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Dallas, Texas, USA



CB29M
Upflow Position
(With Optional Electric Heat)

CB29M & CB30M Series Units

The Lennox Elite 10™ CB29M and Elite 12™ CB30M series blower coil units are designed for installation with optional field-installed electric heat and a matched remote outdoor unit. These units are for indoor installation only. The CB29M and CB30M units are designed for multi-positional installations and are shipped (completely assembled) from the factory for upflow and horizontal right-hand discharge.

General

These instructions are intended as a general guide and do not supersede local codes in any way. Consult authorities having jurisdiction before installation.

Check equipment for shipping damage. If you find any damage, immediately contact the last carrier.

Shipping and Packing List

CB29M and CB30M Series

Package 1 of 1 contains

- 1 - Assembled blower coil unit
- 2 - Drip shields – shipped on foam pads on top of unit (for downflow application only - not provided on -21/26 units)
- 1 - Heat shield
- 1 - Liquid line street elbow
- 1 - Suction line street elbow
- 2 - Reducer washers (2 inch to 1 inch T.S.)
- 2 - Reducer washers (2 inch to 3/4 inch T.S.)
- 1 - 5 inch PVC threaded 3/4 inch pipe section

06/01



INSTALLATION INSTRUCTIONS

Elite10™ CB29M & Elite12™ CB30M Series Units

MULTI-POSITION BLOWER COIL UNITS
504,091M
6/2001
Supersedes 8/99

TP Technical
Publications
Litho U.S.A.

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**RETAIN THESE INSTRUCTIONS
FOR FUTURE REFERENCE**

⚠ IMPORTANT

The Clean Air Act of 1990 bans the intentional venting of refrigerant (CFC's and HCFC's) as of July 1, 1992. Approved methods of recovery, recycling or reclaiming must be followed. Fines and/or incarceration may be levied for non-compliance.

⚠ WARNING

Product contains fiberglass wool.

Disturbing the insulation in this product during installation, maintenance, or repair will expose you to fiberglass wool. Breathing this may cause lung cancer. (Fiberglass wool is known to the State of California to cause cancer.)

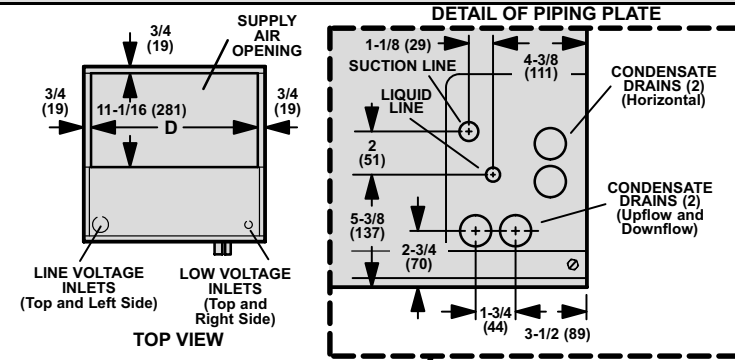
Fiberglass wool may also cause respiratory, skin, and eye irritation. To reduce exposure to this substance or for further information, consult material safety data sheets available from address shown below, or contact your supervisor.

Lennox Industries Inc.
P.O. Box 799900
Dallas, TX 75379-9900

504,091M

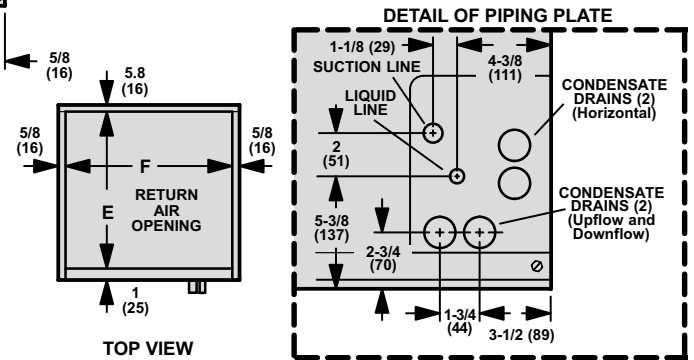
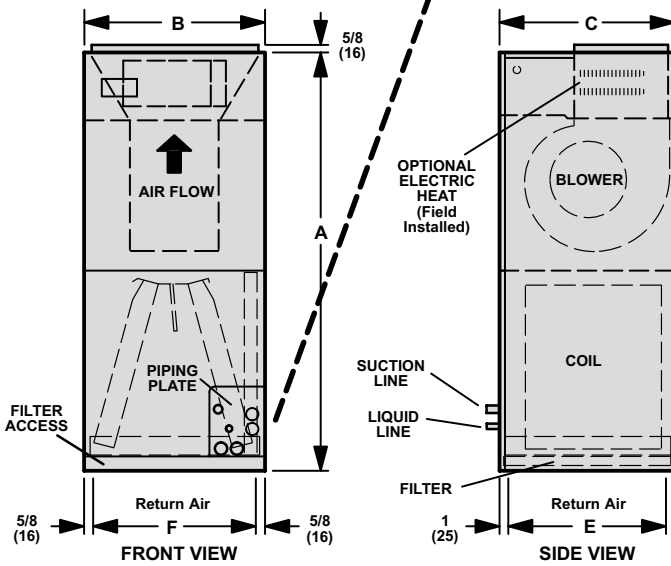


CB29M Upflow and Downflow Unit Dimensions - inches (mm)



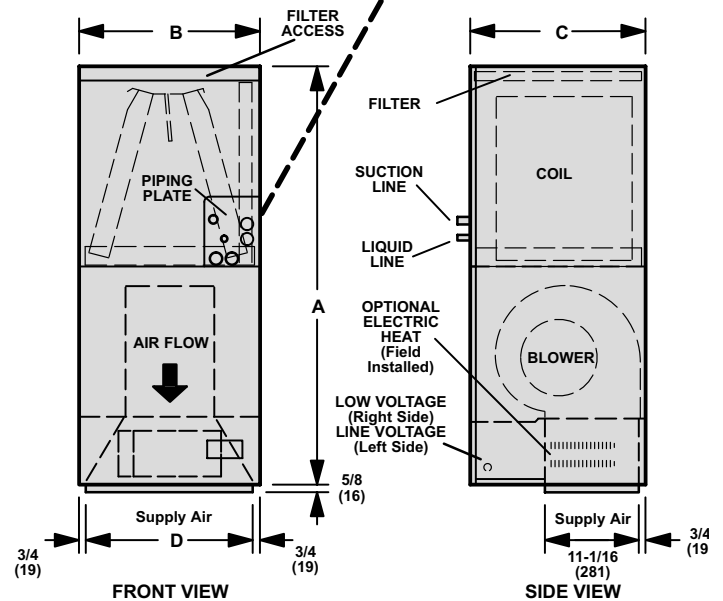
CB29M UPFLOW POSITION

| Model No. | CB29M-21/26 CB29M-31 | | CB29M-41 CB29M-46 | | CB29M-51 CB29M-65 | |
|-----------|-------------------------|------|----------------------|------|----------------------|------|
| | inch | mm | inch | mm | inch | mm |
| A | 45-1/4 | 1149 | 49-1/4 | 1251 | 52-1/2 | 1334 |
| B | 16-1/4 | 413 | 21-1/4 | 540 | 21-1/4 | 540 |
| C | 20-5/8 | 524 | 20-5/8 | 524 | 22-5/8 | 575 |
| D | 14-3/4 | 375 | 19-3/4 | 502 | 19-3/4 | 502 |
| E | 19 | 483 | 19 | 483 | 21 | 533 |
| F | 15 | 351 | 20 | 508 | 20 | 508 |

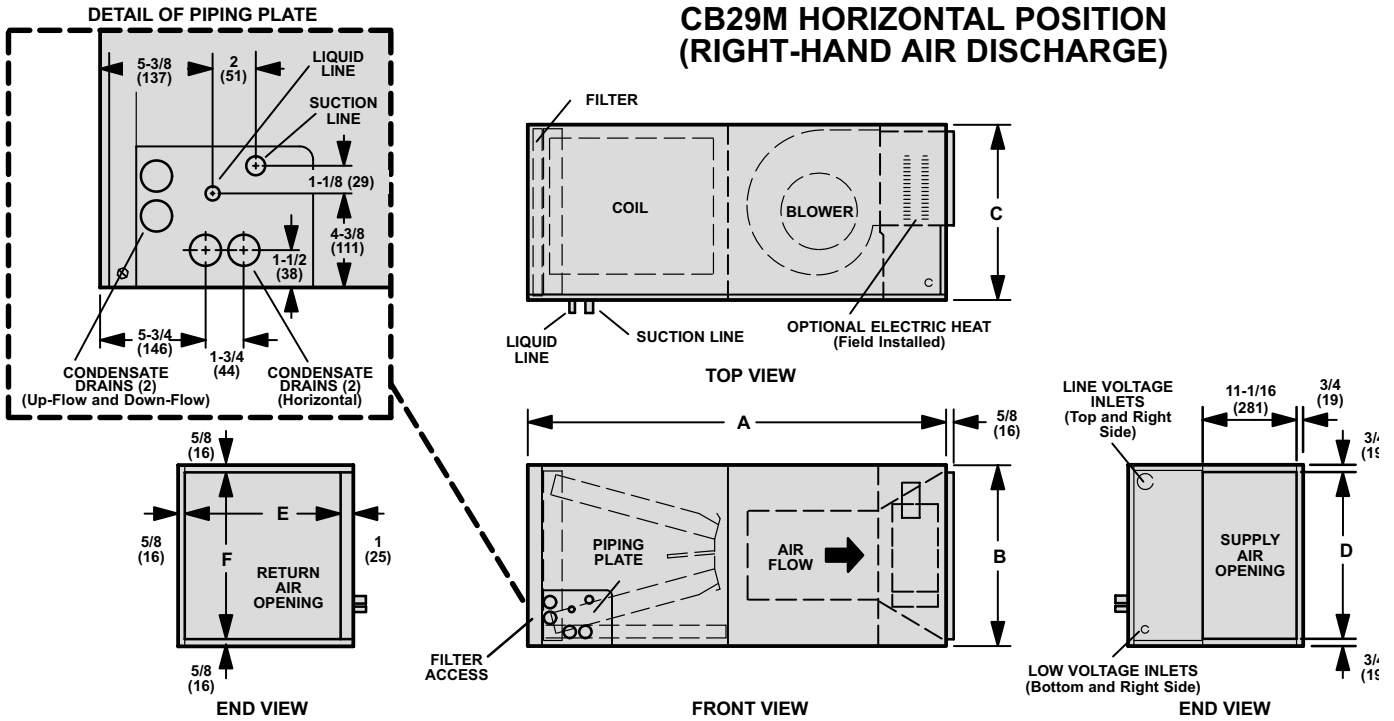


CB29M DOWNFLOW POSITION

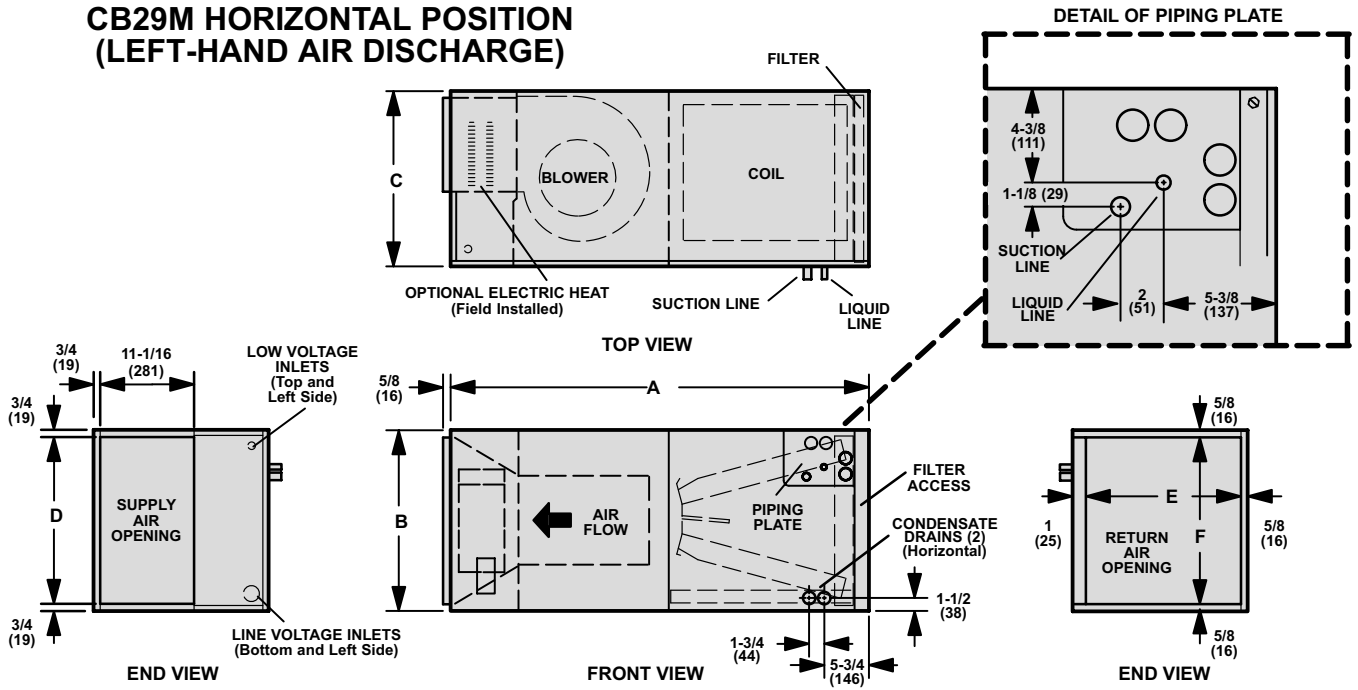
| Model No. | CB29M-21/26 CB29M-31 | | CB29M-41 CB29M-46 | | CB29M-51 CB29M-65 | |
|-----------|-------------------------|------|----------------------|------|----------------------|------|
| | inch | mm | inch | mm | inch | mm |
| A | 45-1/4 | 1149 | 49-1/4 | 1251 | 52-1/2 | 1334 |
| B | 16-1/4 | 413 | 21-1/4 | 540 | 21-1/4 | 540 |
| C | 20-5/8 | 524 | 20-5/8 | 524 | 22-5/8 | 575 |
| D | 14-3/4 | 375 | 19-3/4 | 502 | 19-3/4 | 502 |
| E | 19 | 483 | 19 | 483 | 21 | 533 |
| F | 15 | 351 | 20 | 508 | 20 | 508 |



CB29M Horizontal Left- and Right-Hand Unit Dimensions - inches (mm)

