ACTION A.C.
and
PROP RENTALS, LLC.

5 Ton Portable Air Conditioning Unit

SET-UP GUIDE

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(208 – 230 PAC – Users Manual)

GENERAL INFORMATION

The PAC5T portable air conditioning unit was designed for air conditioning of spaces such as tents, construction sites and remote buildings and has proven itself as the ideal AC unit for the Film and Television Industry for cooling Locations, Sets, Dimmer Rooms and Production Tents.

IMPORTANT – Read this instruction manual carefully before attempting to install, operate, or perform maintenance on this unit. This unit must be installed and maintained by qualified service technicians.

WARNING: BODILY INJURY CAN RESULT FROM HIGH VOLTAGE ELECTRICAL COMPONENTS AND FAST MOVING FAN DRIVES. SERVICING SHOULD ONLY BE PERFORMED BY A QUALIFIED HVAC PROFESSIONAL TECHNICIAN. FOR PROTECTION FROM INHERENT HAZARDS DURING INSTALLATION AND SERVICING, THE ELECTRICAL SUPPLY MUST BE DISCONNECTED. IF CHECKS MUST BE PERFORMED WITH THE UNIT OPERATING, IT IS THE RESPONSIBILITY OF THE TECHNICIAN TO RECOGNIZE THESE HAZARDS AND PROCEED WITH EXTREME CAUTION.

ALL ELECTRICAL CONNECTIONS AND TESTING SHOULD BE PERFORMED BY A QUALIFIED ELECTRICAL TECHNICIAN.

Note: "Warnings and Cautions" appear at the appropriate places throughout this manual. Your personal safety and the proper operation of this unit require that you follow them carefully. The manufacturer assumes no liability for installations or servicing performed by non-qualified personnel.

UNIT SET-UP

Note: Unit Inspection is recommended - Please see page 11 for inspection procedures.

Opening Control Panel Doors

The Power Access Panel door and the Top Exhaust flange door are both secured by "keyless" locking latches that can be opened with a simple slotted screwdriver and a half turn counter clockwise. (see figures below) These doors will need to be opened for initial set up.

Note: Necessary accessories are stored in the well of the top compartment around the exhaust flange during transport (figure 4).

***WARNING**: DO NOT place or drop any small objects directly within the Exhaust Flange itself.*

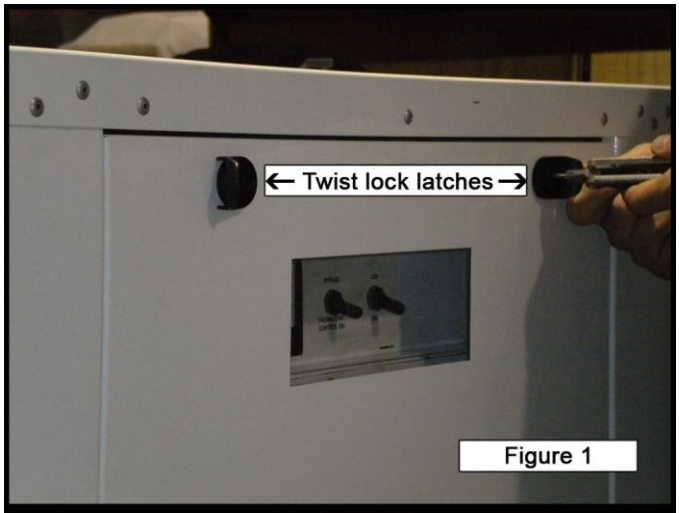


Figure 1

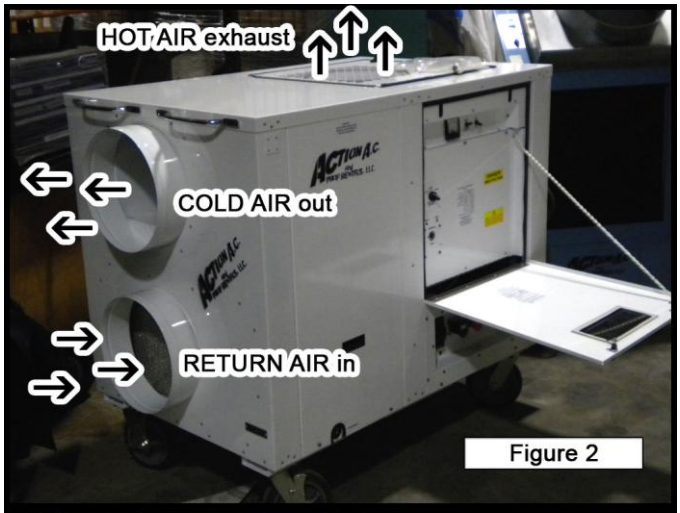


Figure 2

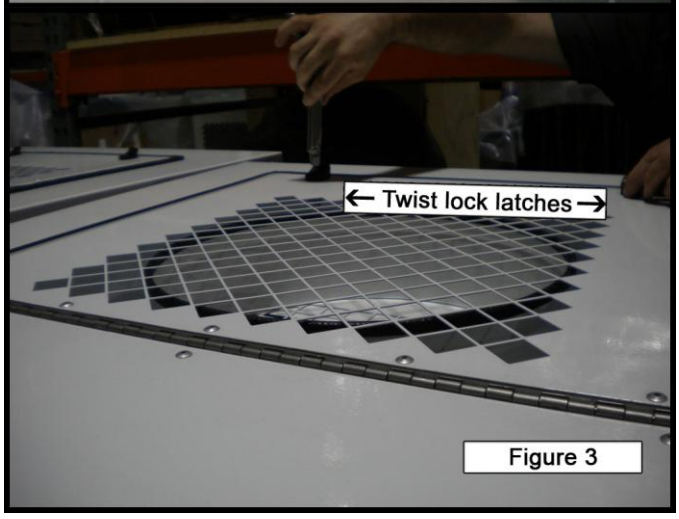


Figure 3

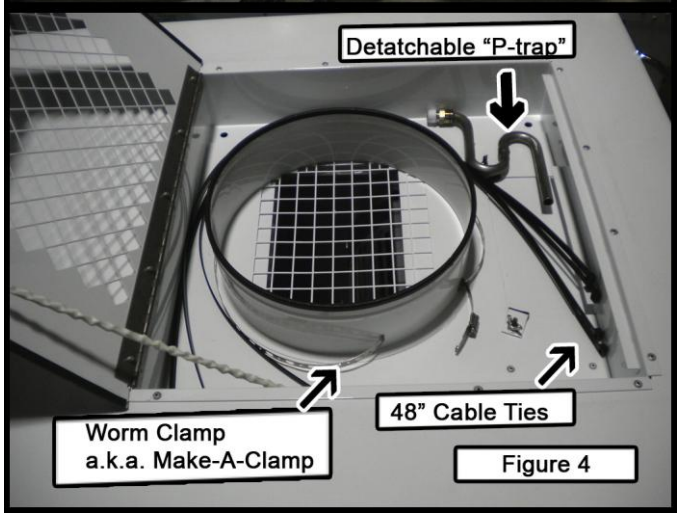
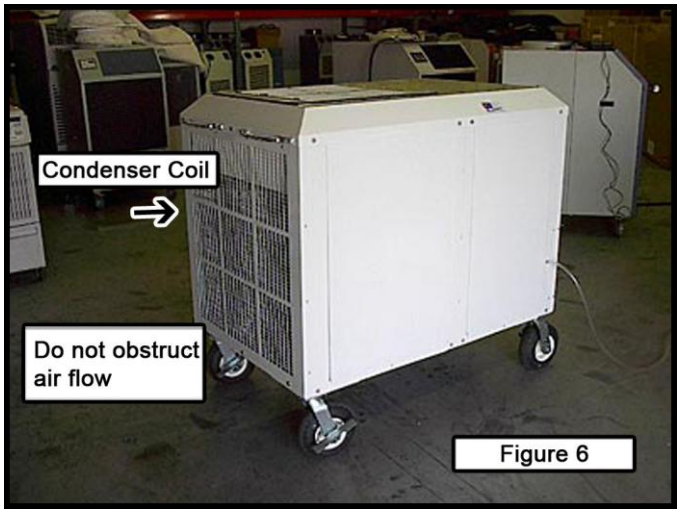


Figure 4

UNIT SETUP

Step 1: Find an appropriate location for unit to remain during use.
This unit is designed to run indoors or outdoors, however strategic placement of the unit will determine the optimum performance and coldest air flow. Select a location that permits unobstructed airflow away from the condenser fan discharge air outlets and into the condenser coil (figures 5 & 6 below). If possible, try to keep the unit out of direct sunlight. If the unit is placed indoors, it must be within a 25' reach of a window or ventilation point that will accept a 14" diameter Flex-Hose.

