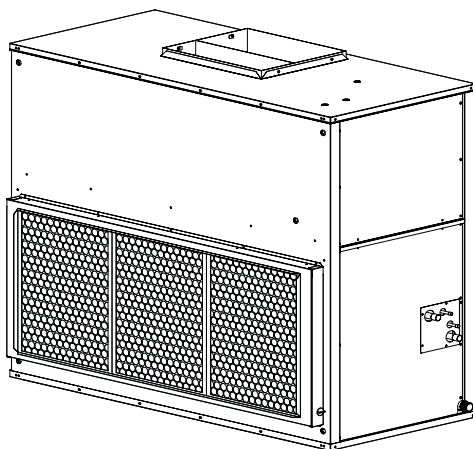
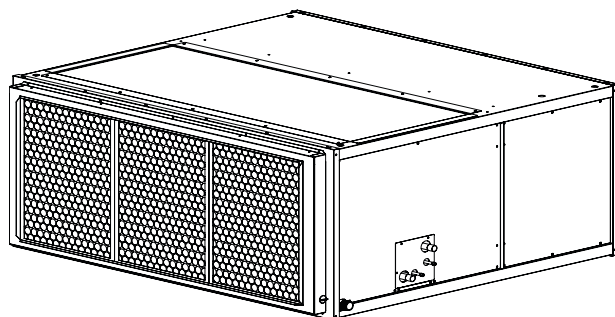


INSTALLATION INSTRUCTIONS

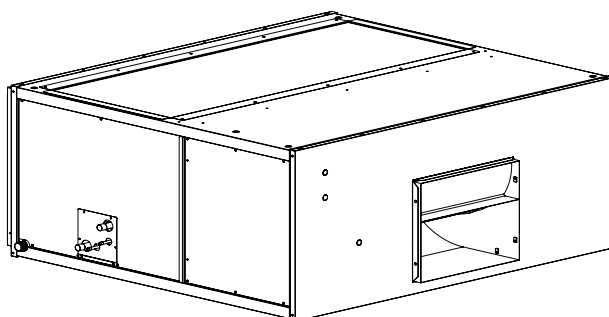
2-SPEED, LIGHT COMMERCIAL AIR HANDLER



Vertical Application



Horizontal Application - Rear View



Horizontal Application - Front View

IMPORTANT

ATTENTION INSTALLERS:

It is your responsibility to know this product better than your customer. This includes being able to install the product according to strict safety guidelines and instructing the customer on how to operate and maintain the equipment for the life of the product. Safety should always be the deciding factor when installing this product and using common sense plays an important role as well. Pay attention to all safety warnings and any other special notes highlighted in the manual. Improper installation of the furnace or failure to follow safety warnings could result in serious injury, death, or property damage.

These instructions are primarily intended to assist qualified individuals experienced in the proper installation of this appliance. Some local codes require licensed installation/service personnel for this type of equipment. Please read all instructions carefully before starting the installation. Return these instructions to the customer's package for future reference.

DO NOT DESTROY. PLEASE READ CAREFULLY & KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.

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IMPORTANT SAFETY INFORMATION

INSTALLER: Please read all instructions before servicing this equipment. Pay attention to all safety warnings and any other special notes highlighted in the manual. Safety markings are used frequently throughout this manual to designate a degree or level of seriousness and should not be ignored. **WARNING** indicates a potentially hazardous situation that if not avoided, could result in personal injury or death. **CAUTION** indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage.

WARNING:

ELECTRICAL SHOCK, FIRE OR EXPLOSION HAZARD

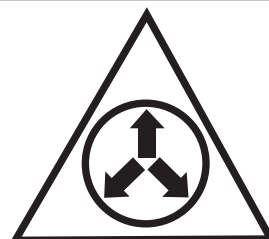
Failure to follow safety warnings exactly could result in serious injury or property damage.

Improper servicing could result in dangerous operation, serious injury, death or property damage.

Before servicing, disconnect all electrical power to furnace.

- Before servicing, disconnect all electrical power to the air handler.
- When servicing controls, label all wires prior to disconnecting. Reconnect wires correctly.
- Verify proper operation after servicing.

WARNING:



NITROGEN	
HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
0 Minimal Hazard 1 Slight Hazard	

Evaporator coils are shipped from the factory with a nitrogen holding charge. Use caution when preparing coils for field connections. If repairs make it necessary for evacuation and charging, it should only be attempted by qualified, trained personnel thoroughly familiar with this equipment. Some local codes require licensed installation service personnel to service this type of equipment. Under no circumstances should the equipment owner attempt to install and/or service this equipment. Failure to comply with this warning could result in equipment damage, personal injury, or death.

WARNING:

Improper installation, service, adjustment, or maintenance may cause explosion, fire, electrical shock or other hazardous conditions which may result in personal injury or property damage. Unless otherwise noted in these instructions, only factory authorized kits or accessories may be used with this product.

WARNING:

Unless otherwise noted in these instructions, only factory authorized kits or accessories may be used with or when modifying this product.

WARNING:

The safety information listed below must be followed during the installation, service, and operation of this unit. Unqualified individuals should not attempt to interpret these instructions or install this equipment. Failure to follow safety recommendations could result in possible damage to the equipment, serious personal injury or death.

- The installer must comply with all local codes and regulations which govern the installation of this type of equipment. Local codes and regulations take precedence over any recommendations contained in these instructions. Consult local building codes for special installation requirements.
- This equipment contains liquid and gaseous refrigerant under high pressure. Installation or servicing should only be performed by qualified trained personnel thoroughly familiar with this type equipment.
- All electrical wiring must be completed in accordance with local, state and national codes and regulations and with the National Electric Code (ANSI/NFPA 70) or in Canada the Canadian Electric Code Part 1 CSA C.22.1.
- Installation of equipment may require brazing operations. Installer must comply with safety codes and wear appropriate safety equipment (safety glasses, work gloves, fire extinguisher, etc.) when performing brazing operations.
- Install this unit only in a location and position as specified in Locating The Air Handler section. This unit is designed only for Indoor installations and should be located with consideration of minimizing the length of the supply and return ducts. Refer to Blower Performance Data (Table 5, page 12 & Table 6, page 14) for the allowable operating range and adjustments.
- Consideration should also be given to the accessibility of fuel, electric power, service access, and noise. Physical dimensions for each type of installation is shown on pages 9 & 10. See Figure 5 for horizontal installations or Figure 6 for Vertical installations.
- Follow all precautions in the literature, on tags, and on labels provided with the equipment. Read and thoroughly understand the instructions provided with the equipment prior to performing the installation and operational check-out of the equipment.

GENERAL INFORMATION

B6TM air handlers are shipped from the factory ready for installation in a horizontal position. The units can be easily re-configured in the field for vertical applications. The return air opening is interchangeable between the bottom of the unit and the top panel simply by switching the filter-rack with the return air cover panel. For either configuration, sufficient clearance must be provided on the sides of the unit to allow access for servicing the blower, motor, coil assembly, and filters.

This unit has been designed and tested for capacity and efficiency in accordance with AHRI Standards. Refer to technical service literature for AHRI matched systems. This unit will provide many years of safe and dependable comfort, providing it is properly installed and maintained. With regular maintenance, this unit will operate reliably year after year. Abuse, improper use, and/or improper maintenance can shorten the life of the appliance and create unsafe hazards.

Before You Install the Air Handler

- ✓ This equipment is securely packed at the time of shipment and upon arrival should be carefully inspected for damage prior to installing the equipment at the job site. Claims for damage (apparent or concealed) should be filed immediately with the carrier.
- ✓ The cooling load of the area to be conditioned must be calculated and a system of the proper capacity selected.
- ✓ Check the electrical supply and verify the power supply is adequate for unit operation. The system must be wired and provided with circuit protection in accordance with local building codes. If there is any question concerning the power supply, contact the local power company.
- ✓ The air handler should be installed before routing the refrigerant tubing. Refer to the indoor unit's installation instructions for installation details.
- ✓ Verify the air delivery of the air handler is adequate to handle the static pressure drop of the coil, filter, and duct work.
- ✓ Please consult your dealer for maintenance information and availability of maintenance contracts. Please read all instructions before installing the unit.

Locating the Air Handler

- Survey the job site to determine the best location for mounting the unit.
- Overhead obstructions, poorly ventilated areas, and areas subject to accumulation of debris should be avoided.
- Consideration should be given to availability of electric power, service access, and noise.

Field Connections for Electrical Power Supply

- All wiring must comply with current provisions of the National Electrical Code (ANSI/NFPA 70) and with applicable local codes having jurisdiction.
- The minimum size of electrical conductors and circuit protection must be in compliance with information listed on the units data label.
- Electrical power supplied to the unit must be adequate for proper operation of the equipment. The system must be wired and provided with circuit protection in accordance with local building codes.

