



MODEL SZSP AIRCELL INSTALLATION, OPERATION & MAINTENANCE MANUAL

**Self-contained Single Zone
Air Distribution/Ventilation Module**



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⚠ WARNING **Qualified installer only —**
This product must be installed only by a qualified service technician. The installation must be done using recognized industry practices, and in compliance with this manual and all applicable codes. Failure to comply could result in death, serious injury or substantial property damage.

⚠ CAUTION **High water/steam temperatures —**
AirCell units are not recommended for use above 180°F. Doing so may cause damage to the unit and will void the warranty.

NOTICE **For information not included in this manual, see the following:** This manual includes only basic information for installation, operation and maintenance of SpacePak AirCell air handler modules. For more advanced applications and information not shown in this manual, contact SpacePak Technical Support for assistance and supplemental instructions. Call 413-564-5530 in Westfield, MA or visit our website at www.spacepak.com to send an e-mail or review technical literature.

Section 1: READ BEFORE PROCEEDING

Hazard Definitions

The following terms are used throughout this manual to bring attention to the presence of potential hazards or to important information concerning the product.

⚠ DANGER Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death, serious injury or substantial property damage.

⚠ WARNING Indicates an imminently hazardous situation which, if not avoided, **COULD** result in death, serious injury or substantial property damage.

⚠ CAUTION Indicates an imminently hazardous situation which, if not avoided, **MAY** result in minor injury or property damage.

NOTICE Used to notify of special instructions on installation, operation or maintenance which are important to equipment, but not related to personal injury hazards.

AirCell Overview

AirCell is a self-contained hydronic air handler designed for cooling, heating and fresh air ventilation. Multiple units can be linked in a common water system providing unlimited zoning and control capability.

AirCell works with hydronic supply systems, including boilers and reverse cycle chillers. AirCell modules operate efficiently while reducing volume of refrigerant up to 40-60% when compared to a conventionally-piped refrigerant-based system.

Requiring just hot and chilled water connections installation is quick and easy. Conditioned air is distributed by a high-efficiency variable-speed ECM fan and SpacePak's flexible 2" ductwork with patented Kwik-Connect system. Weighing only 39 lbs, the AirCell is installer friendly and easily handled by a single technician.

The AirCell does not require a room thermostat. The AirCell microprocessor controller regulates supply air temperature based on the temperature of the return air.

The major components of each AirCell module are:

- A variable speed ECM (Electronically commutated motor) driven centrifugal fan.
- A single, compact pattern, finned-tube water to air heat exchanger.
- Two return air temperature sensors.
- An integrated microprocessor to control fan speed based upon predetermined set-points and measured return air temperature.

⚠ WARNING Failure to comply with all of the guidelines **BELOW** could result in death, serious injury or substantial property damage.

Codes and Electrical Requirements

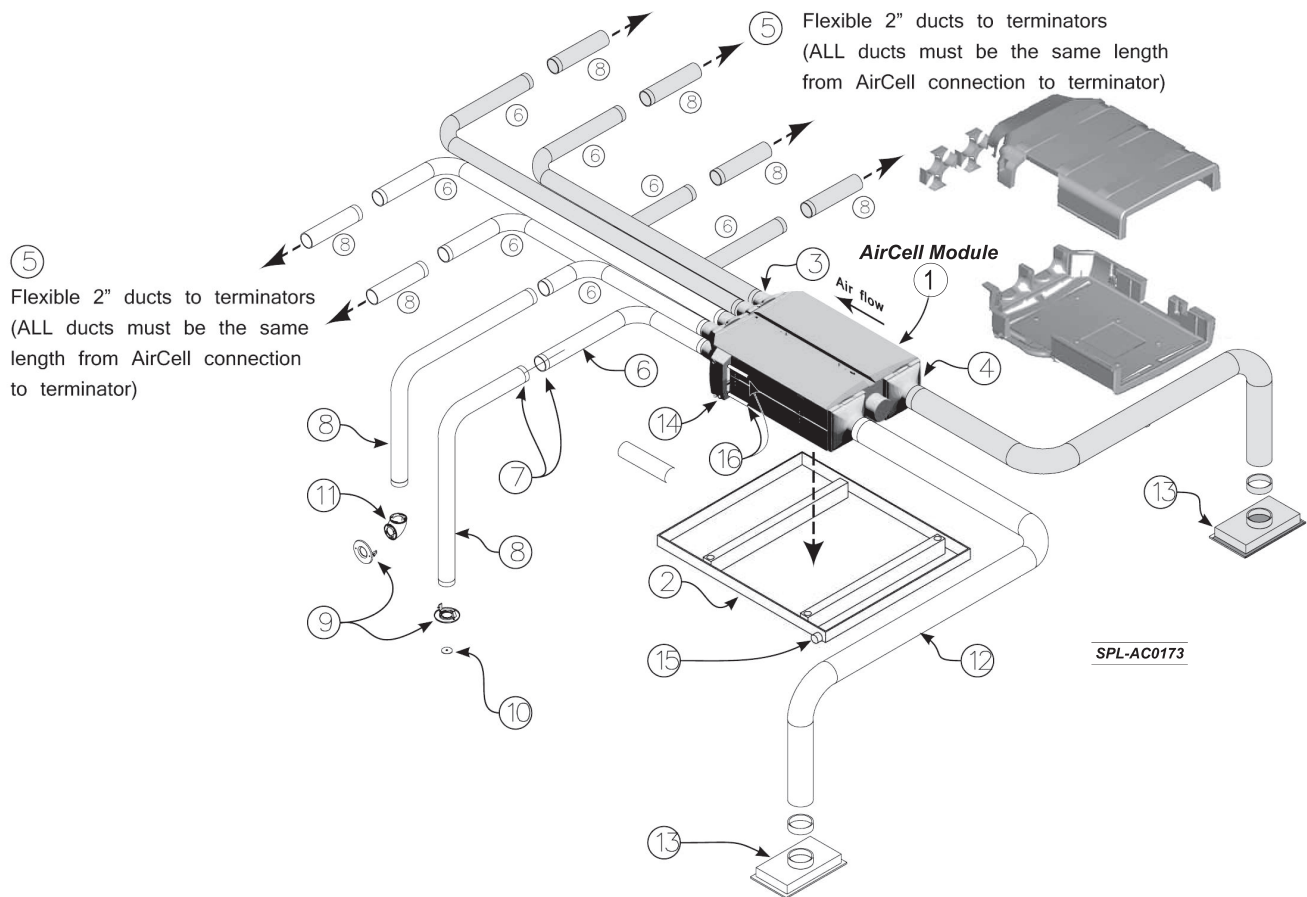
- AirCell installation must conform to the requirements of the local authority having jurisdiction or, in the absence of such requirements, to the National Board of Fire Underwriters regulations. The AirCell module meets ETL listing requirements.
- All electrical wiring must be in accordance with the National Electrical Code ANSI/NFPA No.70-latest edition and any additional state or local code requirements. The AirCell module must be electrically grounded via the ground post of the 120-VAC power cord supplied with the unit.
- **NOTICE:** It is a requirement of the International Mechanical Code (307.2.3) to install a secondary drain or an auxiliary drain pan where damage to any building components will occur as a result of overflow from the equipment drain pan or stoppage in the condensate drain piping from a cooling or an evaporator coil. A secondary drain pan must be purchased and installed for ALL installations of AirCell units, as described in this manual.
- **Electrical shock hazard —** Disconnect all electrical power before servicing the unit. Also, the unit must be grounded in accordance with the Electrical Code listed above.

Air Distribution System Component Requirements

- Air distribution component installation must conform to the requirements of local authority having jurisdiction or, in the absence of such requirements, to the National Fire Protection Association 90A or 90B.
- Do not begin the installation of the system without a system layout and material take-off. If a layout plan is not already available and room terminator requirements determined, then refer to the SpacePak Application Manual, SP9, to complete this information.
- A description of air distribution system components is shown in figure 1, with further details discussed on the following page.

Section 2: AirCell System Components

Figure 1 AirCell System Components



- 1 AirCell self-contained air handler module — install with minimum clearances shown above.
 - 2 **Required for AirCell installation** — SpacePak secondary drain pan (part number ACS-BASE-2) — for AirCell mounting and condensate elimination (2 adapters).
 - 3 AirCell supply adapters — (4) fittings (4LH/4RH), for connecting SpacePak 2" flexible duct or (2) fittings (LH/RH) for connecting 6" or 7" duct.
 - 4 AirCell return adapters — (2) fittings (LH/RH) for connecting SpacePak 6" or 7" duct.
 - 5 Use SpacePak 2" flexible supply tubing — ALL ducts should be the same total length to ensure balanced flow through each terminator outlet — coil tubing if necessary to place excess length. Not to exceed 15' (12' of tubing with 3' sound attenuator).
 - 6 SpacePak 2" flexible duct sections:
R6-insulated tubing: SpacePak p/n AC-ST6-100 — 2" ID x 3 1/4" OD x 100' long
R8-insulated tubing: SpacePak p/n AC-ST8-75 — 2" ID x 5 3/8" OD x 75' long
 - 7 SpacePak 2" Kwik-Connect, p/n BM-6818.
 - 8 SpacePak 2" sound attenuator tube, p/n BM-6926, 2" tubing by 36" long (DO NOT CUT).
 - 9 SpacePak 2" terminator plate, p/n BM-6845.
 - 10 SpacePak winter supply and air shut-off, p/n BM-6819.
 - 11 SpacePak 2" Kwik-Connect wall elbow, p/n AC-KCWE.
 - 12 Return air ducts — see figure 2, for recommended sizing.
 - 13 Return air box:
Use one return air grille and filter for area served (source locally). Each return air grill must be located within the space conditioned by that particular return to ensure proper temperature control.
 - 14 AirCell condensate trap assembly (1/2" tube fitting) — kit supplied with AirCell unit (see page 14 for details).
 - 15 AirCell pan condensate drain kit (3/4" NPT female) — must be on same side as the AirCell condensate drain connection Connect to a suitable drain or condensate pump (see page 15).
 - 16 Water connections. Supply and return connections are equipped with push fit connectors to accept 1/2" (5/8" OD) copper/pex connection (refer to page 7).
- KITS:** Installation kits are available in two-outlet (#AC-IKLT-2) and five-outlet (#AC-IKLT-5) quantities per kit. Kits include:
(4) or (10) Kwik-Connects
(2) or (5) sound attenuator tubes
(2) or (5) terminator plates (incl. spring clips and screws)
(2) or (5) winter supply air shut-offs

Section 2: AirCell System Components (continued)

Supply Tubing (2" SpacePak Flex Tubing)

The AirCell module is designed to operate with external static pressure of .8 to 1.2" of water column. Excessive static pressure is an indication of too few outlets or too long tubing runs, and may cause noisy operation or reduced performance.