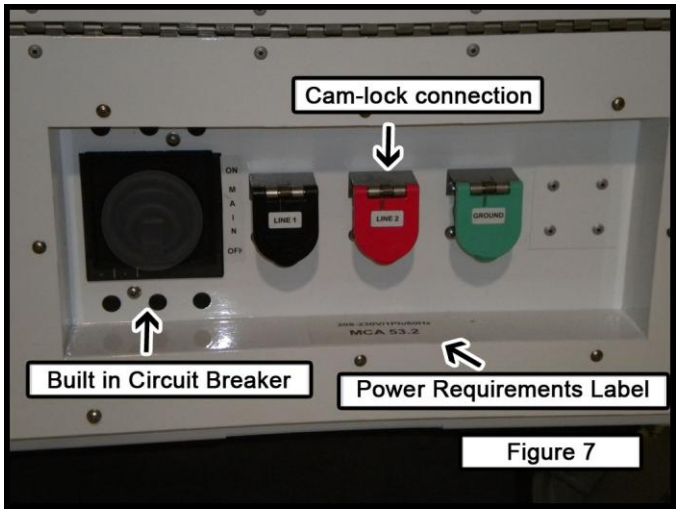
DO NOT place rear of unit against a wall. It must remain a minimal distance of 24" from any obstructions or surfaces that can prevent airflow into the condenser coil.

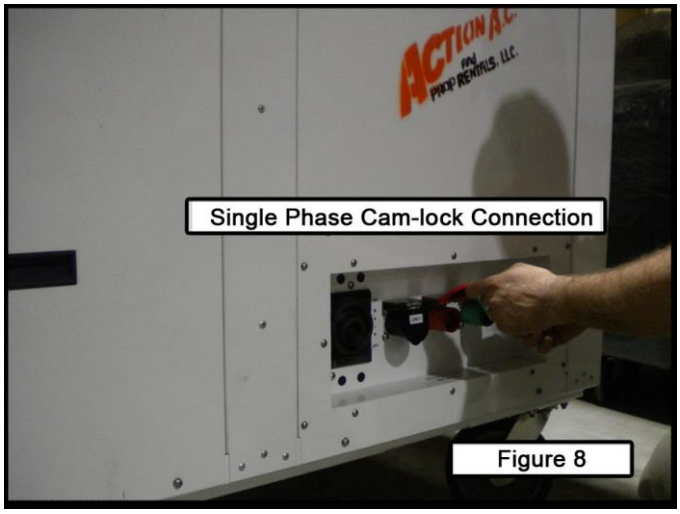


CAUTION: Never attempt to lift this unit using a Crane.

Step 2: Connect Power to Unit
Cam-lock Power Connections are located directly below the control panel. Refer to the label below the Cam-lock connectors for unit power requirements. To the left of the Cam-lock connectors is the built in Circuit Breaker (figure 7). This breaker should remain in the OFF position until power connections are complete and (if applicable) generator is running.

CAUTION: Only qualified electrical technicians should perform the electrical installation.





Once Cam-locks are connected and power is running the breaker switch should be switched to the ON position. The unit is now ready for use.

There are two modes of operation for this unit.

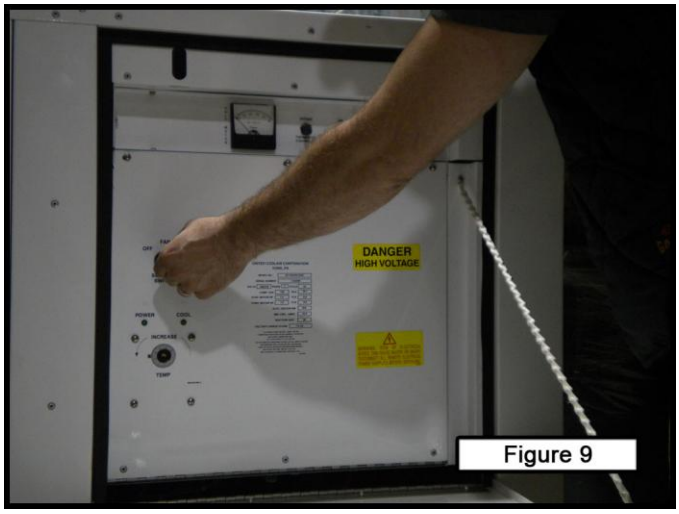
Fan System Mode
Turn Selector Switch to the Fan position. The Evaporator Motor Contactor will energize to start the Evaporator Motor. Once the Evaporator Contactor is energized, the Green Fan Indicator light will illuminate. The Evaporator Fan will operate continuously in the Fan and Cool modes of operation.

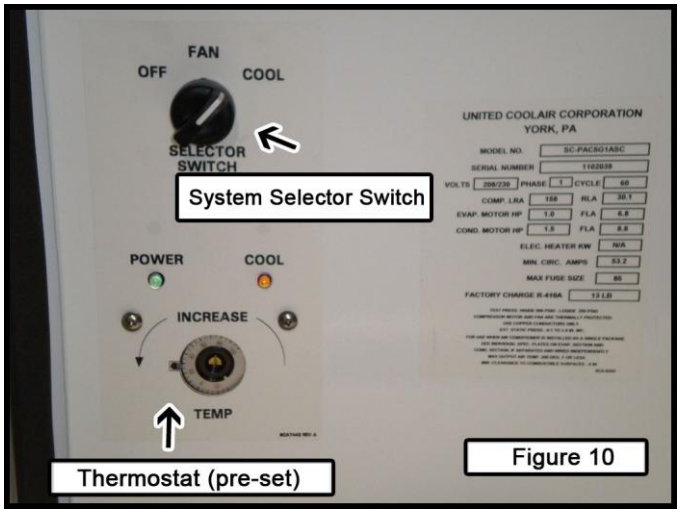
System Cool Mode
Turn the Selector Switch to the Cool position. A sensor located in the return air opening connect to the thermostat located inside the main control box, controls the cycling of the compressor system. If the thermostat is calling for cooling, the compressor contactor will energize the Compressor and the Amber Cool Indicator light will illuminate. When the compressor energizes, condenser fan contactor will energize and condenser fan motor will start.

To stop the unit, turn Selector Switch to the OFF position.

Note: The Selector Switch should be switched from OFF to FAN mode for at least :10 seconds before switching to COOL mode.

The unit should arrive with the thermostat control pre-set to the appropriate cooling temperature. There should be no need to adjust the thermostat control stem, however if necessary a small slotted screwdriver must be used to do so.



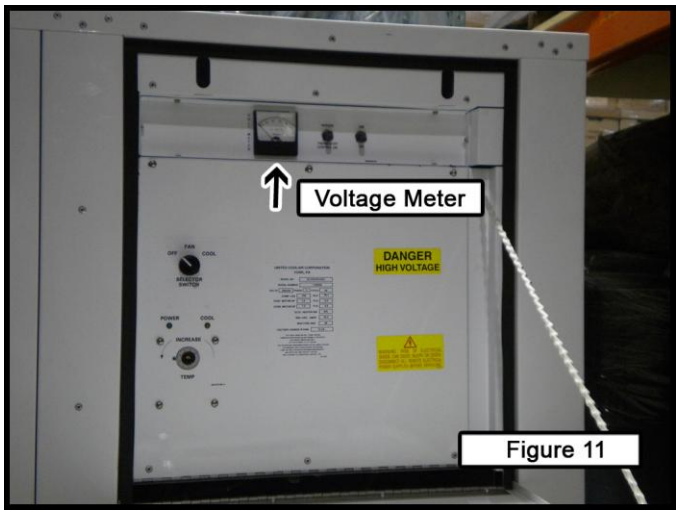


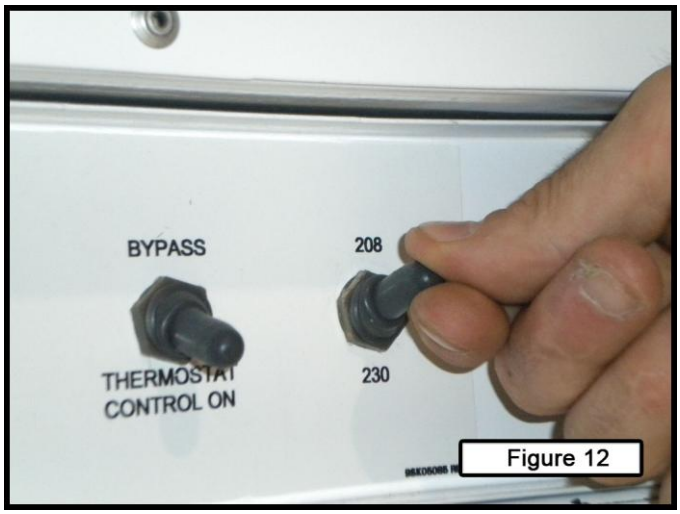
CAUTION: Do not operate unit without flex-duct(s) attached to the evaporator inlet (return air) and outlet (cold air) flanges. **[see section: "Attaching Flex-Duct", Page 7]**
**If operated without duct(s), the evaporator blower motor may cut out on thermal overload.

Unit safety features have been designed to protect the compressor and electrical components from unexpected surges and overloads that could cause permanent damage to the machine, compressor, motor thermostat and electrical system. Please review additional safety devices on page 12.

Control Voltage Selector Switch

Each unit is designed to automatically shut down when the internal sensors diagnose a power drop or power surge that can cause permanent damage to the compressor or electrical system. When powering this unit to a generator, it is common for the power to run a bit above or below a stabilized 220 voltage. This could be misread by the machine as a harmful drop or surge and thus initiate an automatic response to shut down. To prevent this problem and ensure optimum performance, a Voltage Selector toggle switch was installed at the top of the control panel. Once the unit begins running, check the built in voltage meter. If it reads below 220, switch the stabilizer toggle to 208. If it reads 220 or over, switch the toggle to 230. Check this meter periodically. Unless drastic changes from the power source occur during the work period, this should only need to be switched at the beginning of use.





