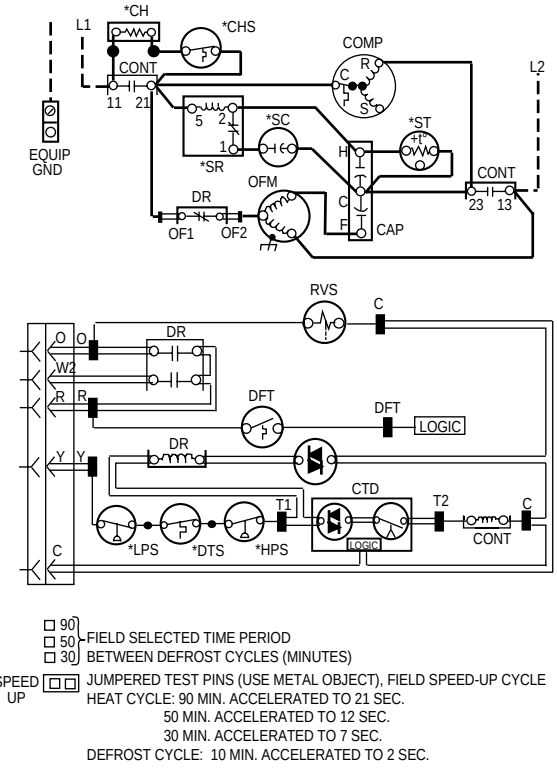
A97167

Fig. 2—38YC(C, G, S) 036 (30), 042 (30, 31, 32, 33), 048 (30, 31) and 38YCW018-048
208-230v, 1 Phase, 60 Hertz

CONNECTION DIAGRAM



SCHEMATIC DIAGRAM (LADDER FORM)



□ 90
□ 50
□ 30 } FIELD SELECTED TIME PERIOD BETWEEN DEFROST CYCLES (MINUTES)

SPEED UP □□ JUMPERED TEST PINS (USE METAL OBJECT), FIELD SPEED-UP CYCLE
HEAT CYCLE: 90 MIN. ACCELERATED TO 21 SEC.
50 MIN. ACCELERATED TO 12 SEC.
30 MIN. ACCELERATED TO 7 SEC.
DEFROST CYCLE: 10 MIN. ACCELERATED TO 2 SEC.

NOTE

THIS DEFROST CONTROL BOARD CONTAINS A FIVE MINUTE SHORT CYCLE PROTECTOR. A FIVE MINUTE DELAY WILL OCCUR BETWEEN COMPRESSOR OFF/ON CYCLES.

-NOTES-

1. Compressor and fan motor furnished with inherent thermal protection.
2. To be wired in accordance with National Electric Code (N.E.C.) and local codes.
3. N.E.C. class 2, 24 V circuit, min. 40 VA required.
4. Use copper conductors only, from disconect to unit.
5. Must use thermostat and sub-base as stated in pre-sale literature.
6. If indoor section has a transformer with a grounded secondary, connect the grounded side to "C" on the circuit board..
7. If any of the original wire, as supplied, must be replaced, use the same or equivalent wire.
8. Check all electrical connections inside control box for tightness.
9. Do not attempt to operate unit until service valves have been opened.
10. When DTS, LPS and HPS are not required, a jumper will be installed between Y and T1 on the defrost board.
11. Use conductors suitable for at least 75°C (167°F).

320849-401 REV. G

-LEGEND-

———	FACTORY POWER WIRING
– – –	FIELD POWER WIRING
———	FACTORY CONTROL WIRING
----	FIELD CONTROL WIRING
═══	CONDUCTOR ON CIRCUIT BOARD
○	COMPONENT CONNECTION
▬	1/4-INCH QUICK CONNECT TERMINALS
	FIELD SPLICE
—●—	JUNCTION
CAP	CAPACITOR (DUAL RUN)
*CH	CRANKCASE HEATER
*CHS	CRANKCASE HEATER SWITCH
COMP	COMPRESSOR
CTD	COMPRESSOR TIME DELAY
CONT	CONTACTOR
CB	CIRCUIT BOARD
DFT	DEFROST THERMOSTAT
DR	DEFROST RELAY AND CIRCUITRY
*DTS	DISCHARGE TEMP. SWITCH
*HPS	HIGH PRESSURE SWITCH
*LPS	LOW PRESSURE SWITCH
OFM	OUTDOOR FAN MOTOR
RVS	REVERSING VALVE SOLENOID
*SC	START CAPACITOR
*SR	START RELAY
*ST	START THERMISTOR