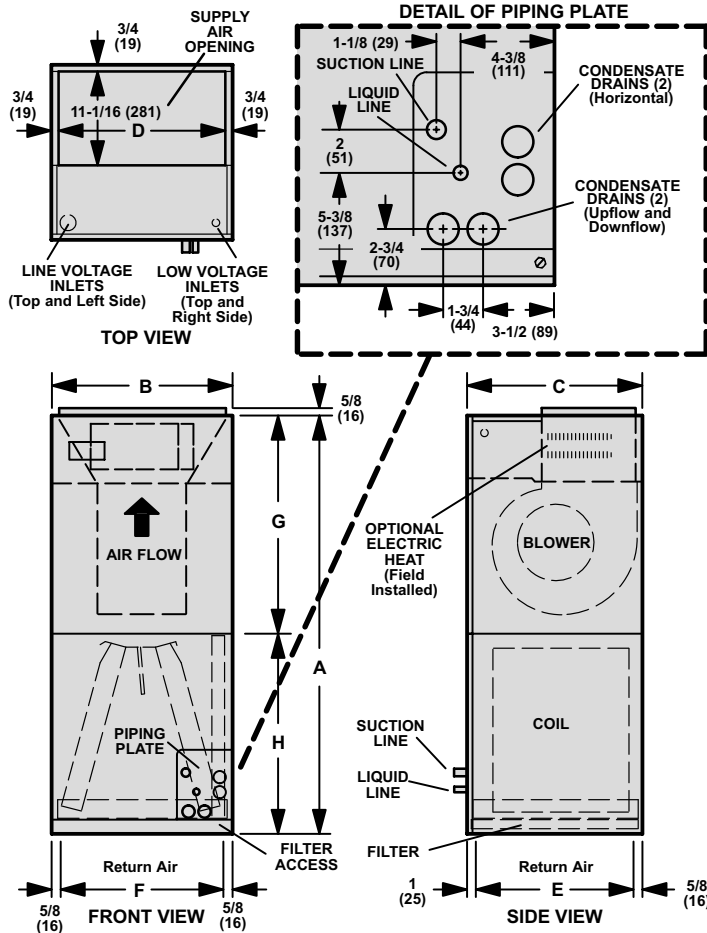


CB29M HORIZONTAL POSITION (LEFT-HAND AIR DISCHARGE)



| Model No. | A | | B | | C | | D | | E | | F | |
|-------------------------|--------|------|--------|-----|--------|-----|--------|-----|------|-----|------|-----|
| | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| CB29M-21/26 CB29M-31 | 45-1/4 | 1149 | 16-1/4 | 413 | 20-5/8 | 524 | 14-3/4 | 375 | 19 | 483 | 15 | 351 |
| CB29M-41 CB29M-46 | 49-1/4 | 1251 | 21-1/4 | 540 | 20-5/8 | 524 | 19-3/4 | 502 | 19 | 483 | 20 | 508 |
| CB29M-51 CB29M-65 | 52-1/2 | 1334 | 21-1/4 | 540 | 22-5/8 | 575 | 19-3/4 | 502 | 21 | 533 | 20 | 508 |

CB30M Upflow and Downflow Unit Dimensions - inches (mm)

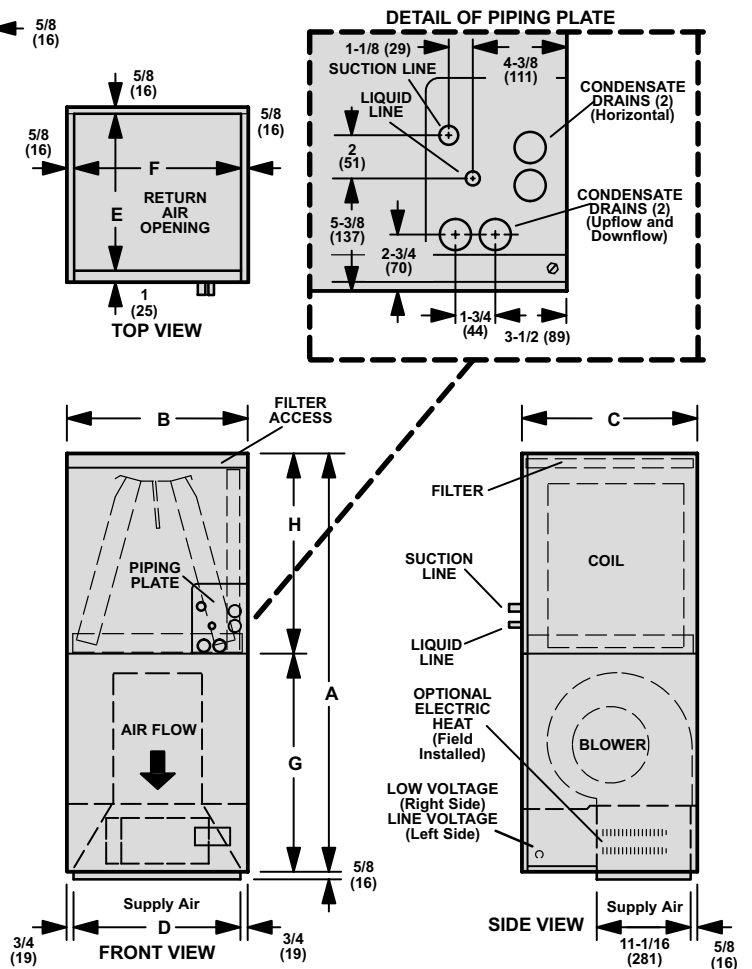


CB30M UPFLOW POSITION

| Model No. | CB30M-21/26 | | CB30M-31 | | CB30M-41 | | CB30M-46 | | CB30M-51 CB30M-65 | |
|-----------|-------------|------|----------|------|----------|------|----------|------|----------------------|------|
| | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| A | 45-1/4 | 1149 | 49-1/4 | 1251 | 51 | 1295 | 52-1/2 | 1334 | 58-1/2 | 1486 |
| B | 16-1/4 | 413 | 21-1/4 | 540 | 21-1/4 | 540 | 21-1/4 | 540 | 21-1/4 | 540 |
| C | 20-5/8 | 524 | 20-5/8 | 524 | 22-5/8 | 575 | 22-5/8 | 575 | 24-5/8 | 625 |
| D | 14-3/4 | 375 | 19-3/4 | 502 | 19-3/4 | 502 | 19-3/4 | 502 | 19-3/4 | 502 |
| E | 19 | 483 | 19 | 483 | 21 | 533 | 21 | 533 | 23 | 584 |
| F | 15 | 351 | 20 | 508 | 20 | 508 | 20 | 508 | 20 | 508 |
| G | 24-5/8 | 625 | 24-5/8 | 625 | 26-3/8 | 670 | 27-7/8 | 708 | 27-7/8 | 708 |
| H | 20-5/8 | 524 | 24-5/8 | 625 | 24-5/8 | 625 | 24-5/8 | 625 | 30-5/8 | 778 |

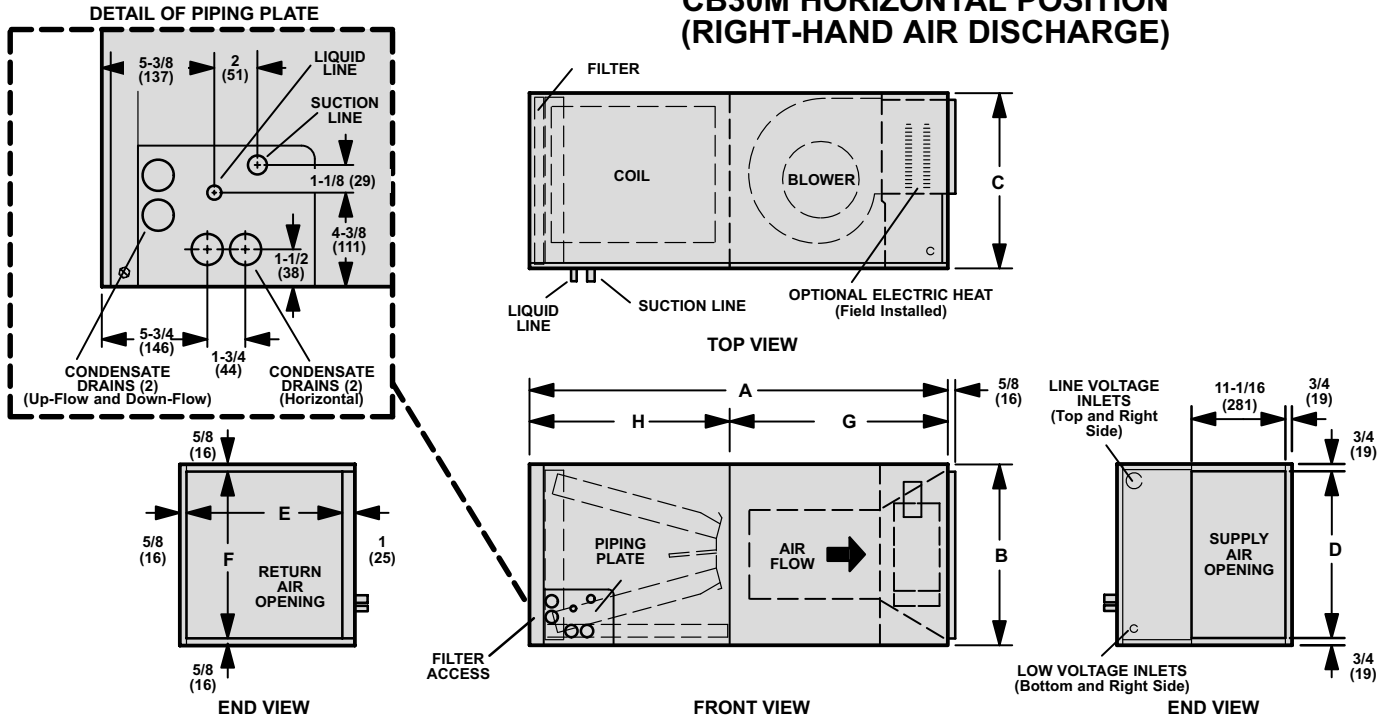
CB30M DOWNFLOW POSITION

| Model No. | CB30M-21/26 | | CB30M-31 | | CB30M-41 | | CB30M-46 | | CB30M-51 CB30M-65 | |
|-----------|-------------|------|----------|------|----------|------|----------|------|----------------------|------|
| | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| A | 45-1/4 | 1149 | 49-1/4 | 1251 | 51 | 1295 | 52-1/2 | 1334 | 58-1/2 | 1486 |
| B | 16-1/4 | 413 | 21-1/4 | 540 | 21-1/4 | 540 | 21-1/4 | 540 | 21-1/4 | 540 |
| C | 20-5/8 | 524 | 20-5/8 | 524 | 22-5/8 | 575 | 22-5/8 | 575 | 24-5/8 | 625 |
| D | 14-3/4 | 375 | 19-3/4 | 502 | 19-3/4 | 502 | 19-3/4 | 502 | 19-3/4 | 502 |
| E | 19 | 483 | 19 | 483 | 21 | 533 | 21 | 533 | 23 | 584 |
| F | 15 | 351 | 20 | 508 | 20 | 508 | 20 | 508 | 20 | 508 |
| G | 24-5/8 | 625 | 24-5/8 | 625 | 26-3/8 | 670 | 27-7/8 | 708 | 27-7/8 | 708 |
| H | 20-5/8 | 524 | 24-5/8 | 625 | 24-5/8 | 625 | 24-5/8 | 625 | 30-5/8 | 778 |

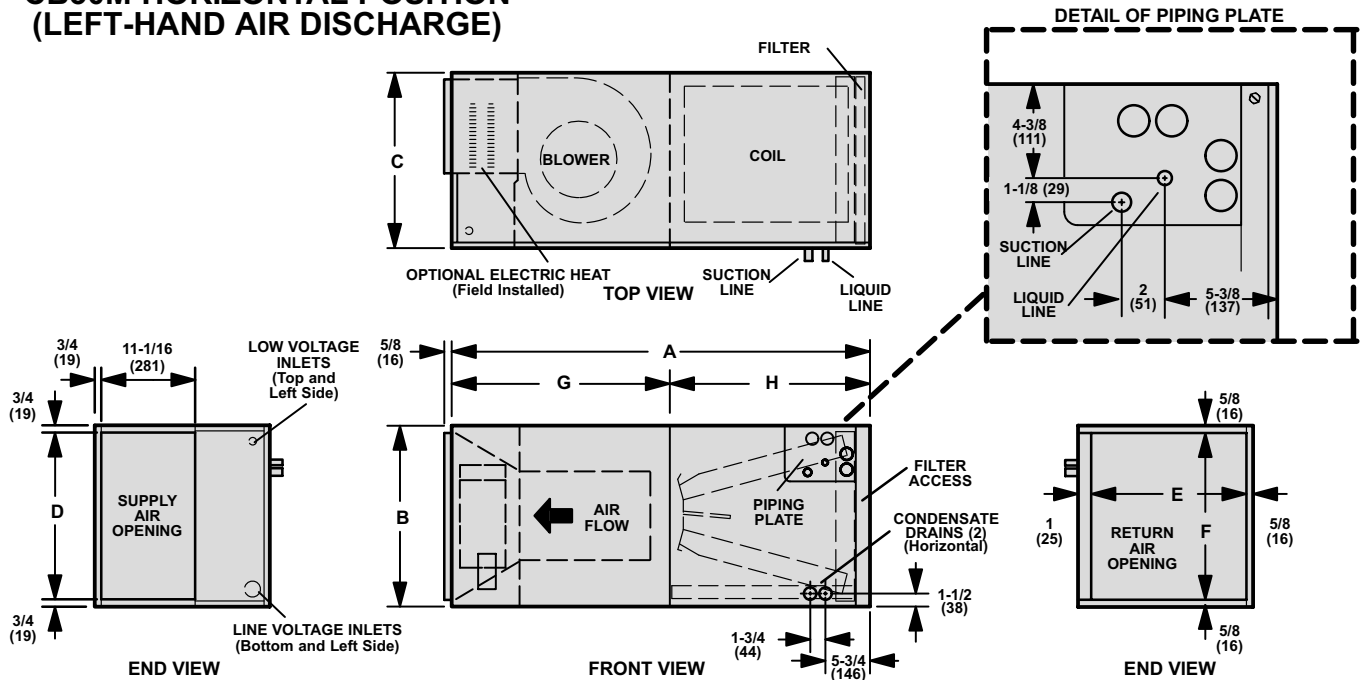


CB30M Horizontal Left- and Right-Hand Unit Dimensions - inches (mm)

**CB30M HORIZONTAL POSITION
(RIGHT-HAND AIR DISCHARGE)**



**CB30M HORIZONTAL POSITION
(LEFT-HAND AIR DISCHARGE)**



| Model No. | A | | B | | C | | D | | E | | F | | G | | H | |
|-------------|--------|------|--------|-----|--------|-----|--------|-----|------|-----|------|-----|--------|-----|--------|-----|
| | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm |
| CB30M-21/26 | 45-1/4 | 1149 | 16-1/4 | 413 | 20-5/8 | 524 | 14-3/4 | 375 | 19 | 483 | 15 | 351 | 24-5/8 | 625 | 20-5/8 | 524 |
| CB30M-31 | 49-1/4 | 1251 | 21-1/4 | 540 | 20-5/8 | 524 | 19-3/4 | 502 | 19 | 483 | 20 | 508 | 24-5/8 | 625 | 24-5/8 | 625 |
| CB30M-41 | 51 | 1295 | 21-1/4 | 540 | 22-5/8 | 575 | 19-3/4 | 502 | 21 | 533 | 20 | 508 | 26-3/8 | 670 | 24-5/8 | 625 |
| CB30M-46 | 52-1/2 | 1334 | 21-1/4 | 540 | 22-5/8 | 575 | 19-3/4 | 502 | 21 | 533 | 20 | 508 | 27-7/8 | 708 | 24-5/8 | 625 |
| CB30M-51 | 58-1/2 | 1486 | 21-1/4 | 540 | 24-5/8 | 625 | 19-3/4 | 502 | 23 | 584 | 20 | 508 | 27-7/8 | 708 | 30-5/8 | 778 |
| CB30M-65 | | | | | | | | | | | | | | | | |

Requirements

Installation of Lennox blower coil units with or without optional electric heat must conform with standards in the National Fire Protection Association (NFPA) "Standard for Installation of Air Conditioning and Ventilation Systems NFPA No. 90A," and "Standard for Installation of Residence Type Warm Air Heating and Air Conditioning Systems NFPA No. 90B," manufacturer's installation instructions and local municipal building codes.