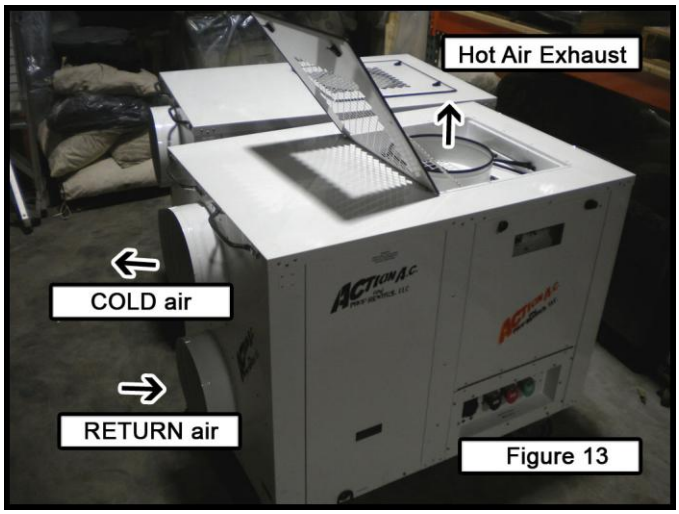
Step 3: Attach "Flex-Duct"

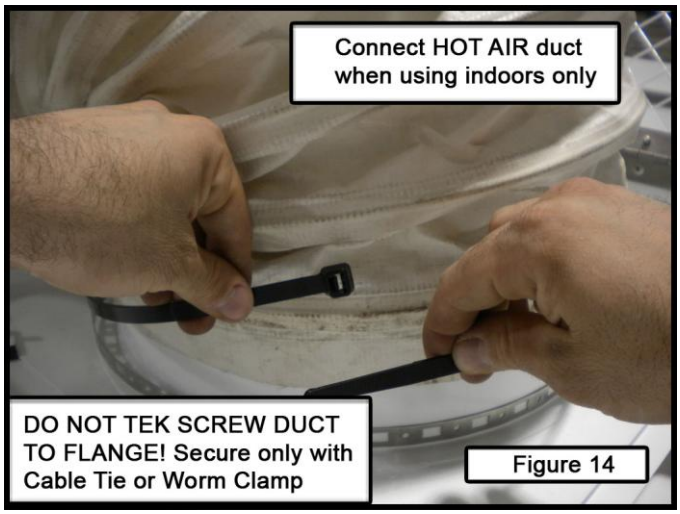
Indoor Placement
Indoor placement of unit will in most cases require an exhaust duct to be attached to allow the hot air to escape the building. To attach an exhaust duct, open the top hatch of the unit.

Place a 14" Flex-Duct hose around the lip of the flange. It will be a very tight fit, but should slide on with little difficulty when holding the hose directly above the flange. If the hose is on an angle, it will increase the difficulty of slipping it onto the flange.

Once the hose is pulled over the flange, secure it with either a large "Cable Tie" (fig. 14) or the provided "Worm" Clamp. "Duct" Tape can be used around the edge of the duct to seal it to the flange.

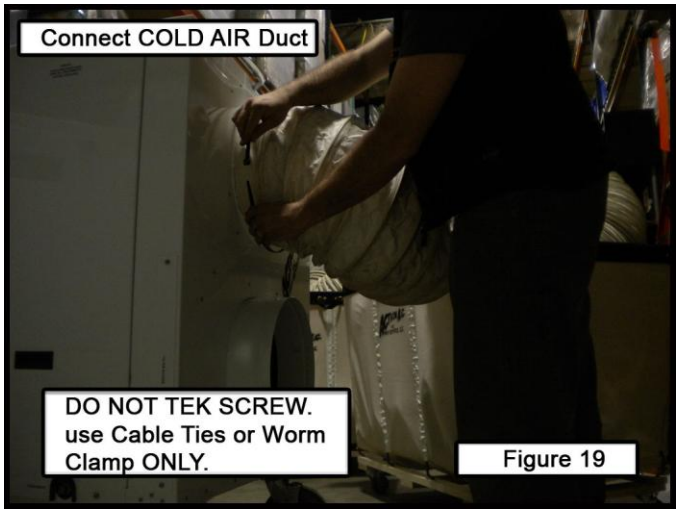
WARNING: DO NOT use Tek-screws or other fasteners to attach Duct to Flange. Do not pierce, or damage Flex-Duct or put holes in the Flange. It is un-necessary and will permanently damage and/or disfigure the unit and ductwork.

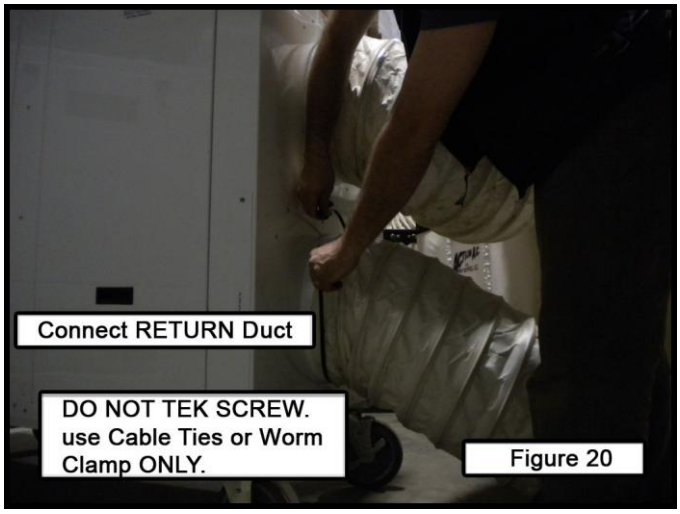




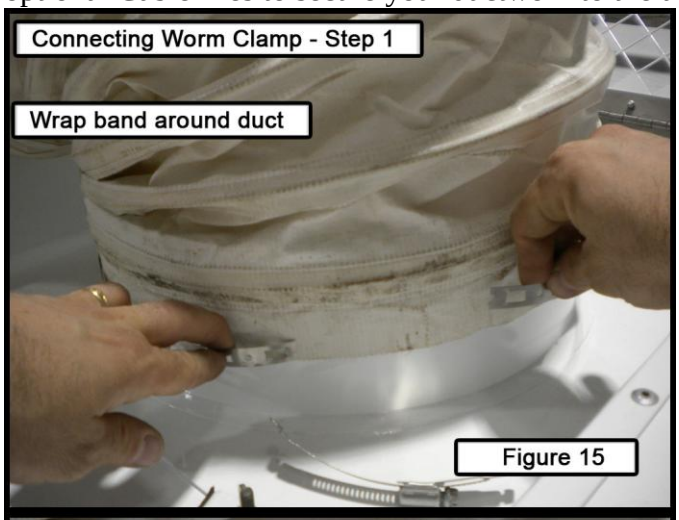
There are zero harmful emissions from this unit, however to maintain the highest levels of cold air in the desired location, the hot air exhaust should be run outside the area you are cooling. In certain circumstances when the need is to only cool a small enclosed space, such as a set or a dimmer room, within a large armory or vaulted ceiling studio, it may not be essential to vent out the unit, provided the exhaust flow is unobstructed straight up to the ceiling.

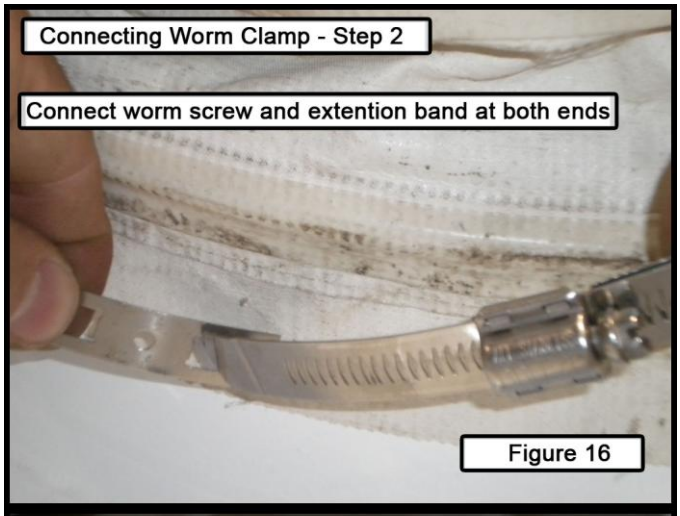
Outdoor Placement
Outdoor placement does not require any exhaust duct (top hatch should remain closed and locked), however, a RETURN AIR duct should ALWAYS run alongside the COLD AIR duct for optimum cooling performance (figures 19 and 20). This return duct will circulate the cold air sent into your cooling location back into the unit. Without running cool air back to the unit, the machine is forced to work harder to cool down the air that is take in. In addition, the RETURN DUCT also creates a vacuum effect that assists the machine in pushing the necessary air flow through the unit. For this reason, a minimal 12' long return duct should ALWAYS be used.