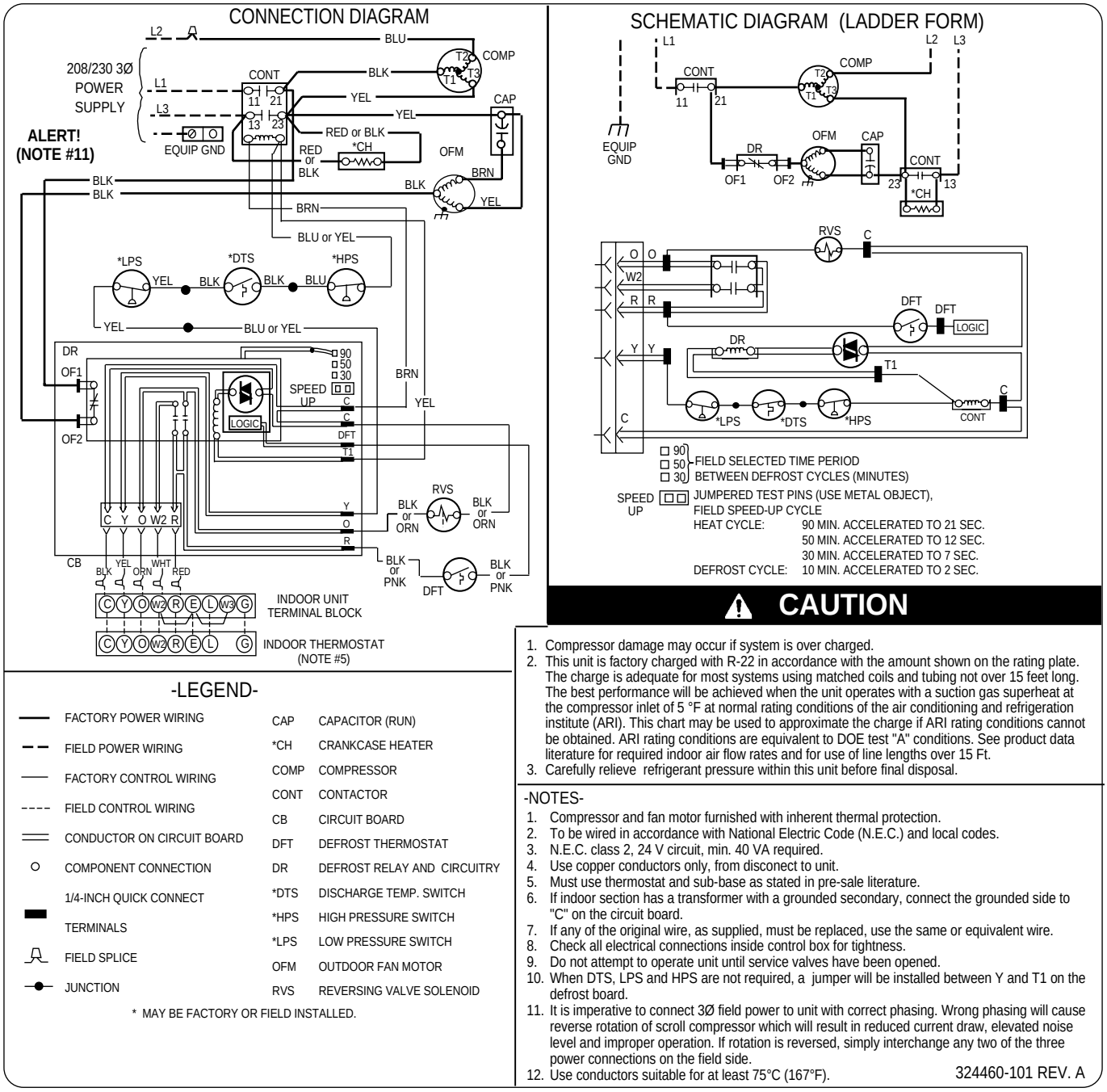
* MAY BE FACTORY OR FIELD INSTALLED.