Air Ducts

This unit is designed only for use with a supply and return duct. Air ducts should be installed in accordance with the standards of the National Fire Protection Association Standard for Installation of Air Conditioning Systems (NFPA 90A), Standard for Installation of Residence Type Warm Air

Heating and Air Conditioning Systems (NFPA 90B), and all applicable local codes. NFPA publications are available by writing to: National Fire Protection Association, Batterymarch Park, Quincy, ME 02269 or visit www.NFPA.org on the web.

- Design the duct work according to methods described by the Air Conditioning Contractors of America (ACCA), Manual Q.
- The return air duct must have the same free area as the opening provided on the blower coil unit.
- Duct work should be attached directly to the unit flanges for horizontal and vertical applications. See Figure 5, (page 9) or Figure 6 (page 10).

Unconditioned Spaces

All duct work passing through unconditioned space must be properly insulated to minimize duct losses and prevent condensation. Use insulation with an outer vapor barrier. Refer to local codes for insulation material requirements.

Acoustical Duct Work

Certain installations may require the use of acoustical lining inside the supply duct work.

- Acoustical insulation must be in accordance with the current revision of the Sheet Metal and Air Conditioning Contractors National Association (SMACNA) application standard for duct liners.
- Duct lining must be UL classified batts or blankets with a fire hazard classification of FHC-25/50 or less.
- Fiber duct work may be used in place of internal duct liners if the fiber duct work is in accordance with the current revision of the SMACNA construction standard on fibrous glass ducts. Fibrous duct work and internal acoustical lining must be NFPA Class 1 air ducts when tested per UL Standard 181 for Class 1 ducts.

AIR HANDLER INSTALLATION

Packaging Removal

Remove the shipping crate and User's Manual from the equipment. Take care not to damage the tubing connections when removing the crate.

Minimum Clearance Requirements

This air handler must be installed with ample clearance for easy access to the air filters, blower assembly, and, controls. Allow 24 inches minimum clearance from the front of the motor and refrigerant access panels for service and maintenance. However 36 inches is strongly recommended.

Horizontal Mounting Applications

B6TM air handlers can be suspended from support rods at each corner and are supplied with the required 1/2-13 NC hardware. The installer only needs to supply the 1/2" full threaded support rods in an appropriate length for their application. **NOTE:** These units can be supported with 3/8" full threaded support rods, however all mounting hardware must be field supplied. Once in position, verify the unit is level. See Figure 5 (page 9).

CAUTION:

When raising the air-handler for horizontal mounting, always use safe lifting methods and equipment. Always support the unit along its entire width. Failure to do so may result in damage to the lower panels or other equipment. If determined safe for your application the shipping pallet may be utilized with a forklift for this operation.

Vertical Mounting Applications

Verify the unit is level and there is adequate clearances to service the unit and provide the minimum 2" trap needed for the condensate drain. See Figure 6 (page 10).

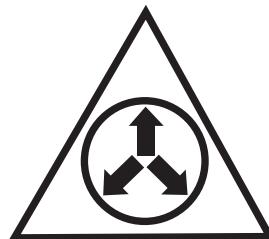
Condensate Drain

B6TM air handlers have condensate drain ports on both sides of the unit, and may be configured for drainage from the left, right or both sides. See Figure 5 or Figure 6. Connection to the drains can be made with a 3/4" threaded PVC adapter.

Units are configured at the factory with the service side drain open and a threaded PVC drain plug installed on the opposite side. Each drain line installed requires its own drain trap. To ensure proper drainage, the installed drain trap(s) must provide a minimum trap of 2 inches. **NOTE:** It is recommended that a secondary drain pan be used when the unit is hung above an enclosed ceiling.

Connecting Refrigerant Tubing

WARNING:



NITROGEN	
HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
0 Minimal Hazard 1 Slight Hazard	

Evaporator Coils are factory shipped with a nitrogen charge. Avoid direct face exposure or contact with valve when gas is escaping. Always ensure adequate ventilation is present during the depressurization process. Any uncertainties should be addressed before proceeding.

- When connecting refrigerant linesets together, it is recommended that dry nitrogen be flowing through the joints during brazing. This will prevent internal oxidation and scaling from occurring.
- Refrigerant tubing should be routed in a manner that minimizes the length of tubing and the number of bends in the tubing.
- Refrigerant tubing should be supported in a manner that the tubing will not vibrate or abrade during system operation.
- Tubing should be kept clean of foreign debris during installation.
- Every effort should be made by the installer to ensure that the field installed refrigerant containing components of the system have been installed in accordance with these

instructions and sound installation practices to insure reliable system operation and longevity.

- Always refer to the installation instructions supplied with the outdoor unit for piping requirements. The suction and liquid lines must be sized in accordance with the condensing unit specifications.
- If precise forming of refrigerant lines is required, a copper tubing bender is recommended. Avoid sharp bends and contact of the refrigerant lines with metal surfaces.
- A filter dryer is provided with the unit and must be installed in the liquid line of the system. If the installation replaces a system with a filter dryer already present in the liquid line, the filter dryer must be replaced with the one supplied with the unit. The filter dryer must be installed in strict accordance with the manufacturer's installation instructions.
- B6TM air handlers are supplied with a direct expansion refrigerant coil and thermostatic expansion valves. Refrigerant line connections are located on the motor side (service side) of cabinet and require sweat connections.
- The B6TM-120 air handler has a dual circuit coil and the B6TM-090 has a single circuit coil.
- The B6TM-120 air handler is charged through service valves on the end of the liquid tube for each circuit. These must be removed before brazing the line sets. The B6TM-090 is charged through a service valve inside the unit, which should not be removed.
- **Before brazing the B6TM-090 air handler, remove the core from the service port.** Failure to do this may result in a leak at the service valve. Replace the core and cap once brazing is complete.
- Optional equipment such as liquid line solenoid valves, low ambient, etc., should be installed in strict accordance with the manufacturer's installation instructions.

Filter Requirements

B6TM air handlers are shipped with three permanent 1" filters; however the filter rack can be converted to accommodate a 2" filter as shown in Figure 1. To convert to a 2" filter:

1. Remove all filters from the unit.
2. Locate and remove the 4 screws (Figure 1) holding the bottom filter slide assembly (latch end) to the filter rack frame. **NOTE:** Be careful when removing the slide assembly so it does not drop into unit and cause damage to the coil.
3. Remove the 4 screws securing the "L" bracket to the "Z" bracket.
4. Rotate the "L" bracket 180 degrees, and reposition it so it mounts flush with the "Z" bracket. See Figure 1.
5. Secure the filter slide assembly together with the four screws.
6. Re-install the filter slide assembly back into the filter rack frame and secure with the 4 screws removed earlier. If replacing factory supplied filters with disposable filters, use only 2" disposable filters.

Accessing the filters does not require tools and can be performed from either side of the filter-rack. On the service side of the unit, locate the release knob at the base of the filter rack and rotate clockwise to unlock, then pull up and out to remove the filter access panel. On the blower side, use the same method but rotate counter-clockwise to unlock.

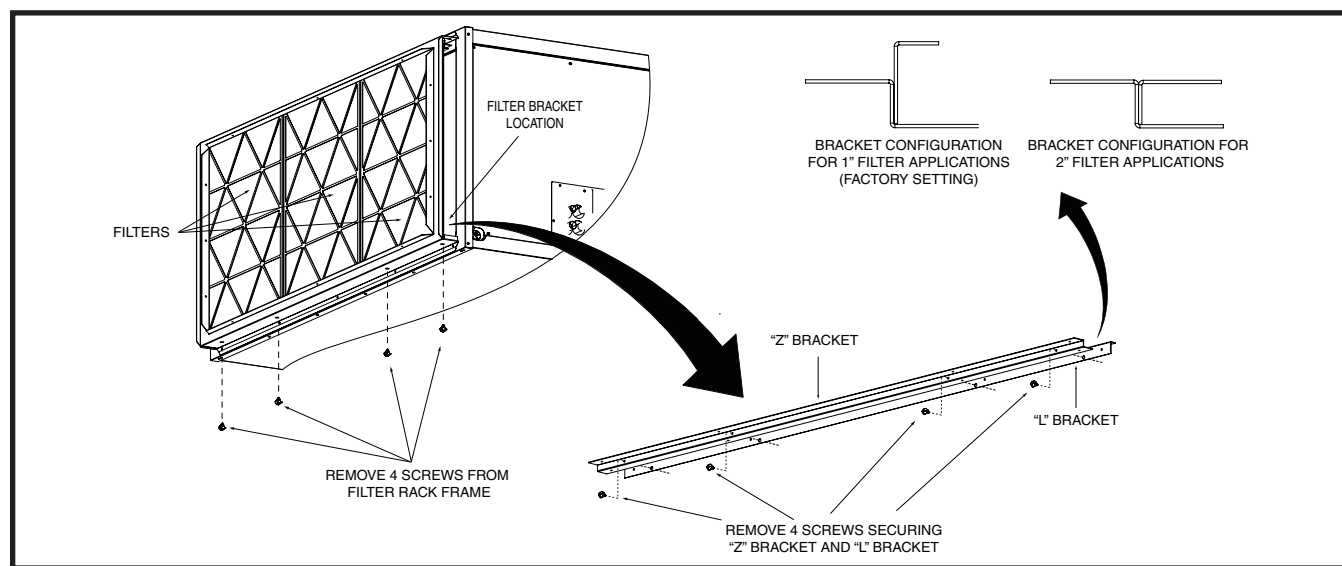


Figure 1. Converting from 1" Filter to 2" Filter Applications

ELECTRICAL CONNECTIONS

WARNING:

ELECTRICAL SHOCK, FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings exactly could result in serious injury or property damage.

