

STEFFES CORPORATION

AIR HANDLER – 3/4 HP

For use with Model 5120, 5130, 5140 Comfort Plus Hydronic Heating Systems

The Steffes 3/4 HP Air Handler (Item # 1302102) is an optional device used to interface the Comfort Plus Hydronic with a centrally ducted heating or cooling system. The Air Handler includes a plenum assembly, supply air blower, water coil, air filter, wiring harness, and hardware kit.

OPERATION

When the Comfort Plus Hydronic system receives a heat call from the air handler's room thermostat, the primary loop pump (circulator) is energized to circulate water through the heat exchanger. At the same time, the air handler's pump (circulator) and the supply air blower are energized. The pump circulates the hot water through the air handler's water coil and the supply air blower extracts the heat from the water in the coil and delivers it to the appropriate heating zone through the ductwork. When connected directly to the Comfort Plus Hydronic system, the air handler also directs heat lost statically into the living space providing automatic static heat recovery. If used with a heat pump, the air handler has the ability to monitor the outlet air temperature and provide comfort modulation as needed.

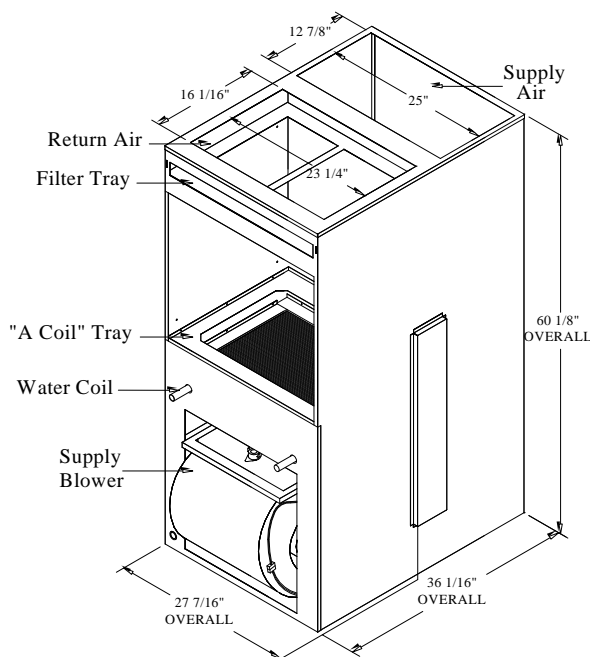
SPECIFICATIONS

Maximum Outlet Temperature	120 degrees Fahrenheit
Maximum Static Pressure	.75 inches H ₂ O
Maximum Water Coil Output	80,000 BTU/hr
Maximum A-Coil Size - Front Access	25.4"W X 22.25"H X 21.2"D
Inner Dimensions of A-Coil Area	26.4"W X 24.5"H X 21.2"D
Voltage	240/208 VAC
Wattage	1,300
Supply Air Blower	3/4 HP, 60 HZ

INSTALLATION

1. De-energize the Comfort Plus Hydronic system and unbox the Air Handler.
2. Remove cover from the supply blower opening (Figure 1) of the Air Handler and locate the hardware kit.
3. Remove coil and filter covers. Then, remove the water coil access panel of the Air Handler.

Figure 1



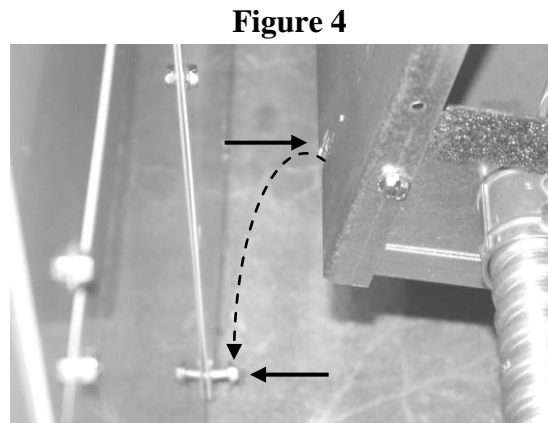
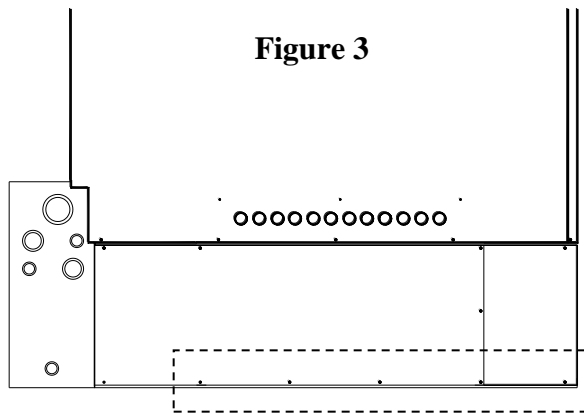
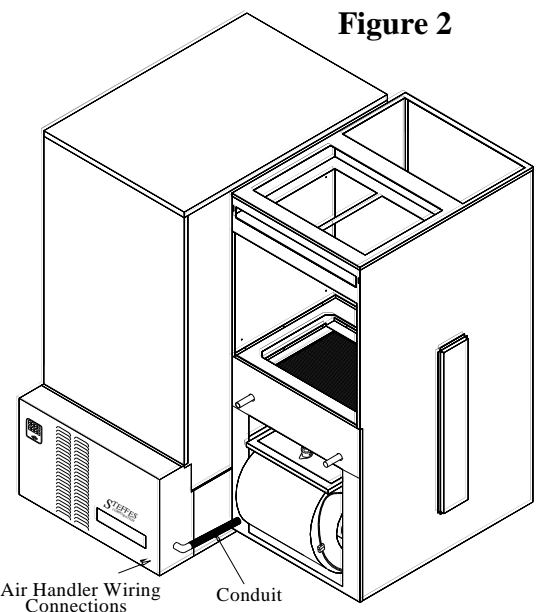
WARNING