Supply tubing can be run in practically any location that is accessible for the attachment of the tubing (see suggested layouts in figure 10).

- 2" SpacePak tubing is small enough for routing in stud spaces.

Room Terminators

Terminators should be located only in the ceiling or floor for vertical discharge.

- Horizontal discharge is acceptable, but is sometimes more difficult to install.
- An ideal spot for horizontal discharge are in the soffit area above kitchen cabinets (see figure 4).

Terminators should always be out of normal traffic patterns to prevent discharge air from blowing directly on occupants. And they should not be located directly above shelves or large pieces of furniture.

- Outside wall or corner locations are recommended if the room has more than one outside wall.
- Locating terminators away from interior doors prevents short cycling of air to the return air box.

Return Air Ducts

Size return air ducts based on the table below.

Figure 2 Minimum Return Air Duct Diameter

<i>Length of duct</i>	<i>Minimum diameter (or equivalent oval or rectangular)</i>
4 feet to 8 feet	6"
8 feet to 12 feet	7"

Shipment of AirCell Units

Each AirCell module is shipped in a single carton. Packed with the unit are:

- Outer insulation jacket, drain assembly, a condensate trap assembly, power cord, and two push fit quick connects for supply and return water connections.
- Literature pack - installation manual and control users manual.
- Supply and return adapters are shipped loose.

Standard Equipment

- EC Fan
- Integrated primary drain pan
- Heating/cooling hydronic coil
- Heavy duty plastic clamshell design
- Quick-connect fittings for water connections
- Control board with wireless capabilities
 - Fan speed control
 - Temperature set points
 - 110V power supply
 - Outer insulation jacket
 - Auto timed zone control
 - Alarm settings

Additional Components Required

- Secondary condensate drain pan, Spacepak part number ACS-BASE-2.
- Thermostat

Figure 3 AirCell Dimensions (inches)

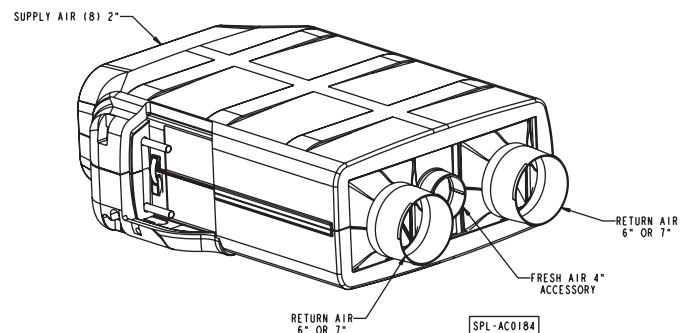
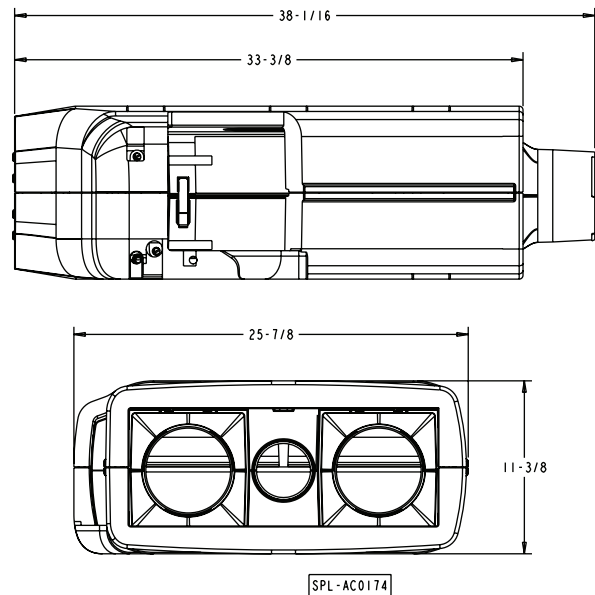
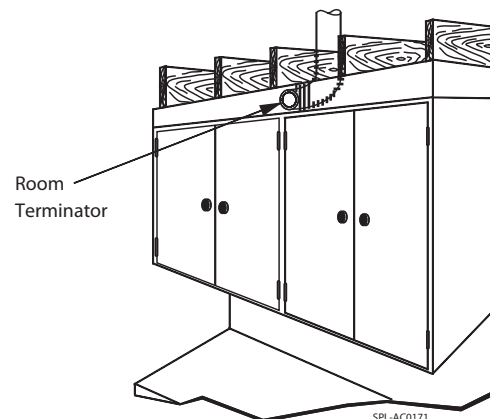


Figure 4 Room Terminator In Soffit Area



Section 3: Specifications and Ratings

Figure 5 AirCell Rating Information

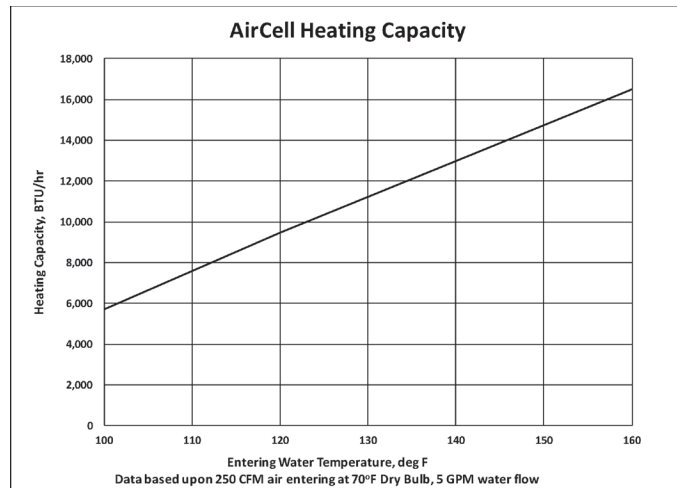
Item	Units	Value
Cooling capacity, total (Note 2)	Btuh / KW	9,000 / 2.64
Heating capacity, total (Note 1)	Btuh / KW	9,400 / 2.75
Air flow rate, max	CFM / l/s	330 / 158
Static pressure at outlet, max	Inches WC / Pa	1.2 / 300
Noise level at outlets (at 1.5 meters, typical)	dB(A)	22
Water volume	Gallons / liters	0.20 / 0.75
Required water flow	GPM / l/s	5.0 / 0.38
Water pressure drop at required flow (also see figure 7, page 5)	Feet WC / PSI	11.0 / 4.8
Supply voltage	V/Ph/Hz	120/1/60
Running current, cooling	Amps	2.8 (120 VAC)
Max. overcurrent protection	Amps	15
Supply/Return connections	(Qty) Inches	(4) 2" per (side) (1) 6" per (side) (1) 7" per (side)
Water connections	Inches NPT	1/2 (5/8 OD)
Net weight	Lbs / kg	38 / 17
Shipping weight	Lbs / kg	45 / 20
Operating weight	Lbs / kg	40 / 18

Note 1: Performance based on 250 CFM air entering at 70°F, 4.85 GPM water flow, water entering at 120°F

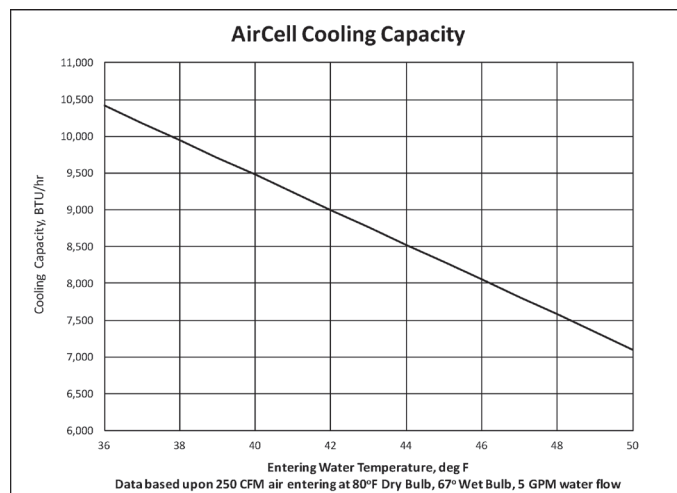
Note 2: Performance based on 250 CFM air entering at 80°F DB, 67°F WB, 4.85 GPM water flow, water entering at 42°F

Figure 6 AirCell Coil Water-Side Pressure Drop

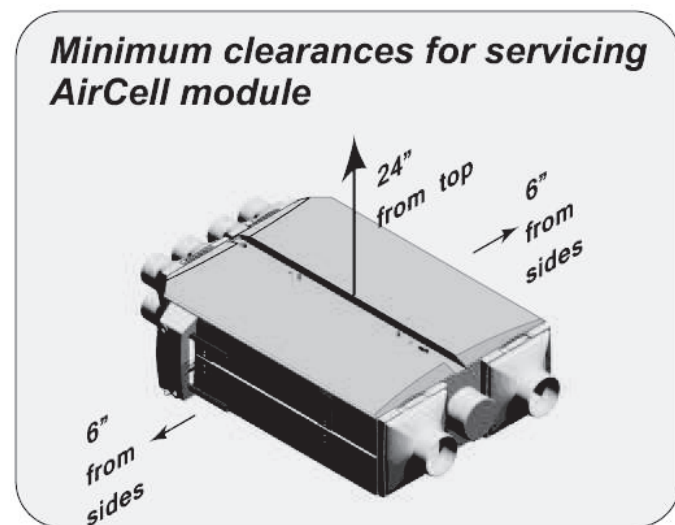
Heating Capacity



Cooling Capacity



Clearances (Dimensions in Inches)



Section 4: Location and Mounting

NOTICE The installation must comply with all applicable local codes.