Improper servicing could result in dangerous operation, serious injury, death or property damage.

Before servicing, disconnect all electrical power to furnace.

- **Before servicing, disconnect all electrical power to the air handler.**
- **When servicing controls, label all wires prior to disconnecting. Reconnect wires correctly.**
- **Verify proper operation after servicing.**

- Electrical connections must be in compliance with all applicable local codes and ordinances, and with the current revision of the National Electric Code (ANSI/NFPA 70).
- For Canadian installations, the electrical connections and grounding shall comply with the current Canadian Electrical Code (CSA C22.1 and/or local codes).

Pre-Electrical Checklist:

- ✓ Verify that the voltage, frequency, and phase of the supply source match the specifications on the unit rating plate. The label is located near the refrigerant lines.
- ✓ Verify that the service provided by the utility is sufficient to handle the additional load imposed by this equipment.
- ✓ Phase balance on 3 phase units must always be checked. See Unbalanced 3-Phase Supply Voltage section.

Line Voltage

- It is recommended that the line voltage to the unit be supplied from a dedicated branch circuit containing the correct fuse or circuit breaker for the unit.
- **An electrical disconnect must be located within sight of and readily accessible to the unit.** This switch shall be capable of electrically de-energizing the outdoor unit. See unit data label for proper incoming field wiring. Any other wiring methods must be acceptable to authority having jurisdiction.
- Refer to the unit wiring label for proper high and low voltage wiring.
- Use only copper wire for the line voltage power supply to this unit (Table 1, page 7). Use proper code agency listed conduit and a conduit connector for connecting the supply wires to the unit.
- Overcurrent protection must be provided at the branch circuit distribution panel and sized as shown on the unit rating label and according to applicable local codes. See the unit rating plate for maximum circuit ampacity and maximum overcurrent protection limits.
- If replacing any of the original wires supplied with the unit, the replacement wire must be copper wire consisting of the same gauge and temperature rating.
- Provide power supply for the unit in accordance with the unit wiring diagram, and the unit rating plate. The installer should become familiar with the wiring diagram/schematic

before making any electrical connections to the unit. See Figure 7 (page 16).

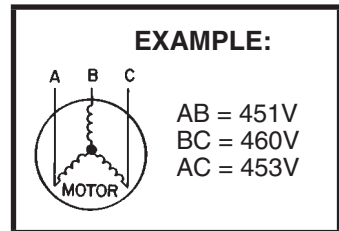
- These air handlers are available in three phase power configuration only, and ready for field connections. For electrical connection locations see Figure 7 (page 16).

Unbalanced 3-Phase Supply Voltage

Voltage unbalance occurs when the voltages of all phases of a 3-phase power supply are no longer equal. This unbalance reduces motor efficiency and performance. Some underlying causes of voltage unbalance may include: Lack of symmetry in transmission lines, large single-phase loads, and unbalanced or overloaded transformers. A motor should never be operated when a phase imbalance in supply is greater than 2%.

Perform the following steps to determine the percentage of voltage imbalance:

1. Measure the line voltages of your 3-phase power supply where it enters the building and at a location that will only be dedicated to the unit installation. (at the units circuit protection or disconnect).



2. Determine the average voltage in the power supply.

In this example, the measured line voltages were 451, 460, and 453. The average would be 454 volts $(451 + 460 + 453 = 1,364 / 3 = 454)$.

3. Determine the maximum deviation:

EXAMPLE

From the values given in step 1, the BC voltage (460V) is the greatest difference in value from the average:

$$460 - 454 = 6$$
$$454 - 451 = 3$$
$$454 - 453 = 1$$

4. Determine percent of voltage imbalance by using the results from steps 2 & 3 in the following equation.

EXAMPLE

$$100 \times \frac{6}{454} = 1.32\%$$

$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

The amount of phase imbalance (1.32%) is satisfactory since the amount is lower than the maximum allowable 2%. Please contact your local electric utility company if your voltage imbalance is more than 2%.

Thermostat Connections

- Thermostat connections shall be in accordance with the instructions supplied with the thermostat and the indoor equipment. The low voltage wires must be properly connected to the units low voltage terminal block.
- A two stage thermostat is used with this equipment and must operate in conjunction with any installed accessories. A typical AC and air handler hookup is shown in Figure 8 (page 17). For heat pump and air handler connections, see Figure 9 (page 17).

MODEL	PHASE	HERTZ	VOLTAGE	HP	FLA	MCA	MOP	MAX. EXT STATIC PRES.	REFRIG. TYPE
B6TM090-C	3	60	208-230	2.0 - .89	6.8 / 3.8	8.5	15	0.70 / 0.18	R410A
B6TM090-D			460	2.0 - .89	2.9 / 2.0	3.7	15	0.60 / 0.15	R410A
B6TM120-C	3	60	208-230	2.0 - .89	6.8 / 3.8	8.5	15	0.70 / 0.18	R410A
B6TM120-D			460	2.0 - .89	2.9 / 2.0	3.7	15	0.60 / 0.15	R410A

FLA = Full Load Amps, MCA = Minimum Circuit Ampacity, MOP = Maximum Over-Current Protection

Table 1. Electrical Rating Data

SKU	Kw	Volts/Phase/Hz	MODEL
559428	10	208-240/3/60	H7HK010Q-01
559429	10	480/3/60	H7HK010S-01
559430	16	208-240/3/60	H7HK016Q-01
559431	16	480/3/60	H7HK016S-01
559432	26	208-240/3/60	H7HK026Q-01
559433	26	480/3/60	H7HK026S-01
559434	36	208-240/3/60	H7HK036Q-01
559435	36	480/3/60	H7HK036S-01

Table 2. Duct Mount Heater Kit Models

- The thermostat should be mounted about 5 feet above the floor on an inside wall. DO NOT install the thermostat on an outside wall or any other location where its operation may be adversely affected by radiant heat from sunlight, or lighting fixtures, and convective heat from warm air registers or electrical appliances. Refer to the thermostat manufacturer's instruction sheet for detailed mounting and installation information.

Grounding

WARNING:

The unit cabinet must have an uninterrupted or unbroken electrical ground to minimize personal injury if an electrical fault should occur. Do not use gas piping as an electrical ground!

This unit must be electrically grounded in accordance with local codes or, in the absence of local codes, with the National Electrical Code (ANSI/NFPA 70) or the CSA C22.1 Electrical Code. Use the grounding lug provided in the control box for grounding the unit.

Electrical Wiring with a Duct Heater

Slip-in duct heaters are available as an accessory with the B6TM air handler. See Table 2 for available sizes. These heaters mount in the supply duct external to the air handler. The heater kits are available in 10, 16, 26, and 36 KW sizes and 240 or 460 voltages. All heater kits are set up for three phase operation. To wire the heater kits to the B6TM air handler unit, refer to the Installation Instructions supplied with the kit.

STARTUP & ADJUSTMENTS

Pre-Start Check List

Prior to start-up, complete the following inspection:

- ✓ Verify the unit is level and condensate can drain. Check condensate drain line(s) for proper slope and trap.
- ✓ Verify the air handler is mounted securely.
- ✓ Verify the surrounding area and top of the unit is free from obstructions and debris.
- ✓ Check all ductwork connections. Make sure the duct work is adequately sealed to prevent air leakage.
- ✓ Check all coil connections for leaks.
- ✓ Verify that the line voltage power leads are securely connected and the unit is properly grounded.
- ✓ Verify that the low voltage wires are securely connected to the correct leads on the low voltage terminal strip. Make sure the thermostat is wired correctly.
- ✓ Verify the blower rotates properly. Check the blower belt between the pulleys for proper tension and alignment.
- ✓ Verify the power supply branch circuit overcurrent protection is sized properly.
- ✓ Verify all filters are in place and all equipment access/control panels are in place.

Blower Rotation

If blower is turning opposite of arrow direction, disconnect all power to unit and allow all rotating equipment to stop, then interchange any two field wired leads at the terminal block OR disconnect connections.

Blower Speed Adjustment

The blower speed has been preset at the factory. For optimum system performance and comfort, it may be necessary to change the factory set speed. Please refer to the Blower Performance Data section (page 11).

NOTE: Adjustment of the blower speed is made through varying the pitch of the motor sheave. This adjustment allows for a wide range of installation applications. Do not adjust a sheave to a setting not shown in the tables.