This unit is certified for installation clearances to combustible material as listed on the unit rating plate. Accessibility and service clearances must take precedence over combustible material clearances.

Installation

CB29M and CB30M units are factory-configured for upflow or horizontal right-hand discharge installation. For downflow or horizontal left-hand discharge, some field modification is required.

NOTE - If you install the unit in the downflow position, you must install the drip shields which are shipped on the foam pads on the top of the unit.

Disassembling CB30M Blower Coil Unit

The CB30M blower coil unit consists of two sections which are shipped assembled from the factory. Moving the unit to some installation sites may require disassembling the unit.

- 1 - Remove access panels from both blower and coil assemblies. This will lighten the cabinet for lifting.
- 2 - Remove one screw from the left and right posts inside the unit. Remove one screw from each side on the back of the unit. Unit sections will now separate.
- 3 - To reassemble, align cabinet sections and reinstall screws. Replace access panels.

Upflow Application

- 1 - Remove access panels. Remove corrugated padding from the space between the blower and coil assemblies. Discard drip shields which are shipped on the foam pads on the top of the unit. The shields are used in downflow applications only.
- 2 - To ensure proper operation, remove the horizontal drain pan from units in upflow configurations.
- 3 - Place unit in desired location. Make sure that unit is level. Connect return and supply air plenums as required using sheet metal screws. See figure 1.
- 4 - Mount units that have no return air plenum on a stand at least 14" from the floor for proper air return. Lennox offers an optional upflow unit stand. (45K31 for CB29M-21, -26, and -31; 45K32 for CB29M-41 through -65.)

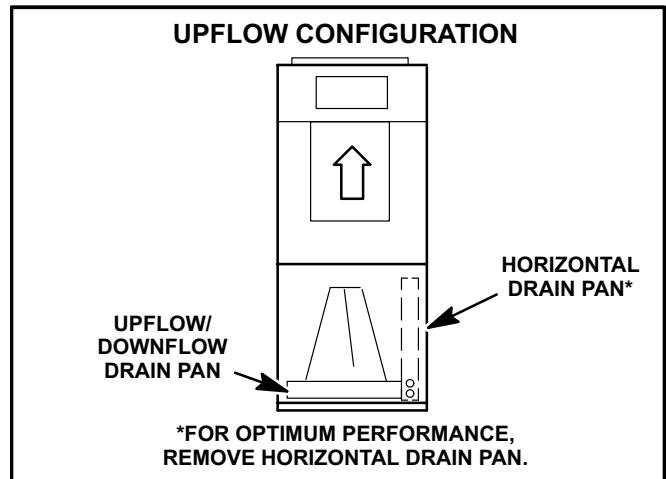


FIGURE 1

Horizontal Right-Hand Discharge Application

- 1 - Remove access panels. Remove corrugated padding from the space between the blower and coil assembly. Discard drip shields which are shipped on the foam pads on the top of the unit. The shields are used for downflow applications only.
- 2 - No further adjustment is necessary. Set unit so that it is sloped 1/4 inch toward the drain pan end of the unit.

NOTE - For horizontal applications, an auxiliary drain pan is recommended. Refer to local codes.

*NOTE - For horizontal applications in **high humidity areas**, remove the downflow rail closest to the drain pan. To remove rail, remove screw from rail at back of unit and at cabinet support rail. Remove downflow rail, then replace screws. Also, seal around the exiting drain pipe, liquid line and suction line to prevent infiltration of humid air.*

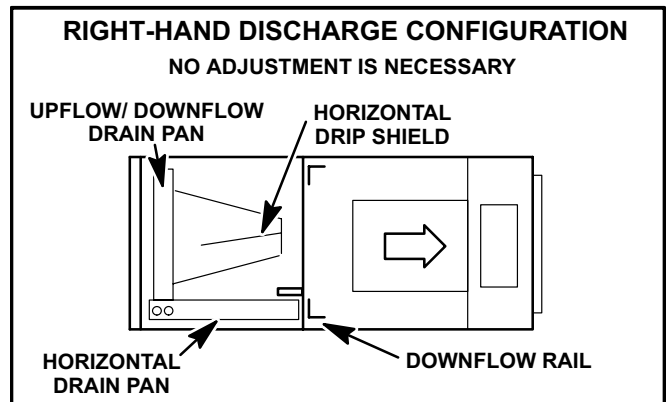


FIGURE 2

- 3 - If the unit is to be suspended, it must be supported along the entire length of the cabinet. If you use a strap, attach a piece of angle iron or sheet metal to the unit (either above or below) so that the full length of the cabinet is supported. Use securing screws which are no longer than 1/2 inch to avoid damaging the coil or filter. See figure 3. Connect the return and supply air plenums as required using sheet metal screws.

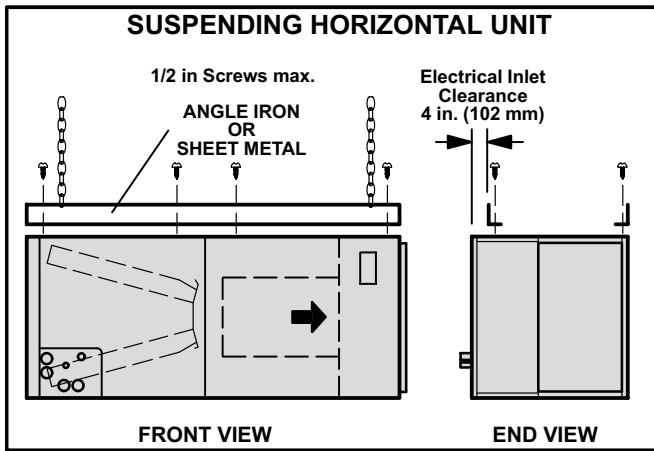


FIGURE 3

⚠ CAUTION

Danger in equipment damage and personal injury. Take care when removing coil assembly from unit installed in right or left-hand applications. Coil may tip into drain pan once clear of cabinet. Support coil when removing.

Horizontal Left-Hand Discharge Application

NOTE - For horizontal applications, an auxiliary drain pan is recommended. Refer to local codes.

- 1 - Remove access panels. Remove corrugated padding from the space between the blower and coil assembly before operation. Discard drip shields which are shipped on the foam pads on the top of the unit. The shields are used for downflow applications only.
- 2 - Pull coil assembly from unit. Pull off the horizontal drain pan.
- 3 - Remove drain plugs from back drain holes on horizontal drain pan and re-install them on front holes.
- 4 - Rotate drain pan 180° front to back and install it on the opposite side of coil.
- 5 - Remove screws from top cap. Remove horizontal drip shield screw located in the center of the back coil end seal. See figure 4.
- 6 - Rotate horizontal drip shield 180° front to back.
- 7 - Remove plastic plug from left hole on coil front end seal and re-install plug in back hole. Re-install horizontal drip shield screw in front coil end seal. Drip shield should drain downward into horizontal drain pan inside coil.
- 8 - Rotate top cap 180° front to back and align with unused screw holes. Holes must align with front and back coil end plates. Note that top cap has a 45° bend on one side and 90° bend on the other. **The 90° bend must be on the same side as the horizontal drain pan.** See figures 4 and 5.

NOTE - Use extreme care when re-installing screws into coil end plate engaging holes. Misaligned screws may damage coil.

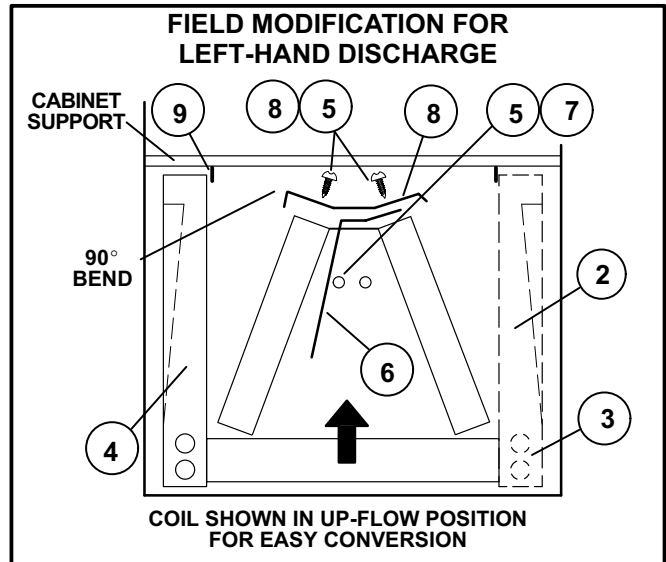


FIGURE 4

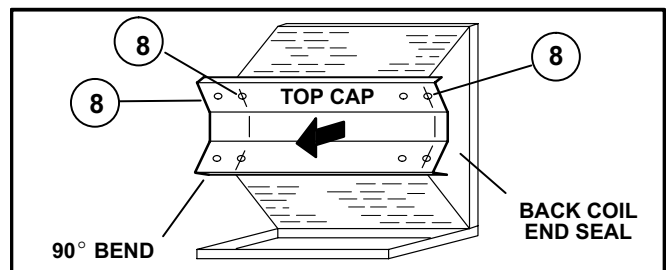


FIGURE 5

- 9 - From the upflow position, flip cabinet 90° to the left and set into place. Replace coil assembly. Secure coil in place by bending down tab on cabinet support rail. See figures 4 and 6.

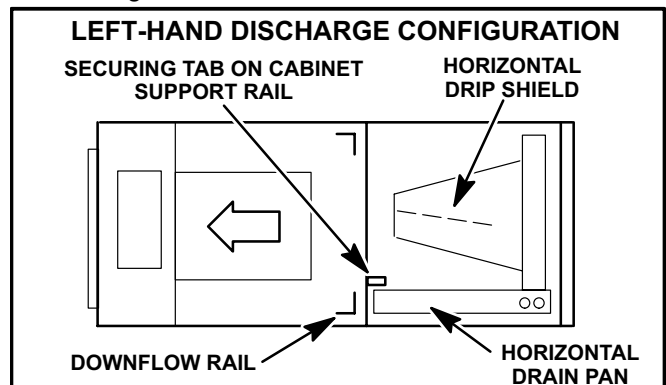


FIGURE 6

NOTE - For horizontal applications in high humidity areas, remove the downflow rail closest to the drain pan. To remove rail, remove screw from rail at back of unit and at cabinet support rail. Remove downflow rail, then replace screws. Also, seal around the exiting drain pipe, liquid line and suction line to prevent infiltration of humid air.

- 10 - Knock out drain seal plate from access door. Secure plate to cabinet front flange with screw provided.
- 11 - Flip access door and replace it on the unit.
- 12 - Set unit so that it is sloped 1/4 inch toward the drain pan end of the unit. Connect return and supply air plenums as required using sheet metal screws.

13 - If you are going to suspend the unit, the entire length of the cabinet must be supported. If you use a chain or strap, attach a piece of angle iron or sheet metal to the unit (either above or below it), so that the full length of the cabinet is supported. Use securing screws which are no longer than 1/2 inch to avoid damaging the coil or filter. See figure 3. Use sheet metal screws to connect the return and supply air plenums.

Downflow Application

NOTE - Downflow drip shields are not provided with CB29M and CB30M-21/26 units. The shields are not required.

The following tables outline the sizes of the various drip shields.

**TABLE 1
Downflow Drip Shields: No Tape Required**

| Unit | Part No. | Length | Width |
|---------------|----------|--------|--------|
| CB29M-31, -41 | LB-88658 | 15.75 | 2.9187 |
| CB30M-31 | LB-88658 | 15.75 | 2.9187 |
| CB30M-41, -46 | LB-88663 | 17.75 | 3.9187 |
| CB30M-51, -65 | LB-88664 | 19.75 | 3.9187 |

**TABLE 2
Downflow Drip Shields: Tape Required**

| Unit | Part No. | Length | Width |
|---------------|----------|--------|--------|
| CB29M-46 | LB-74274 | 15.875 | 4.6718 |
| CB29M-51, -65 | LB-74272 | 17.875 | 4.6718 |
| CB31M-41 | LB-74272 | 17.875 | 4.6718 |
| CB31M-51, -65 | LB-89864 | 19.875 | 4.6718 |

- 1 - Remove the access panels. If necessary, remove the corrugated padding between the blower and coil assembly before operating the unit. Remove the drip shields from the foam pads on the top of the unit.
- 2 - Remove the coil assembly from the unit.
- 3 - For best efficiency and air flow, remove the horizontal drain pan from the units in downflow positions. See figure 7.
- 4 - Rotate cabinet 180° from the upright position. See figure 7. You may need to first remove the blower assembly to lighten the cabinet for lifting.

