INSTALLATION INSTRUCTIONS

Magic Aire Fan-Coil Unit
Series DVW Sizes 400, 600, 800, 1000

The MAGIC AIRE Fan Coil Unit is designed for use in any air distribution system. It is easily adaptable to most types of existing or new forced-air heating systems, or it can be installed in an independent air cooling system.

EXISTING DUCT WORK

The previously installed air distribution system for heating requires close inspection to determine its suitability for cooling. In general, heating systems designed for outside temperatures of zero degrees or lower will need no alteration when used for cooling. However, in southern sections of the country, the existing heating duct work may have to be modified to provide better air distribution and insulation for cooling.

DUCT INSULATION AND VAPOR PROOFING

Properly installed heating supply ducts should already have adequate insulation against excessive heat loss. This same insulation should therefore be satisfactory in the summer to protect against heat gain. However, depending on the specific installation, it may be desirable to add to the insulation.

All externally-insulated duct work must have an adequate vapor seal for summer operation. This is particularly important where the duct is exposed to highly humid conditions in such places as attic, vented crawl spaces, unconditioned basements, and utility rooms. The vapor seal prevents condensation of moisture in the insulating material and subsequent loss of its insulating value.

PLACING UNIT IN DUCT WORK

1. When the connecting return air duct is smaller than the coil inlet opening the transition piece should be constructed so that the vertical and horizontal dimensions of the transition piece do not increase more then one inch for every seven inches of length of the transition piece.

2. There should be at least three feet of straight duct work preceeding the coil inlet.

3. The unit should be installed so that the entering water is on the leaving air side of the coil.

INSTALLATION INSTRUCTIONS

4. The unit should be installed so that it pitches slightly (1/8 inch) toward the condensate drain opening. The unit has a drain opening on the front side.

NOISE LEVEL

The noise level can be reduced by use of flexible connections in the duct system near the outlet of the Fan-Coil Unit.

CONDENSATE DRAIN

All condensate drains should be a minimum of 7/8 inch OD copper tubing or 3/4 inch galvanized iron pipe. Drains should be pitched downward and where possible at a slope of one inch in ten feet.

If the Fan-Coil is located above a living space or where damage may result from condensate over-flow, install watertight pan of corrosion-resistant metal beneath the unit to catch over-flow which may result from clogged drains or from other reasons. A separate 3/4 inch condensate drain must be provided from this added pan. Local codes may call for additional precautions and should be consulted before installation.

It is suggested that a three or four-inch trap be installed in the condensate drain line as close to the coil unit as possible. Make sure that the top of the trap is below the connection to the coil unit to prevent the condensate from overflowing the drain pan.

INSTALLATION OF CHILLED WATER LINES

1. If the Fan Coil Unit is located where the coil is subject to freezing during winter months, the coil must be protected from freezing. The coil can be protected by the addition of anti-freeze, or warm air can be circulated over the coil to prevent freezing.

DRAINING THE SYSTEM WILL NOT PROTECT THE COIL. However, the system must be drained when anti-freeze has not been added, for minimal protection.

2. Whenever anti-freeze is added for the heating season, the system may have to be flushed prior to the start of the next cooling season because of capacity loss due to anti-freeze.

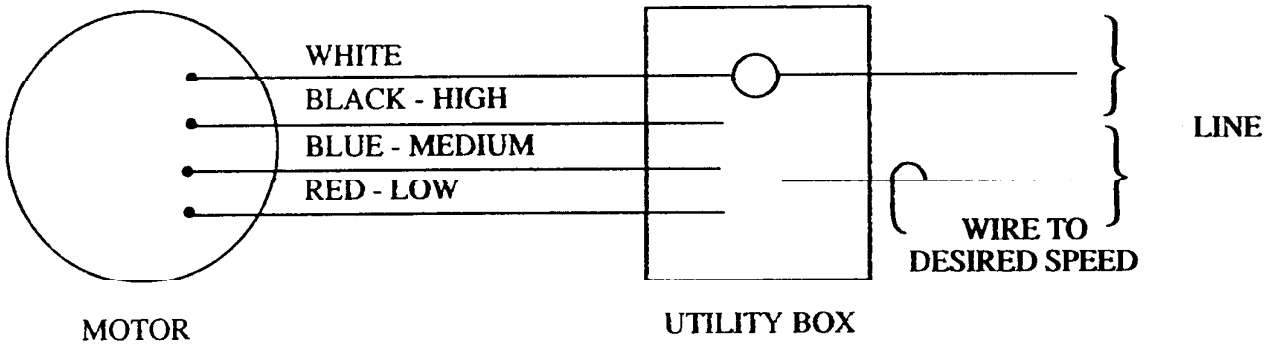
3. The entire length of the chilled water lines should be encased in good quality insulating material that has been vapor sealed.

Pre-formed, waterproof, flexible, plastic covers are available through local suppliers. Consideration should be given to such things as the characteristics of the soil (if lines are buried), ambient temperature extremes, effects of ultra-violet light, etc. Check manufacturer's specifications and select a material that is recommended for your specific installation.

ELECTRICAL CONNECTIONS

Figure 1 illustrates the internal wiring for the blower coil assembly. The utility box is mounted on the water connection side of the unit. All leads will pass through a strain relief where they enter the utility box. Wiring within the cabinet has been positively located and supported so that it does not pass over sharp metal edges or come in contact with moving parts. After servicing the blower coil unit, electrical leads should be properly positioned in original supports. CHECK MOTOR RATING PLATE FOR CORRECT LINE VOLTAGE.

FIGURE 1



This appliance must be permanently grounded in accordance with the National Electrical Code and local codes and ordinances.

SHIPPING BOLTS

Before operating fan coil unit, remove the two (red) shipping bolts from blower rails. One (red) shipping bolt will be found in each blower rail midway between the rubber blower mountings.

FILTERS

Filters are removable from the front side of the unit.