Motor Sheave Adjustment

The motor sheave consists of an outer, moveable pulley face and an inner stationary face. To adjust the motor sheave,

1. Relieve the belt pressure by loosening motor mount bolts and the belt tensioning bolts on the motor mount.
2. Move the blower fan belt out of the way (if necessary) and loosen the set screw in the outer sheave face.
3. Rotate the face in increments of one half or full turns only.

NOTE: This maintains the set screw position precisely over the flats on the pulley hub. Rotating the sheave clockwise (when viewed from the lead end of motor - opposite end of shaft) will make the blower run slower which decreases airflow. Rotating the sheave counter clockwise (as viewed from lead end) will cause the blower to speed up.

4. Tighten the setscrews after the desired adjustment has been made and verify the moveable face is properly secured.

V-Belt Alignment & Tensioning

IMPORTANT! Belt alignment is extremely critical for proper operation and life expectancy of belts and motor bearings. If not equipped with proper alignment tools, prior to removal of blower and motor pulley, measure center of each pulley to a reference point for replacement of new pulleys.

After installing the blower pulley onto the blower shaft, use an in-groove belt alignment tool to verify the parallel offset of the sheave and pulley. If a laser alignment tool is unavailable, place a straight edge, piano wire, or string in the center of the adjustable sheave and pulley V-notch to adjust parallel offset alignments.

NOTE: The straight edge, piano wire or string should be close to the center of the groove and contact each sheave in two places. See Figure 2 (page 8). The objective is to have the center lines of the two sheaves in line. Belt drives should be aligned as perfect as possible to maximize drive life.

Calculate or measure the belt span length as shown in Figure 3 & Figure 4 (page 8). Calculate the required deflection by multiplying this number by 1/64. For example, if the belt span is 32 inches, $32 \times 1/64 = 1/2$ inch deflection.

NOTE: Excessively high or low tensions will affect belt life. Check belt tensions again after 24 hours of operation. Keep extra belts stored in a cool, dark, dry place.

The belt tension is controlled utilizing the adjustable motor mounting plate. To release the belt tension, first loosen the 4 motor mounting nuts that attach the motor to the mounting plate approximately $\frac{1}{2}$ -1 turn and then use the adjusting bolt to release the belt tension. To tighten, complete the steps in the reverse order.

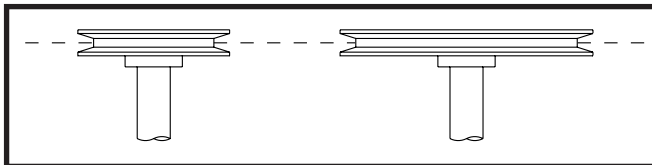


Figure 2. V-Belt Alignment

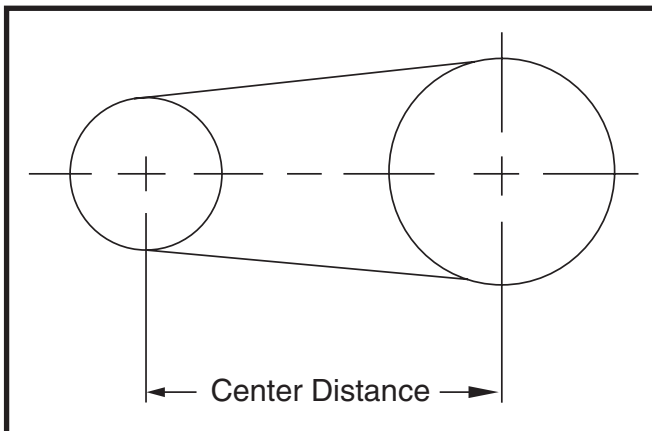


Figure 3. Pulley Alignment

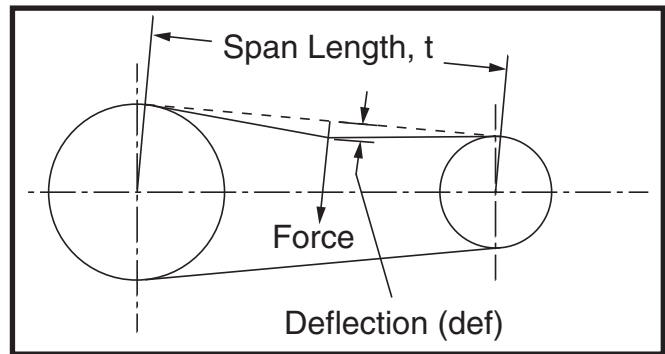


Figure 4. Tensioning V-Belts

UNIT MAINTENANCE

⚠ WARNING:

Never perform maintenance on energized or rotating equipment. Always disconnect electrical power and allow all rotating equipment to stop before servicing the unit. Failure to do so may result in personal injury, loss of limb, or death from electrical shock or entanglement in moving parts.

The maintenance information listed below should be performed in accordance with the Maintenance Schedule shown in Table 7 (page 20).

Filters - To clean permanent filters, remove the filters and wash gently with mild soap and water. Rinse in clean, hot water and allow to drain & dry thoroughly before reinstalling.

Drain Pan - The drain pan and the drain lines should be cleaned to allow condensate to drain properly. Remove any accumulation of residue or sludge from the drain pan. Inspect in and around the drain pan for rust, holes, and leaks.

V-Belts - Inspect for cracks, tears, and excessive or abnormal wear. V-belts tend to elongate over time with normal application and use. Ensure the belt always maintains adequate tension without over tightening. Belts which have been over tightened will wear out rapidly and may cause motor and blower bearings to receive undue strain and wear. As a result the unit could experience excessive vibration and noise problems.

Blower Bearings - The blower assembly incorporates sealed bearings. Under normal operating conditions, no maintenance is necessary for the life of the equipment.

Blower Fan Wheel - Inspect the blower wheel blades for accumulations of dirt and clean if necessary. Inspect mounting nut for tightness when done.

Blower Motor & Assembly - Inspect the blower assembly and motor mounting brackets for tightness and corrosion. Correct deficiencies if necessary. The blower motor contains sealed bearings and under normal operating conditions, no maintenance is necessary for the life of the equipment.