⚠ CAUTION

1. Compressor damage may occur if system is over charged.
2. This unit is factory charged with R-22 in accordance with the amount shown on the rating plate. The charge is adequate for most systems using matched coils and tubing not over 15 feet long. The best performance will be achieved when the unit operates with a suction gas superheat at the compressor inlet of 5 °F at normal rating conditions of the air conditioning and refrigeration institute (ARI). This chart may be used to approximate the charge if ARI rating conditions cannot be obtained. ARI rating conditions are equivalent to DOE test "A" conditions. See product data literature for required indoor air flow rates and for use of line lengths over 15 Ft.
3. Carefully relieve refrigerant pressure within this unit before final disposal.

A97163

Fig. 3—38YC(C, G, S, W) 060 (30, 31) 208-230v, 1 Phase, 60 Hertz



-LEGEND-

FACTORY POWER WIRING		CAP	CAPACITOR (RUN)
FIELD POWER WIRING		*CH	CRANKCASE HEATER
FACTORY CONTROL WIRING		COMP	COMPRESSOR
FIELD CONTROL WIRING		CONT	CONTACTOR
CONDUCTOR ON CIRCUIT BOARD		CB	CIRCUIT BOARD
COMPONENT CONNECTION		DFT	DEFROST THERMOSTAT
1/4-INCH QUICK CONNECT		DR	DEFROST RELAY AND CIRCUITRY
TERMINALS		*DTS	DISCHARGE TEMP. SWITCH
FIELD SPLICE		*HPS	HIGH PRESSURE SWITCH
JUNCTION		*LPS	LOW PRESSURE SWITCH
		OFM	OUTDOOR FAN MOTOR
		RVS	REVERSING VALVE SOLENOID

* MAY BE FACTORY OR FIELD INSTALLED.

⚠ CAUTION

1. Compressor damage may occur if system is over charged.
2. This unit is factory charged with R-22 in accordance with the amount shown on the rating plate. The charge is adequate for most systems using matched coils and tubing not over 15 feet long. The best performance will be achieved when the unit operates with a suction gas superheat at the compressor inlet of 5 °F at normal rating conditions of the air conditioning and refrigeration institute (ARI). This chart may be used to approximate the charge if ARI rating conditions cannot be obtained. ARI rating conditions are equivalent to DOE test "A" conditions. See product data literature for required indoor air flow rates and for use of line lengths over 15 Ft.
3. Carefully relieve refrigerant pressure within this unit before final disposal.