- **Hazardous Voltage:** Risk of electric shock, injury or death. System may be connected to more than one branch circuit. Disconnect power to all circuits before installing or servicing. Equipment must be installed and serviced by a qualified technician.
- **High Temperatures:** Risk of personal injury. DO NOT install Air Handler when outer surfaces of the Comfort Plus Hydronic system are hot.

- During shipping, the water coil is held in place by one screw on the right side panel of the Air Handler. Remove the screw and lower the water coil into place. Secure the water coil and the A-coil tray with the screws provided in the hardware kit.
- Replace the five bottom, back screws on the right side of the Comfort Plus Hydronic system with five of the 7/8" screws provided in the hardware kit (Figure 3).

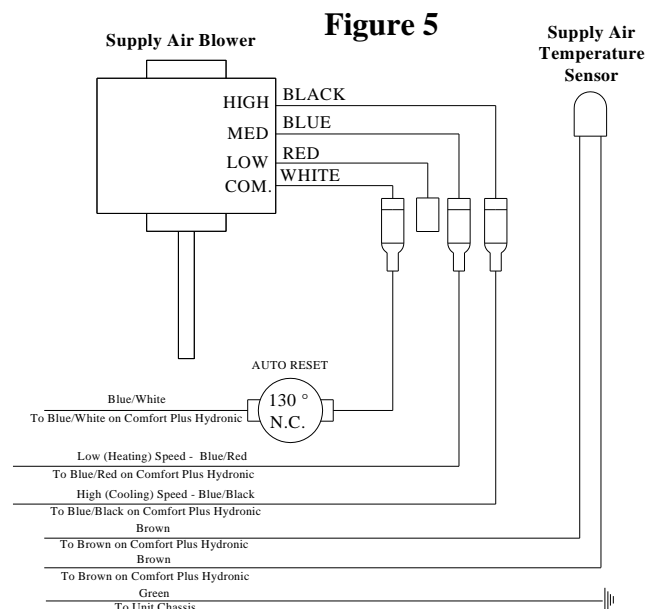
NOTE: Do NOT run the new screws all the way in. They should remain out about 3/8".

- Tilt the Air Handler and set it onto the screws protruding from the right side of the Comfort Plus Hydronic system (Figure 4). Attach the Air Handler to the right side of the Comfort Plus Hydronic system using screws provided in the hardware kit. Refer to Figure 2 for placement of the Air Handler in relation to the Comfort Plus Hydronic system.
- Remove the two knockouts on the water coil access panel and attach it to the Air Handler.



ELECTRICAL WIRING


- Remove the electrical panel cover of the Comfort Plus Hydronic system and locate the five (5) air handler wires in the lower right side of the electrical compartment.
- Remove and discard the resistor connecting the two brown wires.
- Route wiring harness from the Air Handler to the Comfort Plus Hydronic system through the conduit (Figure 2) provided in the hardware kit.
- Connect the wires from the Air Handler to the corresponding colored wires from the Comfort Plus Hydronic system. Refer to Air Handler Wiring Diagram (Figure 5) or the Line Voltage Wiring Diagrams in the Comfort Plus Hydronic Owner's and Installer's Manual for more information.
- Connect the green ground wire (Figure 5) to one of the sheet metal screws that secure the circuit breaker stand off.



PLUMBING

Installation of the water coil plumbing should be completed in a manner similar to the design shown in Typical System Plumbing Diagram (Figure 6).