FIGURES & TABLES

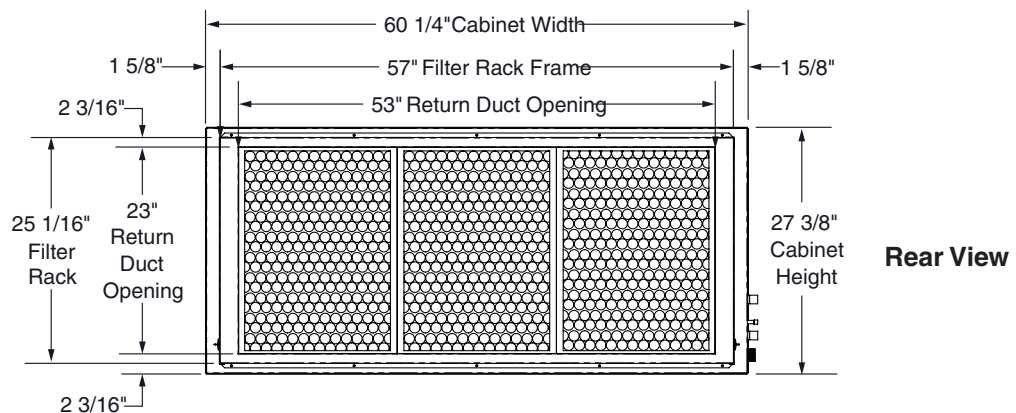
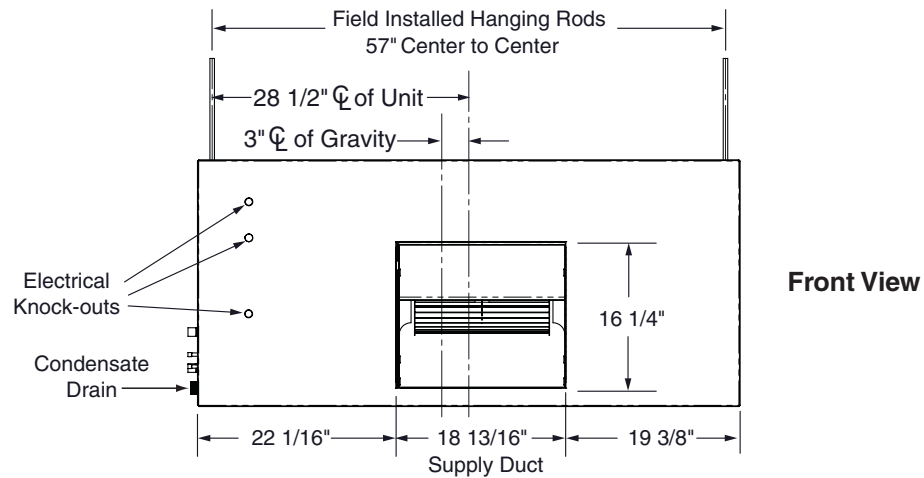
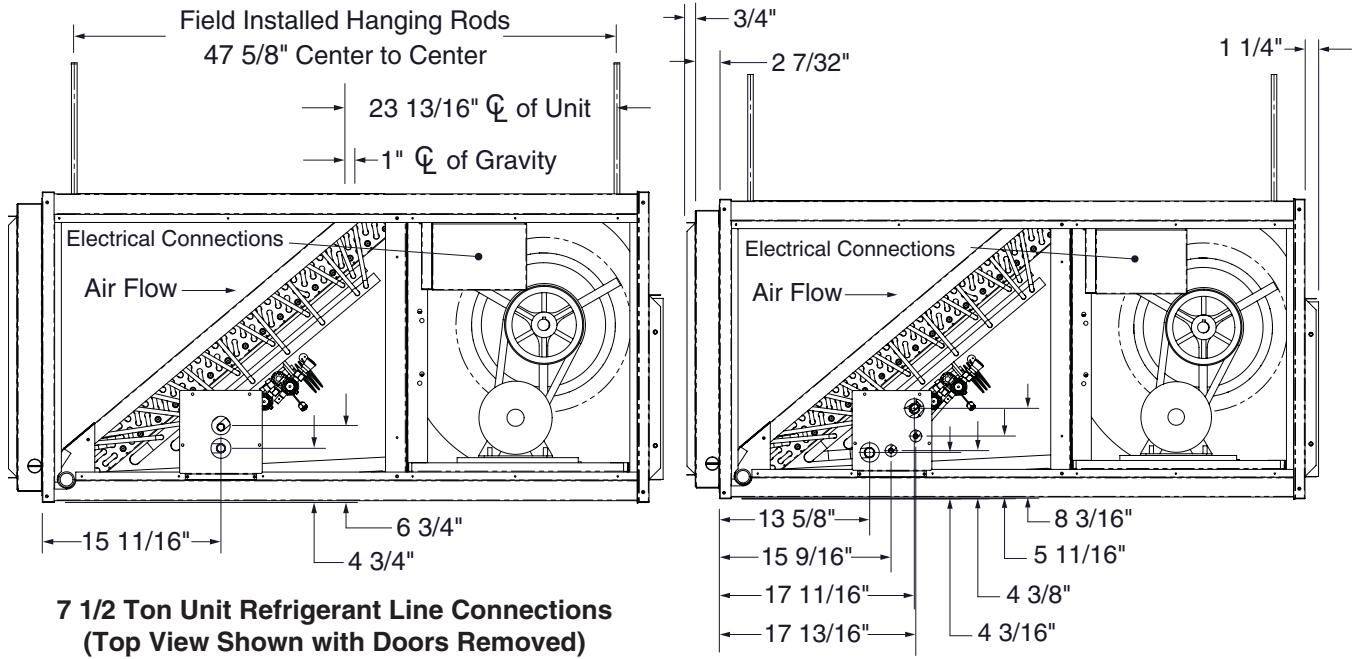


Figure 5. B6TM Physical Dimensions for Horizontal Installations

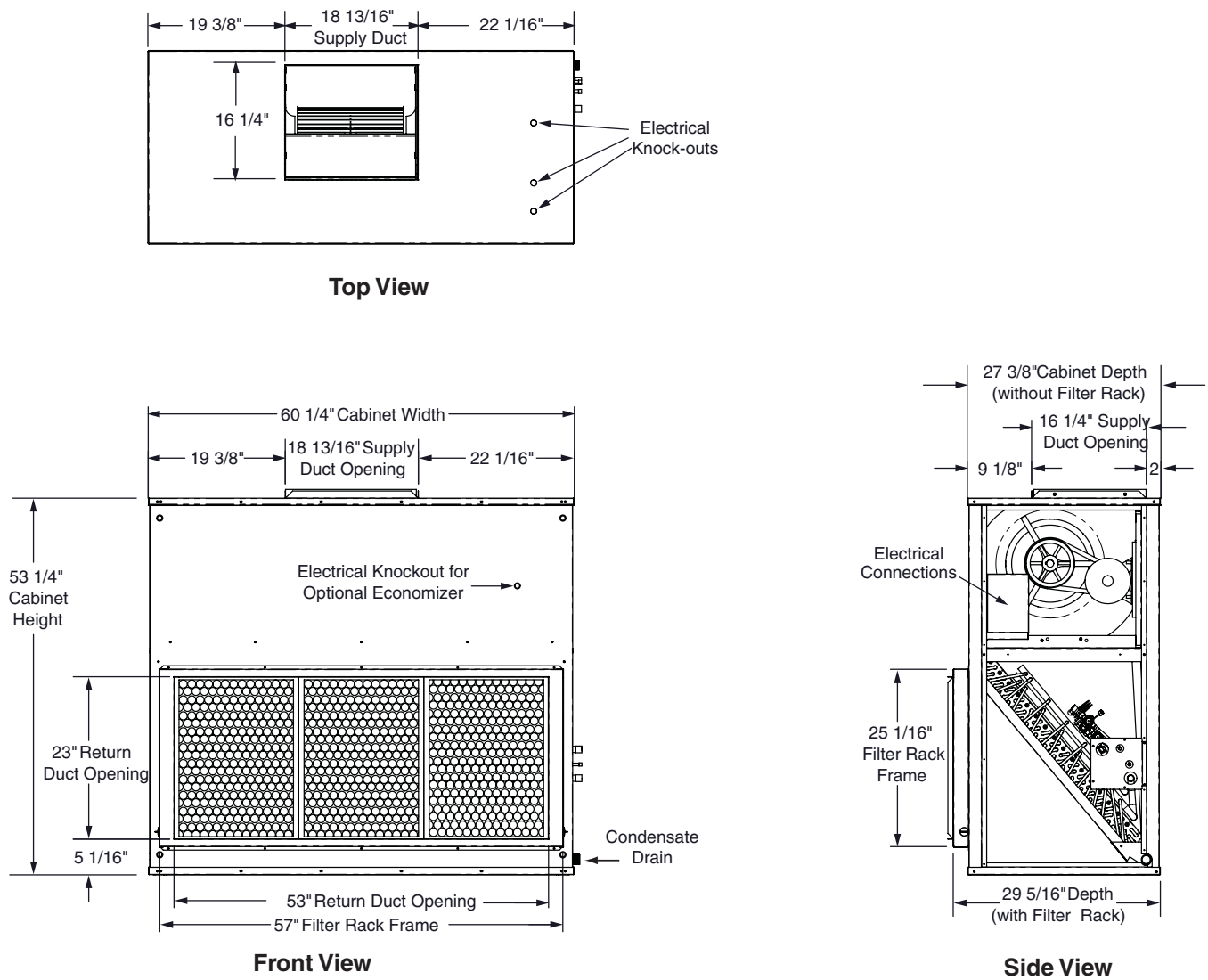


Figure 6. B6TM Physical Dimensions for Vertical Installations

Blower Performance Tables

This equipment is equipped with a belt driven blower assembly in order to accommodate a large variety of duct configurations and airflow selections. The blower has been factory inspected for proper alignment, operation and rotational direction.

The factory standard drive installed in these units has been set to deliver 400 Cfm/ton at an External Static Pressure (ESP) of 0.25-0.30 in-Wg. Consult Table 3 or the unit rating label for the proper air filter size, circulating airflow and temperature rise for your unit. Table 5 (page 12) and Table 6 (page 14) show the full blower curves of these drive configurations and can be utilized to easily set the adjustable motor sheave for alternate configurations. Refer to the Legend below for a description of the table information. After a sheave setting has been made, always inspect the blower amp draw to ensure that it is less than the service factor amps listed on the motor. For systems that include a large number of accessories or have very restrictive duct systems, alternate drive kits are available. Refer to Table 4 below for the applicable kits. The full blower curves for the HSD kits are shown in the tables in bold type.

Table Legend

4115
8.29
1.58

Indicates a recommended unit operational point FOR FACTORY DRIVE

3862
1159
3.03

Indicates a recommended unit operational point FOR HIGH STATIC DRIVE

3493
1017
2.07

Indicates an allowable setting that is not recommended for unit operation[†]

[†] These operational points should be carefully examined by the installer for proper unit setup and heater operation if used.

--

Indicates a setting that is not permitted for unit operation

Model B6TM	Nominal CFM	1" permanent Filters (Supplied)		Wet Coil Correction Δ P (in-Wg)
		Size	Δ P (in-Wg)	
090 (C,D)	2000	18 x 24	0.02	0.015
	2200		0.03	0.017
	2600		0.04	0.019
	3000		0.05	0.021
	3400		0.07	0.023
	3800		0.08	0.025
120 (C,D)	3000	18 x 24	0.05	0.180
	3400		0.07	0.202
	3800		0.08	0.223
	4200		0.09	0.245
	4600		0.11	0.266
	5000		0.13	0.287

Table 3. Pressure Drop Across Filters

Unit Model #	E.S.P. Range (in-Wg)	Blower RPM Range	HSD Kit
-090*	0.1 - 1.1	584 - 877	Blower Pulley, BK72x1" PN 667289R
-120*	0.1 - 1.2	735 - 987	

Refer to B6TM blower charts, Table 5 and Table 6.