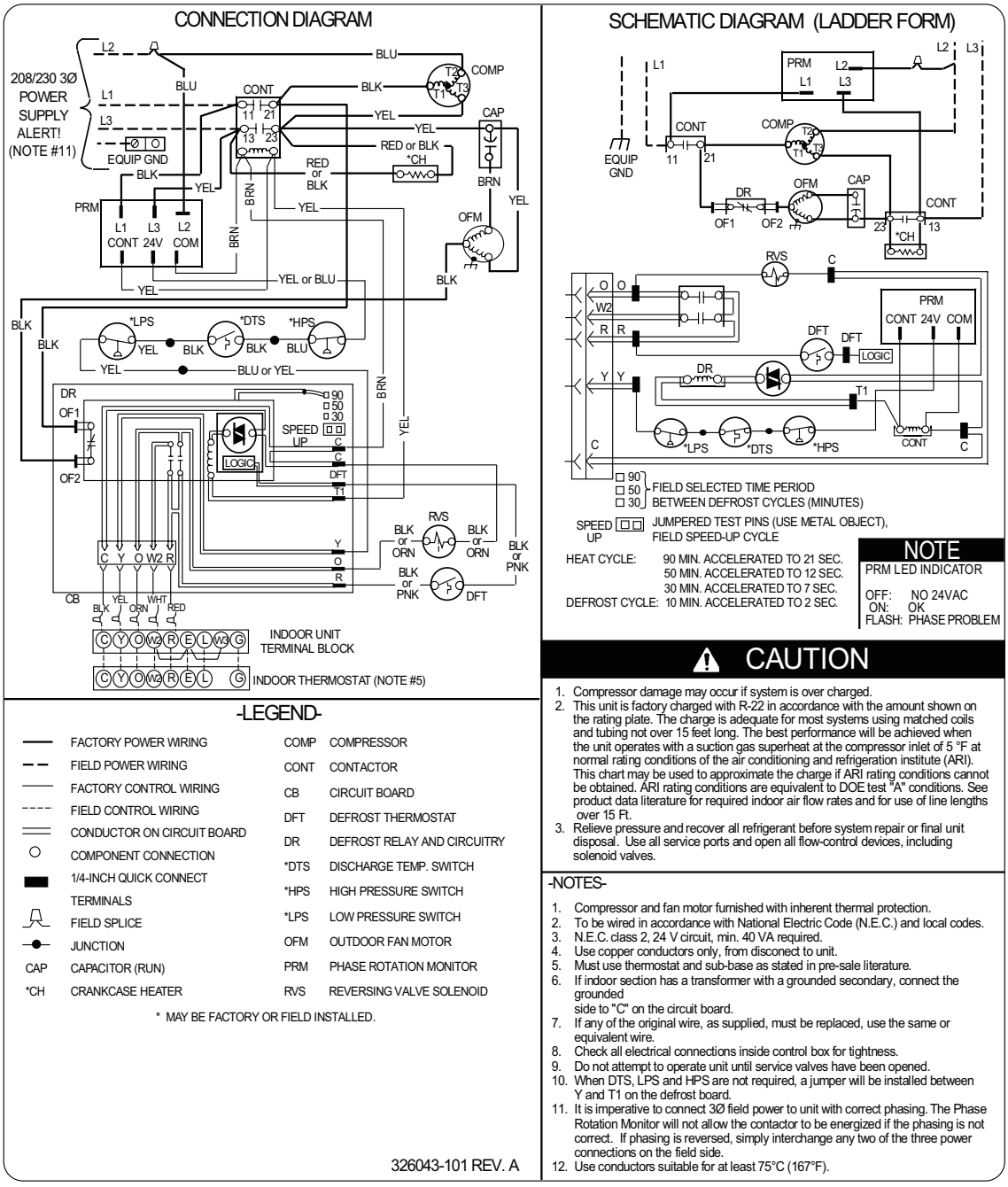
-NOTES-

1. Compressor and fan motor furnished with inherent thermal protection.
2. To be wired in accordance with National Electric Code (N.E.C.) and local codes.
3. N.E.C. class 2, 24 V circuit, min. 40 VA required.
4. Use copper conductors only, from disconect to unit.
5. Must use thermostat and sub-base as stated in pre-sale literature.
6. If indoor section has a transformer with a grounded secondary, connect the grounded side to "C" on the circuit board.
7. If any of the original wire, as supplied, must be replaced, use the same or equivalent wire.
8. Check all electrical connections inside control box for tightness.
9. Do not attempt to operate unit until service valves have been opened.
10. When DTS, LPS and HPS are not required, a jumper will be installed between Y and T1 on the defrost board.
11. It is imperative to connect 3Ø field power to unit with correct phasing. Wrong phasing will cause reverse rotation of scroll compressor which will result in reduced current draw, elevated noise level and improper operation. If rotation is reversed, simply interchange any two of the three power connections on the field side.
12. Use conductors suitable for at least 75°C (167°F).

