

IMPORTANT: DO NOT ALLOW FASTENERS TO PENETRATE OR TOUCH THE UNIT CASING.

THERMOSTAT

The thermostat is normally located on the front (return air side) of the cabinet. Standard units include a recessed junction box with polarized plug for connection and unit mounting of the thermostat. Units that utilize a field wired remote mounted thermostat will have field wiring connection made to color-coded control wiring through 7/8" diameter opening in top of cabinet, or through the left or right side of cabinet, as specified in submittal drawings.

Check to see that the thermostat provided has the model number that matches the one referenced on the wiring diagram. Attach the thermostat to the unit wiring with the polarized plug or color-coded wiring, using the connectors provided. Attach the thermostat to the unit or junction box with the screws provided.

Thermostats are shipped separately, individually packaged in a box that has been designed to serve as a dust cover to protect the thermostat during finishing and cleaning. Thermostats should be protected until the space is ready for occupancy.

CAUTION: Use with a thermostat other than those provided or approved by Whalen can void all warranties.

NOTE: The thermostat **MUST** include anti-short cycle protection to prevent rapid ON/OFF cycling of the compressor. A delay of at least 4 minutes is required. Setting this delay is the responsibility of the installing contractor.

Note: Many electronic, digital and programmable thermostats are designed to work on a variety of types of units (fan coils, heat pumps, cooling only units, gas furnace, etc) and require programming to be performed to match the thermostat to the type of unit and type of installation in order to properly control the unit. The Whalen Company does not perform this programming as it requires knowledge of the installation and operating parameters of the system that Whalen does not possess. This programming must be performed by the installing contractor.

OPERATIONAL SYSTEMS CHECK

1. Verify that all disconnect switches are on.
2. Turn system switch ON and select "HIGH" fan speed.
3. Turn temperature control knob to full cool setting and listen for heat pump chassis to come on. Open grille, pull back filter and feel the chassis coil face to see if it is getting cooler.
4. Let the chassis run in cooling for about 10 minutes. If the unit cuts off, see "Trouble Diagnosis" section
5. If unit has electric heat (type B unit), Hydronic heat (type C unit) or if the unit is a reverse cycle heat pump (type A unit), turn the temperature control dial to full heat setting and determine if the unit is heating by feeling the air at the supply register. If not, see "Trouble Diagnosis" section.

6. When complete, set temperature control dial to the mid or normal position and turn system switch to off.

Once the unit has been checked out and the installer insures that thermostat and fan motor(s) are functioning properly and the unit is operating satisfactorily, the tenant should be advised of the following operational procedures for satisfactory performance of the Whalen units.

OPERATING INSTRUCTIONS

Place Thermostat System switch to Auto.

Place Thermostat fan speed switch to High

If you desire a cooler temperature, move dial to Cooler.

If you desire a warmer temperature, move dial to Warmer.

For best results, find a position on the thermostat that you are comfortable at and leave in that position.

Hi-Off-Low switch must be in Low or High to operate. Unit will not work in Off position.

Doors and windows should be closed when system is on to prevent excess humidity in the room. **CAUTION:** operating the unit in COOLING while doors or windows are open may result in excess condensation from the unit and / or on the supply air grille.

MAINTENANCE and SERVICE

The Whalen Series VI heat pump units have been designed to be as maintenance-free as possible. All replaceable parts are readily accessible via the return air panels and supply air grilles. No special tools are necessary. It is recommended that filters be checked quarterly and replaced as required. Inspect condensate drain pan and drain line prior to and during cooling season. Remove any debris.

Replacement parts are available through your local Whalen factory representative. When ordering, state the part number directly from the component in need of being replaced. Should the part number be physically absent or is otherwise unidentifiable, locate the Unit / Electrical Data Nameplate found on the sheet metal inner panel behind the return air panel and take note of the unit Model Number and Serial Number. Then contact your local Whalen representative for assistance.

NOTE: THE WHALEN SERIES WA, WB, WC AND WG REFRIGERATION CHASSIS ARE CRITICALLY CHARGED WITH NON-OZONE DEPLETING REFRIGERANT AND ARE NOT PROVIDED WITH REFRIGERANT ACCESS PORTS IN ORDER TO PROTECT THE INTEGRITY OF THE REFRIGERANT CHARGE. FIELD INSTALLATION OF REFRIGERANT ACCESS PORTS OR OTHER MODIFICATION OR ALTERATION OF WHALEN EQUIPMENT VOIDS THE WARRANTY AND MAY RESULT IN DAMAGED EQUIPMENT AND/OR UNSAFE OPERATION. PLEASE REVIEW THE WARRANTY STATEMENT PROVIDED WITH THE PROJECT DOCUMENTATION ON YOUR WHALEN EQUIPMENT.

MOISTURE – CONDENSATE

Properly installed and insulated Whalen units present no moisture or condensate problems. Moisture evident at the outlet grille is a temporary condition caused by excessive moisture in the room (typically caused by the room being opened to outside air). The condensation will cease when the room is closed and the relative humidity in the room brought to normal conditions.