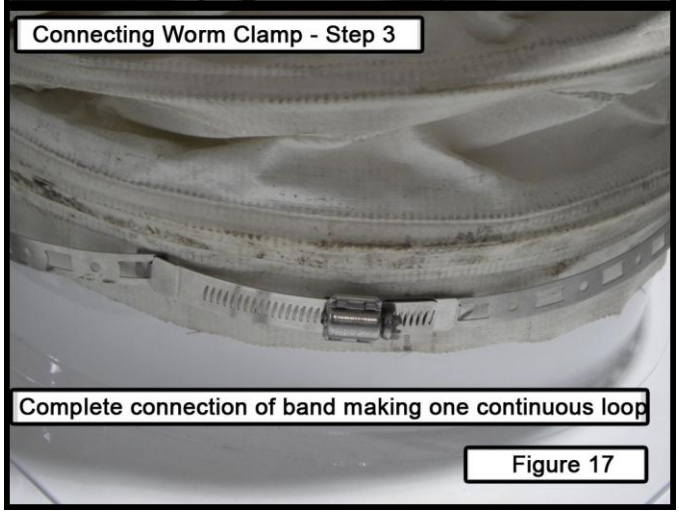


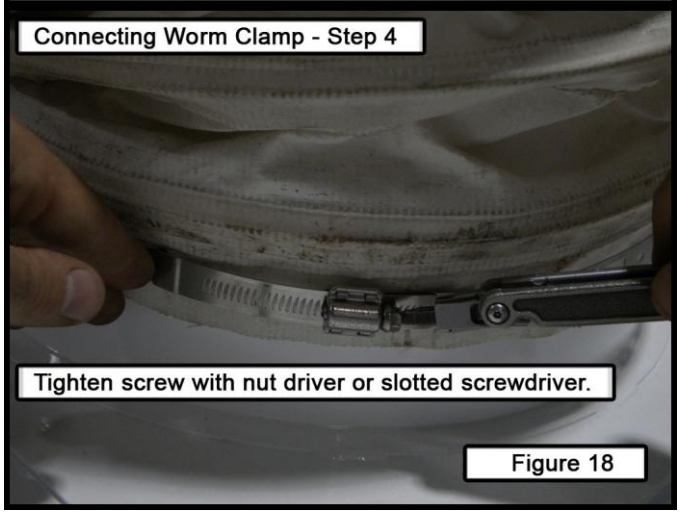


Using Worm-Clamp connector: The Worm Clamp is an oversized Hose-Clamp that has been cut to size to custom fit the 14" Flex-Duct to the flange. Each unit should come with 3 Worm Clamps and several optional Cable Ties to secure your ductwork to the unit.









The recommended maximum length of any run of Cold Air or Hot Exhaust for this 5 ton unit should NOT EXCEED 50 feet. Further length will lose cold air pressure before reaching its destination and further length of exhaust will cause a backup of air flow and may result in overheating the compressor motor. If attaching 2 Flex-Ducts together, please DO NOT pierce the ducts with cable ties or wire. The ducts should fit into each other snugly and can be secured together with spring clamps or mini c-clamps. Also, please be

sure that all duct is “Kink” free. Any obstructions to the exhaust will result in the unit over-heating and force the automatic shut down of the compressor.

Step 4: Condensate Drainage

The 5T Portable AC unit will create a tremendous amount of condensation that collects in the 2 inch pan at the bottom of the unit, below the condenser. There are condensate drains on both sides of the unit. One plug and one “P-Trap” are supplied with each unit. Depending on the placement and surface level on which the unit stands, using a standard c-wrench, attach the plug to the higher level side of the unit and attach the drainage “P-Trap” to the lowest level side. There are two drain connection options: Drain to the ground (outdoors only) or Pump the condensate to another location. Either way, the “P-Trap” must be attached to ensure proper water flow from the unit.

Attaching the P-Trap

The “P-Trap”, when set up properly, will create a consistent vacuum of pressure that will allow the condensation from the unit to flow out of the drainage spout continuously and not back-up or overflow in the pan beneath the unit. Overflow in the pan will dispense water uncontrollably onto the surface beneath the unit which may cause flooding, water damage and dangerous spillage around the unit.

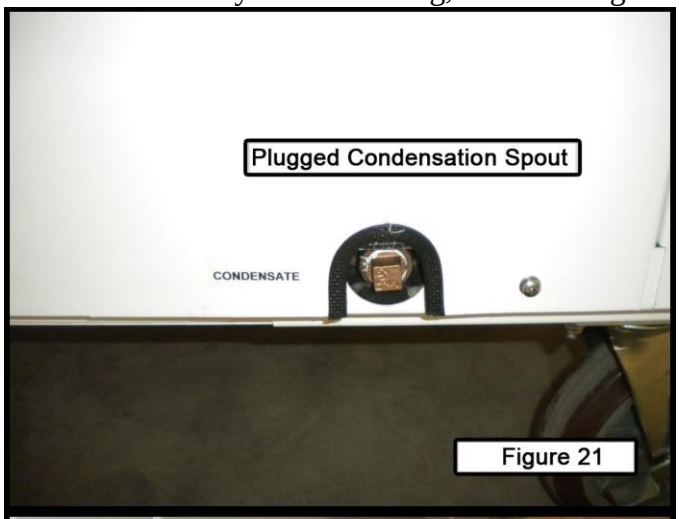


Figure 21


Figure 22

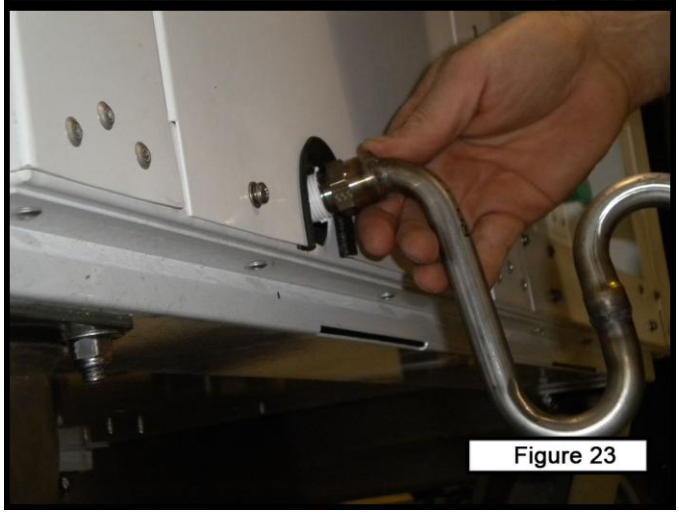


Figure 23

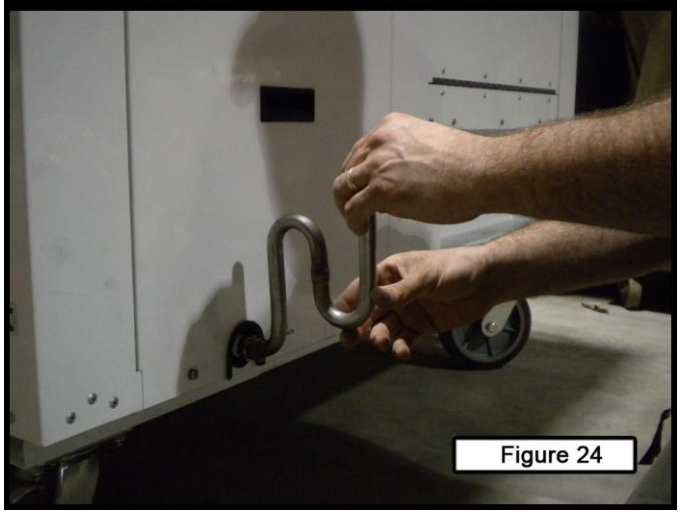


Figure 24

After threading the “P-Trap” to the dispenser spout, you should prime the trap by filling the tube with water. This will create the vacuum flow when the condensation fills the pan beneath the unit.

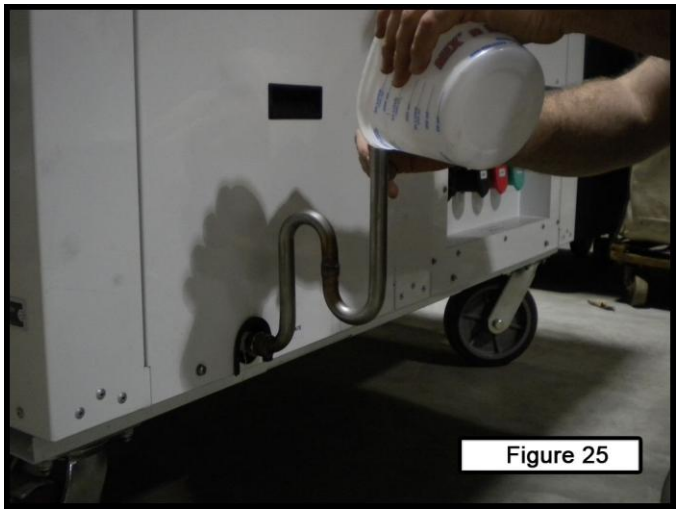


Figure 25

Figure 26

Once the trap is primed, turn the open end down toward the ground. If you are indoors, you will need to use the provided condensation pump. The pump comes with a 20' drainage tube which can be run to any drainage area, or clipped to a 5 gallon bucket which can be dumped as necessary.

Step 5: Connect Condenser Pump

Connect the 20" drainage tube to the pump and run it to the desired location and carefully insert the drainage port of the "P-trap" into the top of the condensation pump basin. Using a standard 110 volt line, power the pump. As the basin of the pump fills with 1" – 2" of water it will automatically dispense.

