

INSTALLATION INSTRUCTIONS:

Vertical Basic Fan Coil Series

VBC, VBF, VBA, VBL

***INSTALLER MUST BE A TRAINED, EXPERIENCED SERVICE
TECHNICIAN***

1. **PRESSURE CHECK**

The complete unit including coil, valve package and associated piping is shipped pressurized. Use the air valve to release the pressure. Should there be no pressure, inspect the unit for possible shipping damage. The unit must be pressure tested again prior to installation.

2. **MOUNTING**

2.1 The unit is to be located on a leveled surface at the designated location against a wall or a solid partition. When leveling legs (optional) are supplied, these are located under the unit's legs (2 per leg). Turn the bolts as required until the unit is perfectly level to ensure proper condensate drainage.

2.2 Once leveled and connected, the unit should be bolted to the back wall in such a manner that will prevent tip-over. Exception: Due to its wider base, the VBC does not have to be bolted to the back wall.

3. **PIPING**

3.1 All piping leading to the unit must be adequately supported to prevent excessive stress on the unit's piping. However, sufficient free movement is required for thermal expansion/contraction.

3.2 Do NOT over-tighten threaded connections.

3.3 Do NOT overheat sweat connection. Use solder (95/5) with a melting temperature below 600°F.

3.4 When the valve package is supplied separately for field installation, carefully follow the schematic piping diagram and installation instructions provided with the package.

- 3.5 All pipes and fittings that extend beyond the drain pan MUST be insulated.
- 3.6 The inlet and outlet points are clearly marked on the unit's piping. Depending upon the field piping layout, the connecting inlet, outlet and condensate piping could be routed from the back of the unit or from the bottom.

4. **OUTSIDE AIR DAMPER (OPTIONAL) – VBC, VBF, VBA ONLY**

4.1 **Outside Air Duct Connection**

The unit is provided with an outside air intake opening at the back which leads to the built-in outside air damper. The installing contractor should build a duct to match the size of the opening. This duct should be connected via a duct collar to the unit, on one side, and to an outside weather louver on the outside wall. This installation does not form part of the unit supply.

4.2 **Damper Setting**

The factory setting is for the damper to fully open when energized. However, should a smaller quantity of outside air be required, the degree of opening of the damper blade can be adjusted as follows:

- 4.2.1 Remove the front panel of the unit and remove the filter.
- 4.2.2 Open the Wing-nuts securing the outside air damper assembly and slide it out to gain the better access.
- 4.2.3 Energize the motor until damper is in the fully open position.
- 4.2.4 While in the fully open position, loosen the set screw holding the damper shaft to the damper motor.
- 4.2.5 Adjust the position of the blade to the desired angle and tighten the set screw.
- 4.2.6 Reassemble the unit.

5. **ELECTRICAL**

- 5.1 All electrical connections are to be made in accordance with the National Electric Code, state and local codes, bylaws, ordinances or the authority having jurisdiction. Make all electrical connections inside the internal electric junction box by carefully following the wiring diagram.
- 5.2 Electrical wiring diagram is located inside the unit's enclosure. Adhere strictly to it in order to avoid damage and/or personal injury.

6. **GENERAL PRECAUTIONS**

After completing the installation, recheck the following:

- 6.1 The drain pans, fans and motors are clean of all foreign material.
- 6.2 All electric wiring is properly routed, secured and capped.
- 6.3 The filter is clean and secured in its position.

7. **INITIAL START-UP**

7.1 **Chilled/Hot Water Unit**

- 7.1.1 Ensure that the main distribution system is operable (i.e. both supply and return piping are under full operating pressure).
- 7.1.2 Open the unit's isolating ball valves (optional) and observe that no leaks are evident.
- 7.1.3 Open the 2-Way or 3-Way Valve (optional) manually by moving the lever provided on the valve motor thus pressurizing the unit's coil.
- 7.1.4 Remove the cap of the air-vent valve and depress the needle to release the trapped air. Continue until only liquid is coming through and then re-cap and secure tightly.

OPERATING & MAINTENANCE INSTRUCTIONS:

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1. OPERATION AND CONTROL

1.1 The unit is wired to operate with a four-position fan selector switch:

OFF	
HI	High fan speed
MED	Medium fan speed
LO	Low fan speed

1.2 The thermostat (knob) is used to select the desired room temperature.

1.3 Where the unit is provided with electric heating (optional), the HEAT/COOL changeover switch has to be set in the HEAT position to enable the thermostat to switch the heater ON when the room temperature drops below the set point.

1.4 Through the Fresh Air Damper (optional) fresh air is introduced to the room automatically when the fan is switched into any ON position. NOT available on VBL models.

2. MAINTENANCE

******CAUTION: All maintenance must be performed by a trained, experienced service technician. To prevent electrical shock, disconnect electric power to system at main fuse or circuit breaker box until maintenance is complete.***

Most maintenance work may be performed after removing the front panel. The panel can be removed by using the appropriate screw driver or key (optional).

2.1 Filter

The useful life of the throwaway filter provided with the unit depends on the environment in which the unit is operating. However, it is recommended to change filter at least every three months.

2.1.1 No tools are required to remove the filter on VBC, VBF, and VBA. Pull the filter down from underneath the front panel (the filter rack rotates to allow removal and replacement without removing the front panel), remove the filter, install replacement in the track, snap the filter and track back up into place. For the BVL, remove the front panel for filter replacement.

2.2 **Drain Pans**

Periodic cleaning of the drain pans is essential, especially in high humidity areas. Remove all foreign material to ensure the free flow of condensation.

2.3 **Coils**

Clogged coils are a major cause of unit failure. Periodic inspection should take place at least once a year.

2.3.1 Dirty coils should be cleaned with the appropriate brush and vacuum cleaner or compressed air.

2.4 **Electric Motor(s)**

A yearly motor inspection should take place and the following is recommended:

2.4.1 Clean all dirt and lint with a brush and/or vacuum cleaner.

2.5 **Strainer (Optional)**

The frequency that the strainer has to be cleaned depends on the overall conditions of the distribution piping system. However, frequent cleaning is recommended during the installation and start-up stages and thereafter at every season change (Summer/Winter).

2.5.1 Open the clean-out cap on the strainer to release the dirt. Close it once clear liquid is observed.

2.6 **Pete's Plug (Optional)**

The plug is installed as an aid in measuring pressure and temperature. For details refer to the manufacturer's instructions.

2.7 **Electric Heater(s) (Optional)**

The heater is fastened to the fan deck at the blower outlet with sheet metal screws.

In case of heater failure, follow the procedure described below:

- 2.7.1 Disconnect all power sources before attempting to open the unit. Check all electrical wiring to ensure the unit is fully isolated.
- 2.7.2 Unscrew the fan deck and expose the heater(s).
- 2.7.3 If the thermal cut-out switch is defective, disconnect the electrical wires and unscrew it from the heater assembly. Obtain a replacement from TITUS and reinstall.
- 2.7.4 If the heating element (the spiral resistance wire) is burned out, unscrew the heater assembly from the fan deck, disconnect the terminals and replace with a new heater obtained from TITUS.

*****When contacting TITUS for replacement parts, always refer to the complete Model and Serial numbers on the Serial Plate located on the blower housing.**


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