

INSTALLATION INSTRUCTIONS

Litho U.S.A.
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General Information

These instructions are for CB17-95, CBH17-95, CB17-135, and CBH17-135. These instructions are intended as a general guide and do not supersede national or local codes in any way. Authorities having jurisdiction should be consulted before installation.

CB17 & CBH17 Series Units

CB17 blower coil units are designed for indoor vertical applications only. CBH17 blower coil units are designed for indoor horizontal applications only. Figure 1 shows a typical CB17 installation. Figure 2 shows a typical CBH17 installation.

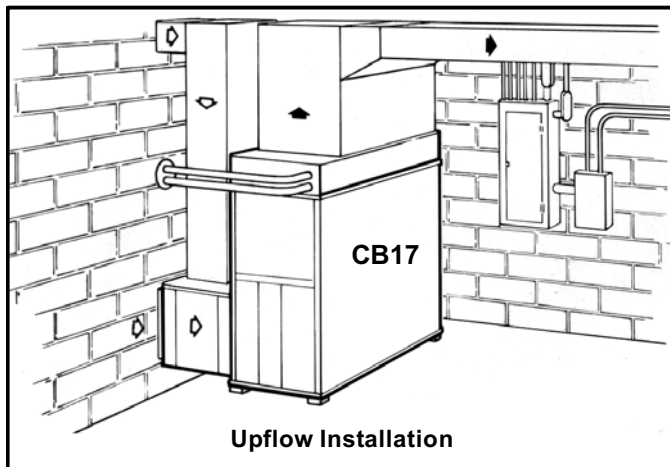


Figure 1

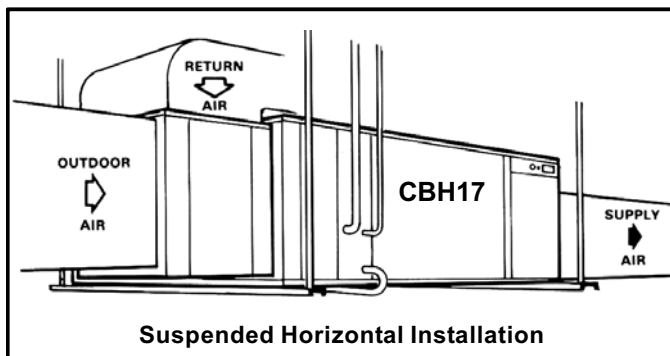


Figure 2

▲ IMPORTANT

The Clean Air Act of 1990 bans the intentional venting of refrigerant (CFCs and HCFCs) as of July 1, 1992. Approved methods of recovery, recycling or reclaiming must be followed. Fines and/or incarceration may be levied for noncompliance.

INSTALLATION INSTRUCTIONS

CB17 & CBH17 Series Units

BLOWER COIL UNITS

504,588M
2/02
Supersedes 504,439M

TP Technical
Publications
Litho USA

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**RETAIN THESE INSTRUCTIONS
FOR FUTURE REFERENCE**

Shipping & Packing List

Blower Coil Unit

Package 1 of 2 contains the following:

- 1 - Assembled blower coil unit
- 1 - Plastic bag -
 - 1 - Distributor
 - 1 - Condensate drain plug
 - 1 - Blower drive belt
 - 3 - Plastic grommets

Blower Motor Drive Kit

Package 2 of 2 contains the following:

- 1 - Blower motor pulley
- 1 - Blower motor
- 1 - Plastic bag containing blower motor mounting plate bolts and washers

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

Blower Motor Drive Kit Selection

The blower motor drive kits listed on the unit nameplate and in table 1 are available for use with the CB17 and CBH17 units.



Table 1
Blower Motor Drive Kits

Model Number	Nominal Motor Horsepower (kW)	Maximum Usable Horsepower (kW)	RPM Range of All Available Drive Setups @ 1725 RPM Motor Speed
DKB17-95/135-1.5-2	1.5 (1.1)	1.725 (1.3)	600-820
DKB17-95/135-1.5-3	1.5 (1.1)	1.725 (1.3)	600-820
*DKB17-95/135-5-1.5-4	1.5 (1.1)	1.725 (1.3)	600-820
DKB17-95/135-2-6	2 (1.5)	2.30 (1.7)	730-950
DKB17-95/135-2-7	2 (1.5)	2.30 (1.7)	730-950
*DKB17-95/135-5-2-8	2 (1.5)	2.30 (1.7)	730-950

*Not available for U.L. listed units
** RPM (revolutions per minute)

Installing the Unit

- 1 - Remove the blower access panel.
- 2 - Use the provided bolts and washers to install the blower motor on the motor mounting plate. See figure 3.

