

# **INSTALLATION INSTRUCTIONS**

**BC35B AND BC36B**

**INDOOR BLOWER COIL UNIT**

**FOR USE WITH  
SPLIT HEAT PUMP AND  
SPLIT AIR CONDITIONER SYSTEMS**

TABLE 1  
APPROVED MATCHED COMBINATIONS, RATED CFM, E.S.P., ORIFICE  
PART NUMBER AND DIAMETER

Condensing Unit Model Number	Blower Coil Model Number	Rated Airflow		Recommended Air Flow Range	Orifice Part Number	Orifice Diameter
		CFM	ESP			
300HPQA	BC35B	975	.55	825 - 1075	N/A	N/A
	BC36B	1050	.35	900 - 1150	5625-067 (2)	.067
36UHPQA	BC35B	1125	.35	950 - 1240	N/A	N/A
	BC36B	1200	.30	1020 - 1320	5625-072 (1)	.072
30BPQ6	BC35B	1060	.35	910 - 1160	N/A	N/A
	BC36B	1050	.35	900 - 1150	5625-061 (2)	.061
36BPQ7	BC35B	1240	.20	1060 - 1360	N/A	N/A
	BC36B	1200	.30	1020 - 1320	5625-063 (2)	.063
30UACQA	BC35B	1025	.40	875 - 1125	N/A	N/A
	BC36B	1050	.35	900 - 1150	5625-063 (2)	.063
36UACQA	BC35B	1200	.30	1020 - 1320	N/A	N/A
	BC36B	1200	.30	1020 - 1320	5625-072 (1)	.072
42UACQA	BC36B	1200	.30	1020 - 1320	5625-078 (2)	.078
30BCQ4	BC35B	1050	.50	900 - 1150	N/A	N/A
31BCQ2	BC35B	1000	.55	850 - 1100	N/A	N/A
36BCQ5	BC35B	1275	.40	1095 - 1395	N/A	N/A
37BCQ1	BC35B	1200	.50	1020 - 1320	N/A	N/A

(1) This orifice is shipped installed in the blower coil. When this combination of condensing unit and blower coil is used, the orifice is properly sized.

(2) This orifice is not installed in the blower coil. Proper orifice diameter is shipped with outdoor unit packaged with its installation instructions. The orifice must be replaced with the proper orifice shown.

## GENERAL

Units are shipped completely assembled and internally wired, requiring only duct connections, thermostat wiring and external 208-240 volt AC power supply.

The BC35B and BC36B blower coil units, with various KW electric heat options are suitable for use with the following air conditioner and heat pump outdoor sections. It can be used both as an air conditioning system with electric heat and as a heat pump with electric heat. Refer to sections titled, "AIR CONDITIONING WITH ELECTRIC HEAT and HEAT PUMP WITH ELECTRIC HEAT" for complete information.

TABLE 7  
APPROVED COMBINATIONS

Air Conditioning		Heat Pump	
<u>Outdoor Section</u>	<u>Indoor Section</u>	<u>Outdoor Section</u>	<u>Indoor Section</u>
30BCQ4	BC35B	30HPQ6	BC35B & BC36B
31BCQ2	BC35B	36HPQ7	BC35B & BC36B
36BCQ5	BC35B	30UHPQA	BC35B & BC36B
37BCQ1	BC35B	36UHPQA	BC35B & BC36B
30UACQA	BC35B & BC36B		
36UACQA	BC35B & BC36B		
36UACQA-B	BC35B & BC36B		
42UACSA	BC36B		
42UACSA-B	BC36B		

## UNPACKING

Upon receipt of equipment, carton should be checked for external signs of damage. If damage is found, request for inspection by carrier's agent should be made in writing immediately.

## SIZING

Size of unit for a proposed installation should be based on heat loss calculation made according to methods of National Warm Air Heating and Air Conditioning Association. The air duct should be installed in accordance with the Standards of the National Fire Protection Association for the Installation of Air Conditioning and Ventilating Systems of Other Than Residence Type, NFPA No. 90A, and Residence Type Warm Air Heating and Air Conditioning System, NFPA No. 90B. Where local regulations are at a variance with instructions, installer should adhere to local codes.

## MOUNTING POSITIONS

The BC35B and BC36B can be installed in three positions with respect to airflow direction: Upflow, horizontal and downflow. The general intent of these mounting positions is shown on the cover page of this installation manual. Capacity and efficiency ratings are certified in the vertical installation position. Capacity may be reduced slightly for other installation positions.

The unit is shipped with the coil installed for upflow or horizontal position. It is secured in place by four screws, two on the top left support angles and two on the top right support angles. To convert to counterflow position, remove front access panel, remove the four screws securing coil pan assembly and remove coil.