Table 4. B6TM Series Alternate Accessory Blower Drives

B6TM090-(C,D)

Standard Drive (Factory) and High Static Drive

* Indicates Factory Sheave Setting
2 HP / 2 Speed Blower

HIGH SPEED OPERATION												
EXTERNAL UNIT STATIC (IN-WG)	OPERATING @ 230V, 460V, OR 575V	ADJUSTABLE MOTOR SHEAVE SETTING										
		FULLY CLOSED	1/2 TURN OPEN	1 TURN OPEN	1.5 TURNS OPEN	2 TURNS OPEN *	2.5 TURNS OPEN	3 TURNS OPEN	3.5 TURNS OPEN	4 TURNS OPEN	4.5 TURNS OPEN	5 TURNS OPEN
0.1	CFM					3710	3520	3330	3190	3050	2850	3330
	RPM					633	609	585	562	538	514	584
	kW					1.10	1.04	0.97	0.85	0.72	0.68	0.83
0.2	CFM				3635	3460	3260	3055	2890	2720	3300	3100
	RPM				660	636	608	580	562	543	618	588
	kW				1.09	0.90	0.89	0.89	0.78	0.68	0.89	0.78
0.3	CFM		3745	3560	3360	3170	2940	3515	3410	3310	3100	2890
	RPM		707	685	661	638	611	693	672	650	622	594
	kW		1.22	1.14	0.97	0.80	0.82	1.12	1.02	0.93	0.82	0.72
0.4	CFM	3700	3500	3300	3090	2880	2620	3490	3265	3040	2775	
	RPM	729	708	686	663	639	613	699	676	652	625	
	kW	1.24	1.12	1.00	0.85	0.71	0.74	1.05	0.96	0.86	0.75	
0.5	CFM	3430	3205	2980	2730	3660	3430	3195	2960	2720		
	RPM	730	709	688	664	760	732	704	680	656		
	kW	1.19	1.06	0.94	0.81	1.29	1.13	0.98	0.88	0.78		
0.6	CFM	3160	2910	3860	3635	3410	3155	2900	2565			
	RPM	730	710	811	787	763	736	708	685			
	kW	1.14	1.01	1.49	1.34	1.20	1.05	0.91	0.78			
0.7	CFM	2750	3840	3630	3370	3110	2830	2550				
	RPM	732	839	814	791	767	740	712				
	kW	0.99	1.57	1.40	1.25	1.101	0.96	0.81				
0.8	CFM	3840	3600	3360	3080	2800						
	RPM	867	843	819	794	769						
	kW	1.64	1.47	1.30	1.15	1.00						
0.9	CFM	3620	3350	3080	2605							
	RPM	871	849	826	799							
	kW	1.55	1.37	1.19	1.00							
1.0	CFM	3350	2995	2640								
	RPM	874	849	823								
	kW	1.43	1.23	1.04								
1.1	CFM	3050										
	RPM	877										
	kW	1.30										

NOTES:

- * Denotes Factory Drive Sheave Setting.
- Italicized numbers indicate points not recommended for proper operation.
- Values include losses for standard air filters, unit casing, and dry evaporator coil.
- For 208V operation deduct approximately 0.5% from CFM shown.
- When utilized with H7HK heater kits, not all operational points shown may be available for use. Refer to the H7HK installation instructions to determine the minimum airflow requirements of the applicable heater assembly.

FACTORY DRIVE CONSISTS OF:

15" x 15" FC Blower, 2 HP / 2 Speed Motor
1VP34 Sheave, BK80 Pulley and A31 Belt.

HIGH STATIC DRIVE CONSISTS OF:

Same except uses BK72 Pulley and A30 Belt.

**Table 5. Blower Performance for B6TM090-(C,D) Series
(High Speed Operation, 3 - Phase, 7.5 Ton Models Only)**

B6TM090-(C,D)

Standard Drive (Factory) and High Static Drive

* Indicates Factory Sheave Setting
2 HP / 2 Speed Blower

LOW SPEED OPERATION - FOR REFERENCE ONLY													
EXTERNAL UNIT STATIC (IN-WG)		OPERATING @ 230V, 460V, OR 575V	ADJUSTABLE MOTOR SHEAVE SETTING										
			FULLY CLOSED	1/2 TURN OPEN	1 TURN OPEN	1.5 TURNS OPEN	2 TURNS OPEN *	2.5 TURNS OPEN	3 TURNS OPEN	3.5 TURNS OPEN	4 TURNS OPEN	4.5 TURNS OPEN	5 TURNS OPEN
Factory Blower	0.1	CFM	2630	2540	2450	2330	2210	2063	1917	1796	1675	1519	1363
		RPM	490	476	461	444	426	410	394	379	363	347	330
		kW	0.48	0.48	0.47	0.47	0.47	0.42	0.36	0.34	0.32	0.30	0.27
	0.2	CFM	2330	2190	2050	1885	1720	1513	1306	1034			
		RPM	494	477	459	445	430	412	394	378			
		kW	0.46	0.41	0.36	0.39	0.41	0.37	0.34	0.31			
	0.3	CFM	1795	1600	1400	1075							
		RPM	494	479	463	446							
		kW	0.45	0.36	0.27	0.30							
High Static Blower	0.2	CFM			2790	2655	2520	2365	2210	2050	1890	1670	1450
		RPM			548	530	512	495	478	461	443	424	405
		kW			0.64	0.59	0.54	0.49	0.45	0.41	0.38	0.35	0.31
	0.3	CFM	2695	2563	2430	2270	2110	1875	1640				
		RPM	585	567	549	531	513	496	478				
		kW	0.67	0.61	0.56	0.52	0.48	0.43	0.38				
	0.4	CFM	2367	2154	1940	1620	1300						
		RPM	587	570	552	534	516						
		kW	0.60	0.54	0.48	0.44	0.39						
	0.5	CFM	1800	1570	1340								
		RPM	590	572	554								
		kW	0.50	0.45	0.39								

NOTES:

- * Denotes Factory Drive Sheave Setting.
- Italicized numbers indicate points not recommended for proper operation.
- Values include losses for standard air filters, unit casing, and dry evaporator coil.
- For 208V operation deduct approximately 0.5% from CFM shown.
- When utilized with H7HK heater kits, not all operational points shown may be available for use. Refer to the H7HK installation instructions to determine the minimum airflow requirements of the applicable heater assembly.

FACTORY DRIVE CONSISTS OF:

15" x 15" FC Blower, 2 HP / 2 Speed Motor
1VP34 Sheave, BK80 Pulley and A31 Belt.

HIGH STATIC DRIVE CONSISTS OF:

Same except uses BK72 Pulley and A30 Belt.

Table 5. Blower Performance for B6TM090-(C,D) Series - Continued
(Low Speed Operation, 3 - Phase, 7.5 Ton Models Only)

B6TM120-(C,D)