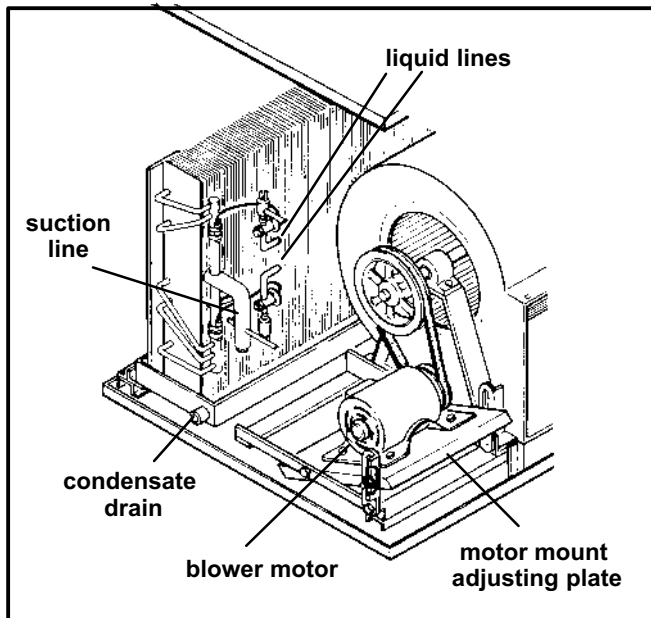


Figure 3

- 3 - Make wiring connections per the wiring section and figure 4.
- 4 - Install the blower motor pulley and belt.

- 5 - Adjust the motor mounting plate for proper belt tension. Ideal tension is the lowest tension at which the belt will not slip under peak load conditions. Overtightening the belt will shorten the life of the belt and bearings.
- 6 - Tighten the motor mounting plate bolts and recheck the belt for proper tension.

Refrigerant Piping Connections

The coil is divided into two sections. Each section has its own expansion valve. This configuration allows the use of a solenoid valve to control the flow of refrigerant into one coil section. Use this feature for capacity reduction or latent heat control. If a solenoid valve is used, install it directly ahead of the expansion valve of the coil section being controlled. Size the solenoid valve for approximately 50 percent of the total evaporator unit capacity.

The sections share a common suction line. Connect the refrigerant piping from the bottom coil section to the first-stage condensing unit

The expansion valves are sized specifically for the two stages. The CB17/CBH17-95 has a 6-ton first-stage expansion valve and a 4-ton second-stage valve. The CB17/CBH17-135 has a 6-ton first-stage expansion valve and a 4-ton second-stage valve.

Because of the two-section coil configuration, take care in piping the system. Refer to the condensing unit installation instructions to select the correct refrigerant lines for these coils.

NOTE - CB17 and CBH17 series evaporator coils have a holding charge of nitrogen or dry air. 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 before releasing the unit charge into the system.

- 1 - Route piping through either side of the unit.
- 2 - Remove the knockouts from the piping mullion. Install the rubber grommets into the piping holes.
- 3 - Remove the plugs from the suction line and from the two liquid line stubs.
- 4 - Use the provided distributor if only one liquid line is present from the condensing unit or heat pump.
- 5 - Note the location of the factory-installed expansion valve bulbs. Remove the expansion valve bulbs from the manifold so that the heat of the torch will not damage them during brazing.
- 6 - After connecting the refrigerant piping to the coil suction and liquid line stubs, replace the expansion valve bulbs. Ensure that each bulb is tightly clamped to the suction manifold.

NOTE - The expansion valve bulbs must be reinstalled in their original factory location.

7 - Insulate the suction line with a tubular slip-on insulation

2 - Install the plastic bushing.