324460-101 REV. A

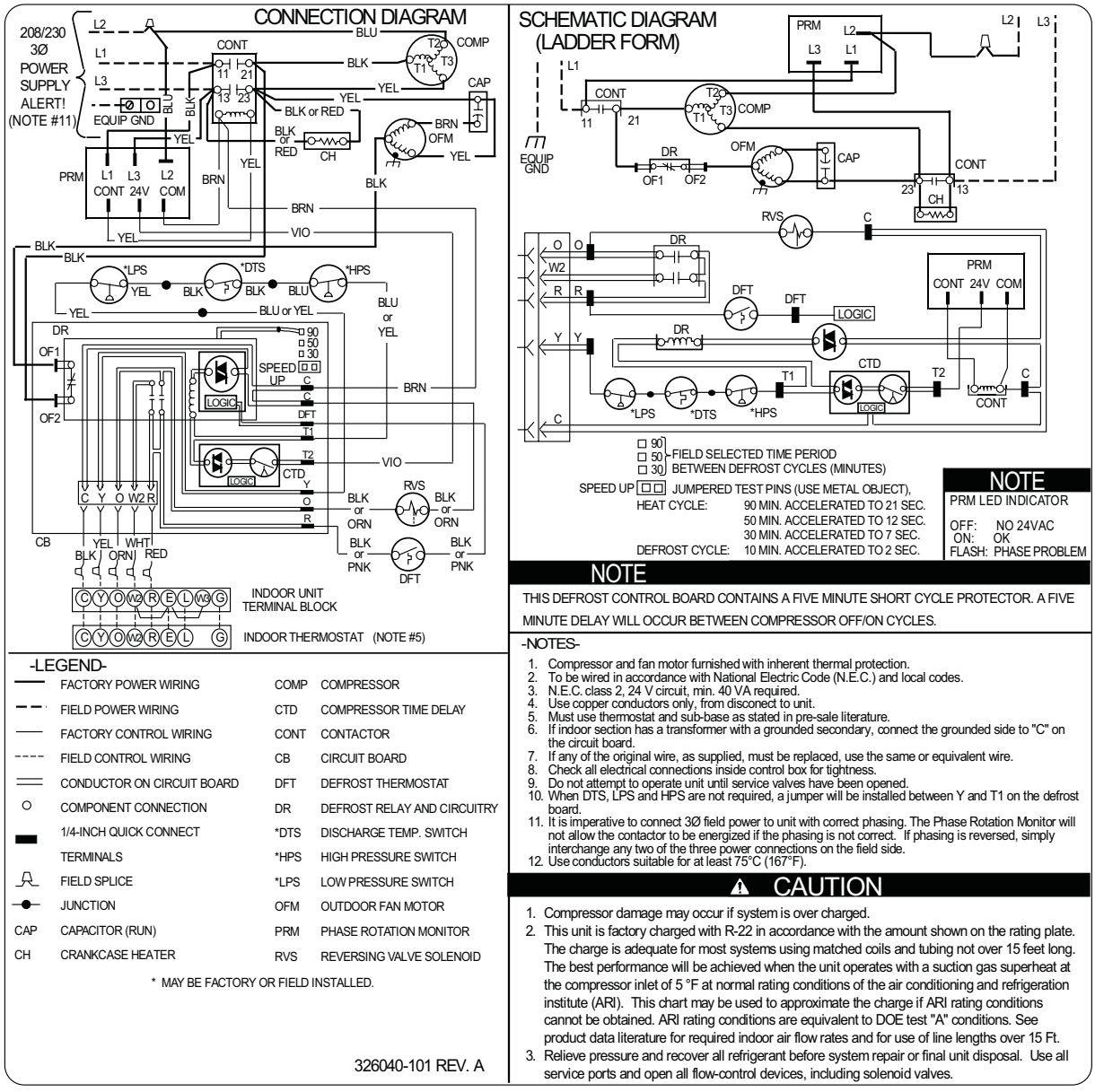
A97591

Fig. 4—38YC(C, W) 030 (50), 036 (50, 51, 52, 53), 042 (50, 51, 52, 53, 54), 048 (50, 51, 52), 060 (50, 51, 52) 208/230v, 3 Phase, 60 Hertz