Place cabinet in desired mounting position, and reinstall coil as shown on cover page. Make sure the coil is installed as shown with respect to blower.

**IMPORTANT:** The unit as received has coil installed for upflow/horizontal position only. It must be rotated 180 degrees for downflow positions. See note under "Condensate Drain."

TABLE 12

KW Rating	Connection Diagram	Quantity Of A-22's
0	CCD-5	0
5,9	CCD-6	1
14,18	CCD-7	1

In geographical areas where compressor cut-off would not be required because winter temperatures below 10 degrees F are never experienced, disregard the compressor cut-off wiring shown on the control circuit diagram.

### WALL THERMOSTATS

The following wall thermostats and subbases should be used as indicated, depending on the application.

TABLE 13

Application	KW	THERMOSTAT		SUBBASE	
		Part No.	Description	Part No.	Description
A/C	5,9	8403-002	T87F3111	8404-003	Q539A1220
A/C	14,18	8403-019	T874C1000	8404-012	Q674A1001
H/P	All ①	8403-017	T874R1129	8404-009	Q674L1181
H/P	All ②	8403-018	T874R1024	8404-010	Q674L1261

- ① No automatic changeover position--must manually place in heat or cool. Reversing valve remains energized at all times system switch is in heat position (except during defrost cycle). No pressure equalization noise when thermostat is satisfied on either heating or cooling.
- ② Allows thermostat to control both heating and cooling operating when set in "AUTO" position. Reversing valve de-energizes at end of each "ON" heating cycle.

**IMPORTANT NOTE:** Both thermostat and subbase combinations shown above incorporate the following features: Man-Auto fan switch, Off-Heat-Cool-Em. heat switch, and two (2) indicator lamps--one for emergency heat and one for compressor malfunction.

**WARNING:** Only the thermostats and subbases listed in Table 13 may be used with the following outdoor sections: 24UHPQA, 30UHPQA, and 36UHPQA.