3 - Position the box over the plastic bushing and secure the blower contactor kit (LB-51207CB).

4 - Secure the strain relief bushing to the blower motor wiring box.

Wiring

NOTE - Complete all refrigerant piping connections before installing the blower contactor kit.

Electrical connections must comply with local codes. See figure 4 for the blower coil field wiring only. Electrical conduit knockouts are provided in the piping mullion.

NOTE - If an electric heat section has been installed in the unit, the blower contactor kit is not required. The cabinet is equipped with knockouts for the wiring from the blower motor to the electric heat system.

1 - Remove the knockout.

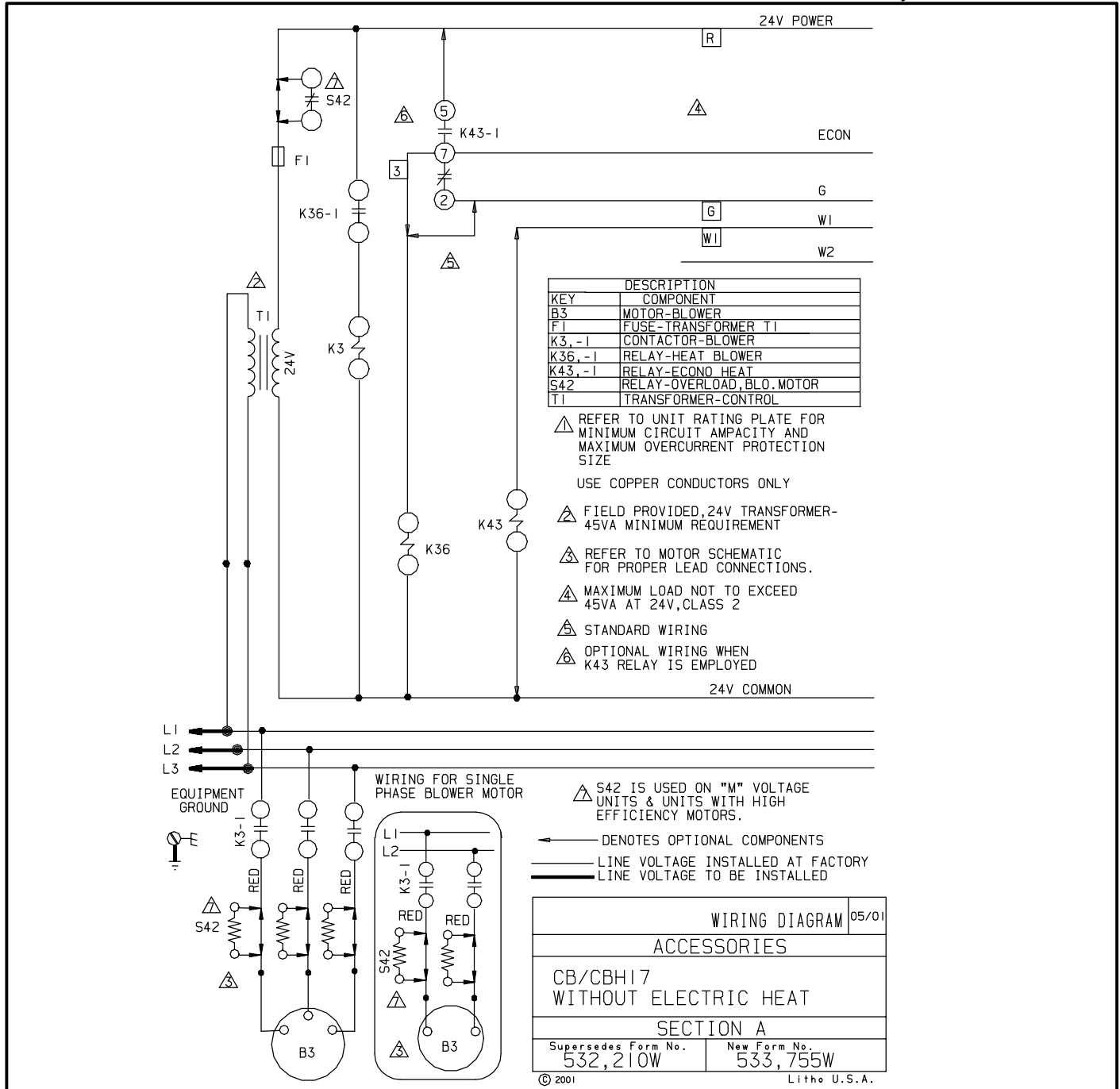


Figure 4

Condensate Drain Connection

The unit is equipped with a condensate drain outlet on each side.