Prepare the AirCell Module

Inspect the module for shipping damage.

DO NOT use if there is a risk that the damage could affect unit operation.

Make sure all required components are available.

Prepare the Adapters

Each adapter is supplied with 2.75' of neoprene sponge gasket (part# 55Y03-AC0025) that must be installed on the adapter prior to installation onto the unit. Push gasket into ridge on the backside of the adapter ensuring the entire perimeter is sealed. Any excess gasket material may be cut off.

Mounting/Installation of Unit

Every AirCell is delivered with a two piece foam enclosure which is intended to remain in place after installation. This enclosure serves multiple purposes. It provides thermal insulation, minimizing unwanted heat loss/gain through the plastic casing, and greatly reducing the tendency for the casing to sweat during cooling mode in humid conditions. The foam also provides an additional barrier against sound transmission through the casing, for virtually silent operation.

Each installation should begin by removing the top and bottom foam sections (reference Item #1 figure 7) from the AirCell and placing the lower section onto a firm surface, located and oriented in a manner that will allow clear access to the return and supply connections, and direct the ducting appropriately. The mounting surface should be a minimum of 2-1/2" above the surrounding floor (two pieces of 4 x 4 lumber will provide this height) to allow clearance for the trap and proper drainage of the two condensate hoses. Next, cut a short length of hose, (at least 3" to exit the foam, but should be kept to a minimum to ensure it remains as straight and level as possible). Secure this with a miniature hose clamp, provided.

Install the selected supply and return adapters onto the AirCell unit and ensure that both the upper and lower tabs of each are snapped in place securely. Lower the AirCell into the bottom housing while directing the drain house out the proper hole in the housing (not to be confused with the lower bleed port hole, see illustration). When the AirCell unit is seated fully inside the lower housing, place the upper housing onto it, ensuring it is aligned with the lower around the full perimeter. Press down firmly on the housing to engage the tabs around the perimeter. Two additional piece of foam are provided to insulate around the each of the 4 x 2" supply adapters (reference Item #1 figure 7). Press firmly into place. Place AirCell unit on top of secondary drain pan.

Removal of Rubber Plugs from Coil Connections

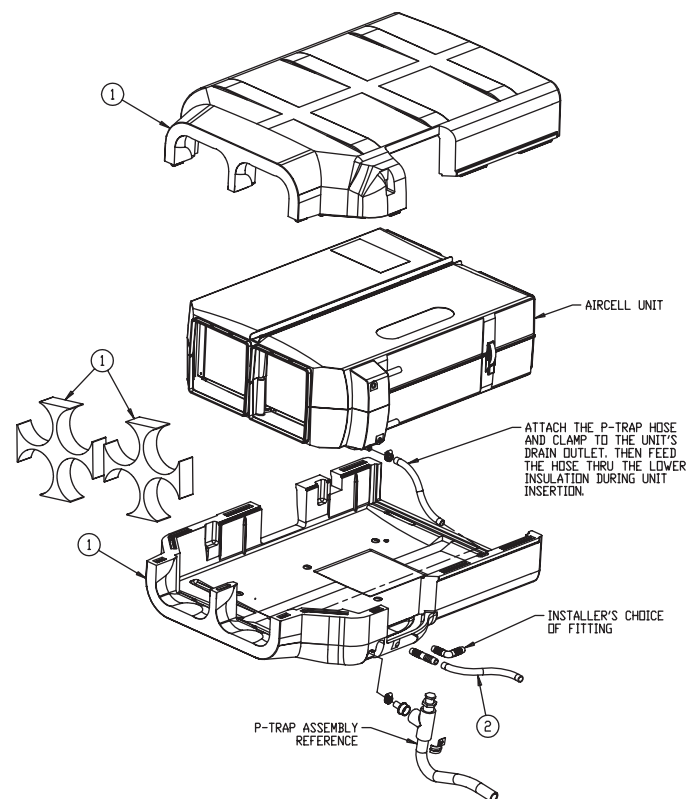
Remove the rubber plugs from the coil connections and retain them. These will used to plug the coil drain and coil vent access holes in the casing. (refer to figure 8, page 7)

Return Air Box Opening

Follow instructions supplied with the return air boxes.

NOTICE If the AirCell module is to be installed by inserting through an access opening, the opening must be at least 12" by 24". The opening and the placement of the AirCell module must allow for access to the top and sides of the AirCell for set-up and servicing. Maintain the minimum clearances specified in this manual. The return air box opening may be used for this purpose if it provides necessary size and accessibility.

Figure 7 AirCell Module Mounting



Section 5: Water Connections/Glycol

Water Connections

NOTICE Water connections (supply and return) must be piped as shown for best performance in both heating and cooling operation. Failure to pipe accordingly could result in a noticeable decrease in performance.

- Coil Vent - Use to vent air out of unit.
- Coil Drain - Use to drain coil.
- Condensate Trap - Refer to page 14, figure 19 for installation instructions.
- Condensate Drain Kit - Refer to page 15, figure 20 for installation instructions.

Connecting Water Plumbing

Use the supplied push on fittings to adapt the 15mm coil connections to 1/2" nominal (.625 O/D) copper or pex plumbing. Note, push-on fittings are the only acceptable means of connecting to the coil. These cannot be soldered or brazed without damaging the AirCell casing, insulation or internal components. Connect the supply (inlet) to the upper coil connection, and the return (outlet) to the lower water connection. Once the system is completed and closed, pressure test. Fill the system with water or glycol solution and open the bleed port valves on the coil to allow any air to escape. Close these valves and insert the rubber plugs removed from the coil to fill the holes in the case.

Push Fit Connectors

Each AirCell module comes with two push fit quick connectors that accept 1/2" (5/8" OD) copper or pex connections. Instructions for use are supplied in the fitter bag.

Use of Glycol

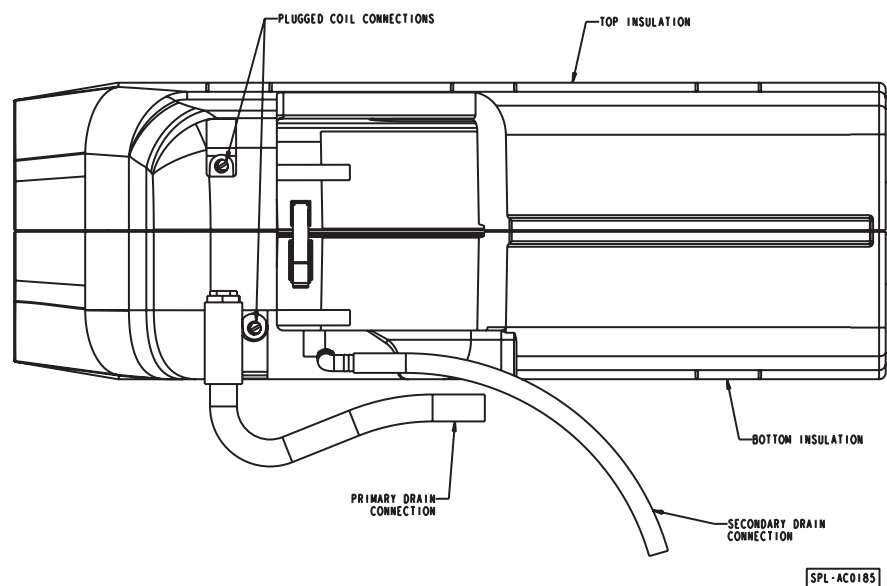
All performance values provided are based upon pure water. However chillers and outdoor heat pumps generally require some type of freeze protection. The chiller/heat pump manufacturer's recommendations must be followed to ensure total system protection.

The AirCell is compatible with HVAC grade ethylene glycol or propylene glycol, in any concentration. Pressure loss and performance values must be adjusted accordingly. Refer to Table 1 page 8 and use the appropriate correction factors for the particular anti-freeze and concentration, as well as operation in heating or cooling modes.

As an example, using propylene glycol, at a 25% concentration, multiply the expected cooling performance by .808, and the pressure drop by 1.129. For the same installation operating in heating, multiply the capacity by .959, and the pressure drop by 1.138.

It is important to note that these correction factors apply to the air handler only. Separate calculations must be performed for the chiller/heat pump according to that component's manufacturer's recommendations.

