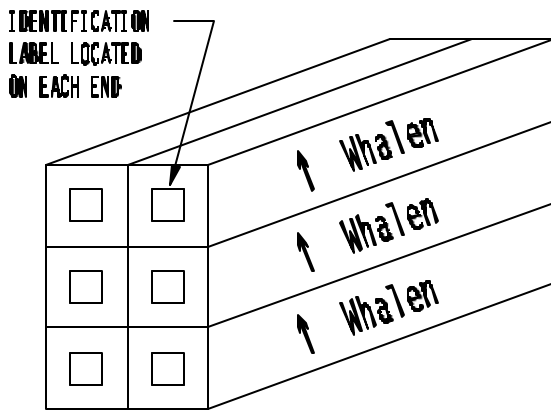


**INSTALLATION AND MAINTENANCE INSTRUCTIONS
FOR
ROOM FAN COIL UNIT
WF(C/D) – cfm - type**

RECEIVING

Whalen room fan coil units are shipped individually packaged in a corrugated shipping container with internal reinforcement for the tube extensions. For ease of handling and distribution, each unit is individually tagged with a label in three places containing information found on the approved unit schedule. This tagging is located on each end of the packaging and also directly on the unit. Typical information on this label includes one or more of the following job number, model designation, riser number, floor number, room

JOB #	:	20110
MODEL #	:	WFC-400-ET
FLOOR	:	12
RISER #	:	21B
SUP	:	1 ½
RET	:	1 ¼
DISCH	:	12 X 12 F



number, riser sizing, supply air sizing and other special information of identification for the project. This identification allows units to be delivered to a specific location in a protected unopened carton.

Upon receipt, the complete shipment should be inspected for signs of damage. Visible damage should be noted on the freight bill at the time of delivery. Any damage, visible or concealed, must be reported directly to the freight carrier by filing a claim. Be sure to examine the interior of the unit for signs of damage.

IMPORTANT: THE RISERS ARE NOT HANDLES! DO NOT SUPPORT OR LIFT THE UNIT BY THE PIPE EXTENSIONS.

Each unit undergoes a quality control inspection for completeness and factory tested for proper operation. It is the customer's responsibility to provide protection for the units upon arrival to the "ship to" destination. This protection includes but is not limited to vandalism and weather deterioration. The units must never be left unprotected from the elements. It is the customer's sole responsibility to protect equipment from adverse weather conditions and security measures against theft and vandalism on the jobsite.

All shipments are F.O.B. factory, and any claim for freight damages must be made between the customer and the freight carrier.

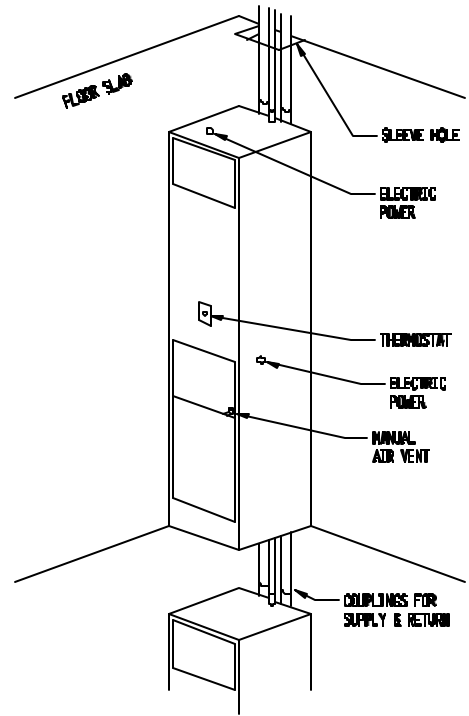
INSTALLATION

It is recommended that the installation of the room fan coil unit begin on the lowest floor of a riser and proceed floor by floor to the top of a riser. After removing the unit from the carton it should be placed on floor in a horizontal position. The supply/return and drain riser piping should extend 2" out the top of the casing. Position the pipe as necessary by gently tapping the ends with a soft wood block. The condensate drain line is swaged open at the top of the unit to accept the drain from the unit above. The supply and return piping is normally joined to the riser piping with couplings as required.