- 1 - Install the provided drain plug in the condensate outlet that will not be used.
- 2 - Install condensate piping using properly sized field-provided fittings.
- 3 - Install a trap in the drain line where the drain exits the unit.
- 4 - Pitch the drain line downward to the open drain or sump.

NOTE - Never connect the condensate drain to a closed system.

- 5 - Use plugged tees where possible to facilitate cleaning the drain lines.

Duct Connections

If a return air plenum is not used, installation codes may limit installation to single-story structures only.

Do not install the supply air plenum within 18 inches (457 mm) of the blower access panel.

NOTE - Use a flexible duct to eliminate vibration.

Determining the Unit's Air Volume

NOTE - The indoor coil must be dry and the air filters must be in place when the following measurements are taken.

- 1 - Run the blower without a cooling demand.
- 2 - Measure the static pressure external to the unit.
- 3 - Measure the indoor blower motor's rpm.
- 4 - Refer to tables 2 and 3. Use the static pressure and rev/min* readings to determine the unit's air volume.
- 5 - Adjust the unit's air volume at the blower motor pulley. Loosen the Allen screw. Turn the adjustable sheave clockwise to increase the air volume or counterclockwise to decrease the air volume. See figure 3.

Table 2

CB17-95V and CBH17-95V Blower Performance with or without Electric Heat

Air Volume cfm (m ³ /s)	Static Pressure External to the Unit — Inches Water Gauge (Pa)									
	0.25	0.35	0.45	0.55	0.65	0.75	0.85	1.10	1.35	
	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP
2000	----	550 .35	590 .50	630 .55	650 .60	690 .70	720 .75	790 1.05	850 1.30	
2500	560 .30	660 .55	630 .65	670 .75	700 .80	730 .90	760 1.00	830 1.30	880 1.40	
*3000	625 .75	650 .85	690 .95	720 1.00	750 1.15	775 1.25	800 1.30	-----	-----	
3500	685 1.05	715 1.15	740 1.30	770 1.35	800 1.50	825 1.60	840 1.65	-----	-----	
4000	750 1.60	775 1.65	800 1.75	825 1.85	850 1.95	875 2.05	900 2.15	-----	-----	

NOTE — All data is measured external to the unit with air filters in place.

*3000 cfm (1.416 m³/s) minimum with electric heat.

4000 cfm (1.888 m³/s) @ .35 static pressure maximum with 1.5 horsepower (1.1 kW) motor.

Table 3

CB17-135V and CBH17-135V Blower Performance with or without Electric Heat

Air Volume cfm (m ³ /s)	Static Pressure External to the Unit — Inches Water Gauge (Pa)									
	0.25	0.35	0.45	0.55	0.65	0.75	0.85	1.10	1.35	
	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP	RPM BHP
3000	575 .60	610 .70	650 .80	680 .90	725 1.05	750 1.20	790 1.30	860 1.55	925 1.85	
3500	620 .80	650 .95	680 1.05	725 1.15	750 1.25	790 1.40	820 1.55	900 1.95	950 2.10	
*4000	665 1.10	700 1.20	725 1.30	750 1.40	790 1.55	820 1.70	850 1.90	920 2.15	-----	
4500	715 1.40	740 1.55	775 1.70	810 1.80	840 1.95	870 2.10	890 2.25	-----	-----	
5000	760 1.80	800 1.95	825 2.15	850 2.30	-----	-----	-----	-----	-----	

NOTE — All data is measured external to the unit with air filters in place.

*4000 cfm (1.888 m³/s) minimum with electric heat.

4500 cfm (2.124 m³/s) @ .45 static pressure maximum with 1.5 horsepower (1.1 kW) motor.