Figure 8 Aircell Water Connection



Section 5: Water Connections/Glycol (continued)

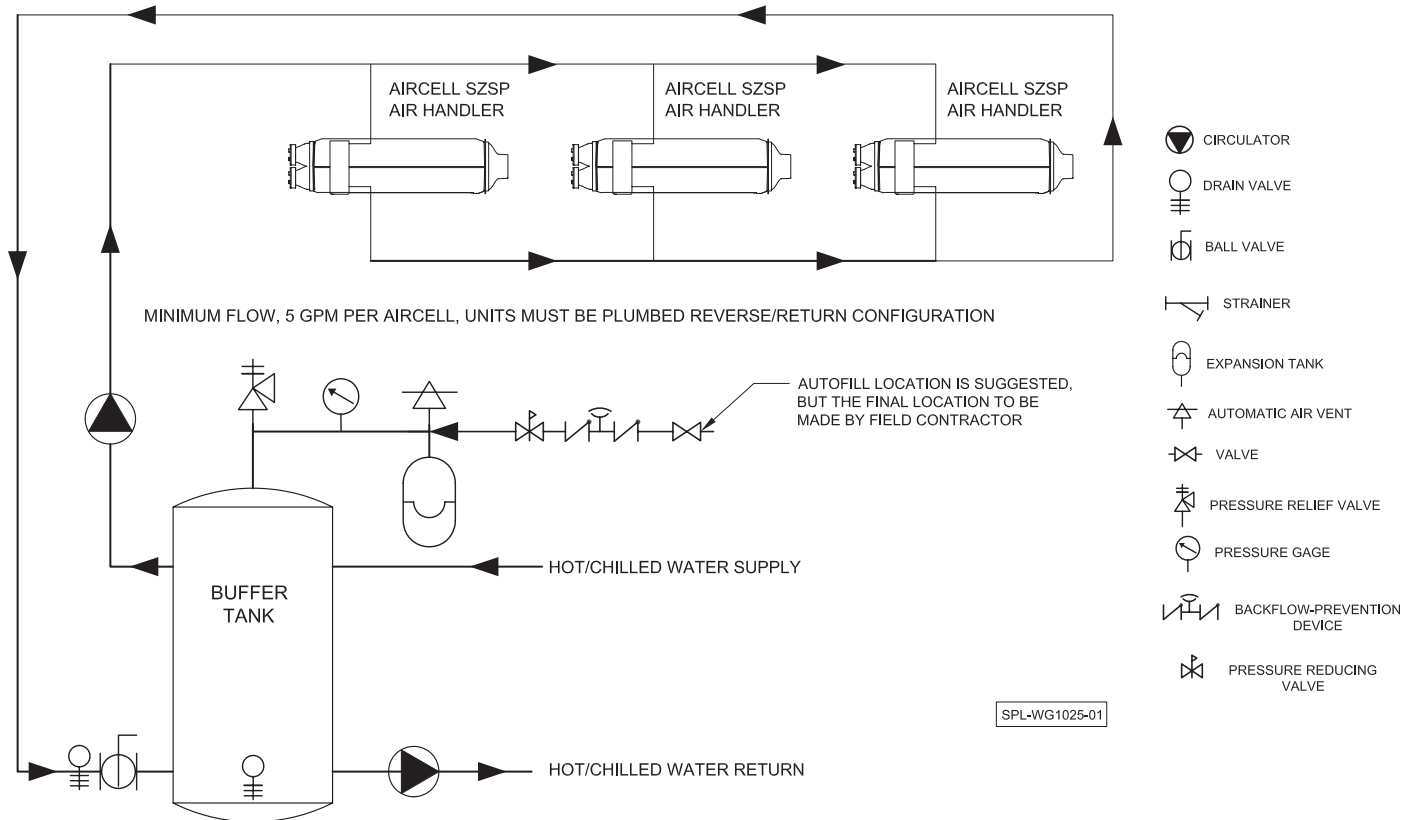
Table 1 Aircell Glycol Derate

ETHYLENE			PROPYLENE		
% EGW	Capacity Multiplier	Pressure Drop Multiplier	% PGW	Capacity Multiplier	Pressure Drop Multiplier
Cooling			Cooling		
10	0.966	1.038	10	0.945	1.098
15	0.938	1.076	15	0.918	1.045
20	0.913	1.083	20	0.885	1.008
25	0.888	1.053	25	0.808	1.129
30	0.860	1.023	30	0.776	1.348
35	0.819	0.992	35	0.750	1.674
40	0.759	1.242	40	0.733	1.962
45	0.735	1.402	45	0.717	2.235
50	0.714	1.598	50	0.703	2.553
Heating			Heating		
10	0.992	1.043	10	0.990	1.060
15	0.986	1.078	15	0.984	1.086
20	0.981	1.103	20	0.976	1.112
25	0.972	1.129	25	0.959	1.138
30	0.959	1.115	30	0.945	1.172
35	0.945	1.19	35	0.929	1.207
40	0.930	1.224	40	0.912	1.241
45	0.916	1.259	45	0.89	1.164
50	0.901	1.284	50	0.866	1.121

Section 6: Piping

Figure 9.1 shows suggested piping diagram. SpacePak recommends installing the AirCell using a reverse return piping and buffer tank (size appropriately) arrangement (refer to figure 9.1) which will eliminate the need for extra pumps as the system is self balancing. When installing a reverse return system, the longest supply should have the shortest return.

Figure 9.1 Reverse Return (Recommended)



Section 7: Installing Air Distribution Components

NOTICE All duct and supply tubing runs as well as room terminator locations must be in accordance with air distribution system requirements listed in Section 2: “SpacePak system components” in this manual. Where taping of joints is required, UL181 approved tape is required.

Room Terminator & Sound Attenuating Tubing Installation

Room terminators and pre-assembled sound attenuating tubes are provided in the Installation Kits.

NOTICE Do not install terminators in a wall in which a sharp bend in the sound attenuating tube is required (see figure 11). The result would be unacceptable noise. Using a SpacePak Kwik-Connect Wall Elbow (Model Number: AC-KCWE) addresses this condition (see figure 12).

In marking location for room terminator (see figure 13), the center of the terminator should be 5" from the wall or, when installed in the corner of a room 5" from both walls.

- After marking location, drill a 1/8" diameter hole for outlet. Verify there is at least a 2" clearance all around the 1/8" hole to receive tubing and connector. Adjust direction of hole as needed, to gain this 2" clearance. After all clearances have been checked, take a 4" diameter rotary-type hole saw and cut a hole, using the 1/8" diameter hole as a pilot.
- Assemble spring clips to terminator plate with screws provided in installation kit. Tighten clips until they are close to the thickness of the material they are being mounted to.
- Assemble the room terminator to the sound attenuating tubing by simply fitting the two pieces together and twisting until tight (see figure 17). If the terminator is to be used in a floor location, then field fabricate a small screen (1-1/2" square; 1/4 x 1/4 20-gauge galvanized wire screen) and place screen over opening on the back of the terminator prior to twisting on the Kwik-Connect (on the sound attenuating tube).

NOTICE Do not shorten sound attenuating tube length. The result would be unacceptable noise.

- Push the free end of the sound attenuating tube through the 4" hole until the two toggle springs on the room terminator snap into place.
- Center the two spring clips on a line parallel to the direction of the tubing routing from the room terminator (see figure 14). This is important since the weight of the tubing will have a tendency to cause a part of the terminator to pull away from the ceiling if the clips and tubing do not run parallel.
- Then tighten the screws (attached to the terminator) until the terminator is snug against the ceiling or floor. Do not over-tighten. For installations with floors or ceilings which are thicker than normal, longer toggle screws or special mounting plates may be required.

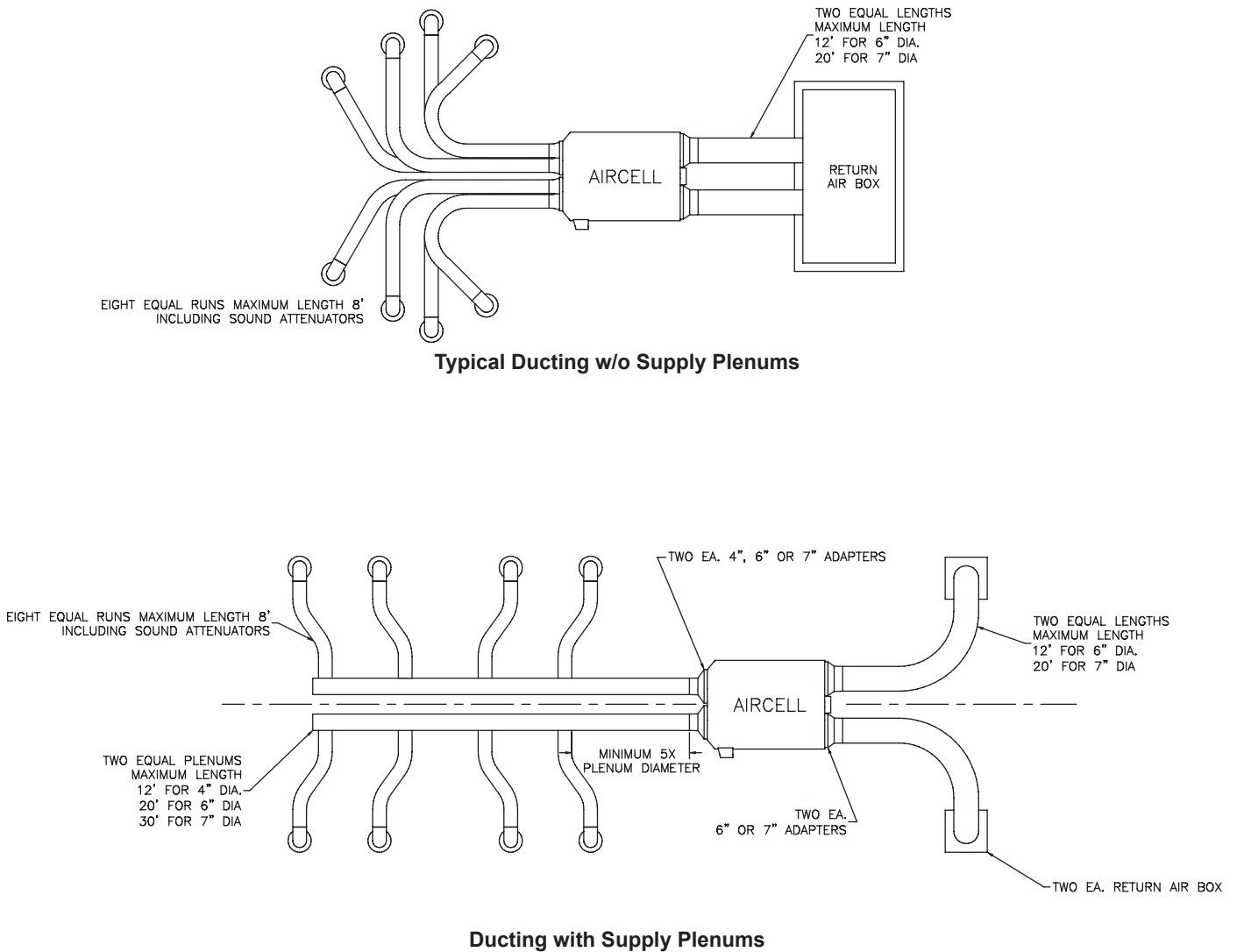
Duct Layout

The plenum duct can be run in practically any location accessible for the attachment of the supply tubing (see suggested layouts in figure 10). The plenum is normally located in the attic or basement, and it is usually more economical to run the plenum where it will appreciably shorten the lengths of two or more supply runs.