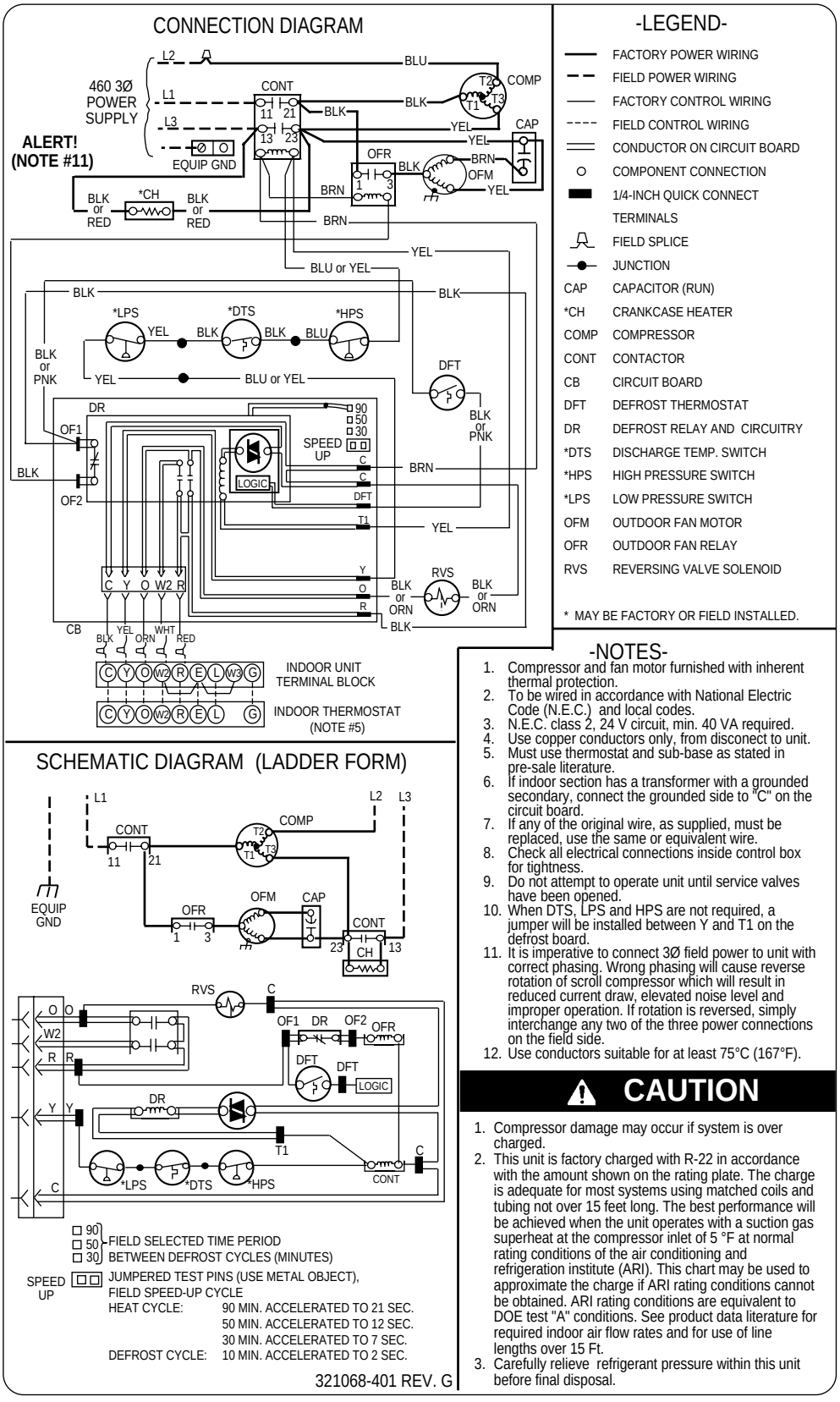
A00045

Fig. 5—38YCC 036 (54), 042 (55, 56), 048-060 (53, 54), and 38YCG 036 (53), 048-060 (53, 54) 208/230v, 3 Phase, 60 Hertz