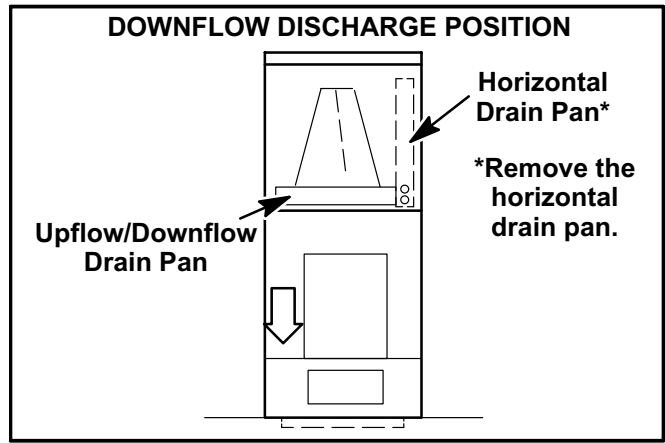


FIGURE 7

5 - Table 2 lists units with drip shields that require foam tape. The foam tape creates a seal between the drip shield and the coil so that water will not be allowed into the air stream. The foam tape pieces are precut. Apply the tape to the shields as shown in figure 8.

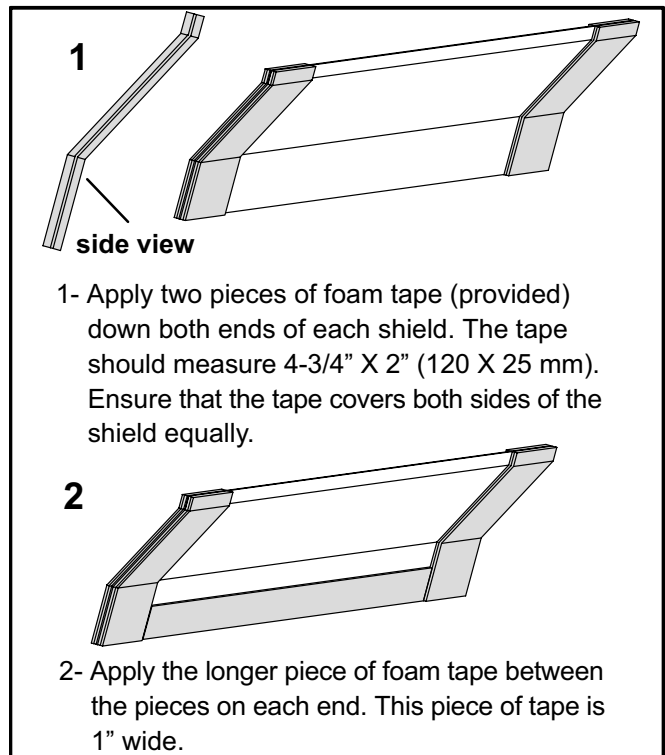


FIGURE 8

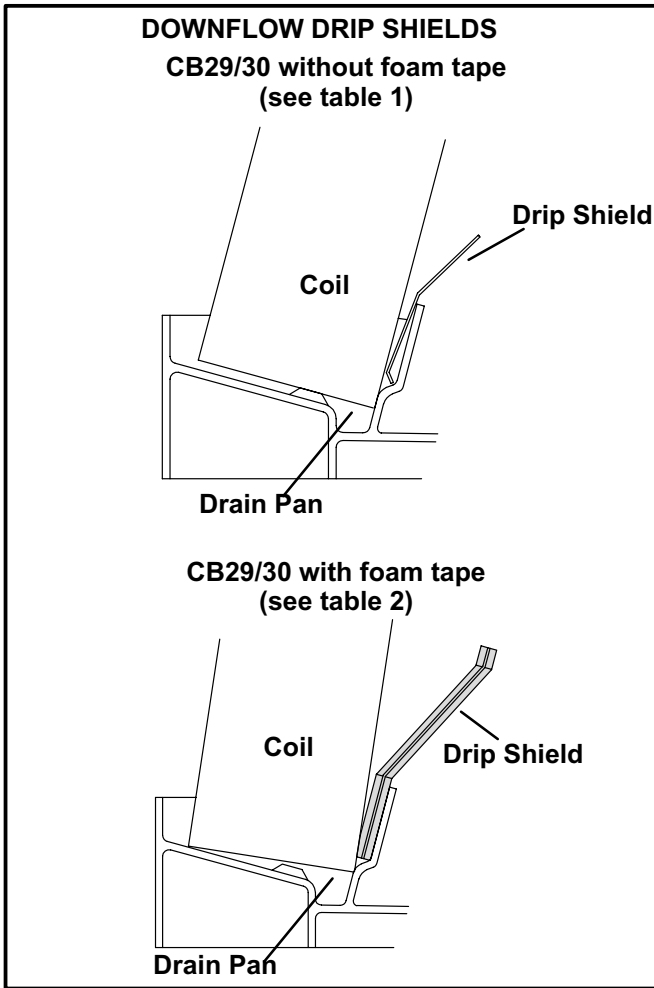


FIGURE 9

- 6 - From the underside of the coil, install the downflow drip shield firmly in place. See figure 9.
- 7 - Replace the coil assembly and blower if you have removed it. Replace the coil access panel. See figure 7.
- 8 - Set the unit so that it is level. Connect the return and supply air plenums as required using sheet metal screws.

⚠ WARNING

If electric heat section with circuit breakers (ECB29) are applied to downflow CB29M or CB30M unit, the circuit breakers must be rotated 180° to the UP position. See ECB29 installation instructions for more details.

NOTE - For downflow application, you must use metal or class I supply and return air plenums.

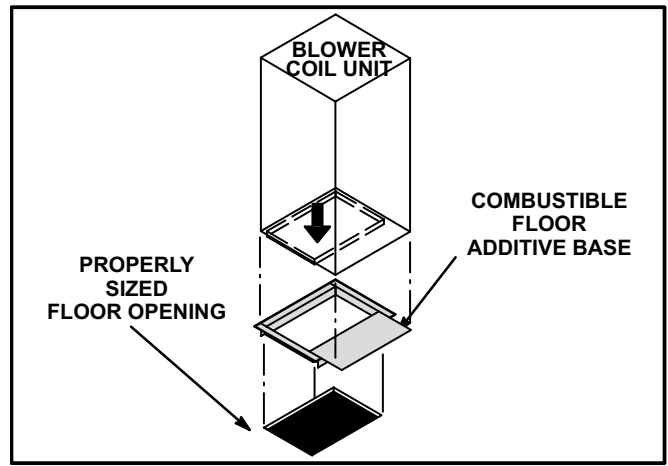


FIGURE 10

For downflow installation on combustable flooring, you must use an additive base. See figure 10.

Cut an appropriately sized opening for combustable base. Base dimensions are shown in figure 11. After opening has been cut, set the additive base into opening. Connect supply air plenum to the additive base. Set the unit on the additive base so flanges of the unit drop into the base opening and seal against the insulation strips. The unit is now locked in place. Install return air plenum and secure with sheet metal screws.

If the homeowner reports water dripping from supply air diffusers, check the shields and tape. Make sure the tape is completely attached to the edges of the drip shield, and that the drip shield is wedged firmly in place.

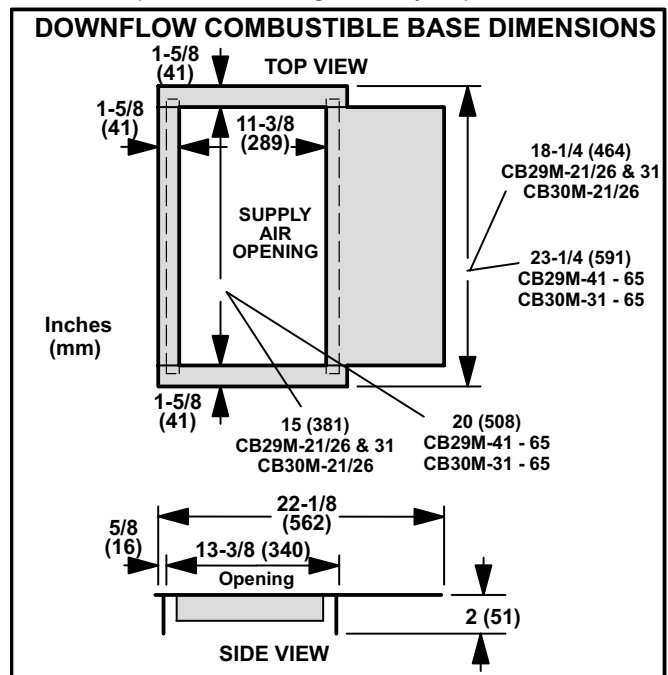


FIGURE 11

Field Piping Connections

All CB29M/CB30M coils are equipped with a factory-installed, internally mounted expansion valve. Use Lennox L15 (sweat) series line sets as shown in table 3 or use field-fabricated refrigerant lines. L10 (flare) line sets may be used by cutting off flare nut. Refer to the piping section of the Lennox Unit Information Service Manual for proper size, type and application of field-fabricated lines.

**TABLE 3
REFRIGERANT LINE KITS**

| CB29M CB30M UNIT | LIQUID LINE | VAPOR/ SUC- TION LINE | L10 LINE SETS | L15 LINE SETS |
|------------------------|-------------------|--------------------------------|---|---|
| -21/26 | 3/8 in (8 mm) | 5/8 in (16 mm) | L10-26 20 ft. - 50 ft. (6 m - 15 m) | L15-26 20 ft. - 50 ft. (6 m - 15 m) |
| -31-41 | 3/8 in (10 mm) | 3/4 in. (19 mm) | L10-41 20 ft. - 50 ft. (6 m - 15 m) | L15-41 20 ft. - 50 ft. (6 m - 15 m) |
| -46-51 | 3/8 in (10 mm) | 7/8 in. (22 mm) | L10-65 30 ft. - 50 ft. (9 m - 15 m) | L15-65 30 ft. - 50 ft. (9 m - 15 m) |
| -65 | 3/8 in (10 mm) | 1-1/8 in. (29 mm) | FIELD FABRICATED | FIELD FABRICATED |

NOTE - CB29M/CB30M series evaporators use nitrogen or dry air as a holding charge. If there is no pressure when the rubber plugs are removed, check the coil or line set for leaks before installing. After installation, pull a vacuum on the line set and coil before releasing the unit charge into the system.

- 1 - Use a wet rag to protect TXV bulb (or remove it) when brazing suction line.
- 2 - Be aware of filter access panel when connecting lines. Filter must be accessible.
- 3 - Place heat shield against piping plate and around the suction line connection. Heat shield must be in place to guard against damage to the paint.
- 4 - With heat shield in place, sweat in suction line elbow, provided, and line set. After procedure is completed, remove heat shield.
- 5 - Place heat shield against piping plate and around the liquid line connection. Sweat in liquid line elbow, provided, and line set.
- 6 - Refer to instructions provided with outdoor unit for leak testing, evacuating and charging procedures.

Condensate Drain

A 5 inch section of PVC pipe is provided with the unit. Cut the pipe in half and use it to route the auxiliary and main drains. Connect main condensate drain and route downward to an open drain or sump. Do not connect drain to a closed waste system. Refer to figure 12 for typical condensate trap configuration.

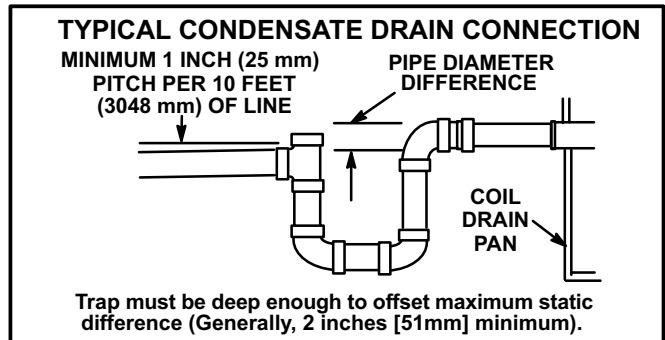


FIGURE 12

It is recommended that the auxiliary drain be connected to a drain line for all units. If auxiliary drain is not connected, it must be plugged with provided cap. **For downflow units, the auxiliary drain MUST be connected and routed to a drain.** See figure 13 for auxiliary and main drain locations.

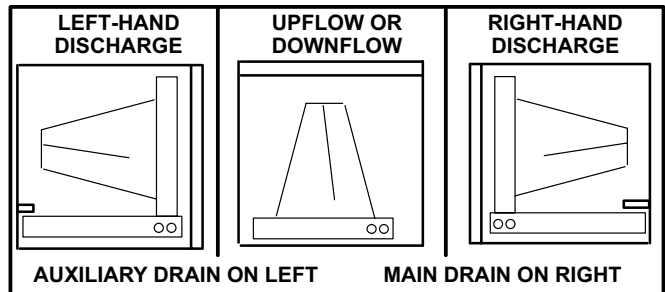


FIGURE 13

The following practices are recommended to ensure condensate removal:

- 1 - Drain piping should not be smaller than the drain connections at drain pan.
- 2 - A trap must be installed in the main drain line.
- 3 - The trap must be deep enough to offset the difference in static pressure between drain pan and atmosphere. Generally, two inches is satisfactory for medium static applications.
- 4 - Horizontal runs must be sloped 1 inch per 10 feet of drain line to offset friction.
- 5 - An open vent in drain line will sometimes be required due to line length, friction and static pressure.
- 6 - Drains should be constructed in a manner to facilitate future cleaning or interfere with filter access. See figure 12.
- 7 - Auxiliary drain should run to an area where homeowner will notice it draining. Refer to local codes.

Filters

⚠ IMPORTANT

Filter access panel must be in place during unit operation. Excessive warm air entering the unit may result in water blow-off problems.

Each unit includes a factory-installed filter. Note that filter access door fits over access panel. Air leakage will occur if access panel is placed over filter door.

Filters should be inspected monthly and must be cleaned or replaced when dirty to assure proper furnace operation.

Reusable filters supplied with some units can be washed with water and mild detergent. When dry, they should be sprayed with filter handicoater prior to reinstallation. Filter handicoater is RP Products coating no. 418 and is available as Lennox part no. P-8-5069. Some units are equipped with standard throw-away type filters which should be replaced when dirty.

To remove filter, loosen the thumbscrews holding the filter panel in place. Slide filter out of the guides on either side of cabinet, insert new filter and replace panel. See table 4 for replacement filter sizes.

**TABLE 4
FILTER DIMENSIONS**

| UNIT MODEL NO. | FILTER SIZE Inches (mm) |
|-------------------------------|----------------------------|
| CB29M/CB30M-21/26 CB29M-31 | 15 x 20 (381 x 508) |
| CB29M-41,-46; CB30M-31 | 20 x 20 (508 x 508) |
| CB29M-51,-65; CB30M-41,-46 | |
| CB30M-51,-65 | 20 x 24 (508 x 610) |

Sealing the Unit

It is very important to seal the unit so that warm air is not allowed into the cabinet. Warm air introduces moisture, which results in water blow-off problems. This is especially important when the unit is installed in an unconditioned area.