The fan coil unit is designed to operate with a total external static pressure of 1.2" of water column (minimum .8 - maximum 1.2). Excessive static pressure is an indication of too few outlets and may cause the coil to freeze and some or all outlets to be noisy.

Section 7: Installing Air Distribution Components (continued)

Figure 10 Plenum/Tubing Layout Examples (for Guidance Only)



Section 7: Installing Air Distribution Components (continued)

Figure 11 Incorrect Tubing Installation

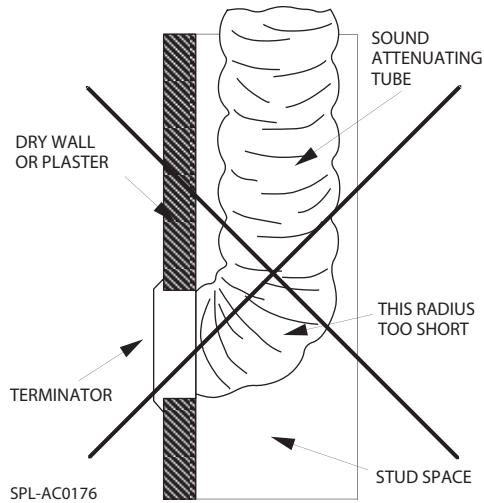


Figure 12 Installation with Kwik-Connect Wall Elbow

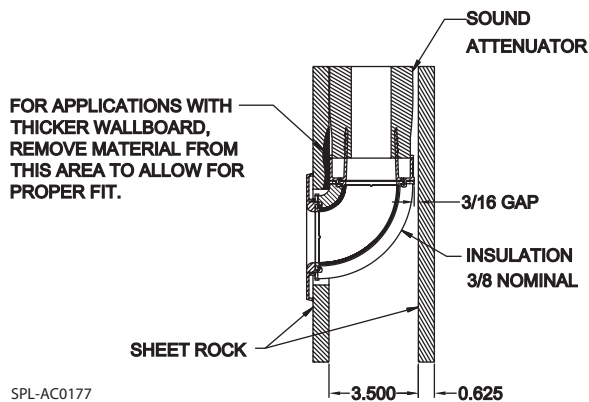
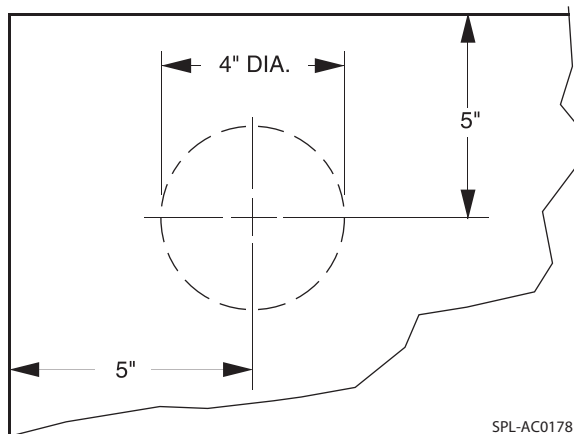


Figure 13 Terminator Measurements



Supply Tubing Installation

Kwik-Connects are provided in the Installation Kits.

Avoid sharp bends in the supply tubing (as well as the sound attenuating tube). The minimum radius bend is 4" (see figure 15). Wherever possible, install with a larger radius.

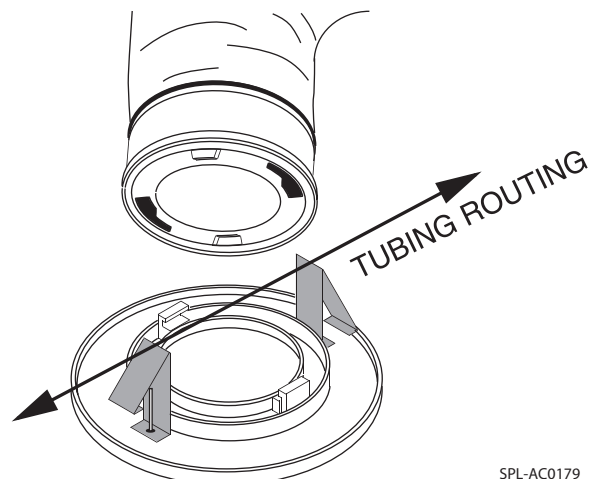
Individual supply tubing runs must be a minimum of 6', even if the distance between the sound attenuating tubing and AirCell connection is less than 6'.

Supply tubing may be cut to length with a knife or fine-tooth hacksaw.

For each supply tubing run, estimate and cut the length of tubing that will be needed between the plenum and sound attenuating tube.

- At the open end of the supply tubing a Kwik-Connect will be installed (see figure 16).
- First, push back the cover and the insulation exposing approximately 4" of the inner core. Fold in any tails or frays that may be present after cutting the supply tubing.
- Second, hand compress the corrugations until they are densely compacted 1-1/2" to 2" from the open end of the supply tube.
- Third, thread Kwik-Connect into the inner core until snug.
- Fourth, pull the insulation and cover forward and tuck it into the deep groove on the back side of the Kwik-Connect.
- Fifth, wrap the connection securely with UL181 approved tape.
- When finished, simply twist together (see figure 17) the Kwik-Connect on the sound attenuating tube, and wrap the connection securely with tape.
- After attaching the supply tubing to the sound attenuating tube, bring the open end of the tubing to the AirCell connection.
- Install a Kwik-Connect in the open end of the supply tubing, using the same procedures as before, and twist together Kwik-Connects on supply tubing and AirCell take-off.
- Wrap connection securely with tape.

Figure 14 Positioning Room Terminator



Section 7: Installing Air Distribution Components (continued)

Figure 15 Minimum Tubing Bend

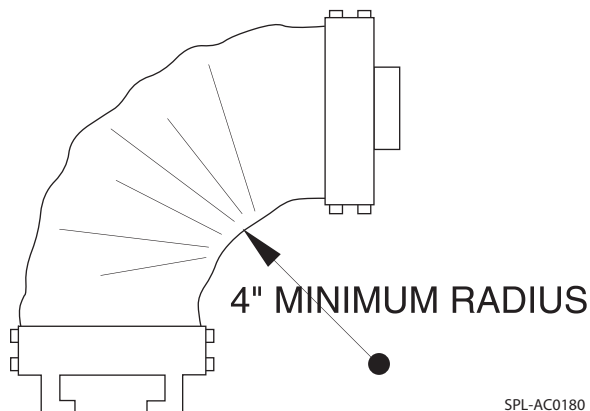
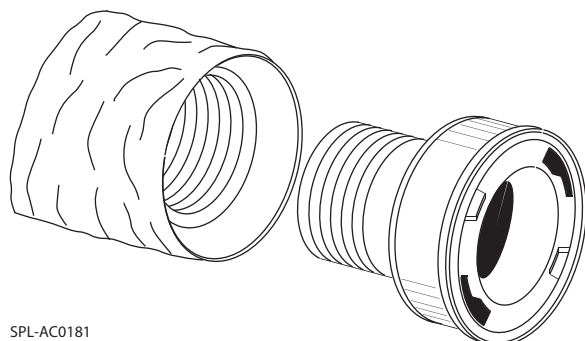


Figure 16 Kwik-Connect Installation



Optional Accessories

Return Air Box

The proper air return box can be purchased locally. Each return air grille must be located within the space conditioned by that particular area to ensure proper temperature control.

Return Air Grille

10 x 10 return air grille (fits any 10 x 10 1" filter media) part # 45W43-WG0712-01.

Return Air Grille Adapter

10x10x6" or 7" Square to round adapter used with 10x10 Return Air Grille (#45W43-WG0712-01). Easily convert to 6" or 7" round duct work.

6" Adapter – Part# 55W15-AC0125-06

7" adapter – Part #55W15-AC0125-07

Winter Supply Shut-Off Installation

Simply insert winter supply shut-offs into the room terminator openings (see figure 18).

- Wrap the return air filter in a plastic bag and reinstall it to block the return air opening.
- Winter supply shut-offs prevent moisture from collecting in ductwork during winter months.
- Be sure to remove the plastic bag and all winter supply shut-offs before operating the system.

