

## **BHO, BHR, BHC, THC**

***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 – BHO, BHR & BHC ONLY**

Each unit has four (4) mounting holes. Rubber grommets are supplied with each unit. Due to the various installation conditions, the mounting bolts/rods, steel washers and nuts are field supplied.

Level the unit to ensure proper condensate drainage.

#### **2.1 MOUNTING – THC ONLY**

Each unit is provided with four mounting lugs into which rubber grommets are fitted. Fit rods or bolts, and use suitable metal washers and nuts to secure the unit.

To adjust the telescopic frame to the ceiling, remove eight screws which hold the frame, pull out the telescopic bottom and adapt it to the ceiling. After exact alignment is made, re-screw the telescopic frame with hinged access panel to the unit using the same eight screws (two per side).

Level the unit 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 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.

### 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 electric junction box by carefully following the wiring diagram.
- 4.2 Adhere strictly to the electrical wiring diagram 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	3.6
08	4.3
10	4.3
12	5.1
14*	4.2
16*	4.3
18*	4.5
20*	4.5

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

5. **FILTER – BHR, BHC, THC**

The filter is secured with a filter retainer. To install filter, slip filter into the filter rack and fasten it with the filter retainer.

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, secure and capped.
- 6.3 The filter, where provided, 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 turning the manual override to the open position on the valve actuator 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, then re-cap and secure tightly.

## 8. OPERATION AND CONTROL

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

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

8.2 An external thermostat (normally wall mounted) is used to select the desired room temperature.

8.3 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.

## 9. MAINTENANCE

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

While the BHO model is fully accessible, maintenance on the BHC, BHR, & THC models is performed by removing the access panel. **The unit must be isolated from the power supply.**

### 9.1 Filter ( BHR, BHC, & THC )

The useful life of the throw-away filter depends on the environment in which the unit is operating. However, it is recommended to change the filter at least every three (3) months.

9.1.1 To replace the filter (BHC & THC), remove the access panel, unfasten the Velcro-backed filter-retaining channels, remove channel to replace the filter. For the BHR, unfasten the filter retains and remove the filter.

### 9.2 Drain Pan

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

**9.3 Coil**

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

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

**9.4 Electric Motor(s)**

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

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

**9.5 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 summer/winter season change.

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

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

The plug is installed as an aid in measuring pressure and temperature. See complete explanation page for details.

**9.7 Electric Heater (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:

9.7.1 Disconnect all power sources before attempting to open the unit. Check all electrical connections to ensure the unit is fully isolated.

9.7.2 Unscrew the fan deck and expose the heater(s).

9.7.3 If the thermal cut-out switch is defective, disconnect the electrical wires and unscrew it from the heater assembly. Obtain a replacement from SUPERIOR REX and reinstall.

- 9.7.4 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 SUPERIOR REX.

**\*\*\*When contacting Superior Rex for replacement parts, always refer to the complete Model, Order and Line numbers on the Serial Plate.**



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