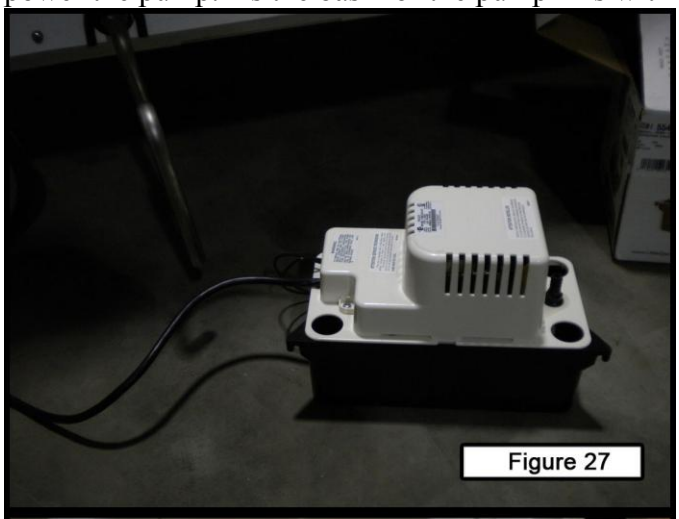


Figure 27

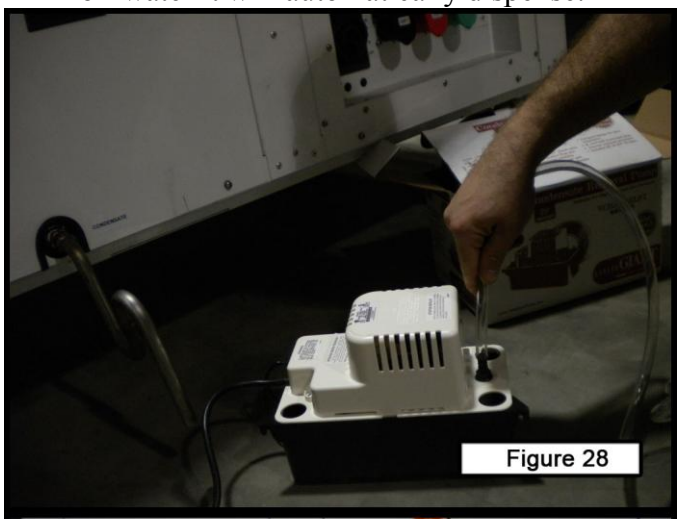


Figure 28

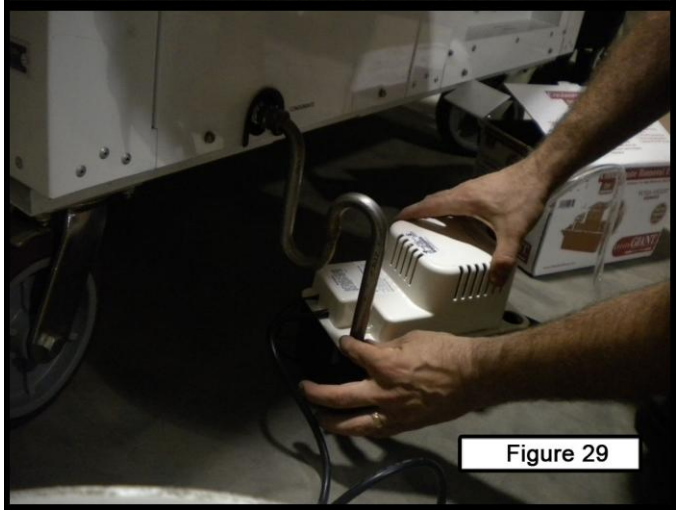
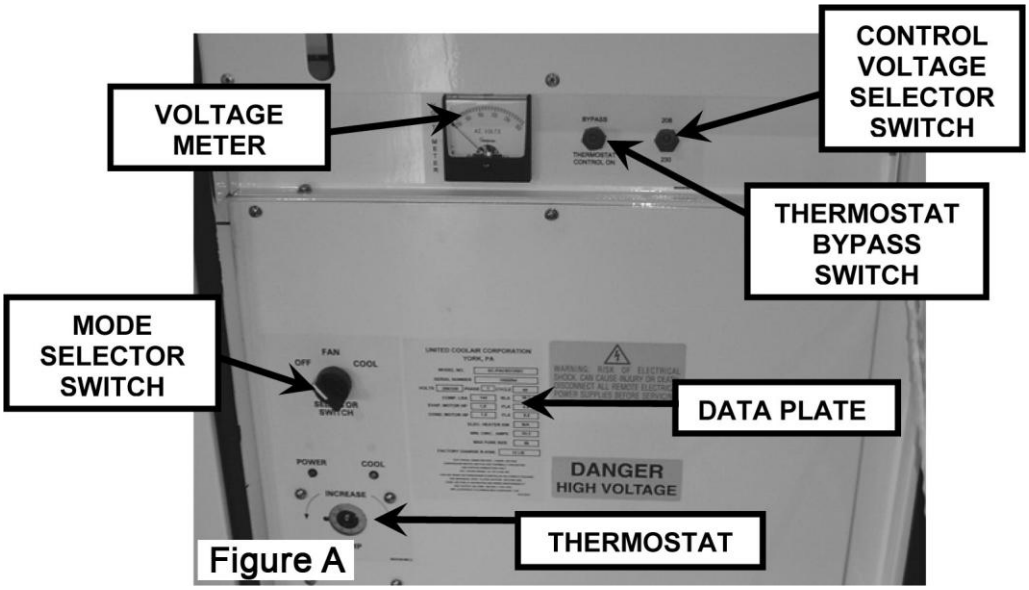


Figure 29

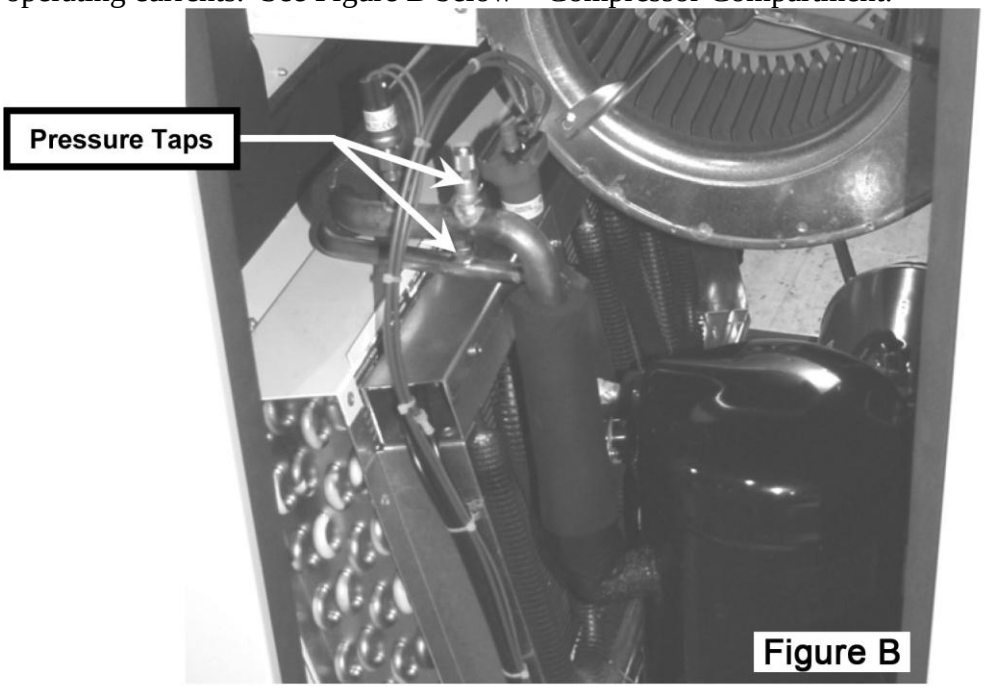

Figure 30

UNIT INSPECTION

Upon receiving the unit, inspect for damage to the unit structural interior and exterior components that may have happened during transit. Immediately notify the carrier of damage to the unit. Verify the unit is the correct unit ordered by looking at the unit's data plate. Figure A Below – Data Plate is located on the right hand side of the electrical box section. The main power source must be capable of delivering the required amount of power to the unit. Refer to the installation instructions for connections.



Access to the Schrader pressure taps is located behind the access panel to the compressor compartment. These taps are sealed from serviceability. Break these seals only when there is a necessity to check or service the system to ensure correct operation. Refer to the specifications section for operating pressures and maximum operating currents. See Figure B below – Compressor Compartment.



Compressor Compartment

Component Inspection

It is recommended that the following be inspected to insure internal components have not vibrated loose during shipment or transit from job site to job site.

1. Open the condenser blower/motor access panel located to the right of the compressor compartment. Check the condenser blower assembly, motor mounting hardware, pulley, belt, blower shaft, blower bearings, and blower wheel for proper tightness.

2. Open the evaporator blower/motor access panel located to the right of the control panel. Check the condenser blower assembly, motor mounting hardware, pulley, belt, blower shaft, blower bearings, and blower wheel for proper tightness.