Figure 17 Connecting Tubing

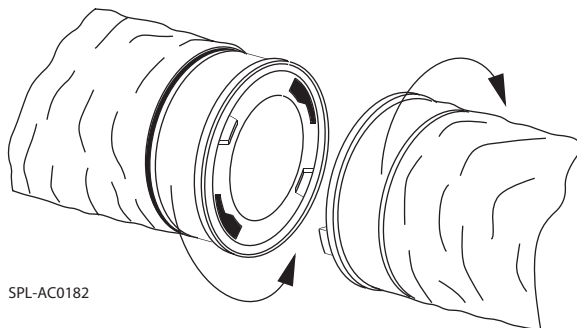
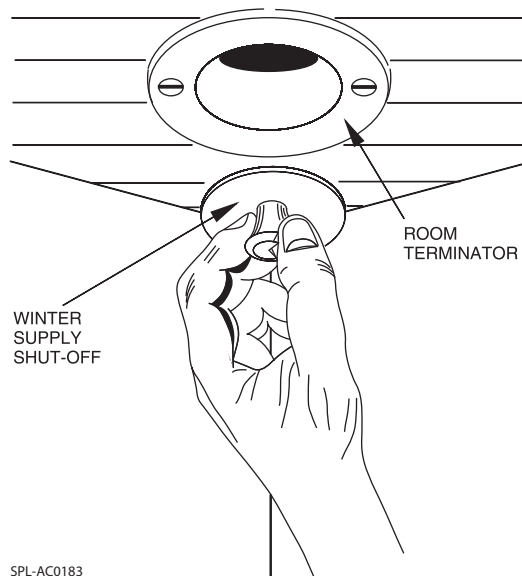


Figure 18 Winter Supply Take-Off



Optional Accessories include:

- Return air box
- Return air grille
- Return air adapter

Section 8: AirCell Condensate Trap Installation

NOTICE

It is a requirement of the International Mechanical Code (307.2.3) to install a secondary drain or an auxiliary drain pan where damage to any building components will occur as a result of overflow from the equipment drain pan or stoppage in the condensate drain piping from a cooling or an evaporator coil. Follow local code requirements. The SpacePak secondary drain pan shown in figure 1 is required for installation as stated in this manual and meets the code requirements for a secondary drain pan. It must be installed according to the instructions supplied with it.

Condensate Drain System

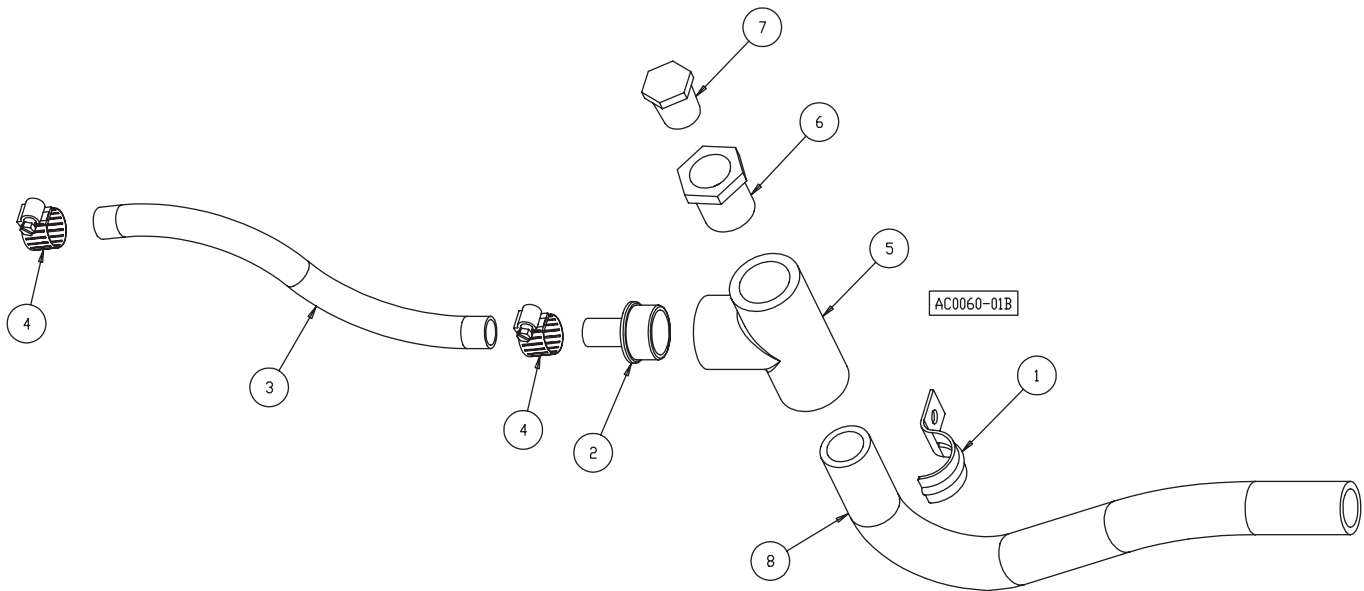
Install the p-trap assembly onto the hose exiting the lower housing (refer to figures 8 & 19). Align the p-trap so that the straight outlet is horizontal, and secure it with the clamp provided. This component is sized to plumb directly to 3/4 nominal PVC pipe fittings.

Insert one of the provided 1/2 inch nominal hose barb fittings into the hole in the lower insulation pan (refer to figure 20). Select the straight or elbow fitting to achieve the best routing for drainage. Push the provided 1/2" ID hose onto the other end of the fitting and rout it to a suitable gravity drain or condensate sump pump.

NOTICE

It is the responsibility of the installing contractor to ensure that both drain connections are secured and routed so that any condensate that forms either inside the AirCell housing, or the lower insulation pan, is not allowed to accumulate, and is directed to an outdoor or sanitary drain system.

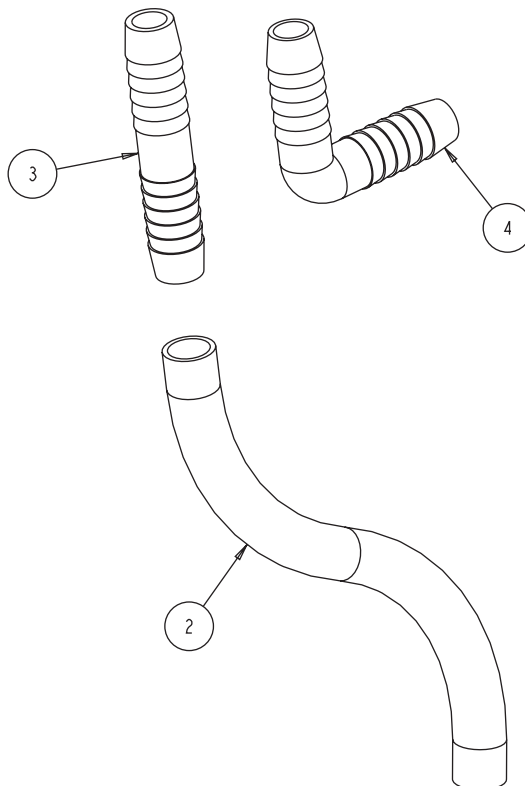
Figure 19 AirCell Condensate Trap Assembly — all items are supplied with the AirCell module for field assembly (kit part number 55455-AC0059-01) Refer to figure 7 page 6 for proper installation.



Item	Description	Part Number
1	Clamp, 3/4" Conduit	55W20-AC0075-01
2	Adaptor, Hose, 1/2" to 3/4"	55W40-AC0057-01
3	Tubing, Clear Vinyl 5/8" OD	55Y07-AC0058-01
4	Hose Clamp (2 Places)	55W37-AC0074-01
5	Tee, 3/4"	55W40-WG0114-01
6	3/4" x 1/2" Bushing	55W40-WG0115-01
7	1/2" Plug	55W40-WG0116-01
8	P-Trap, 3/4"	55Y07-WG0117-01

Section 8: AirCell Condensate Trap Installation (continued)

Figure 20 AirCell Condensate Drain Kit — all items are supplied with the AirCell module for field assembly. Installers choice to use either item 3 or 4. (kit part number 55471-AC0164) Refer to figure 7 page 6 for proper installaion.



Item	Description	Part Number
2	Tubing, Clear Vinyl 1.75 ft.	55Y07-AC0058-01
3	Fitting, Barbed Insert, PVC, 1/2"	55W40-AC0162
4	Fitting, Barbed, 90 Deg, PVC, 1/2"	55W40-AC0163

Section 9: *Electrical Connections*

⚠ WARNING The electrical installation must comply with the latest edition of: in the U. S. — National Electrical Code ANSI/NFPA No. 70; in Canada — CSA C22.1 Canadian Electrical Code Part 1. Wiring must be N.E.C. Class 1. Use only copper wire, rated for 120°F and sized for the load listed in this manual.

⚠ WARNING **Electrical shock hazard** — Disconnect all electrical power before servicing the unit. Also, the unit must be grounded in accordance with the Electrical Code listed above. The power cord supplied with the module must be inserted in a grounded receptacle.

Overcurrent Protection

Protect the circuit with a breaker or fuse rated for 15 amps (at 120 VAC).

SpacePak Heat Pump/Chiller Wiring

Mount and wire the SpacePak Chiller Interface Module.

Connect wires between the AirCell module and the Chiller Interface Module as shown in figure 25-2.

Connect the chiller/heat pump enable wiring to the chiller/heat pump.

Connect room thermostats to the Chiller Interface Module.

See figure 21 and 22 for AirCell control board internal wiring.

AirCell Control Input/Output Connection

The AirCell controls are flexible and accommodate a number of different control configurations. Figures 23 and 24 show the most common/recommended input and output connections. Any input configuration may be combined with any output configuration.

NOTICE Wireless operation **DOES NOT** require the installation of any thermostat.