Standard Drive (Factory) and High Static Drive

2 HP / 2 Speed Blower

HIGH SPEED OPERATION												
EXTERNAL UNIT STATIC (IN-WG)	OPERATING @ 230V, 460V, OR 575V	ADJUSTABLE MOTOR SHEAVE SETTING										
		FULLY CLOSED	1/2 TURN OPEN	1 TURN OPEN *	1.5 TURNS OPEN	2 TURNS OPEN	2.5 TURNS OPEN	3 TURNS OPEN	3.5 TURNS OPEN	4 TURNS OPEN	4.5 TURNS OPEN	5 TURNS OPEN
0.1	CFM			4465	4360	4254	4120	3987	3843	3700	3530	3720
	RPM			828	807	785	764	742	720	697	672	647
	kW			1.71	1.61	1.52	1.40	1.28	1.20	1.11	1.00	0.89
0.2	CFM		4451	4300	4185	4075	3920	3760	3668	3580	3920	3620
	RPM		851	828	808	787	765	742	720	697	754	725
	kW		1.85	1.67	1.56	1.46	1.32	1.19	1.10	1.00	1.35	1.18
0.3	CFM	4415	4265	4115	3995	3875	3720	3561	3422	4050	3805	3560
	RPM	871	850	829	809	788	766	744	721	784	757	729
	kW	1.93	1.76	1.58	1.48	1.37	1.25	1.14	1.04	1.43	1.28	1.12
0.4	CFM	4225	4080	3930	3800	3675	3520	4200	4030	3860	3680	3500
	RPM	868	849	830	810	789	767	840	813	786	760	733
	kW	1.82	1.66	1.50	1.39	1.28	1.18	1.65	1.51	1.38	1.22	1.05
0.5	CFM	4080	3910	3740	3595	3450	3280	4000	3825	3650	3375	3100
	RPM	873	853	833	812	791	769	842	815	788	762	735
	kW	1.75	1.59	1.43	1.32	1.21	1.11	1.56	1.41	1.26	1.12	0.98
0.6	CFM	3935	3740	3540	3385	4080	3940	3800	3600	3400	3130	
	RPM	878	857	835	814	872	858	844	817	790	765	
	kW	1.67	1.51	1.35	1.24	1.75	1.62	1.48	1.33	1.18	1.04	
0.7	CFM	3720	3510	3310	3965	3890	3745	3600	3375	3150		
	RPM	878	857	836	881	875	860	845	819	793		
	kW	1.58	1.42	1.25	1.72	1.66	1.53	1.40	1.26	1.12		
0.8	CFM	3500	3290	4150	3910	3670	3510	3350	3110			
	RPM	878	858	918	898	877	862	847	821			
	kW	1.48	1.32	1.95	1.75	1.54	1.42	1.29	1.16			
0.9	CFM	3125	4090	3935	3693	3450	3275	3100				
	RPM	882	951	924	901	879	864	848				
	kW	1.37	2.00	1.83	1.63	1.42	1.30	1.19				
1.0	CFM	4060	3890	3720	3453	3185						
	RPM	980	955	929	906	882						
	kW	2.08	1.90	1.71	1.54	1.36						
1.1	CFM	3850	3665	3480	3200							
	RPM	983	958	932	909							
	kW	1.98	1.77	1.56	1.43							
1.2	CFM	3650	3445	3240								
	RPM	987	962	937								
	kW	1.83	1.67	1.51								

NOTES:

- * Denotes Factory Drive Sheave Setting.
- Italicized numbers indicate points not recommended for proper operation.
- Values include losses for standard air filters, unit casing, and dry evaporator coil.
- For 208V operation deduct approximately 0.5% from CFM shown.
- When utilized with H7HK heater kits, not all operational points shown may be available for use. Refer to the H7HK installation instructions to determine the minimum airflow requirements of the applicable heater assembly.

FACTORY DRIVE CONSISTS OF:
15" x 15" FC Blower, 2 HP / 2 Speed Motor
1VP40 Sheave, BK80 Pulley and A32 Belt.
HIGH STATIC DRIVE CONSISTS OF:
Same except uses BK72 Pulley.

**Table 6. Blower Performance for B6TM120(C,A) Series
(High Speed Operation, 3 - Phase, 10 Ton Models Only)**

B6TM120-(C,D)

Standard Drive (Factory) and High Static Drive

2 HP / 2 Speed Blower

LOW SPEED OPERATION - FOR REFERENCE ONLY														
EXTERNAL UNIT STATIC (IN-WG)		OPERATING @ 230V, 460V, OR 575V	ADJUSTABLE MOTOR SHEAVE SETTING											
			FULLY CLOSED	1/2 TURN OPEN	1 TURN OPEN	1.5 TURNS OPEN	2 TURNS OPEN *	2.5 TURNS OPEN	3 TURNS OPEN	3.5 TURNS OPEN	4 TURNS OPEN	4.5 TURNS OPEN	5 TURNS OPEN	
Factory Blower	0.1	CFM		2903	2815	2723	2630	2540	2450	2338	2225	2123	2020	
		RPM		575	560	545	530	516	501	482	463	451	438	
		kW		0.69	0.64	0.61	0.58	0.53	0.47	0.46	0.45	0.40	0.36	
	0.2	CFM	2725	2618	2510	2430	2350	2230	2110	1985	1860	1710	1560	
		RPM	592	577	561	547	532	517	502	486	469	454	439	
		kW	0.69	0.64	0.58	0.55	0.52	0.48	0.43	0.42	0.41	0.36	0.32	
	0.3	CFM	2440	2325	2210	2090	1970	1830	1690	1405	1120	1060	1000	
		RPM	593	578	562	548	534	519	503	487	471	456	441	
		kW	0.63	0.58	0.52	0.50	0.48	0.45	0.43	0.38	0.34	0.32	0.30	
	0.4	CFM	2100	1810	1520									
		RPM	595	580	564									
		kW	0.57	0.50	0.43									
High Static Blower	0.2	CFM			3180	3030	2880	2795	2710	2575	2440	2285	2130	
		RPM			624	606	588	577	566	549	532	515	498	
		kW			0.74	0.75	0.77	0.69	0.62	0.58	0.55	0.49	0.43	
	0.3	CFM	3160	3035	2910	2755	2600	2490	2380	2235	2090	1900	1710	
		RPM	662	644	625	608	590	579	568	552	535	518	500	
		kW	0.84	0.78	0.72	0.65	0.59	0.57	0.56	0.51	0.47	0.42	0.38	
	0.4	CFM	2890	2755	2620	2445	2270	2140	2010	1710	1410			
		RPM	663	646	628	611	593	582	570	554	537			
		kW	0.76	0.72	0.67	0.59	0.50	0.50	0.50	0.45	0.41			
	0.5	CFM	2580	2430	2280	2000	1720	1500	1280					
		RPM	665	648	630	614	597	585	573					
		kW	0.70	0.63	0.56	0.48	0.40	0.40	0.40					

NOTES:

- * Denotes Factory Drive Sheave Setting.
- Italicized numbers indicate points not recommended for proper operation.
- Values include losses for standard air filters, unit casing, and dry evaporator coil.
- For 208V operation deduct approximately 0.5% from CFM shown.
- When utilized with H7HK heater kits, not all operational points shown may be available for use. Refer to the H7HK installation instructions to determine the minimum airflow requirements of the applicable heater assembly.

FACTORY DRIVE CONSISTS OF:

15" x 15" FC Blower, 2 HP / 2 Speed Motor
1VP40 Sheave, BK80 Pulley and A32 Belt.

HIGH STATIC DRIVE CONSISTS OF:

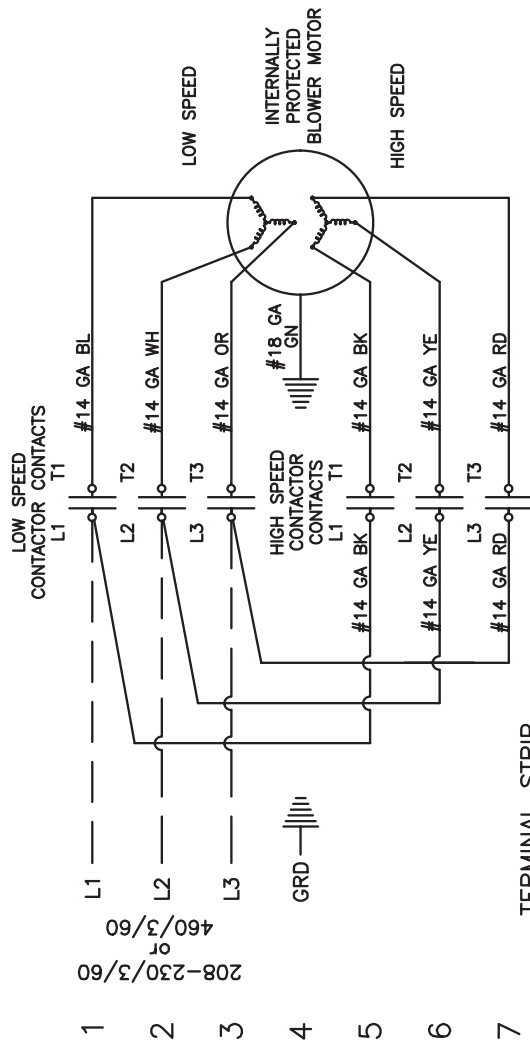
Same except uses BK72 Pulley.

**Table 6. Blower Performance for B6TM120-(C,D) Series - Continued
(Low Speed Operation, 3 - Phase, 10 Ton Models Only)**

ELECTRICAL INFORMATION

B6TM - 7.5/10 TON AIR HANDLER SYSTEM

- NOTES**
1. DISCONNECT ALL POWER BEFORE SERVICING.
 2. FOR SUPPLY CONNECTIONS, USE COPPER CONDUCTORS ONLY.
 3. LINE AND BLOWER MOTOR BRANCH CIRCUIT WIRE SHOULD BE OF A SIZE TO PREVENT VOLTAGE DROP BEYOND FIVE PERCENT OF SUPPLY LINE VOLTAGE.
 4. CAUTION: IF ANY OF THE ORIGINAL WIRE S SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105° C. OF THE SAME GAUGE.
 5. FOR AMPACITIES AND OVERCURRENT PROTECTION, SEE UNIT RATING PLATE.
 6. TO REVERSE MOTOR ROTATION, INTERCHANGE ANY TWO FIELD WIRED LINE LEADS.
 7. USE #18 GA. WIRE FOR 24 VOLT CONTROL WIRING ON UNIT.
 8. ALL 24 VAC LOW VOLTAGE CONNECTIONS TO UNIT MUST BE CLASS 2.