If moisture becomes evident at the base of the unit, remove the return air panel 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 condensate riser.

MAINTENANCE RECOMMENDATIONS

Semi-Annual

1. Inspect Unit.
2. Run system through operation check.
3. Remove return air panel and check filter; replace filter if required. (High efficiency filters require more frequent changing to maintain a cleaner environment). Clean return air panel as necessary.
4. Disconnect power and remove inner panel.
5. Vacuum and clean the air coil fin surface. Using a hand sprayer, spray the face of the coil with a mixture of liquid dishwashing soap and water and rinse by spraying the face of the coil with water. Professional coil cleaning service may be required for coils with caked on dirt and grime.
6. Inspect fan and motor assembly for dirt, etc. Clean fan housing and blower wheel if required. (Whalen Units utilize permanently lubricated motors that do not require special care or maintenance when suitable air filters are installed and properly maintained).
7. Inspect chassis water hoses for cracks and/or leaks. Replace if damage or wear is evident. Replacement of hoses is recommended after approximately 5 years. Hoses should be hand tightened only – do not over-tighten.
8. Inspect drain pan, clean if necessary. Check condensate drain line to insure it is open and clear.
9. Replace inner panel. Restore power and replace return air panel with clean filter installed.
10. Remove and clean supply air grilles if required.

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. Use a bactericide or bacteriostat drain pan conditioner that is pH neutral. Follow directions of product used to assure proper bacteria control.

RETURN AIR FILTER

THE UNIT RETURN AIR FILTER IS THE MOST IMPORTANT PART OF THE SYSTEM. Proper system maintenance **MUST** include changing of the filter at regular,

recommended intervals to assure the unit air coil remains free of dust and other materials. Upgrading the filter to a higher efficiency level (MERV Rating) will provide more filtration of particles in the air and will result in a longer life of the heat pump and a cleaner environment. Whalen strongly recommends the use of high efficiency filters.

The units are provided to the installing contractor with a "construction grade" filter. This filter should be replaced as described above as soon as possible after regular use begins. The filter can be accessed for changing or cleaning by removing the return air panel or grille from the wall (or opening the return air panel door if so equipped). In cases where the filter cannot be removed through the opening of the return air panel, remove the panel from the wall. The filter should be inspected regularly with periodic replacement made to prevent the accumulation of dirt and particulate matter on the air coil 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.

Whalen offers four efficiency upgrades of filters that greatly exceed the MERV 4 construction grade filters. Each grade progressively increases the filtration performed. Table 1 below compares the minimum particle size each filter can remove from the airstream and the percentage of those particles that the filter will remove. The filters are: MERV 4, MERV 7, MERV 8, MERV 11 and MERV 13.

MERV Rating	Particle Size (in microns)			Particle Examples
	0.3 - 1.0	1.0 – 3.0	3.0 – 10.0	
4	-	-	> 20 %	Pollen, Dust Mites, Sanding Dust
7	-	-	>50 %	Mold Spores
8	-	-	> 70 %	Mold Spores, Cement Dust
11	-	65 – 80 %	85 + %	Auto Emissions, Lead Dust
13	> 75 %	90 + %	90 + %	Tobacco Smoke, Bacteria

Table 1 FILTER SELECTIONS

The use of high efficiency filters increases the external static pressure on the fan and motor. The fan and motor must be sized properly to be capable of this extra static pressure. This extra static pressure capability was typically not provided in older units. Upgrades to MERV 7 or MERV 8 filters usually will not deteriorate unit performance. Upgrades to MERV 11 or MERV 13 require analysis of the fan motor and any ductwork.

New Whalen units can be engineered and constructed with the proper fans and motors compatible with MERV 13 filters. Check with the factory.

The size of the filter supplied with Whalen units has varied over the years as physical sizes or specifications of the cabinets have changed. Table 2 below provides the filter sizes used for the model year of the Whalen Series VI-I heat pumps. Verify sizes with the factory on instances where more than one filter size is shown for the same year.

Model	Size	Notes
200, 300, 400, 600, 800 ¹	13.5 x 32 x 1/2	1) For units manufactured 1973 to 1982
200, 300, & 400 ²	13 x 24 x 1/2	2) For units manufactured 1982 to 1992
200, 300, & 400 ³	13 x 24 x 1	3) For units manufactured 1993 to present
600 & 800 ⁴	13 x 32 x 1/2	4) For units manufactured 1982 to 1992
600 & 800 ⁵	15 x 28 x 1	5) For units manufactured 1993 to present
1000 & 1200 ⁶	17 x 32 x 1/2	6) For units manufactured 1990 to 1992
1001 ⁷	17 x 32 x 1	7) For units manufactured 1992 to 2002
1002 & 1200 ⁸	17 x 40 x 1	8) For units manufactured 2003 to present

Table 2 **FILTER SIZES**