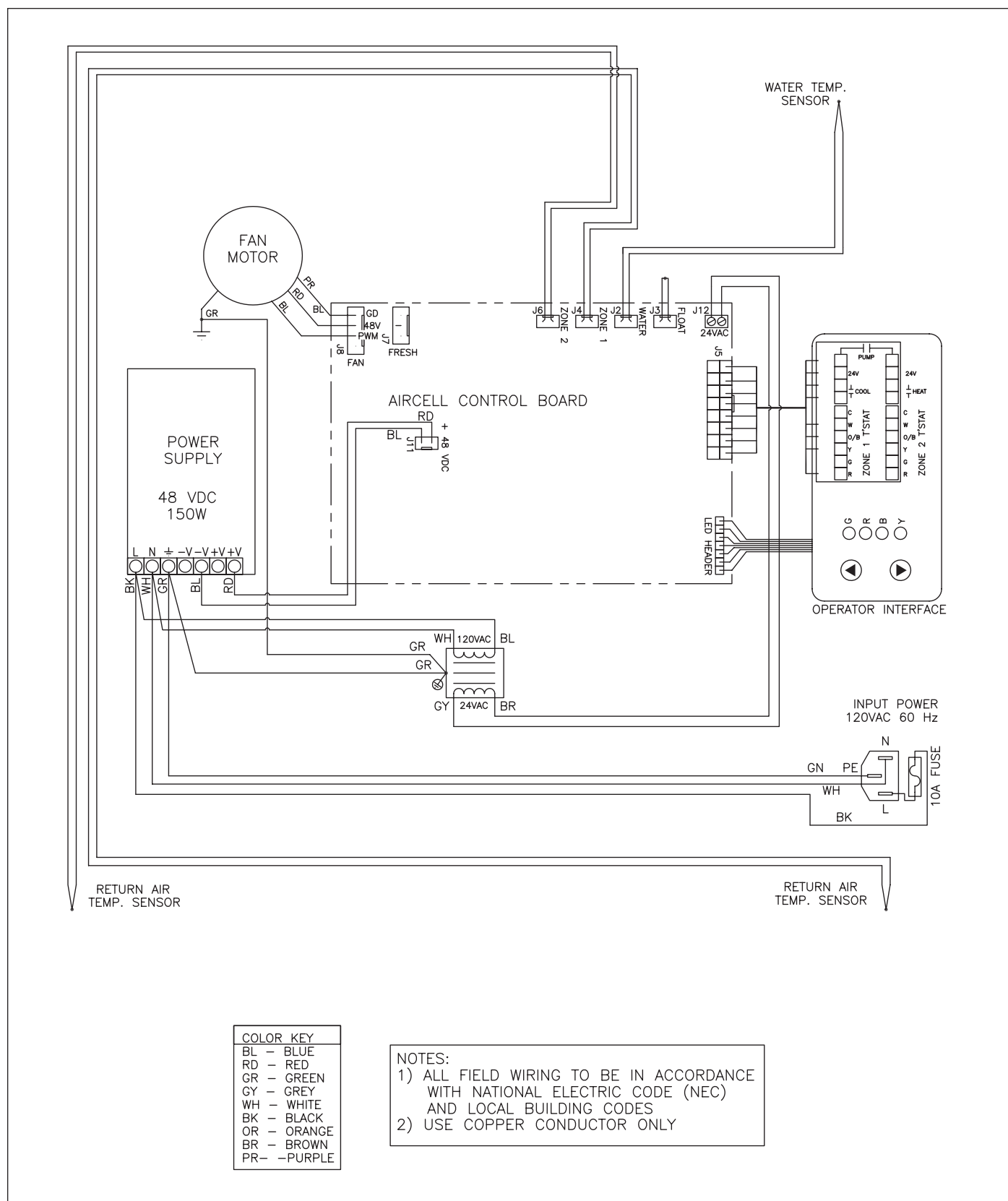
Refer to figure 23 for input connections for control operation. Refer to figure 24 or connections using conventional 24vac controls. Refer to figure 25-1 for electronic HVAC controls. Refer to figure 25-2 for two or more AirCells using the SpacePak SCC-5 chiller control.

Connect AirCell Power Cord

Insert the power cord provided with the AirCell module into the 3-prong 120-VAC power connection (located on the side of the unit) and then into a 3-prong 120-VAC receptacle.

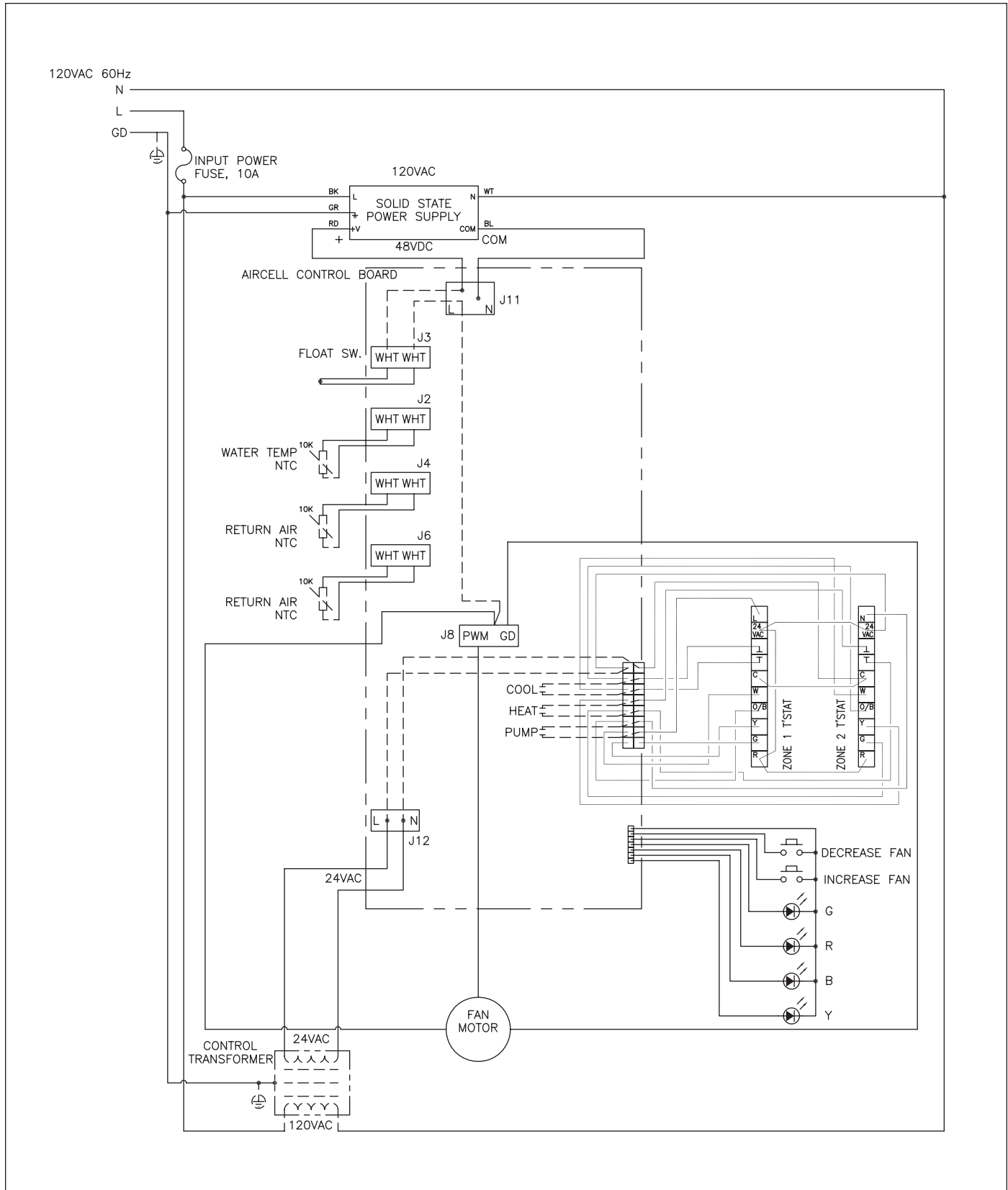
Section 9: Electrical Connections (continued)

Figure 21 AirCell Module Wiring Diagram



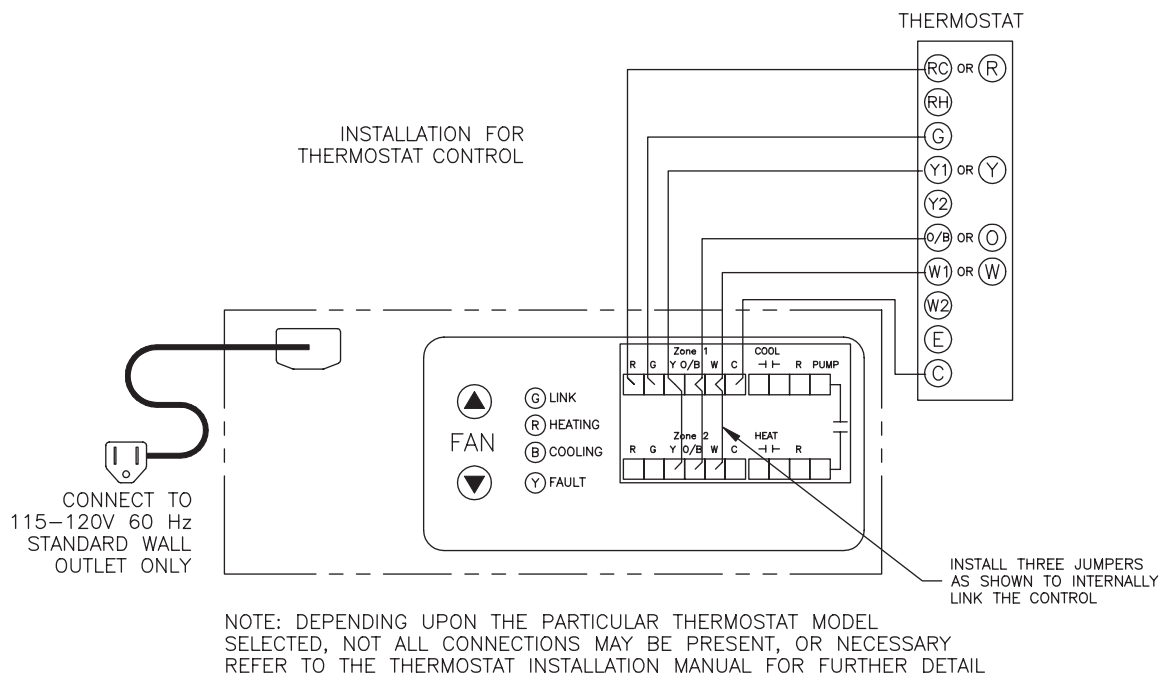
Section 9: Electrical Connections (continued)