Make sure the liquid line and suction line entry points are sealed with either the provided Armaflex material or with Permagum. Permagum may also be used to seal around the main and auxiliary drains and around open areas of electrical inlets.

Blower Speed Adjustments

Minimum Blower Speeds (With Electric Heaters)

For the minimum allowable speed for the CB29M/CB30M series units with electric heat, refer to the ECB29 installation instructions.

Air Volume Adjustment

Blower speed selection is accomplished by changing the taps at the harness connector at the blower motor. See figure 14. Refer to unit wiring diagram in figure 15. Refer to tables 5 through 22 for blower performance data.

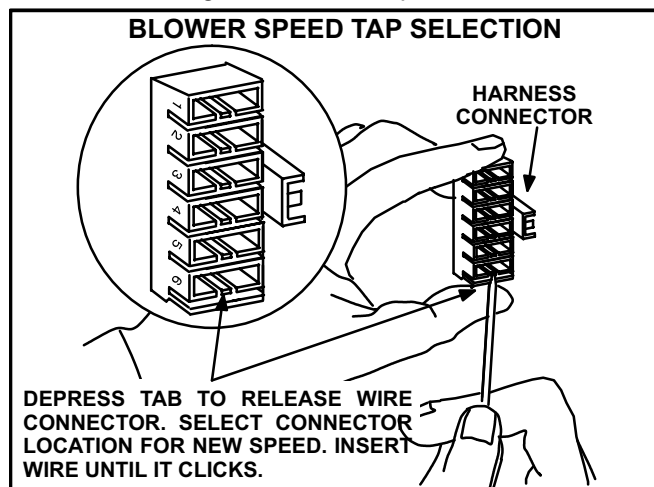


FIGURE 14

**TABLE 5
CB29M-21/26 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-------|-------|--------|-------|-------|------|-----|-------|
| | | Low | | | Medium | | | High | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 700 | 330 | 245 | 895 | 420 | 310 | 1030 | 485 | 375 |
| .05 | 10 | 690 | 325 | 240 | 875 | 415 | 305 | 1010 | 475 | 370 |
| .10 | 25 | 680 | 320 | 235 | 865 | 410 | 300 | 990 | 470 | 365 |
| .15 | 35 | 665 | 315 | 230 | 850 | 400 | 290 | 970 | 460 | 355 |
| .20 | 50 | 655 | 310 | 225 | 830 | 390 | 285 | 955 | 450 | 350 |
| .25 | 60 | 640 | 300 | 220 | 810 | 385 | 280 | 925 | 440 | 345 |
| .30 | 75 | 625 | 295 | 220 | 795 | 375 | 270 | 900 | 425 | 335 |
| .40 | 100 | 595 | 280 | 210 | 750 | 355 | 255 | 850 | 400 | 320 |
| .50 | 125 | 555 | 260 | 195 | 700 | 330 | 240 | 800 | 380 | 305 |
| .60 | 150 | 510 | 240 | 185 | 640 | 300 | 225 | 725 | 340 | 290 |
| .70 | 175 | 395 | 185 | 165 | ----- | ----- | ----- | 620 | 295 | 265 |
| .75 | 185 | ----- | ----- | ----- | ----- | ----- | ----- | 570 | 270 | 255 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 6
CB29M-31 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-----|-------|--------|-----|-------|------|-----|-------|
| | | Low | | | Medium | | | High | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1015 | 480 | 385 | 1135 | 535 | 410 | 1230 | 580 | 450 |
| .05 | 10 | 995 | 470 | 375 | 1120 | 530 | 400 | 1205 | 570 | 445 |
| .10 | 25 | 980 | 465 | 365 | 1095 | 515 | 390 | 1190 | 560 | 440 |
| .15 | 35 | 960 | 455 | 355 | 1075 | 505 | 380 | 1165 | 550 | 430 |
| .20 | 50 | 945 | 445 | 345 | 1050 | 495 | 375 | 1140 | 540 | 425 |
| .25 | 60 | 925 | 435 | 335 | 1025 | 485 | 365 | 1105 | 520 | 415 |
| .30 | 75 | 900 | 425 | 325 | 1005 | 475 | 355 | 1080 | 510 | 405 |
| .40 | 100 | 860 | 405 | 305 | 950 | 450 | 335 | 1025 | 485 | 390 |
| .50 | 125 | 800 | 380 | 285 | 890 | 420 | 315 | 960 | 450 | 370 |
| .60 | 150 | 740 | 350 | 265 | 810 | 385 | 290 | 875 | 415 | 350 |
| .70 | 175 | 670 | 315 | 240 | 735 | 345 | 270 | 790 | 375 | 330 |
| .75 | 185 | 610 | 290 | 225 | 675 | 320 | 255 | 725 | 340 | 315 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 7
CB29M-41 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-------|-------|--------|-------|-------|------|-----|-------|
| | | Low | | | Medium | | | High | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 935 | 440 | 420 | 1145 | 540 | 510 | 1505 | 710 | 655 |
| .05 | 10 | 930 | 440 | 415 | 1140 | 535 | 500 | 1485 | 700 | 640 |
| .10 | 25 | 925 | 435 | 410 | 1130 | 535 | 490 | 1475 | 695 | 630 |
| .15 | 35 | 915 | 435 | 395 | 1125 | 530 | 480 | 1455 | 685 | 615 |
| .20 | 50 | 910 | 430 | 390 | 1115 | 525 | 475 | 1435 | 680 | 600 |
| .25 | 60 | 905 | 425 | 380 | 1110 | 525 | 465 | 1420 | 670 | 585 |
| .30 | 75 | 900 | 425 | 370 | 1100 | 520 | 455 | 1395 | 660 | 570 |
| .40 | 100 | 885 | 415 | 355 | 1080 | 510 | 430 | 1350 | 640 | 540 |
| .50 | 125 | 865 | 410 | 335 | 1060 | 500 | 415 | 1300 | 615 | 510 |
| .60 | 150 | 845 | 400 | 315 | 1030 | 485 | 390 | 1235 | 585 | 480 |
| .70 | 175 | 820 | 390 | 300 | ----- | ----- | ----- | 1160 | 550 | 455 |
| .75 | 185 | ----- | ----- | ----- | ----- | ----- | ----- | 1015 | 480 | 425 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 8
CB29M-41 BLOWER PERFORMANCE (460v - 1 ph)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-----|-------|--------|-------|-------|------|-----|-------|
| | | Low | | | Medium | | | High | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 955 | 450 | 425 | 1130 | 535 | 530 | 1460 | 690 | 665 |
| .05 | 10 | 950 | 450 | 415 | 1120 | 530 | 520 | 1445 | 680 | 650 |
| .10 | 25 | 945 | 445 | 410 | 1115 | 525 | 510 | 1435 | 675 | 640 |
| .15 | 35 | 940 | 445 | 400 | 1110 | 525 | 500 | 1415 | 670 | 630 |
| .20 | 50 | 935 | 440 | 390 | 1105 | 520 | 490 | 1400 | 660 | 615 |
| .25 | 60 | 930 | 440 | 385 | 1100 | 520 | 485 | 1380 | 650 | 600 |
| .30 | 75 | 920 | 435 | 375 | 1090 | 515 | 475 | 1360 | 645 | 585 |
| .40 | 100 | 910 | 430 | 360 | 1075 | 510 | 455 | 1325 | 625 | 555 |
| .50 | 125 | 895 | 420 | 345 | 1060 | 500 | 435 | 1280 | 605 | 520 |
| .60 | 150 | 880 | 415 | 330 | 1035 | 490 | 410 | 1225 | 580 | 480 |
| .70 | 175 | 855 | 405 | 315 | ----- | ----- | ----- | 1145 | 540 | 430 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 9
CB29M-46 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-------|-------|--------|-------|-------|------|-----|-------|
| | | Low | | | Medium | | | High | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1295 | 610 | 520 | 1520 | 720 | 595 | 1775 | 840 | 730 |
| .05 | 10 | 1275 | 605 | 510 | 1505 | 710 | 585 | 1750 | 825 | 720 |
| .10 | 25 | 1255 | 590 | 495 | 1480 | 700 | 570 | 1720 | 810 | 710 |
| .15 | 35 | 1230 | 580 | 480 | 1455 | 685 | 555 | 1690 | 795 | 700 |
| .20 | 50 | 1215 | 575 | 470 | 1430 | 675 | 540 | 1650 | 780 | 685 |
| .25 | 60 | 1195 | 565 | 455 | 1405 | 665 | 525 | 1620 | 765 | 675 |
| .30 | 75 | 1170 | 555 | 440 | 1380 | 650 | 515 | 1595 | 750 | 660 |
| .40 | 100 | 1125 | 530 | 415 | 1320 | 625 | 485 | 1515 | 715 | 635 |
| .50 | 125 | 1065 | 500 | 385 | 1260 | 595 | 460 | 1420 | 670 | 605 |
| .60 | 150 | 1005 | 475 | 360 | 1175 | 555 | 425 | 1325 | 625 | 575 |
| .70 | 175 | 910 | 430 | 330 | 1075 | 505 | 395 | 1210 | 570 | 545 |
| .80 | 200 | ----- | ----- | ----- | ----- | ----- | ----- | 900 | 425 | 480 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 10
CB29M-51 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-----|-------|--------|-----|-------|------|-----|-------|
| | | Low | | | Medium | | | High | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1590 | 750 | 665 | 1790 | 845 | 805 | 2055 | 970 | 1005 |
| .05 | 10 | 1570 | 740 | 660 | 1770 | 835 | 790 | 2035 | 960 | 995 |
| .10 | 25 | 1555 | 735 | 655 | 1750 | 825 | 785 | 2005 | 945 | 980 |
| .15 | 35 | 1530 | 720 | 645 | 1730 | 815 | 775 | 1980 | 935 | 970 |
| .20 | 50 | 1510 | 710 | 640 | 1710 | 805 | 765 | 1945 | 920 | 955 |
| .25 | 60 | 1485 | 700 | 635 | 1685 | 795 | 755 | 1915 | 905 | 940 |
| .30 | 75 | 1460 | 690 | 625 | 1660 | 785 | 745 | 1885 | 890 | 930 |
| .40 | 100 | 1415 | 670 | 615 | 1610 | 760 | 725 | 1820 | 860 | 900 |
| .50 | 125 | 1370 | 645 | 600 | 1550 | 730 | 705 | 1750 | 825 | 875 |
| .60 | 150 | 1310 | 620 | 580 | 1490 | 705 | 685 | 1670 | 790 | 845 |
| .70 | 175 | 1240 | 585 | 560 | 1405 | 665 | 660 | 1575 | 745 | 820 |
| .75 | 185 | 1210 | 570 | 550 | 1360 | 640 | 645 | 1520 | 720 | 800 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 11
CB29M-51 BLOWER PERFORMANCE (460v - 1 ph)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-----|-------|--------|-----|-------|------|------|-------|
| | | Low | | | Medium | | | High | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1695 | 800 | 680 | 1900 | 895 | 805 | 2140 | 1010 | 965 |
| .05 | 10 | 1675 | 790 | 670 | 1880 | 885 | 795 | 2110 | 995 | 950 |
| .10 | 25 | 1655 | 780 | 665 | 1855 | 875 | 780 | 2080 | 980 | 935 |
| .15 | 35 | 1640 | 775 | 655 | 1830 | 865 | 770 | 2050 | 970 | 920 |
| .20 | 50 | 1620 | 765 | 650 | 1805 | 850 | 755 | 2025 | 955 | 910 |
| .25 | 60 | 1595 | 750 | 640 | 1775 | 840 | 740 | 1995 | 940 | 895 |
| .30 | 75 | 1570 | 740 | 630 | 1750 | 825 | 730 | 1965 | 925 | 885 |
| .40 | 100 | 1525 | 720 | 610 | 1700 | 805 | 710 | 1905 | 900 | 860 |
| .50 | 125 | 1475 | 695 | 595 | 1640 | 775 | 685 | 1845 | 870 | 835 |
| .60 | 150 | 1420 | 670 | 575 | 1585 | 750 | 665 | 1770 | 835 | 805 |
| .70 | 175 | 1355 | 640 | 555 | 1515 | 715 | 640 | 1700 | 800 | 780 |
| .80 | 200 | 1290 | 610 | 535 | 1450 | 685 | 620 | 1625 | 765 | 755 |
| .85 | 210 | 1255 | 590 | 525 | 1405 | 665 | 610 | 1595 | 750 | 745 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 12
CB29M-65 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | | | | | | | |
|--------------------------|-----|--|------|-------|------------|-----|-------|--------|-----|-------|-------------|------|-------|------|------|-------|
| | | Low | | | Medium-Low | | | Medium | | | Medium-High | | | High | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1570 | 740 | 575 | 1800 | 850 | 700 | 2005 | 945 | 825 | 2135 | 1005 | 930 | 2245 | 1060 | 1080 |
| .05 | 10 | 1550 | 730 | 570 | 1780 | 840 | 690 | 1980 | 935 | 815 | 2110 | 995 | 925 | 2220 | 1050 | 1070 |
| .10 | 25 | 1530 | 725 | 560 | 1760 | 830 | 680 | 1950 | 920 | 805 | 2080 | 985 | 915 | 2190 | 1035 | 1060 |
| .15 | 35 | 1520 | 715 | 560 | 1735 | 820 | 670 | 1930 | 910 | 795 | 2055 | 970 | 905 | 2165 | 1020 | 1050 |
| .20 | 50 | 1495 | 705 | 550 | 1710 | 805 | 660 | 1910 | 900 | 790 | 2025 | 955 | 895 | 2135 | 1010 | 1040 |
| .25 | 60 | 1475 | 695 | 545 | 1690 | 795 | 655 | 1880 | 890 | 780 | 1995 | 940 | 885 | 2105 | 995 | 1030 |
| .30 | 75 | 1460 | 690 | 540 | 1670 | 785 | 650 | 1855 | 875 | 770 | 1965 | 930 | 875 | 2075 | 980 | 1020 |
| .40 | 100 | 1415 | 670 | 530 | 1615 | 760 | 630 | 1795 | 850 | 750 | 1910 | 900 | 855 | 2005 | 945 | 995 |
| .50 | 125 | 1370 | 645 | 520 | 1560 | 735 | 615 | 1735 | 820 | 730 | 1850 | 875 | 835 | 1935 | 910 | 975 |
| .60 | 150 | 1310 | 620 | 505 | 1495 | 705 | 595 | 1670 | 790 | 710 | 1780 | 840 | 810 | 1855 | 875 | 950 |
| .70 | 175 | 1250 | 590 | 490 | 1425 | 675 | 575 | 1600 | 755 | 690 | 1705 | 805 | 785 | 1780 | 840 | 925 |
| .80 | 200 | 1175 | 555 | 470 | 1360 | 640 | 560 | 1520 | 715 | 665 | 1620 | 765 | 755 | 1685 | 795 | 900 |
| .90 | 225 | 1025 | 485 | 440 | 1280 | 605 | 545 | 1420 | 670 | 645 | 1520 | 715 | 725 | 1595 | 750 | 875 |
| .95 | 235 | --- | ---- | ---- | 1240 | 585 | 535 | 1365 | 645 | 630 | 1460 | 690 | 705 | 1545 | 730 | 860 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 13
CB29M-65 BLOWER PERFORMANCE (460v - 1 ph)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-----|-------|--------|-----|-------|------|------|-------|
