

VHC

INSTALLER MUST BE A TRAINED, EXPERIENCED SERVICE TECHNICIAN

1. **PRESSURE CHECK**

When the valve package is factory installed, the unit is shipped with the coil and associated piping/valve package 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**

This unit is free standing. It **MUST** be leveled when installed. When leveling legs are supplied (optional), these are located under the unit's bottom panel. Turn the bolts as required until the unit is perfectly leveled to ensure proper condensate drainage.

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 Threaded connections must not be over tightened.
- 3.3 Sweat connections must not be overheated. 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 The inlet (supply), outlet (return) and condensate (drain) points are clearly marked on the unit's piping. Depending upon the filed piping layout, the connecting inlet, outlet and condensate piping could be at the right or left side of the unit. Follow the Engineer's pipe layout drawing while routing the supply, return and drain lines to and from the unit.
- 3.6 All pipes and fittings outside the unit's enclosure must be properly insulated as no external condensate pan is provided with the standard unit.



4. **ELECTRICAL**

- 4.1 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.
- 4.2 Electrical wiring diagram is located inside the unit's enclosure. Adhere strictly to it in order to avoid damage and/or personal injury.
- 4.3 When the thermostat and fan switch are field supplied, the following are the minimum electrical ratings:
- Thermostat (valve load) = 0.1A @ 115V
(0.05A @ 230V)
 - Fan Motor(s) @ full load amps, FLA (@115V):

SIZE	FLA (Amps)
06	3.5
08	3.5
10	3.7
12	4.0
14*	3.5
16*	3.5
18*	3.5
20*	4.0

*Note: Units are equipped with two (2) motors; full load amperage listed is per motor.

- 4.4 Where electric heating is provided with the unit (optional), an external HEAT/COOL changeover switch has to be installed – normally wall mounted together with the fan speed selector switch. At minimum, this switch should be rated: 10A @ 115V (5A @ 230V).
- 4.5 Follow the wiring diagram for correct installation.

5. **GENERAL PRECAUTIONS**

After completing the installation, recheck the following:

- 5.1 The drain pans, fans and motors are clean of all foreign material.
- 5.2 All electric wiring is properly routed, secure and capped.
- 5.3 The filter is clean and secured in its position.



6. **INITIAL START-UP**

6.1 **Chilled/Hot Water Unit**

- 6.1.1 Ensure that the main distribution system is operable (i.e. both supply and return piping are under full operating pressure).
- 6.1.2 Open the unit's isolating ball valves (optional) and observe that no leaks are evident.
- 6.1.3 Open the 2-Way or 3-Way Valve (optional) manually by turning the manual override to the open position on the valve actuator thus pressurizing the unit's coil.
- 6.1.4 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.

7. **OPERATION AND CONTROL**

- 7.1 The unit is wired to operate with a four-position fan selector switch (optional):

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

- 7.2 An external thermostat (normally wall mounted) is used to select the desired room temperature.
- 7.3 Where the unit is provided with electric heating (optional), the external 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.

8. **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.***

At the completion of any maintenance check for foreign materials and replace the front panel and/or the safety mesh behind the filter. Switch on the power at the supplied electrical source (circuit breaker).

8.1 **Filter Replacement**

- 8.1.1 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 the filter at least every three (3) months.
- 8.1.2 No tools are required to remove the filter. Pull it up and out from its guides.

8.2 **Drain Pan**

- 8.2.1 Periodic inspection of the drain pan for restriction of drainage is important. The frequency of inspection becomes shorter in high humidity regions.

8.3 **Coil**

- 8.3.1 A clogged (dusty, lint covered, dirty, etc.) coil is a major cause of unit inefficiency and failure. Periodic inspection should take place at least once a year.
- 8.3.2 Cleaning of the coil should be done with an appropriate coil cleaning brush and a vacuum cleaner, or compressed air. Care should be taken not to damage or bend the coil fins.

8.4 **Electric Motor**

- 8.4.1 Motor inspection and lubrication should take place annually. To remove the blower/motor assembly, unscrew the holding screws located behind the flange and slide the assembly out.
- 8.4.2 Clean all dirt and lint with a brush and/or vacuum cleaner.

8.5 **Strainer (Optional)**

- 8.5.1 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).
- 8.5.2 Open the clean-out cap on the strainer to release the dirt. Close it once clear liquid is observed.

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

- 8.6.1 The plug is installed as an aid in measuring pressure and temperature.



8.7 **Electric Heater(s) (Optional)**

- 8.7.1 The heater is fastened to the discharge collar at the blower outlet with sheet metal screws.
- 8.7.2 In case of heater failure, follow the procedure described below:
- 8.7.3 Disconnect all power sources before attempting to open the unit. Check all electrical wiring to ensure the unit is fully isolated.
- 8.7.4 Unscrew the front access panel and expose the heater(s).
- 8.7.5 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.
- 8.7.6 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, Order and Line numbers on the Serial Plate located on the blower housing.**



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