Figure 22 AirCell Module Internal Wiring — Schematic



Section 9: Electrical Connections (continued)

Figure 23 AirCell Control Input Connections



Section 9: Electrical Connections (continued)

Figure 24 AirCell Control Output Connections

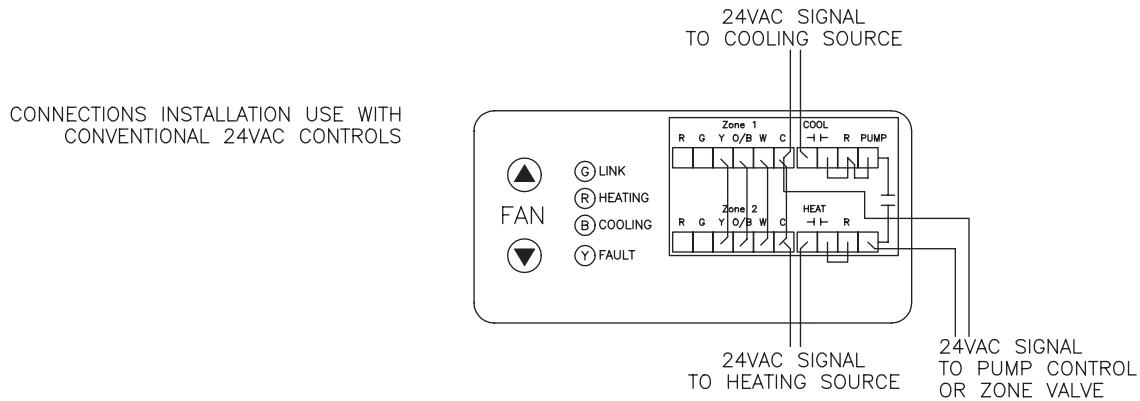


Figure 25-1

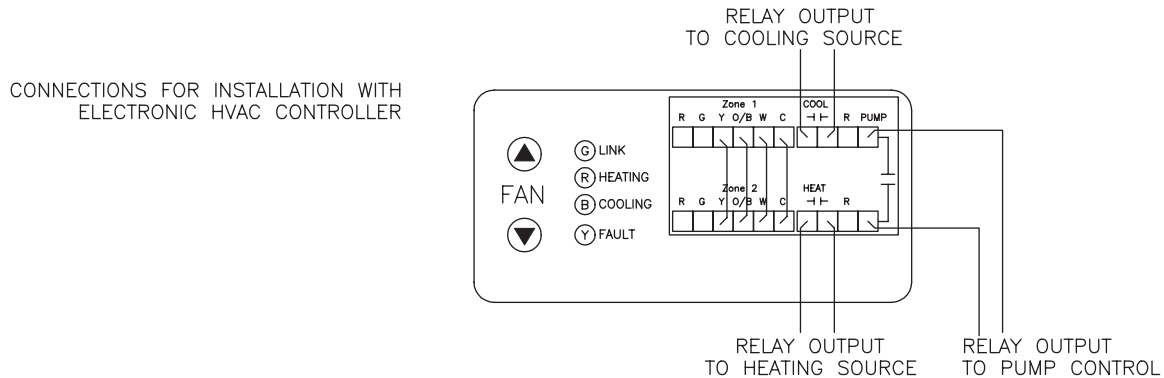
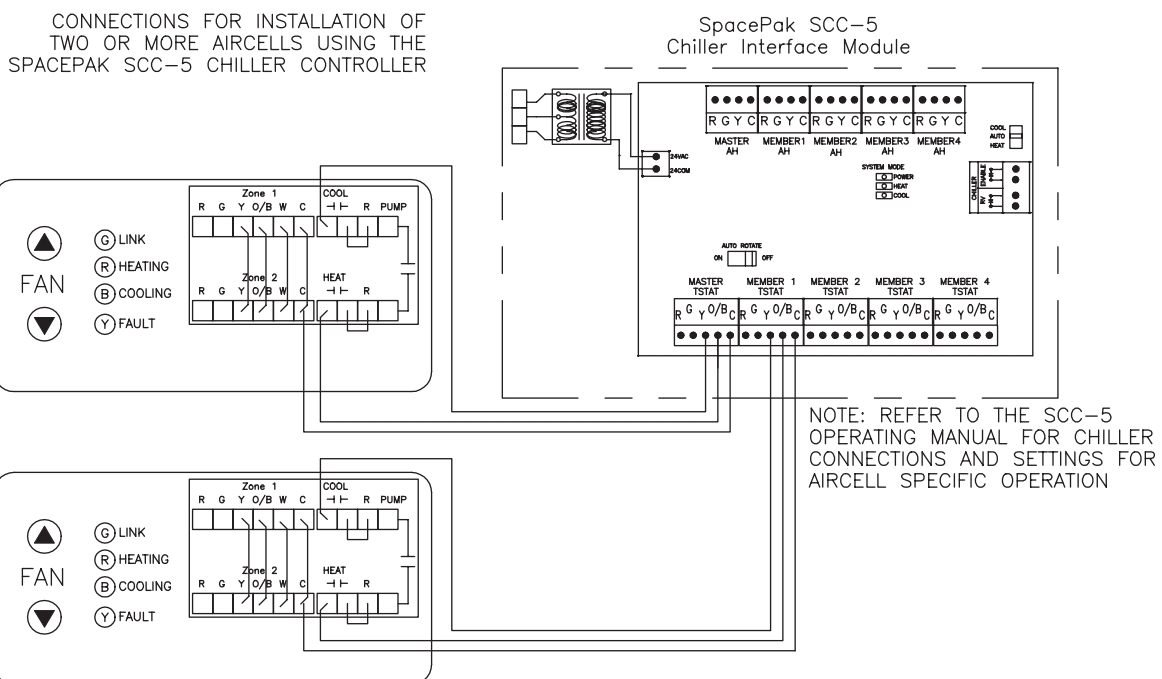


Figure 25-2



Section 10: AirCell Replacement Parts

Description	Part Number
Coil	55W50RZG400-12
Fan/Harness Assembly	55W35RWG0589-01
Main Control Board	55W11RAC0062-01
Connector Board	55W11RAC0063-01
Air Sensor - 16"	55W11RAC0078-16
Air Sensor - 24"	55W11RAC0078-24
Water Sensor - 24"	55W11RAC0077-24
48V Power Supply	55J11RAC0022-01
Power Inlet Fuse	55W11RAC0018-01
Transformer 24V	55W14RAC0050
Power Cord	55Y11RAC0039
4" 1 hole adapter	55W06RAC0032

Description	Part Number
6" Round Adapter Assembly (incl. Gasket)	55464RAC0112
7" Round Adapter Assembly (incl. Gasket)	55464RAC0113
2" Round 4 Hole Adapter Assembly (incl. Gasket)	55464RAC0111
Adapter Gasket (2.75')	55Y03RAC0025
Coil Mounting Plate	55W06RAC0035
Bottom Housing	55W06RAC0036
Top Housing	55W06RAC0037
Quick Connect Fitting 15MM-1/2"	55W40RAC0084

LIMITED WARRANTY

AirCell Products

The "Manufacturer" warrants to the original owner at the original installation site that the AirCell Products (the "Product") will be free from defects in material or workmanship for a period not to exceed one (1) year from the startup or eighteen (18) months from date of shipment from the factory, whichever occurs first. If upon examination by the Manufacturer the Product is shown to have a defect in material or workmanship during the warranty period, the Manufacturer will repair or replace, at its option, that part of the Product which is shown to be defective.

This limited warranty does not apply:

- a) if the Product has been subjected to misuse or neglect, has been accidentally or intentionally damaged, has not been installed, maintained or operated in accordance with the furnished written instructions, or has been altered or modified in any way.
- b) to any expenses, including labor or material, incurred during removal or reinstallation of the defective Product or parts thereof.
- c) to any workmanship of the installer of the Product.
- d) if the Product is installed on systems running over 180°F.

This limited warranty is conditional upon:

- a) shipment, to the Manufacturer, of that part of the Product thought to be defective. Goods can only be returned with prior written approval from the Manufacturer. All returns must be freight prepaid.
- b) determination, in the reasonable opinion of the Manufacturer, that there exists a defect in material or workmanship.

Repair or replacement of any part under this Limited Warranty shall not extend the duration of the warranty with respect to such repaired or replaced part beyond the stated warranty period.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, AND ALL SUCH OTHER WARRANTIES, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS LIMITED WARRANTY. IN NO EVENT SHALL THE MANUFACTURER BE LIABLE IN ANY WAY FOR ANY CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES OF ANY NATURE WHATSOEVER, OR FOR ANY AMOUNTS IN EXCESS OF THE SELLING PRICE OF THE PRODUCT OR ANY PARTS THEREOF FOUND TO BE DEFECTIVE. THIS LIMITED WARRANTY GIVES THE ORIGINAL OWNER OF THE PRODUCT SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY BY EACH JURISDICTION.





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