| | | Low | | | Medium | | | High | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1785 | 845 | 750 | 2050 | 970 | 925 | 2230 | 1055 | 1145 |
| .05 | 10 | 1775 | 835 | 745 | 2025 | 955 | 915 | 2200 | 1040 | 1135 |
| .10 | 25 | 1745 | 825 | 735 | 2005 | 945 | 905 | 2170 | 1025 | 1120 |
| .15 | 35 | 1725 | 815 | 725 | 1980 | 935 | 900 | 2135 | 1010 | 1105 |
| .20 | 50 | 1700 | 800 | 715 | 1955 | 920 | 885 | 2105 | 995 | 1095 |
| .25 | 60 | 1680 | 795 | 705 | 1925 | 910 | 875 | 2075 | 980 | 1085 |
| .30 | 75 | 1655 | 780 | 695 | 1900 | 895 | 865 | 2045 | 965 | 1075 |
| .40 | 100 | 1600 | 755 | 675 | 1840 | 870 | 845 | 1980 | 935 | 1050 |
| .50 | 125 | 1545 | 730 | 655 | 1785 | 845 | 825 | 1910 | 900 | 1025 |
| .60 | 150 | 1490 | 705 | 640 | 1715 | 810 | 800 | 1835 | 865 | 1000 |
| .70 | 175 | 1425 | 670 | 620 | 1645 | 775 | 775 | 1765 | 830 | 975 |
| .80 | 200 | 1360 | 640 | 600 | 1565 | 735 | 745 | 1690 | 795 | 955 |
| .90 | 225 | 1290 | 610 | 585 | 1465 | 690 | 710 | 1600 | 755 | 925 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 14
CB30M-21/26 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-----|-------|--------|-----|-------|-----|-----|-------|
| | | High | | | Medium | | | Low | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1030 | 485 | 365 | 895 | 425 | 300 | 700 | 330 | 245 |
| .05 | 10 | 1015 | 480 | 360 | 890 | 420 | 295 | 695 | 330 | 245 |
| .10 | 25 | 1000 | 470 | 355 | 875 | 415 | 290 | 690 | 325 | 240 |
| .15 | 35 | 980 | 465 | 345 | 860 | 405 | 285 | 680 | 320 | 235 |
| .20 | 50 | 960 | 455 | 340 | 845 | 400 | 280 | 665 | 315 | 230 |
| .25 | 60 | 935 | 440 | 335 | 825 | 390 | 275 | 650 | 310 | 220 |
| .30 | 75 | 910 | 430 | 325 | 800 | 380 | 265 | 635 | 300 | 215 |
| .40 | 100 | 850 | 400 | 310 | 745 | 355 | 250 | 590 | 280 | 205 |
| .50 | 125 | 780 | 370 | 295 | 685 | 320 | 235 | 535 | 255 | 190 |
| .60 | 150 | 705 | 330 | 280 | 605 | 285 | 220 | 470 | 220 | 175 |
| .70 | 175 | 615 | 290 | 265 | 520 | 245 | 200 | 395 | 185 | 165 |
| .75 | 185 | 565 | 265 | 255 | 475 | 225 | 195 | 350 | 165 | 155 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 15
CB30M-31 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-----|-------|--------|-----|-------|------|-----|-------|
| | | High | | | Medium | | | Low | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1290 | 610 | 385 | 1175 | 555 | 335 | 1045 | 490 | 315 |
| .05 | 10 | 1295 | 610 | 380 | 1190 | 560 | 330 | 1075 | 505 | 310 |
| .10 | 25 | 1290 | 610 | 375 | 1190 | 560 | 325 | 1085 | 515 | 300 |
| .15 | 35 | 1265 | 600 | 370 | 1175 | 555 | 320 | 1085 | 510 | 295 |
| .20 | 50 | 1230 | 580 | 360 | 1145 | 540 | 310 | 1065 | 505 | 285 |
| .25 | 60 | 1180 | 555 | 350 | 1105 | 520 | 295 | 1030 | 485 | 270 |
| .30 | 75 | 1115 | 525 | 335 | 1045 | 495 | 280 | 980 | 460 | 255 |
| .40 | 100 | 945 | 445 | 305 | 890 | 420 | 250 | 830 | 390 | 220 |
| .50 | 125 | 720 | 340 | 275 | 675 | 320 | 215 | 615 | 290 | 190 |
| .60 | 150 | 440 | 205 | 240 | 405 | 190 | 185 | 335 | 155 | 160 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 16
CB30M-41 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-----|-------|--------|-----|-------|------|-----|-------|
| | | High | | | Medium | | | Low | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1525 | 720 | 505 | 1120 | 530 | 390 | 915 | 430 | 335 |
| .05 | 10 | 1520 | 720 | 495 | 1150 | 540 | 385 | 965 | 455 | 330 |
| .10 | 25 | 1510 | 715 | 480 | 1170 | 550 | 380 | 1005 | 475 | 315 |
| .15 | 35 | 1495 | 705 | 470 | 1180 | 560 | 285 | 1035 | 490 | 235 |
| .20 | 50 | 1475 | 695 | 455 | 1190 | 560 | 280 | 1055 | 495 | 230 |
| .25 | 60 | 1450 | 685 | 440 | 1185 | 560 | 275 | 1060 | 500 | 220 |
| .30 | 75 | 1415 | 670 | 430 | 1175 | 555 | 375 | 1050 | 495 | 215 |
| .40 | 100 | 1335 | 630 | 400 | 1135 | 535 | 325 | 1005 | 475 | 290 |
| .50 | 125 | 1230 | 580 | 375 | 1060 | 500 | 300 | 915 | 430 | 255 |
| .60 | 150 | 1100 | 520 | 345 | 960 | 455 | 280 | 775 | 365 | 230 |
| .70 | 175 | 950 | 450 | 320 | 830 | 390 | 255 | 590 | 280 | 205 |
| .75 | 185 | 870 | 410 | 305 | 750 | 355 | 245 | 485 | 230 | 195 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 17
CB30M-41 BLOWER PERFORMANCE (460v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | |
|--------------------------|-----|--|-----|-------|------|-----|-------|
| | | High | | | Low | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1525 | 720 | 505 | 1120 | 530 | 390 |
| .05 | 10 | 1520 | 720 | 495 | 1150 | 540 | 385 |
| .10 | 25 | 1510 | 715 | 480 | 1170 | 550 | 380 |
| .15 | 35 | 1495 | 705 | 470 | 1180 | 560 | 285 |
| .20 | 50 | 1475 | 695 | 455 | 1190 | 560 | 280 |
| .25 | 60 | 1450 | 685 | 440 | 1185 | 560 | 275 |
| .30 | 75 | 1415 | 670 | 430 | 1175 | 555 | 375 |
| .40 | 100 | 1335 | 630 | 400 | 1135 | 535 | 325 |
| .50 | 125 | 1230 | 580 | 375 | 1060 | 500 | 300 |
| .60 | 150 | 1100 | 520 | 345 | 960 | 455 | 280 |
| .70 | 175 | 950 | 450 | 320 | 830 | 390 | 255 |
| .75 | 185 | 870 | 410 | 305 | 750 | 355 | 245 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 18
CB30M-46 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-----|-------|--------|-----|-------|------|-----|-------|
| | | High | | | Medium | | | Low | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1825 | 860 | 565 | 1600 | 755 | 455 | 1325 | 625 | 370 |
| .05 | 10 | 1790 | 845 | 555 | 1585 | 750 | 455 | 1335 | 630 | 370 |
| .10 | 25 | 1750 | 825 | 540 | 1565 | 740 | 450 | 1335 | 630 | 370 |
| .15 | 35 | 1710 | 805 | 530 | 1540 | 725 | 440 | 1330 | 630 | 365 |
| .20 | 50 | 1660 | 785 | 520 | 1505 | 710 | 435 | 1320 | 620 | 360 |
| .25 | 60 | 1610 | 760 | 505 | 1470 | 695 | 425 | 1300 | 615 | 355 |
| .30 | 75 | 1555 | 735 | 495 | 1425 | 675 | 415 | 1270 | 600 | 350 |
| .40 | 100 | 1430 | 675 | 465 | 1320 | 625 | 390 | 1195 | 565 | 330 |
| .50 | 125 | 1290 | 610 | 440 | 1195 | 565 | 365 | 1090 | 515 | 310 |
| .60 | 150 | 1135 | 535 | 415 | 1050 | 495 | 335 | 955 | 450 | 285 |
| .70 | 175 | 965 | 455 | 385 | 875 | 415 | 310 | 795 | 375 | 260 |
| .75 | 185 | 875 | 415 | 370 | 780 | 370 | 295 | 700 | 330 | 250 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 19
CB30M-51 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-----|-------|--------|-----|-------|------|-----|-------|
| | | High | | | Medium | | | Low | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1910 | 900 | 590 | 1785 | 845 | 520 | 1475 | 695 | 430 |
| .05 | 10 | 1895 | 895 | 585 | 1770 | 835 | 515 | 1480 | 700 | 430 |
| .10 | 25 | 1870 | 880 | 580 | 1750 | 825 | 510 | 1475 | 695 | 425 |
| .15 | 35 | 1840 | 865 | 570 | 1720 | 810 | 500 | 1465 | 690 | 420 |
| .20 | 50 | 1800 | 850 | 565 | 1685 | 795 | 490 | 1445 | 680 | 410 |
| .25 | 60 | 1755 | 830 | 550 | 1645 | 775 | 480 | 1415 | 670 | 405 |
| .30 | 75 | 1700 | 805 | 540 | 1600 | 755 | 465 | 1380 | 650 | 395 |
| .40 | 100 | 1580 | 745 | 515 | 1485 | 700 | 440 | 1290 | 610 | 370 |
| .50 | 125 | 1425 | 675 | 485 | 1350 | 635 | 410 | 1170 | 550 | 345 |
| .60 | 150 | 1250 | 590 | 450 | 1190 | 560 | 380 | 1020 | 480 | 320 |
| .70 | 175 | 1045 | 495 | 415 | 1000 | 470 | 350 | 840 | 395 | 295 |
| .75 | 185 | 930 | 440 | 400 | 900 | 425 | 335 | 740 | 350 | 280 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 20
CB30M-51 BLOWER PERFORMANCE (460v - 1 ph)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | |
|--------------------------|-----|--|-----|-------|------|-----|-------|
| | | High | | | Low | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 1870 | 885 | 610 | 1775 | 835 | 530 |
| .05 | 10 | 1875 | 885 | 610 | 1775 | 835 | 530 |
| .10 | 25 | 1870 | 880 | 590 | 1765 | 835 | 515 |
| .15 | 35 | 1850 | 875 | 585 | 1750 | 825 | 510 |
| .20 | 50 | 1825 | 860 | 575 | 1720 | 815 | 500 |
| .25 | 60 | 1790 | 845 | 560 | 1685 | 795 | 490 |
| .30 | 75 | 1745 | 825 | 545 | 1645 | 775 | 480 |
| .40 | 100 | 1625 | 765 | 505 | 1530 | 720 | 450 |
| .50 | 125 | 1465 | 690 | 470 | 1380 | 650 | 420 |
| .60 | 150 | 1270 | 600 | 425 | 1195 | 565 | 385 |
| .70 | 175 | 1030 | 485 | 385 | 975 | 460 | 350 |
| .80 | 200 | 755 | 355 | 340 | 720 | 340 | 320 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 21
CB30M-65 BLOWER PERFORMANCE (208/230v)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | | | | |
|--------------------------|-----|--|-----|-------|--------|-----|-------|------|-----|-------|
| | | High | | | Medium | | | Low | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 2115 | 995 | 780 | 2025 | 955 | 670 | 1775 | 835 | 585 |
| .05 | 10 | 2100 | 990 | 770 | 2010 | 950 | 665 | 1775 | 835 | 590 |
| .10 | 25 | 2085 | 985 | 765 | 1995 | 940 | 655 | 1770 | 835 | 580 |
| .15 | 35 | 2060 | 970 | 750 | 1975 | 930 | 645 | 1760 | 830 | 570 |
| .20 | 50 | 2030 | 960 | 740 | 1950 | 920 | 635 | 1745 | 825 | 560 |
| .25 | 60 | 2000 | 945 | 730 | 1915 | 905 | 625 | 1725 | 815 | 550 |
| .30 | 75 | 1960 | 925 | 715 | 1880 | 885 | 610 | 1695 | 800 | 535 |
| .40 | 100 | 1870 | 880 | 685 | 1795 | 845 | 580 | 1630 | 770 | 505 |
| .50 | 125 | 1755 | 830 | 655 | 1690 | 795 | 545 | 1540 | 725 | 475 |
| .60 | 150 | 1620 | 765 | 625 | 1560 | 735 | 515 | 1425 | 675 | 440 |
| .70 | 175 | 1465 | 690 | 590 | 1415 | 670 | 480 | 1295 | 610 | 410 |
| .80 | 200 | 1290 | 610 | 560 | 1250 | 590 | 445 | 1140 | 535 | 375 |
| .85 | 210 | 1195 | 565 | 545 | 1160 | 550 | 425 | 1050 | 495 | 360 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

**TABLE 22
CB30M-65 BLOWER PERFORMANCE (460v - 1 ph)**

| External Static Pressure | | Air Volume and Motor Watts at Specific Blower Taps | | | | | |
|--------------------------|-----|--|------|-------|------|-----|-------|
| | | High | | | Low | | |
| in. w.g. | Pa | cfm | L/s | Watts | cfm | L/s | Watts |
| .00 | 0 | 2140 | 1010 | 795 | 1965 | 930 | 710 |
| .05 | 10 | 2110 | 995 | 780 | 1950 | 920 | 700 |
| .10 | 25 | 2080 | 980 | 765 | 1930 | 910 | 685 |
| .15 | 35 | 2045 | 965 | 755 | 1910 | 900 | 675 |
| .20 | 50 | 2005 | 945 | 740 | 1880 | 890 | 660 |
| .25 | 60 | 1965 | 925 | 725 | 1850 | 875 | 645 |
| .30 | 75 | 1920 | 905 | 710 | 1815 | 855 | 630 |
| .40 | 100 | 1820 | 860 | 680 | 1735 | 820 | 600 |
| .50 | 125 | 1710 | 805 | 650 | 1635 | 770 | 570 |
| .60 | 150 | 1585 | 750 | 615 | 1520 | 720 | 540 |
| .70 | 175 | 1450 | 685 | 585 | 1390 | 655 | 505 |
| .80 | 200 | 1305 | 615 | 550 | 1245 | 590 | 475 |
| .85 | 210 | 1225 | 580 | 535 | 1165 | 550 | 460 |

NOTE - All air data is measured external to unit with air filter in place. Electric heaters have no appreciable air resistance.