3. Close and lock all panel doors.

Unit Safety Devices

The evaporator and condenser motors are protected by thermal overloads. The evaporator and condenser blower motors are protected internally and automatically reset once the temperature falls below the temperature trip point. The compressor system has a manual reset high pressure switch. If the unit is not providing cooling as evidenced by the Return and Supply temperature and the Cool Indicator light does not illuminate when the Ranco Thermostat's cooling set point is set below the actual supply or return air temperature (depends on temperature switch setup), the unit may have tripped on high pressure or low refrigerant pressure. Disconnect power using the unit's circuit breaker. Remove the Access Panel to the Compressor Compartment and locate the Manual Reset High Pressure Switch. Press the button downward to verify if the switch tripped. If the button clicks the unit tripped on high pressure. Replace the access panel then reapply power using the unit's circuit breaker. Set the unit to Cool Mode. Refer to the Troubleshooting section for causes and corrective actions. The compressor system has an automatic reset low pressure safety switch. If the unit trips on low pressure, the compressor will shut down but automatically restart once the switch resets. The low pressure switch shuts down the compressor system if the refrigerant pressure falls below 70 psig and automatically restarts the compressor once the pressure rises above 100 psig.

Electrical Components

Contactors

Contactors are used to energize the evaporator and condenser blower motors and compressor motor. Contactors have a set of high current carrying contacts for conducting line voltage to the load (device) and a magnetic holding coil which closes the line voltage contacts whenever control voltage of 24 VAC is applied by the control panel devices. The evaporator blower and compressor motors have built in internal overload protection to protect against high current draw. They automatically reset when the motors have cooled down.

High Pressure Safety Switch

The high-pressure switch is designed to protect the compressor circuit from unusually high refrigerant pressures. If the refrigerant pressure rises above 600 PSIG, the pressure switch will open causing the compressor to shut off and the switch prevents it from re-starting until the manual reset button is pressed. Refer to the troubleshooting section for resolutions to the problem.

Low Pressure Safety Switch

The low-pressure switch is designed to protect the compressor circuit from unusually low refrigerant pressures. If the refrigerant pressure falls below 70 PSIG, the switch will open causing the compressor to shut off. As the pressure starts to rise above 100 PSIG, the switch will reset and allow the compressor to restart.

Thermostat

The unit has thermostat for one stage of cooling. Rotate the dial to set to the desired temperature set point.

Refrigeration System Components

Compressor
The compressor is scroll hermetic type. The function of the compressor is to create a differential in refrigerant pressure. It converts low pressure, low temperature refrigerant vapor entering the suction side of the compressor into a high pressure, high temperature gas at the discharge side of the compressor. The function of the compressor also pumps the refrigerant through the piping and components within the refrigeration system.

Condenser Coil
The condenser receives the high-pressure high-temperature gas from the compressor after it passes through the vibration eliminator. As the condenser blower draws the ambient air across the fins and tubes of the condenser coil and the high-pressure high-temperature gas enters the condenser coil, the gas starts to condense back into liquid state. At the outlet piping of the condenser coil, the gas has been turned back into liquid refrigerant and flows toward the receiver.

Evaporator Coil
As the liquid refrigerant passes through the expansion valve, the liquid refrigerant's pressure is regulated downward. This significant change in pressure causes a drop in temperature of the refrigerant. When the warmer ambient air is drawn over the cooler evaporator coil, the warmer or latent heat is exchanged. As the heat is being exchanged, the exchange of heat energy causes the liquid refrigerant to boil into a vapor and greatly reducing the temperature of the air on the outlet side of the coil. The liquid refrigerant is converted into the lower temperature, lower pressure refrigerant causing it to changing into a vapor state.

Filter Drier
The filter drier, filters loose particles, moisture and possible brazing residue from the system. If the unit starts tripping on low pressure cutout and the refrigerant line is frosted up to the outlet of the filter drier, check the refrigerant pressure drop across the filter drier and replace the filter drier if necessary.

Sight Glass
A liquid sight glass is located before the liquid line solenoid valve. During the cooling mode of operation, pure liquid should flow through the liquid sight glass. The liquid refrigerant will appear clear enough to see the back of the inside of the sight glass. Flashing (bubbles) will appear in the sight glass during the first minute or two of operation until the expansion valve fully adjusts. If flashing is constant during the cooling mode, it may be an indication the unit is short of refrigerant. There may also be some flashing during hot gas bypass operation. See the Troubleshooting Chart for further details.

Thermostatic Expansion Valve
The expansion valve regulates the amount of liquid refrigerant entering into the evaporator. As the liquid enters into the expansion valve, the valve will start to change the state by changing the pressure of the liquid refrigerant as it passes through and starts to enter the evaporator coil. When the environments load conditions start to change, the bulb recognizes a change in temperature at the outlet piping of the evaporator to the suction side of the compressor and automatically adjusts the valve to maintain the correct flow into the evaporator coil.

ROUTINE MAINTENANCE

To keep the Portable Air Conditioner operating safely and efficiently, it is recommended that a qualified service technician check the entire system at least once a year. Check the system more frequently depending on use and surrounding conditions.

Filters
It is very important to keep the air filters clean. Be sure to inspect them at least once each month when the system is in constant operation. If the unit is equipped with disposable type air filters, replace them with the same type and size.

Note: Do not attempt to clean disposable air filters

CONDENSER COIL
Inspect the condenser coil. If the condenser coil is dirty, clean with a stream of cold water, or pressurized air not exceeding 50 psig, or vacuum cleaner. Do not use hot water or steam, which can cause excessive high pressure in the refrigerant system. Clean the condenser coil in the opposite direction of the airflow.

MOTOR AND DRIVE COMPONENTS
Blowers and Motor bearings are pre-lubricated and sealed from serviceability. They do not require maintenance.

Belt Tensioning Excessive belt tension is the number one cause for blower bearing failure. Proper belt tension and pulley alignment are essential for trouble free operation. Insufficient deflection indicates that the belt tension is entirely to tight, and if not loosened somewhat, noise due to excessive vibration, premature bearing failure, shortened belt life, and a reduction in fan performance may result. Deflection is the amount the belt gives when force is applied, usually by finger, to the belt at the approximate center point to the belt span. Tight belts may also overload the motor and cause the efficiency drop considerably or even premature motor failure as well. Belt Span is the distance in inches between the drive shaft center point and the fan shaft center point. Refer to Figure C – Belt Tensioning below.

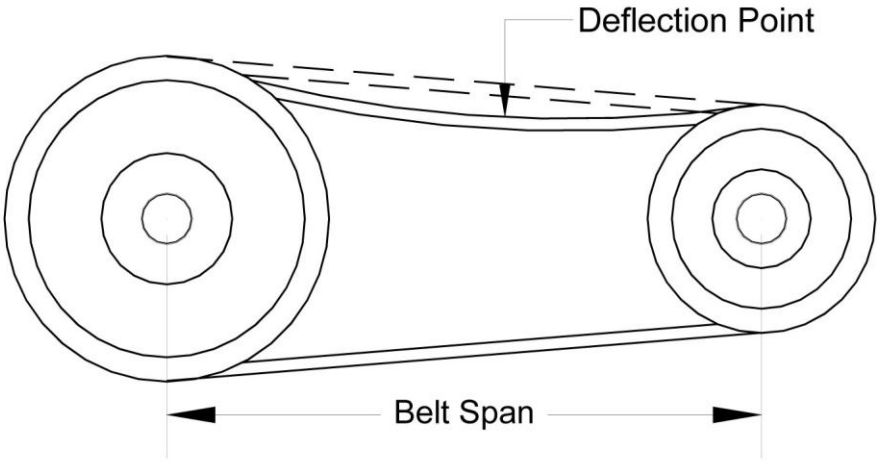


Figure C – Belt Tensioning

Excessive deflection is an indication that the belt is not tight enough. If not corrected, slippage may occur causing loss of blower speed and belt failure. The belts will glaze then crack or even break due to increased temperatures caused by slippage. Belts may slip during start-up, but slipping should stop as

soon as the fan reaches full speed. For proper tensioning, an excellent method to use is listed in the equation below. Belt span is in inches.

$$\text{Deflection} = \frac{\text{Belt Span}}{64}$$

Check the sheave alignment to make sure that the sheave faces are in the same plane. Check this by placing a straight edge across the face of the sheaves. Any gap between the edge and sheave faces indicates misalignment.

Caution: This method is only valid when the width of the surfaces between the belt edges is the same for both sheaves. When they are not equal or when using adjustable pitch pulleys, adjust so that the belts have approximately equal tension. Both shafts should be at right angles to the belt. Check the setscrew and/or bushing bolt tightness.