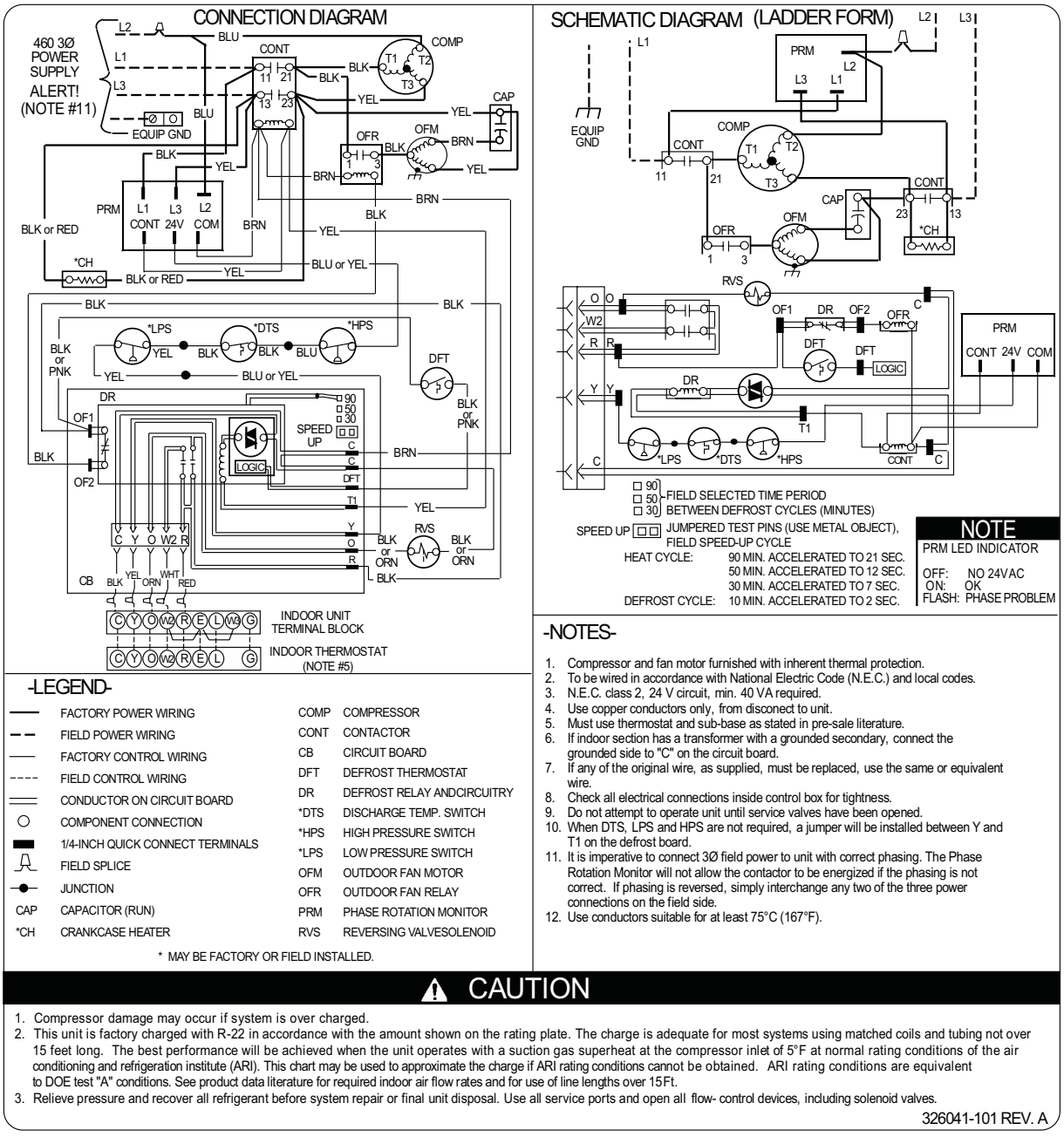
A00047

Fig. 6—38YCW 036 (54), 042 (55), 048-060 (53)
208/230v, 3 Phase, 60 Hertz



A97164

Fig. 7—38YCC 036 (60, 61, 62, 63), 042 (60, 61, 62, 63, 64), 048 (60, 61, 62), 060 (60, 61, 62) 460v, 3 Phase, 60 Hertz



-LEGEND-

——	FACTORY POWER WIRING	COMP	COMPRESSOR
– –	FIELD POWER WIRING	CONT	CONTACTOR
——	FACTORY CONTROL WIRING	CB	CIRCUIT BOARD
----	FIELD CONTROL WIRING	DFT	DEFROST THERMOSTAT
═══	CONDUCTOR ON CIRCUIT BOARD	DR	DEFROST RELAY ANDCIRCUITRY
○	COMPONENT CONNECTION	*DTS	DISCHARGE TEMP. SWITCH
▬	1/4-INCH QUICK CONNECT TERMINALS	*HPS	HIGH PRESSURE SWITCH
	FIELD SPLICE	*LPS	LOW PRESSURE SWITCH
—●—	JUNCTION	OFM	OUTDOOR FAN MOTOR
CAP	CAPACITOR (RUN)	OFR	OUTDOOR FAN RELAY
*CH	CRANKCASE HEATER	PRM	PHASE ROTATION MONITOR
		RVS	REVERSING VALVESOLENOID

* MAY BE FACTORY OR FIELD INSTALLED.

-NOTES-

1. Compressor and fan motor furnished with inherent thermal protection.
2. To be wired in accordance with National Electric Code (N.E.C.) and local codes.
3. N.E.C. class 2, 24 V circuit, min. 40 VA required.
4. Use copper conductors only, from disconect to unit.
5. Must use thermostat and sub-base as stated in pre-sale literature.
6. If indoor section has a transformer with a grounded secondary, connect the grounded side to "C" on the circuit board.
7. If any of the original wire, as supplied, must be replaced, use the same or equivalent wire.
8. Check all electrical connections inside control box for tightness.
9. Do not attempt to operate unit until service valves have been opened.