Electrical

⚠ WARNING

USE COPPER CONDUCTORS ONLY.

Wiring must conform to the current National Electric Code ANSI/NFPA No. 70, or Canadian Electric Code Part I, CSA Standard C22.1, and local building codes. Refer to following wiring diagrams. See unit nameplate for minimum circuit ampacity and maximum overcurrent protection size.

Select the proper supply circuit conductors in accordance with tables 310-16 and 310-17 in the National Electric Code, ANSI/NFPA No. 70 or tables 1 through 4 in the Canadian Electric Code, Part I, CSA Standard C22.1.

This unit is provided with holes for conduit. Reducer washers are provided, in bag assembly to allow use of smaller conduit. Use provided caps to seal holes not used. Refer to figure 15 for unit schematic wiring diagram. Refer to figures 17, 18 and 19 for typical field wiring.

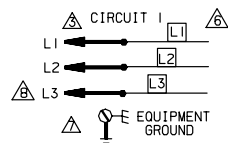
Separate openings have been provided for 24V low voltage and line voltage. Refer to the dimension illustration for specific location.

⚠ WARNING

Run 24V Class II wiring only through specified low voltage opening. Run line voltage wiring only through specified high voltage opening. Do not combine voltage in one opening.

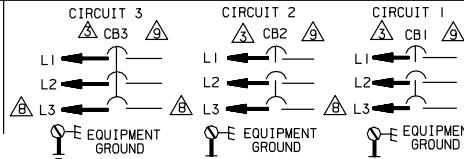
CB29 & CB30 Typical Wiring Diagram - Single Phase

FIELD WIRING FOR ECB SERIES UNITS WITHOUT CIRCUIT BREAKERS

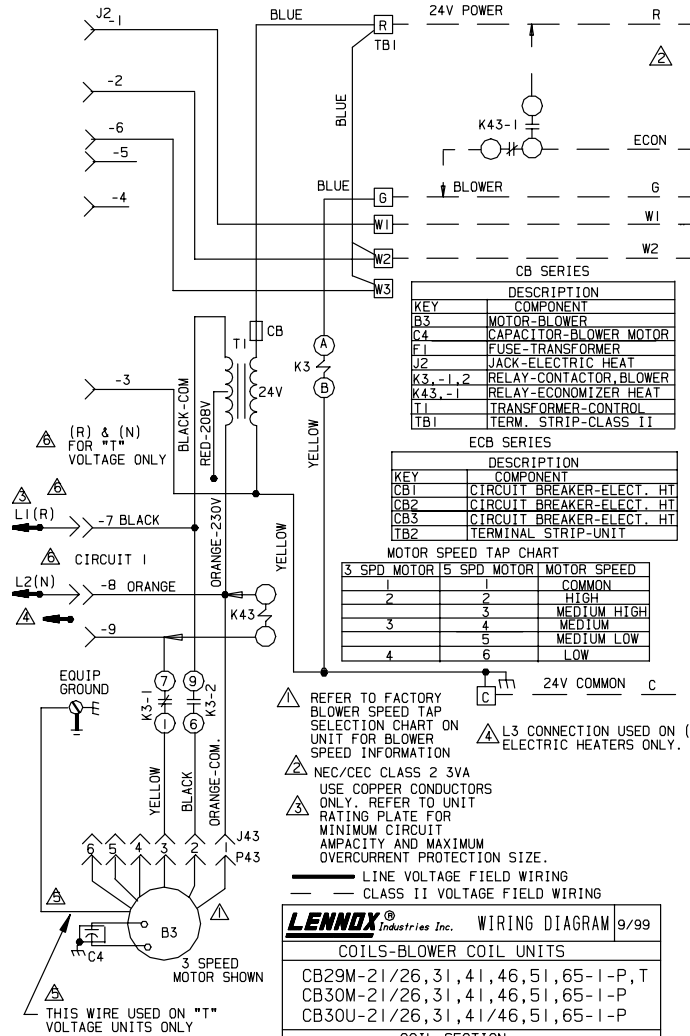


△ EQUIPMENT GROUND LOCATED IN INDOOR UNIT
CONNECT POWER WIRES FROM HEATER LABELED L1, L2 ON "P" VOLTAGE UNITS AND L1, L2, L3 ON "Y" VOLTAGE UNITS TO TB2 TERMINAL STRIP IN INDOOR UNIT.

FIELD WIRING FOR ECB SERIES UNITS WITH CIRCUIT BREAKERS



△ L3 IS NOT PRESENT ON (P) ELECTRIC HEATERS
△ THE NUMBER OF CIRCUITS VARY ACCORDING TO HEATER MODEL. REFER TO FAN COIL NAMEPLATE FOR ACTUAL NUMBER EMPLOYED



| KEY | DESCRIPTION |
|-----------|------------------------|
| B3 | MOTOR-BLOWER |
| C4 | CAPACITOR-BLOWER MOTOR |
| F1 | FUSE-TRANSFORMER |
| J2 | JACK-ELECTRIC HEAT |
| K3, -1, 2 | RELAY-CONTACTOR BLOWER |
| K43, -1 | RELAY-ECONOMIZER HEAT |
| T1 | TRANSFORMER-CONTROL |
| TB1 | TERM. STRIP-CLASS II |

| KEY | DESCRIPTION |
|-----|---------------------------|
| CB1 | CIRCUIT BREAKER-ELECT. HT |
| CB2 | CIRCUIT BREAKER-ELECT. HT |
| CB3 | CIRCUIT BREAKER-ELECT. HT |
| TB2 | TERMINAL STRIP-UNIT |

| MOTOR SPEED TAP CHART | | |
|-----------------------|-------------|-------------|
| 3 SPD MOTOR | 5 SPD MOTOR | MOTOR SPEED |
| 1 | 1 | COMMON |
| 2 | 2 | HIGH |
| 3 | 3 | MEDIUM HIGH |
| 4 | 4 | MEDIUM |
| 5 | 5 | MEDIUM LOW |
| 6 | 6 | LOW |

- △ REFER TO FACTORY BLOWER SPEED TAP SELECTION CHART ON UNIT FOR BLOWER SPEED INFORMATION
- △ NEC/CEC CLASS 2 3VA USE COPPER CONDUCTORS ONLY. REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION SIZE.
- LINE VOLTAGE FIELD WIRING
- - - CLASS II VOLTAGE FIELD WIRING

LENNOX Industries Inc. WIRING DIAGRAM 9/99

COILS-BLOWER COIL UNITS

CB29M-21/26, 31, 41, 46, 51, 65-I-P, T
 CB30M-21/26, 31, 41, 46, 51, 65-I-P
 CB30U-21/26, 31, 41/46, 51, 65-I-P

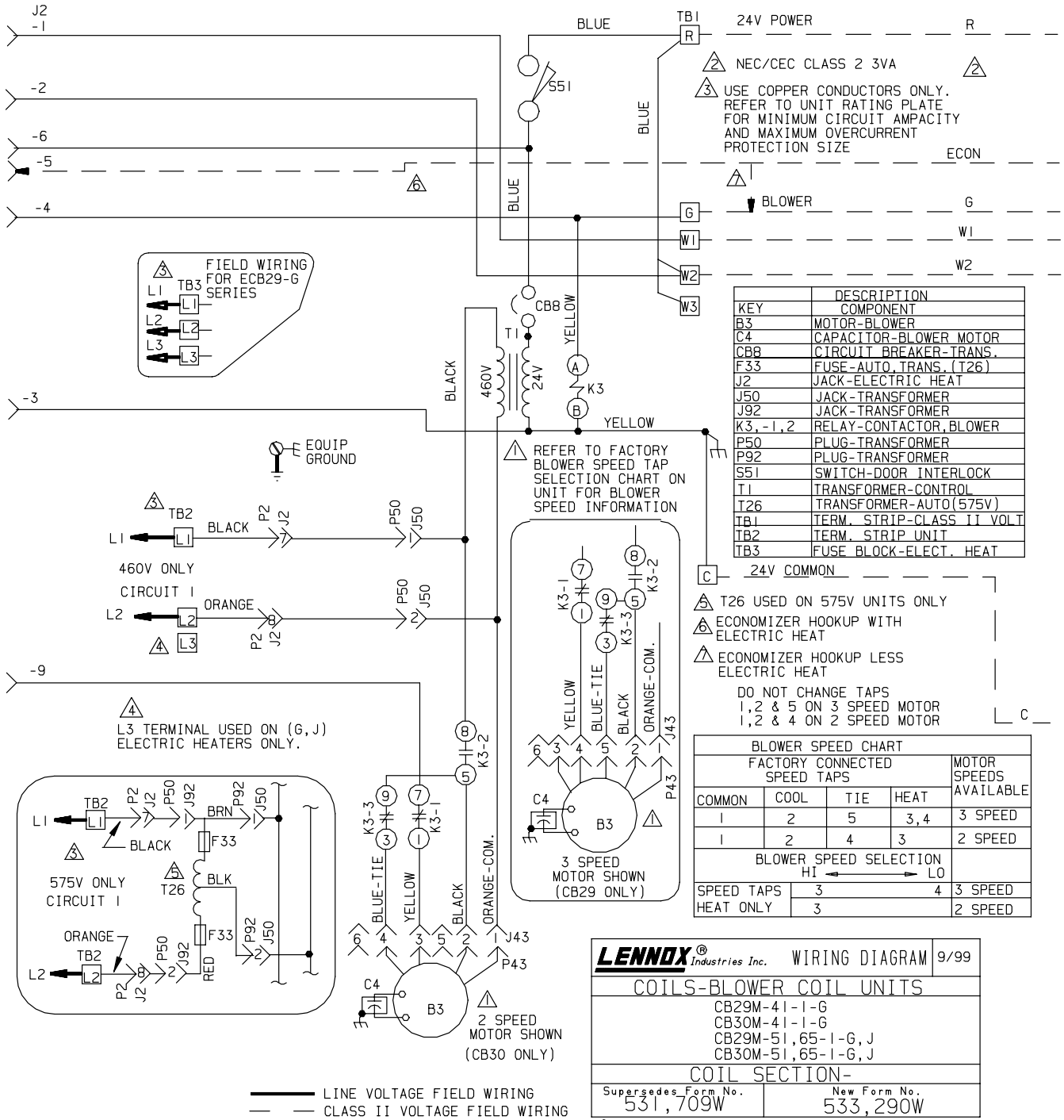
COIL SECTION-

| | |
|---------------------|--------------|
| Supersedes Form No. | New Form No. |
| 531,978W | 533,291W |

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FIGURE 15

CB29 & CB30 Typical Wiring Diagram - Three Phase



NEC/CEC CLASS 2 3VA
 USE COPPER CONDUCTORS ONLY.
 REFER TO UNIT RATING PLATE
 FOR MINIMUM CIRCUIT AMPACITY
 AND MAXIMUM OVERCURRENT
 PROTECTION SIZE

| KEY | DESCRIPTION COMPONENT |
|-----------|---------------------------|
| B3 | MOTOR-BLOWER |
| C4 | CAPACITOR-BLOWER MOTOR |
| CB8 | CIRCUIT BREAKER-TRANS. |
| F33 | FUSE-AUTO. TRANS. (T26) |
| J2 | JACK-ELECTRIC HEAT |
| J50 | JACK-TRANSFORMER |
| J92 | JACK-TRANSFORMER |
| K3, -1, 2 | RELAY-CONTACTOR, BLOWER |
| P50 | PLUG-TRANSFORMER |
| P92 | PLUG-TRANSFORMER |
| S51 | SWITCH-DOOR INTERLOCK |
| T1 | TRANSFORMER-CONTROL |
| T26 | TRANSFORMER-AUTO(575V) |
| TB1 | TERM. STRIP-CLASS II VOLT |
| TB2 | TERM. STRIP UNIT |
| TB3 | FUSE BLOCK-ELECT. HEAT |

DO NOT CHANGE TAPS
 1, 2 & 5 ON 3 SPEED MOTOR
 1, 2 & 4 ON 2 SPEED MOTOR

| BLOWER SPEED CHART | | | | MOTOR SPEEDS AVAILABLE |
|--------------------|------|-----|------|------------------------|
| COMMON | COOL | TIE | HEAT | |
| 1 | 2 | 5 | 3, 4 | 3 SPEED |
| 1 | 2 | 4 | 3 | 2 SPEED |

| BLOWER SPEED SELECTION | | MOTOR SPEEDS AVAILABLE |
|------------------------|-----------|------------------------|
| SPEED TAPS | HI ← → LO | |
| 3 | 4 | 3 SPEED |
| HEAT ONLY | 3 | 2 SPEED |

LENNOX Industries Inc. WIRING DIAGRAM 9/99

COILS-BLOWER COIL UNITS

CB29M-41-1-G
 CB30M-41-1-G
 CB29M-51, 65-1-G, J
 CB30M-51, 65-1-G, J

COIL SECTION-

| | |
|----------------------------------|---------------------------|
| Supersedes Form No. 531, 709W | New Form No. 533, 290W |
|----------------------------------|---------------------------|