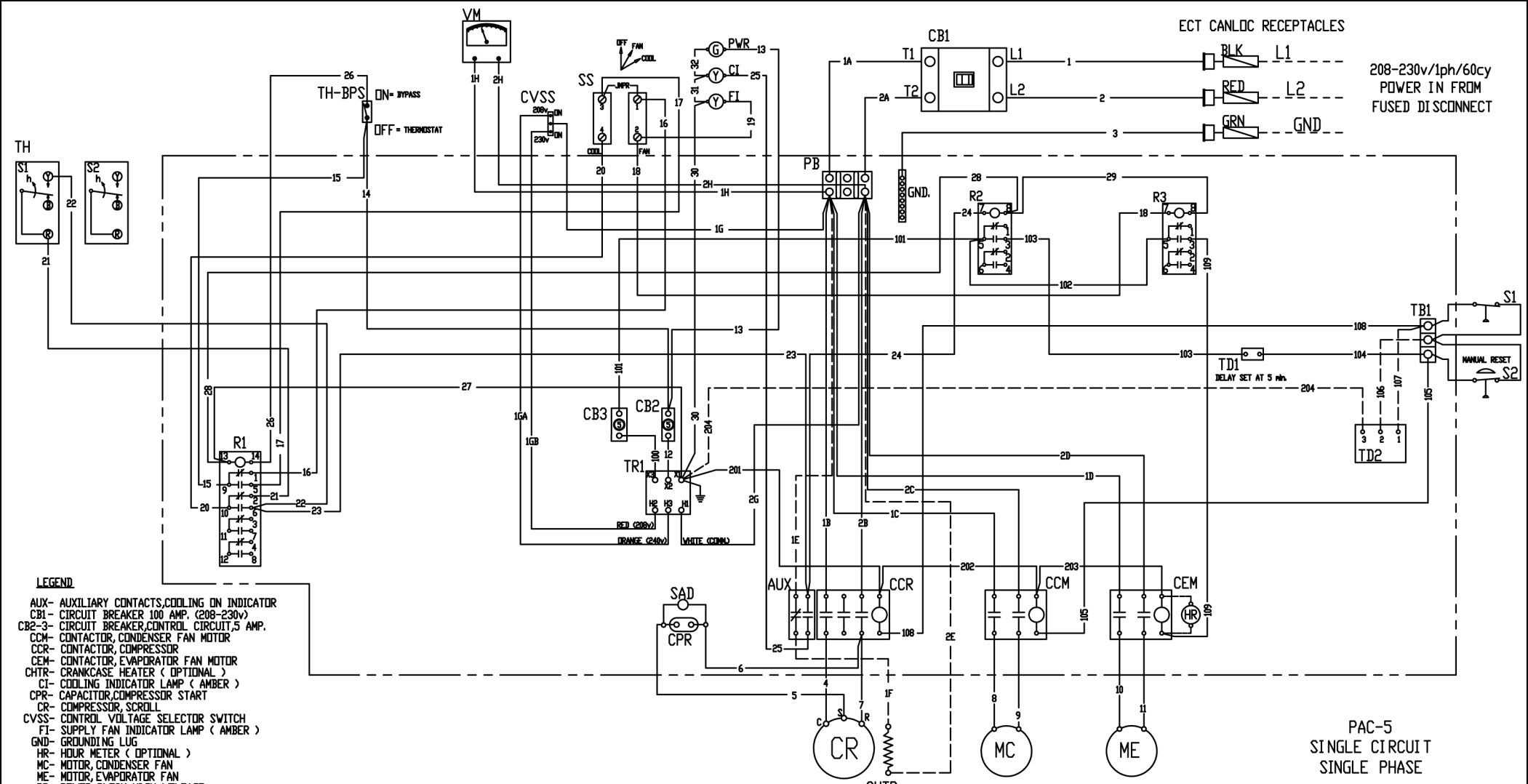
Belts tend to stretch somewhat after installation. Recheck belt tension after several hours of operation.

TROUBLESHOOTING GUIDE

WARNING: BE AWARE OF HIGH POWER SITUATIONS WHILE TROUBLESHOOTING. THERE ARE ALSO MOVING BELTS, BLOWERS, AND MOTORS WHILE POWER IS CONNECTED TO THE UNIT. WHEN REACHING INTO ANY OF THE UNIT SECTIONS TO MAKE ADJUSTMENTS TO THE UNIT. PLEASE DISCONNECT POWER FROM THE UNIT.

Problem	Cause	Resolution
Power Lamp (PL) OFF	1. No voltage to unit.	1. Check voltage at power supply and check for broken power wires.
Power Lamp (PL) ON	1. No cooling or no blower.	1. Check and/or replace defective selector switch. 2. Check phase indicator light for correct phasing. 3. Check for defective phase monitor.
Unit Locked in Cooling Mode	1. Thermostat incorrectly set. 2. Defective thermostat. 3. Defective compressor contactor CCR.	1. Check thermostat setting and selector switch mode. 2. Replace thermostat. 3. Replace compressor contactor CCR.
No Cooling	1. Dirty air filter. 2. Check thermostat setting and mode selector switch. 3. Defective power wiring to compressor. 4. Defective compressor contactor CCR. 5. Defective compressor motor. 6. Compressor won't start. 7. Compression pressures almost equalized. 8. Condenser motor tripped on overload may have also caused high pressure trip.	1. Clean or replace air filters in front of evaporator coil. 2. Reset thermostat setting or mode selector switch. 3. Check continuity of power wiring. 4. Replace compressor contactor CCR. 5. Check motor windings for shorts or opens and/or replace compressor if necessary. 6. Internal overload opened up. Wait one hour to see if it resets and starts. 7. Defective compressor valves. Replace compressor. 8. Reset the overload and also check and reset the high pressure switch if required.
High Pressure Trips	1. Condenser air inlet and/or outlets are restricted. 2. High-pressure switch open but doesn't reset. 3. Defective condenser blower motor. 4. Defective condenser blower motor contactor CCR. 5. System is over-charged or has non-condensibles. 6. Condenser blower v-belts loose, slipping, or broken.	1. Re-locate unit to a place with unobstructed airflow. 2. Replace high-pressure switch. 3. Replace condenser blower motor. 4. Replace defective condenser blower motor contactor CCR. 5. Remove some refrigerant. If the high side pressure doesn't start to drop, recover the refrigerant and re-charge with fresh R-22 to correct system charge. 6. Retighten or replace v-belts.
Low Pressure Trips	1. Supply and return air grills in space are restricted. 2. Dirty return air filter. 3. Low-pressure switch open and does not reset.	1. Re-locate objects in front of air grills or re-locate supply and return air grills in space. 2. Clean or replace air filter. 3. Replace low-pressure switch.

	4. Defective evaporator blower motor. 5. Defective evaporator blower motor contactor CEM. 6. System might be under charged check sight glass and perform leak checks. 7. Expansion valve is sticking or binding. 8. Filter drier is dirty or plugged. 9. Evaporator blower v-belts loose, slipping, or broken.	4. Replace evaporator blower motor. 5. Replace defective evaporator blower motor contactor CEM. 6. Recover refrigerant, repair leaks, re-leak check, evacuate and re-charge to system operating charge. 7. Replace expansion valve. 8. Replace filter drier. 9. Retighten or replace v-belts.
No Condenser Blower Operation	1. Tripped Condenser Motor Contactor Overload.	1. Condenser blower motor moving too much air due to no blower ducting attached. Close off damper slide plate. 2. If access panels are off of unit, replace access panels.



LEGEND

AUX- AUXILIARY CONTACTS,COOLING ON INDICATOR
CB1- CIRCUIT BREAKER 100 AMP. (208-230v)
CB2-3- CIRCUIT BREAKER,CONTROL CIRCUIT,5 AMP.
CCM- CONTACTOR, CONDENSER FAN MOTOR
CCR- CONTACTOR, COMPRESSOR
CEM- CONTACTOR, EVAPORATOR FAN MOTOR
CHTR- CRANKCASE HEATER (OPTIONAL)
CI- COOLING INDICATOR LAMP (AMBER)
CPR- CAPACITOR,COMPRESSOR START
CR- COMPRESSOR, SCROLL
CVSS- CONTROL VOLTAGE SELECTOR SWITCH
FI- SUPPLY FAN INDICATOR LAMP (AMBER)
GND- GROUNDING LUG
HR- HOUR METER (OPTIONAL)
MC- MOTOR, CONDENSER FAN
ME- MOTOR, EVAPORATOR FAN
PB- POWER BLOCK-HIGH VOLTAGE
PWR- POWER ON INDICATOR (GREEN)
R2- RELAY, MANUAL MODE
R3- RELAY, POWER TO COOLING
R4- RELAY, POWER TO SUPPLY FAN
S1- SWITCH, LOW PRESSURE,AUTO RESET
S2- SWITCH, HIGH PRESSURE,MANUAL RESET
SAD- START ASSIST DEVICE
SS- SELECTOR SWITCH, OFF-FAN-COOL
TB1- TERMINAL BOARD, COMPRESSOR HI/LO
TD1- TIME DELAY,COMPRESSOR START
TD2- TIME DELAY,LOW PRESSURE (OPTIONAL)
TH- THERMOSTAT,A-28
TR1- TRANSFORMER, 100 VA
TH-BPS- TOGGLE SWITCH, THERMOSTAT BYPASS
VM- VOLT METER, 0-300 V