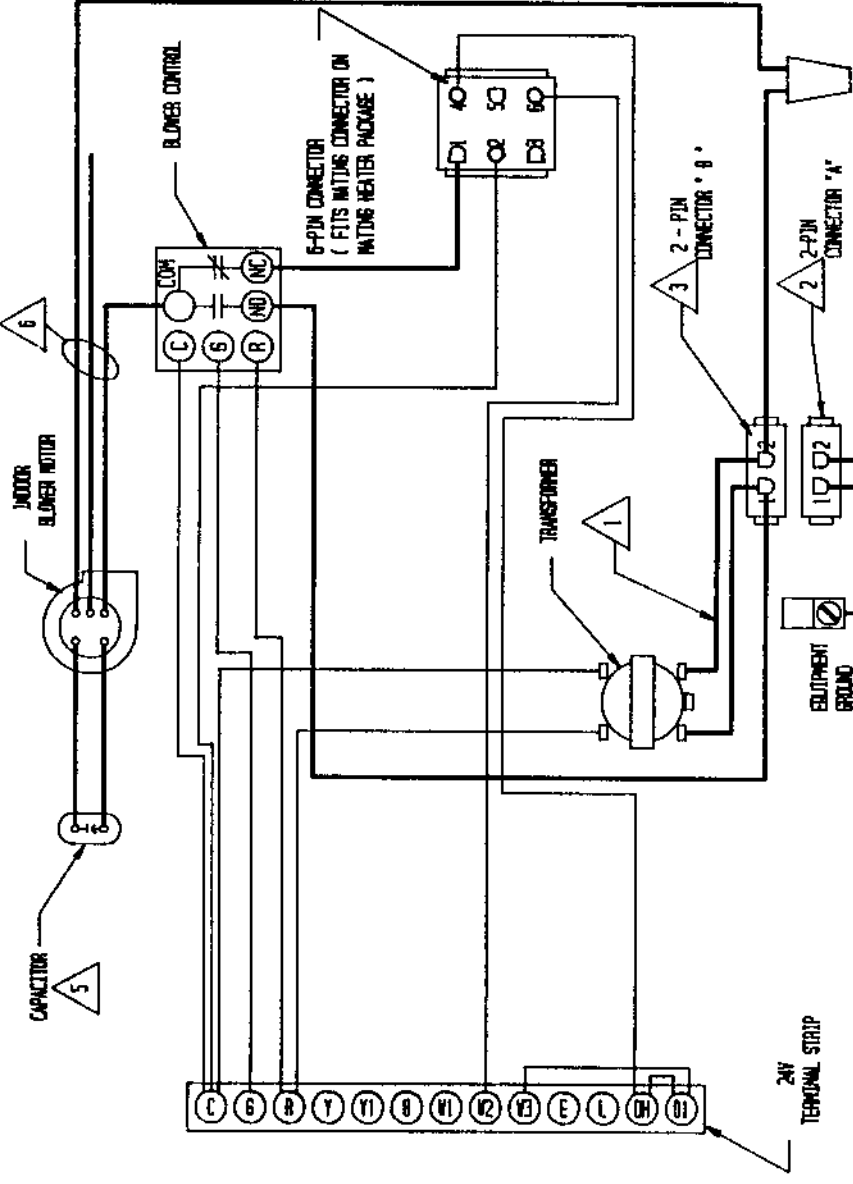
PARTS LIST  
FUNCTIONAL PARTS

Date: 04/18/89

Dwg. No.	Part No.	Description	BC35B	BC36B
1	8607-019	Terminal Strip	X	X
2	8407-035	Transformer 55VA	X	X
3	8201-056	Solid State Blower Control	X	X
4	5811-010	Capillary Tube	3	
4	5625-009	Distributor		X
5	5060-055	Evaporator Coil	X	
5	5060-054	Evaporator Coil		X
6	104-813	Blower Angle	2	2
7	151-087	Blower Housing Assembly	X	X
8	144-128	Blower Diffuser	X	X
9	5152-014	Blower Wheel 10 x 9	X	X
10	8552-025	Capacitor 7-1/2 / 440V	X	X
11	8200-034	Motor Mount Arm	3	3
12	8105-022	Motor 1/3 HP 230V	X	X
13	8200-033	Motor Mount Band		X
14	5625-072	.072 Orifice		X
15	5625-002	5782 Coupling to R.H. Thread Adapter		X
16	5651-036	Check Valve	X	
17	7004-010	Filter 16 x 20 x 1	X	X
	4088-110	Wiring Diagram	X	X

# CONNECTION DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD.  
DISCONNECT POWER BEFORE SERVICING.

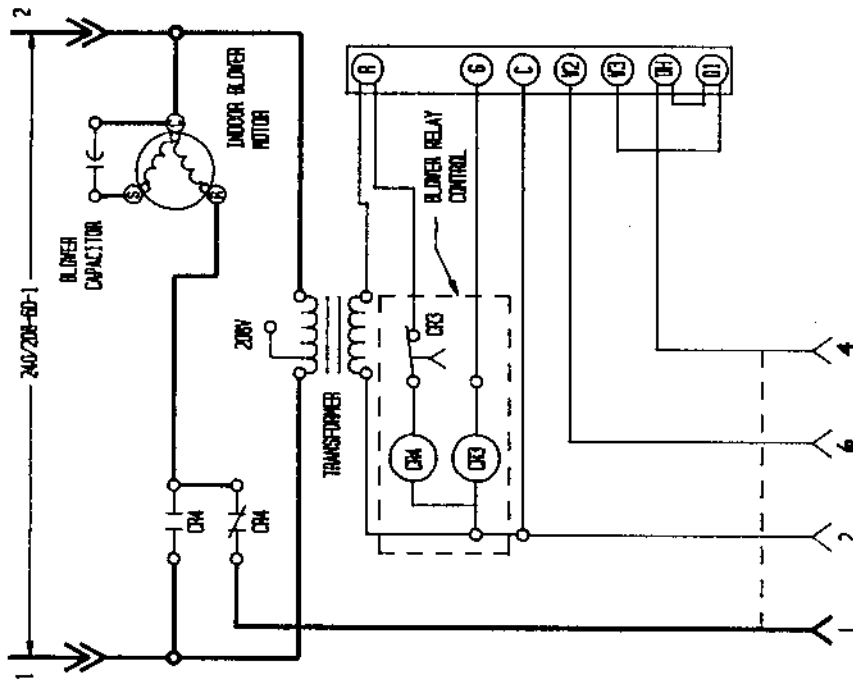


- 1 FOR 200V OPERATION MAKE THIS WIRE TO THE 200V TRANSFORMER TAP
- 2 2-PIN CONNECTOR 'K' USED FOR FIELD CONNECTION WHEN NO HEATER PACKAGE IS INSTALLED.
- 3 WHEN HEATER PACKAGE IS INSTALLED CONNECTOR 'B' CONNECTS TO HEATING CONNECTOR ON HEATER PACKAGE.
- 4 REFER TO INSTALLATION INSTRUCTIONS FOR CONTROL CIRCUIT WIRING

FACTORY WIRING	FIELD WIRING
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Low Voltage  
High Voltage

# LADDER DIAGRAM



WIRE COLOR	MOTOR SPEED
YELLOW	COMMON
BLACK	HIGH
BLUE	MEDIUM (R240 ONLY)
RED	LOW

MODEL	CAPACITOR
BC246	5/370
BC359	7.5/440
BC368	