- ◆ The Air Handler requires a dedicated pump (circulator) to feed the water coil and provide comfort modulation. Steffes recommends a Grundfos UP15-42F single speed 115VAC pump or equal.
- ◆ When utilizing the Steffes Air Handler, the recommended maximum water temperature (as set in C011) is 180 degrees and the recommended minimum water temperature (as set in C012) is 160 degrees.
- ◆ The pump serving the Air Handler is powered with the black and white wires found in the junction box on the lower left side of the Comfort Plus Hydronic system. Refer to the Plumbing Section of the Comfort Plus Hydronic Owner's and Installer's Manual for more information.
- ◆ It is extremely important to keep the area in front of the Air Handler open for accessing the blower, filter, and coils.

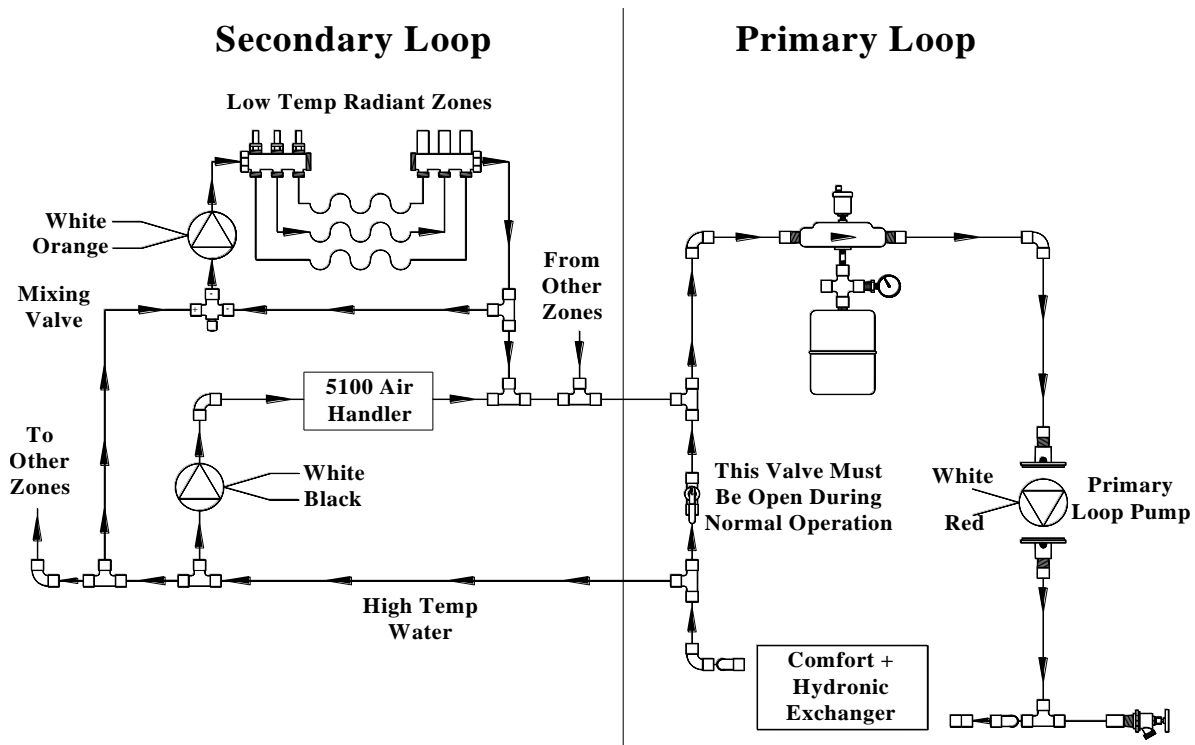


WARNING

Risk of personal injury or property damage. Water temperatures used for the Air Handler may not be acceptable for other heating zones in the installation. It is the responsibility of the installer to ensure that proper tempering devices are in place.

Figure 6

NOTE: *It is the responsibility of the installer to prevent involuntary flow of the water to the air handler. Not doing so may cause limit tripping or decreased heat pump efficiency. Use of a check valve, zone valve, etc. may help in this situation.*



AIR DELIVERY

1. Use the System Air Delivery Matrix to verify that the supply air blower speed is set correctly for the application.
2. Install the supply blower cover and the A-coil cover on the Air Handler. Then, install the electrical panel cover on the Comfort Plus Hydronic system.
3. Verify that the filter is in place in the filter tray, install the filter door, and re-energize the Comfort Plus system.

SUPPLY AIR DELIVERY MATRIX

Supply Air Blower Speed	Static Pressure (inches water column)		
	<small>(External static pressure should not exceed .75 inches water column)</small>		
	0.25	0.50	.75
High (CFM)	2030	1760	1500
Medium (CFM)	1970	1680	1425
Low (CFM)	1890	1630	N/A

MAINTENANCE & CLEANING

The filter in the Air Handler should be replaced on a regular basis and general cleaning of the cabinet should be conducted at the user's discretion. No additional routine maintenance is required with the Air Handler.

If utilizing a heat pump or air conditioner with the Air Handler, follow the manufacturer's cleaning recommendations for those devices.