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FIGURE 16

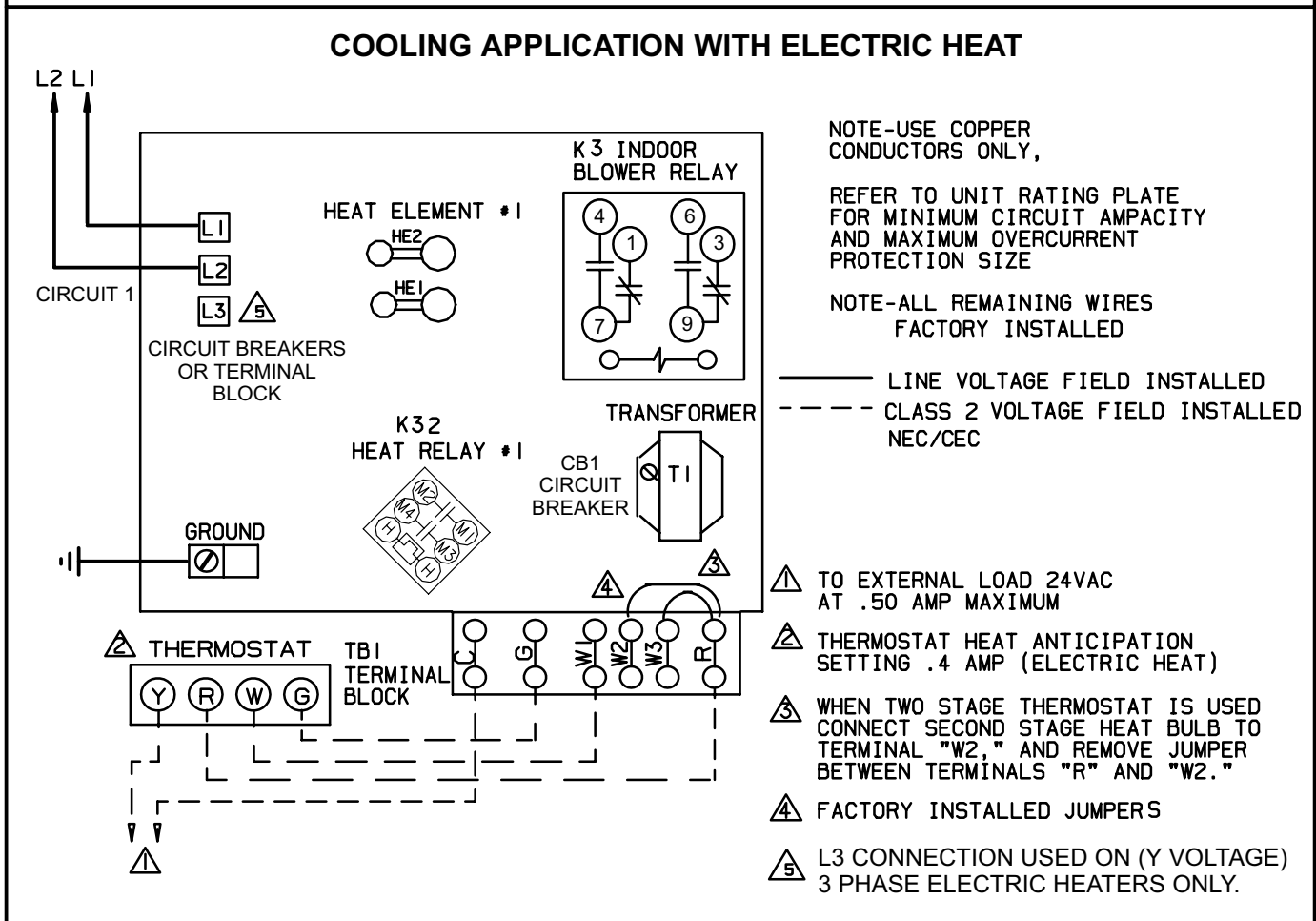
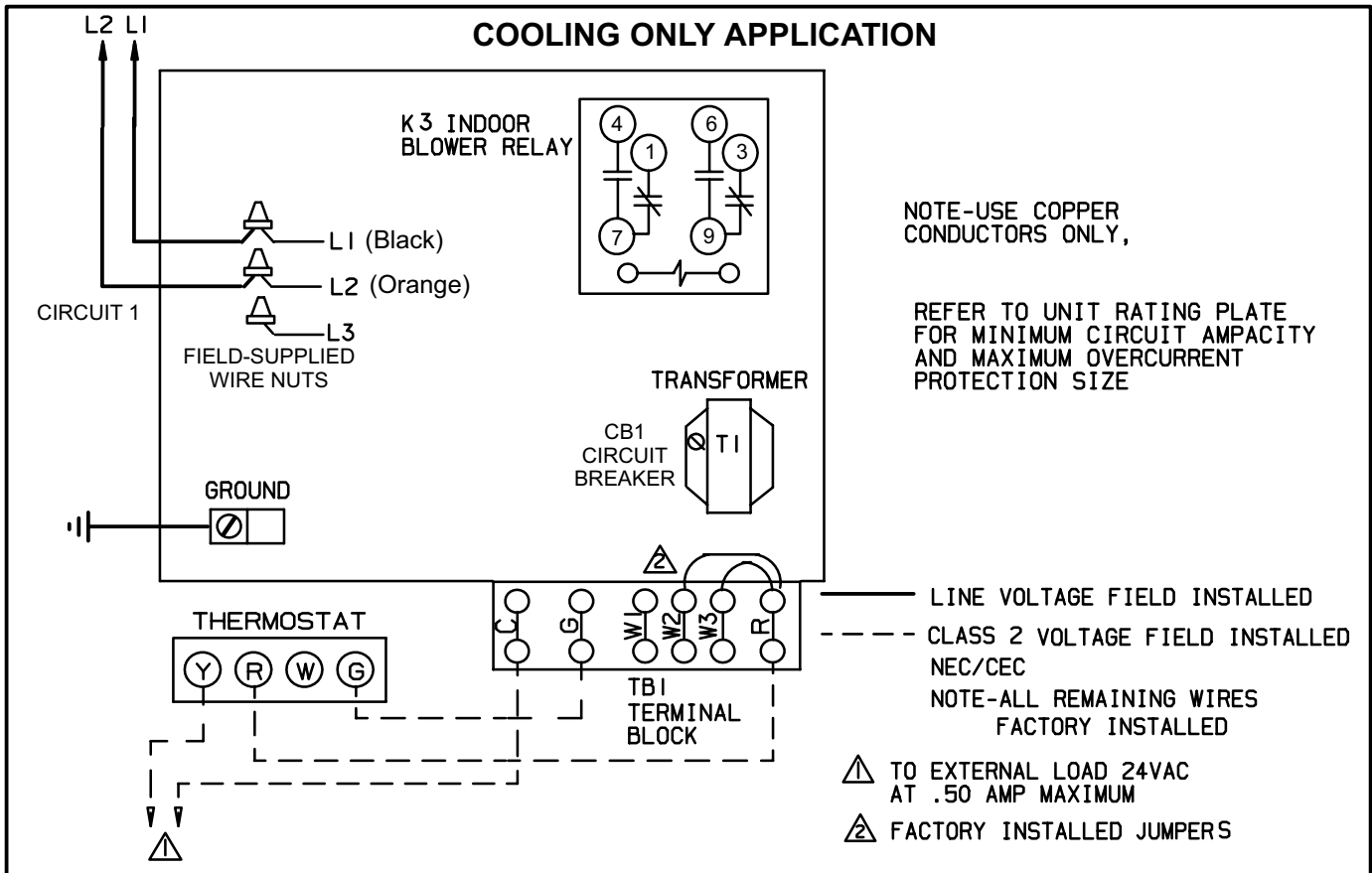


FIGURE 17

HEAT PUMP ONLY APPLICATION

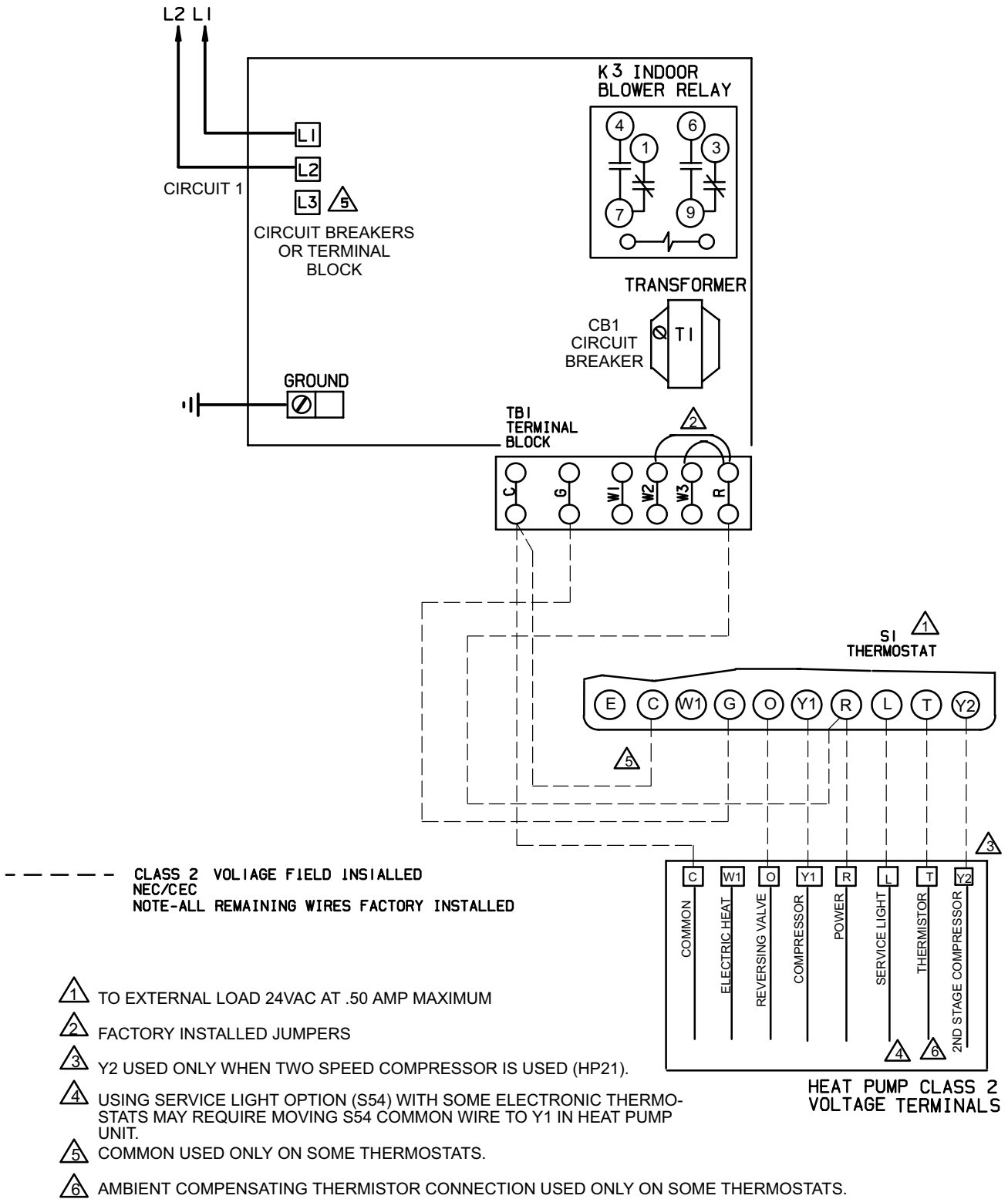


FIGURE 18

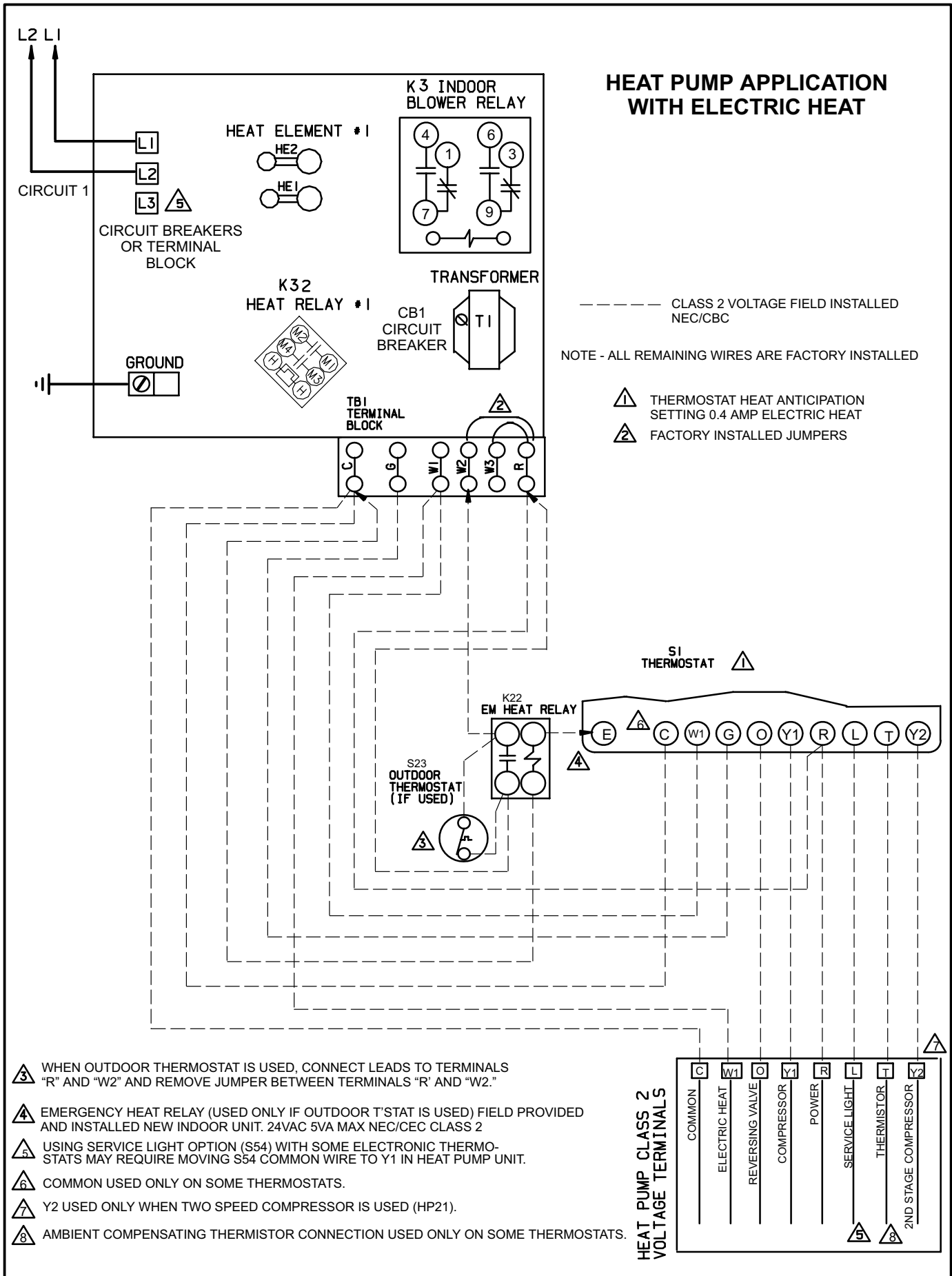


FIGURE 19