It is important that the supply and return risers of both 2-pipe and 4-pipe systems be connected properly to insure proper operation of electric control valves and to achieve designed performance from the unit.

General rule: Facing the front of the unit
 SUPPLY - Left riser RETURN - Right riser

If 4-pipe unit
 Left-----
 Right
 COLD (Supply / Return) - HOT (Supply / Return)



Cut measured riser pipes and the condensate drain line. Allow a minimum of 1" insertion depth for the condensate drain line. It is not necessary to have piping inserted to the bottom of any swaged joint on unit-to-unit connections. Debur and clean the ends of all piping. If the project requires riser extensions due to the floor-to-floor height, this is the time that they should be measured, cut and added to unit risers.

Modifications requiring the extension or shortening of risers are the responsibility of the installing contractor. Carefully position the unit so it is centered in the sleeve hole and solder the unit in place after leveling in two planes to provide proper condensate drainage and performance.

Riser joints must be made with silfos or other high temperature alloy. Soft solders or other low temperature alloys are not suitable for this application. The standard piping is rated at 250-psi.

Factory installed risers are designed to move freely within the galvanized steel pipe chase. Risers are design to handle up to 1 inch of vertical expansion in each direction. If the total calculated riser expansion exceeds these limits, the installing contractor must provide an additional means of expansion compensation on the riser.

Check units for visible signs of leaks that may have been caused by shipping damage or mishandling. All units must be vented when performing a hydrostatic test.

IMPORTANT: All joints should be hydrostatically tested for leaks before furring in the unit. Do not exceed 250-psi pressure, or the lowest component maximum pressure.

After testing, all risers including the extensions must be properly insulated.

Upon installation of each unit, examine the drain riser and connecting piping including any P-trap that may be installed to determine that they are properly secured into place.

Units are provided with a manual air vent on each coil that is accessed through the return air grille. During testing and start-up, coils must be vented to dislodge trapped air within the piping package.

The installing contractor is responsible for complying with all applicable building codes.

ELECTRICAL

All field electrical wiring should be performed in accordance with the National Electrical Code and any applicable local codes.

Standard electrical connection is made in a unit-mounted junction box located at the top of the unit with some unit utilizing an optional lower side power connection.

Electrical data can be found within the approved submittal drawings or by referencing the wiring diagram and electrical label found inside the return air opening. The thermostat is normally located on the front cabinet with mounting box and plug for connection to the unit. Units that utilize a remote thermostat will have junction box on the side of the cabinet containing color-coded control wiring.

FINISHING

The Whalen Room Fan Coil Unit is designed for drywall to be applied directly to the unit if the screws do not penetrate more than ¼” into the unit. (For ½” wallboard the maximum screw length is ¾”). Areas of the cabinet where screws might damage wiring, piping, or coils are clearly marked. Clean all drywall dust and debris from the unit after drywall installation and cutting of appropriate air and thermostat openings. Be sure not to damage thermostat wiring during this process. All cabinet openings should be covered to keep out materials that may be harmful to unit components. Unit component showing signs of foreign material such as water, dust, dirt or paint will not be covered under the equipment warranty.

GRILLES and FILTERS

Supply and return grilles and filters are shipped separately and are normally installed after finishing is complete, and the units cleaned of all dust and debris.

Supply grilles are attached with sheet metal screws provided.

The return grille is furnished with two machine screws which fit into factory installed inserts on the unit.

Check the following prior to installation of the return air grille.

1. Rotate the fan wheel. The fan/motor assembly may have become misaligned during shipment and handling. If the fan appears to be rubbing the housing, remove and adjust.
2. Make sure the ball valves are in the open position (handle parallel with the piping). The motorized valve level should be in the automatic position.
3. Make sure all piping is vented.
4. Verify that the drain pan is clear from debris.
5. Filter is properly installed.
6. Unit balancing is complete.