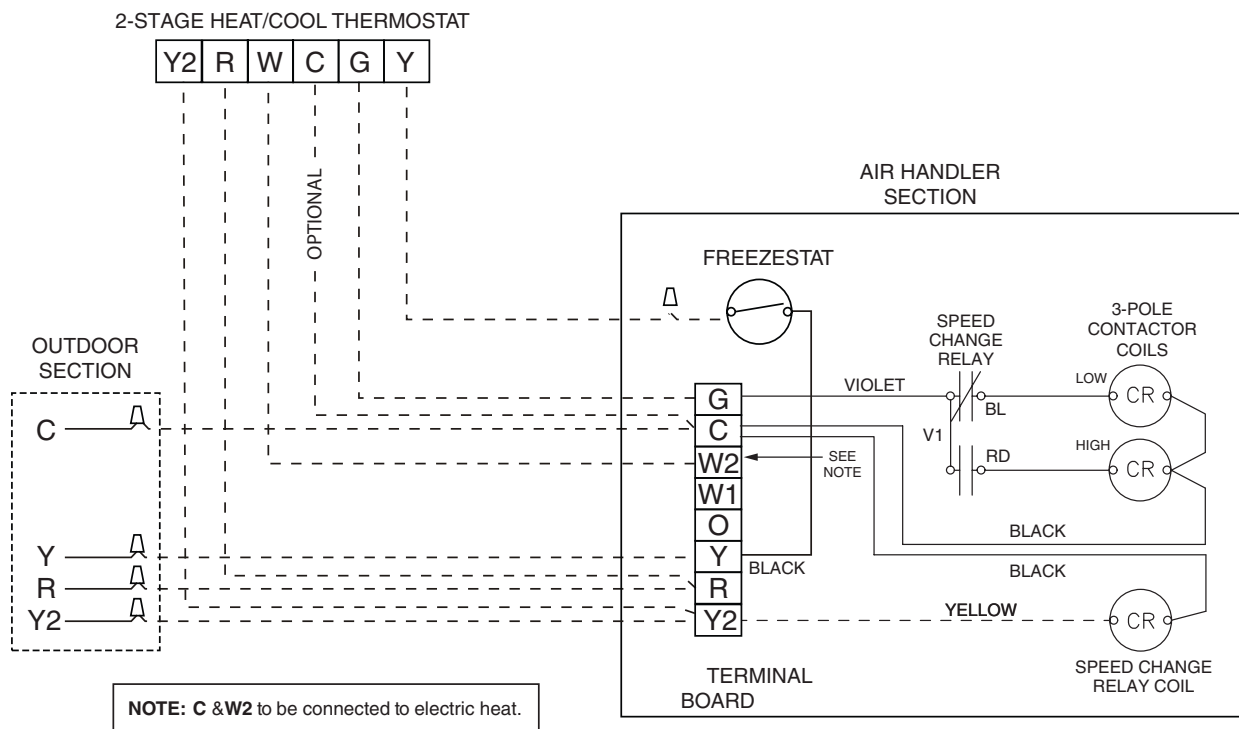
WIRING CODE	
BLACK - BK	FIELD WIRING
BROWN - BR	FACTORY WIRING
RED - RD	
ORANGE - OR	
YELLOW - YE	
GREEN - GN	
BLUE - BL	
VIOLET - VI	
WHITE - WH	

FIELD CONTROL WIRING	MINIMUM RECOMMENDED WIRE SIZE
TOTAL WIRE LENGTH	
150 FEET	#18 GA.
250 FEET	#16 GA.
350 FEET	#14 GA.

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10/17

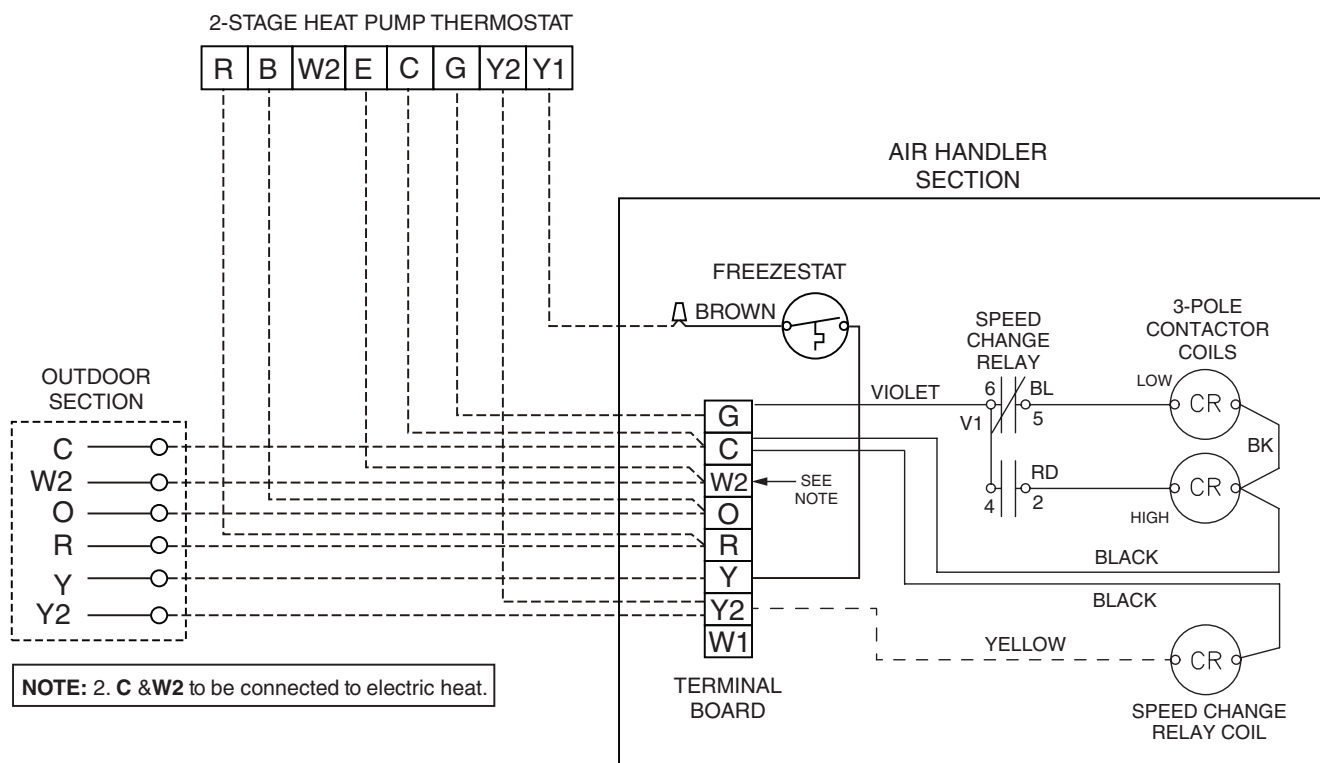


Figure 7. B6TM Wiring Diagram



2-STAGE HEAT / COOL THERMOSTAT

Figure 8. Typical 2-Stage Air conditioner Thermostat Connections



TYPICAL HEAT PUMP THERMOSTAT CONNECTION

Figure 9. Typical 2-Stage Heat Pump Thermostat Connections

INSTALLERS NAME: _____

DATE INSTALLED: _____

MAINTENANCE TASK	PERFORMANCE SCHEDULE				DATE PERFORMED											
	W	M	SA	A												
AIR FILTERS																
Inspect, clean, or replace as required.		X														
CONDENSATE DRAIN(S) & PAN																
Clean condensate drain pan		X														
Inspect the flow of condensate through the drain lines. Clean or correct problems as necessary.		X														
BLOWER ASSEMBLY																
Inspect the fan belt for wear, alignment, & proper tension. Replace or adjust as required.		X														
Clean the blower wheel and housing			X													
Inspect the blower assembly and hardware for corrosion. Is the hardware secured tightly.				X												
Inspect the blower coil unit casing for corrosion and loose fasteners				X												
COILS																
Inspect the coil fins for excessive dirt or damage. Clean or repair if required.			X													
Inspect all coil connections for leaks.				X												
AIR HANDLER ASSEMBLY																
Inspect mounting hardware for corrosion. Is the hardware secured tightly.				X												
Inspect filter rack mounting hardware. Is it secured to the unit tightly?				X												
Inspect panel assemblies for proper installation and security.				X												

NOTE: The schedule above is for normal duty applications only. For severe duty applications, adjust schedule as appropriate. Additional tasks may be required for severe duty applications. W = Weekly, M = Monthly, SA = Semi Annually, A = Annually

Table 7. Maintenance Schedule

INSTALLER: PLEASE LEAVE THESE INSTRUCTIONS WITH THE OWNER.



We Encourage Professionalism



HRAI
YOUR ENVIRONMENT + OUR EXPERTISE
✓ MEMBER COMPANY



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