10. When DTS, LPS and HPS are not required, a jumper will be installed between Y and T1 on the defrost board.
11. It is imperative to connect 3Ø field power to unit with correct phasing. The Phase Rotation Monitor will not allow the contactor to be energized if the phasing is not correct. If phasing is reversed, simply interchange any two of the three power connections on the field side.
12. Use conductors suitable for at least 75°C (167°F).

⚠ CAUTION

1. Compressor damage may occur if system is over charged.
2. This unit is factory charged with R-22 in accordance with the amount shown on the rating plate. The charge is adequate for most systems using matched coils and tubing not over 15 feet long. The best performance will be achieved when the unit operates with a suction gas superheat at the compressor inlet of 5°F at normal rating conditions of the air conditioning and refrigeration institute (ARI). This chart may be used to approximate the charge if ARI rating conditions cannot be obtained. ARI rating conditions are equivalent to DOE test "A" conditions. See product data literature for required indoor air flow rates and for use of line lengths over 15Ft.
3. Relieve pressure and recover all refrigerant before system repair or final unit disposal. Use all service ports and open all flow- control devices, including solenoid valves.

326041-101 REV. A

A00046

Fig. 8—38YCC 036 (64), 042 (65, 66) 048-060 (63, 64) and 38YCG 036 (63), 048-060 (63, 64) 460v, 3 Phase, 60 Hertz

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