IMPORTANT: DO NOT USE SHEET METAL SCREWS TO ATTACH THE RETURN AIR GRILLE

THERMOSTAT

Thermostats are normally shipped separately. Check to see that the thermostat provided has a model number that matches the one referenced on the wiring diagram. Attach the thermostat to the unit with the polarized plug or color-coded wiring using the screws provided.

UNIT START-UP

- Thermostat OFF
- Power ON
- Start unit. See Sequence of Operation on the unit-wiring diagram.
- Check all OPERATIONS

MAINTENANCE

The Whalen Fan-Coil unit has been designed to be as maintenance free as possible. All replaceable parts are readily accessible via the access grilles. No special tools are required.

Recommendation:

Change the filter frequently and while changing the filter, check drains and drain pan; clear of debris.

ROOM FAN COIL UNITS MAINTENANCE INSTRUCTIONS

MAINTENANCE RECOMMENDATIONS

Semi-Annual

1. Inspect Units
2. Run system through operational check
3. Remove return grille, replace filter. Clean grille if required. (Filters may require more frequent changing in certain environments).
4. Inspect inside of unit for dirt, etc. Clean as required. Whalen room fan coil motors are permanently lubricated.
5. Inspect drain pan, clean if necessary. Check condensate drain line to insure it is open and clear.
6. Replace return air filter and grille.
7. Remove and clean supply air grilles if required.

TROUBLE DIAGNOSIS

The Whalen unit has been designed to facilitate easy maintenance and service. Most problems can be promptly diagnosed at the thermostat without the necessity of removing grilles or registers. Fans, valves and all operating components are accessible and removable through existing return and supply air openings.

COIL CLEANING

Coil may be cleaned by brushing the fins with a soft brush. Care must be taken to avoid damaging the fin surface. After brushing, a vacuum cleaner should be used to remove dislodged dirt. The coil may also be cleaned utilizing high-pressure air to dislodge dirt. Coil cleaning should not be required if suitable air filters are utilized and properly maintained.

DRAIN PANS

The drain pan should be inspected before summer operation with the removal of all debris to allow the proper flow of condensate. Periodic inspection of the drain pan should be performed during the cooling operation to prevent any possibility of it becoming clogged with foreign matter.

FILTER

The filter can be accessed for changing or cleaning by removing the return air grille. Standard return air grilles contain two screws located on the top and bottom of the grille. Hinged (Removable) Return Air Grilles contain spring clips located on top corners of the grille.

- | | |
|-----------|---|
| Throwaway | The filter should be changed regularly with periodic inspections made to prevent the accumulation of dirt and particulate matter that can negatively affect the free flow of air. If the application or frequency of operation causes excessive dirt to accumulate, the filter should be changed more frequently. |
| Permanent | The filter should be cleaned regularly with periodic inspections made to prevent the accumulation of dirt and particulate matter that can negatively affect the free flow of air. If the application or frequency of operation causes excessive dirt to accumulate, the filter should be cleaned more frequently. |

MOTOR

Whalen Room Fan Coil Units utilize permanently lubricated motors that do not require special care or maintenance when suitable air filters are installed and properly maintained.

CONTROL VALVES

Consult control valve manufacture for troubleshooting and operation.

MOISTURE - CONDENSATE

Properly installed and insulated Whalen Units present no moisture or condensate problems. If moisture becomes evident at the base of the unit, remove the return grille and inspect the drain pan. A clogged condensate drain line may be cleared with a flexible plumber's snake from the unit or from the top or bottom of the riser.

If moisture is evident at the outlet grille, this is perhaps a temporary condition caused by excessive moisture caused by the room being opened to outside air. This should disappear when the room is closed and the relative humidity in the room brought to normal conditions.