----DENOTES FIELD WIRING
——DENOTES FACTORY WIRING

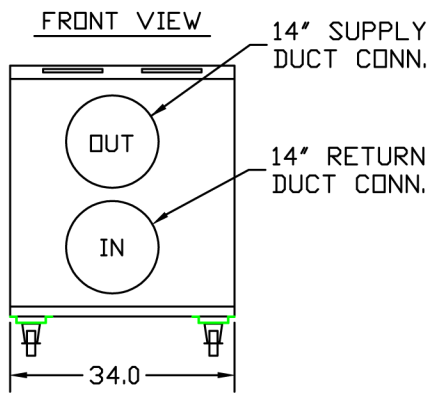
SHEET: OF

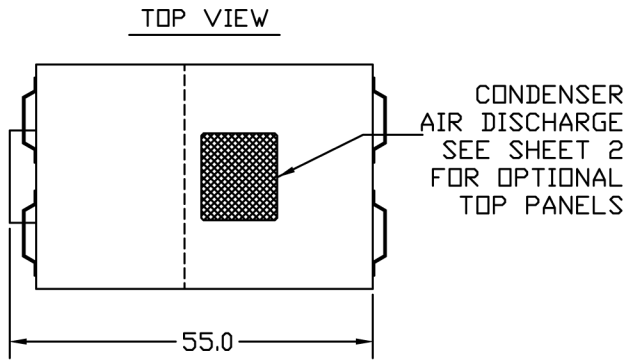
REV.	DESCRIPTION	BY	ECN#	DATE
—	NEW	RJR		03/18/10

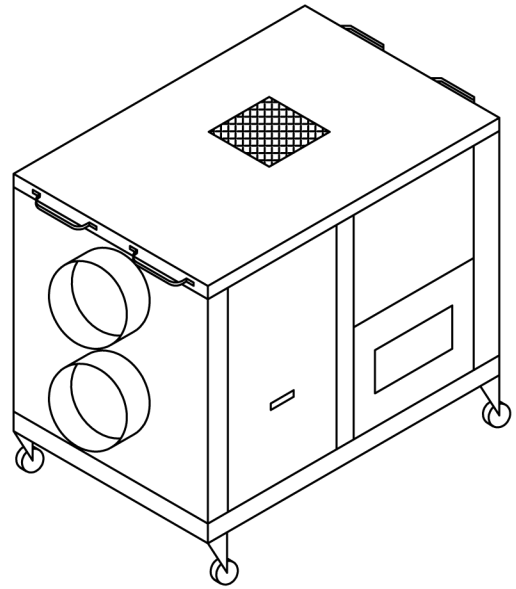
UNITED COOLAIR CORP.
YORK, PA. U.S.A.

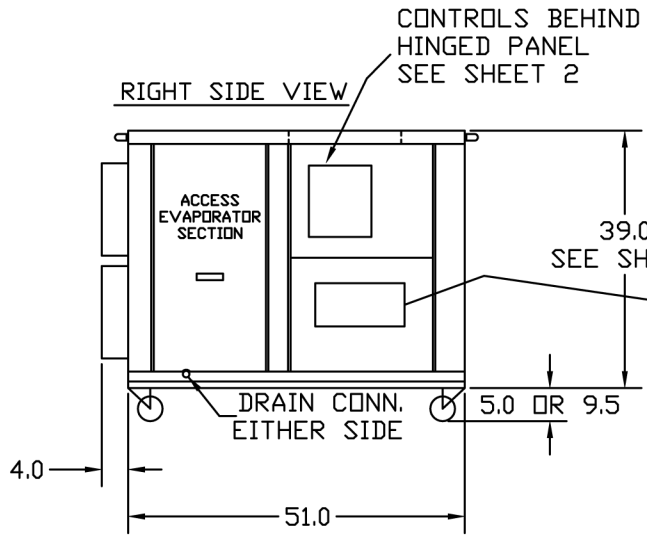
TITLE: WIRING DIAGRAM

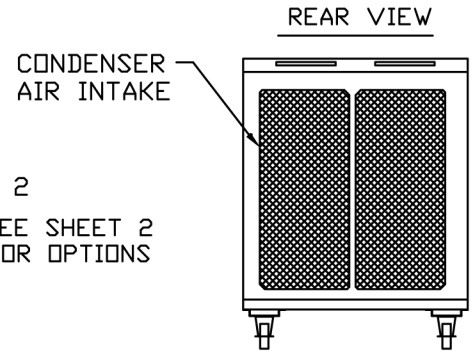
DWN. BY:	APP. BY:	SCALE:	
R. J. ROTH		NTS	
DATE: 03/18/10	DATE:	DRAWING NO: CA10537H	REV. LEV. —











SUBJECT TO CHANGE WITHOUT NOTICE

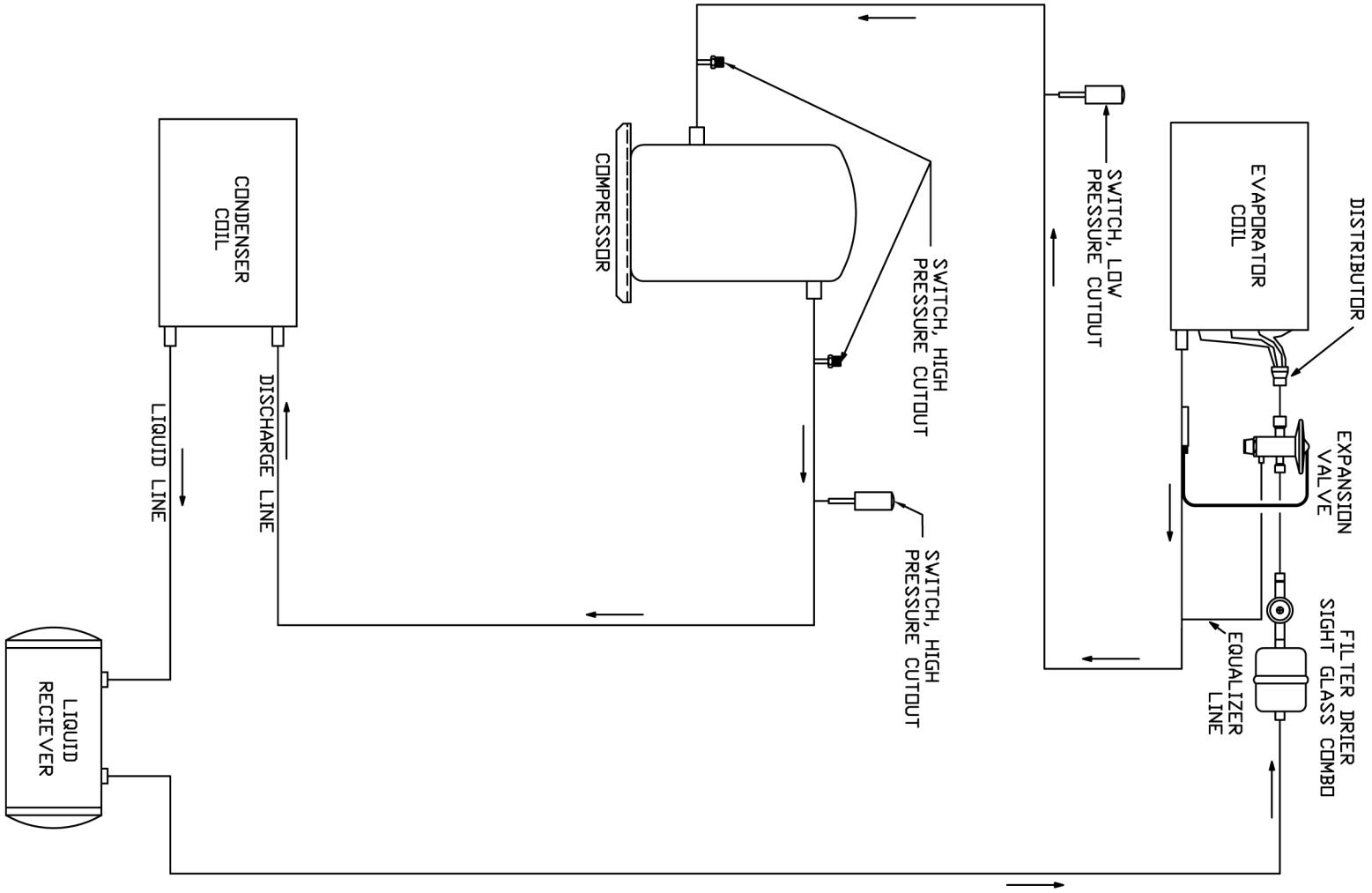
UNITED COOLAIR CORP.

YORK, PA. U.S.A.

TITLE: PORTABLE HORIZ. AIR COOLED 2 THRU 5 TON PAC

DWN BY:	APP. BY:	SCALE:	
WAG		NOT TO SCALE	
DATE: 10/15/03	DATE:	DWG. NO: CA7595	REV. LEV. C

REV.	DESCRIPTION	BY	ECN#	DATE
C	DIM. 39.0 WAS 38.0, ADDED HANDLES.	WAG		03/30/05
B	ADDED 9.5" DIM.	WAG		09/29/04
A	ADDED SHEET 2 OF 2.	WAG		08/03/04
-	NEW	WAG		10/15/03



REV.	DESCRIPTION	BY	ECN#	DATE
A	ADDED LIQUID RECIEVER	BAE		4/27/07
-	NEW	BAE		9/30/04

SHT: 1 OF 1

UNITED COOLAIR CORP.

YORK, PA. U.S.A.

TITLE: 5 TON PORTABLE AIR CONDITIONER

DWN BY:	APP. BY:	SCALE:	
BAE		NOT TO SCALE	
DATE: 9/30/04	DATE:	DWG. NO: CA8871	REV. LEV. A