

OCEANAIRE, INC.

OCEANAIRE, AIRBOSS PORTABLE AIR - COOLED PREMIER AIR CONDITIONERS

Engineering, Installation and Service Manual



**PAC6012
5-Ton**



**PAC1211
1-Ton**

OCEANAIRE, INC.



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GENERAL DESCRIPTION

AIRBOSS SERIES Portable Air-Cooled Air Conditioners are designed to cool an entire area by discharging air through its 9 1/2 x 4 3/4 grille (Models PAC10 and 12), 15 x 7 (Models PAC18, 24 and 36) and 19 3/4 x 11 (Model PAC60). These self contained units are also designed to direct air to specific areas or objects through (optional) dual 4 in. diameter nozzles (Models PAC10 and 12), 6 in. diameter nozzles (Models PAC18, 24 and 36) and 8 in. diameter nozzles (Model PAC60). The cord connected AirBoss Models range from 10,100 BTU/HR to 60,050 BTU/HR floor mount configuration to satisfy most space requirements. All models are provided with casters for portability.

These models are thoroughly self-contained with the entire refrigeration system, evaporator and condenser fan motors and electrical components neatly arranged in a platinum texture polyester powder coated metal cabinet. Only power, and an opening to dispose of condenser hot air are required. The 24 volt temperature controller (thermostat), provides the desired comfort. The cord-connected OceanAire AirBoss is provided with heavy-duty, swivel casters for easy handling and convenient relocation.

GENERAL REQUIREMENTS

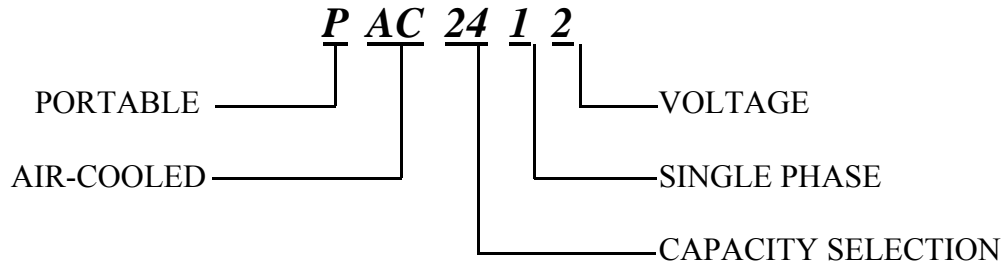
IMPORTANT - AirBoss Air Conditioners are designed and engineered for the comfort of the end user. The length of service received can be extended by following the installation and preventive maintenance instructions. It is important that the warranty card be filled out completely and returned to the factory within fourteen (14) days of installation of the unit in order to receive the benefits of the warranty.

UNIT MODEL CAPACITIES

PAC1011- 10100 BTU/HR COOLING
PAC1211- 12700 BTU/HR COOLING
PAC1811- 18010 BTU/HR COOLING
PAC2412- 24020 BTU/HR COOLING
PAC3612- 36050 BTU/HR COOLING
PAC3632- 36050 BTU/HR COOLING
PAC6012- 60050 BTU/HR COOLING
PAC6032- 60050 BTU/HR COOLING
PAC6034- 60050 BTU/HR COOLING
PAC6035- 60050 BTU/HR COOLING



NOMENCLATURE



CAPACITY SELECTION

NUMBER CODE	10.....10,100 BTU/HR
	12.....12,700 BTU/HR
	18.....18,010 BTU/HR
	24.....24,020 BTU/HR
	36.....36,050 BTU/HR
	60.....60,050 BTU/HR

Product Data and Specification

MODEL	PAC1011 12	PAC1211 12	PAC1811 12	PAC2412	PAC3612	PAC3632	PAC6012	PAC6032	PAC6034	PAC6035
Cooling Capacity ①	10,100	12,700	18,010	24,020	36,050	36,050	60,050	60,050	60,050	60,050
Voltage	115/60/1 or 208/230/1			208/230/1		208/230/3	208/230/1	208/230/3	460/3	575/3
Cooling Amps⑥	9.0/4.5	12.0/7.0	15.5/7.8	12.3	22.5	14	34.0	25.0	12.4	11.4
Cooling Watts⑥	1030	1256	1590	2200	3360	3360	5900	5900	5900	5900
In Rush Current (Amps)	69.9	92.8	114.2	79	128.8	111.8	198.0	134.2	135.6	136.0
Fuse/Breaker (Amps)②	15	15	20	20	30	20	50	40	30	30
Plug Type	5-15P	5-15P	5-20P	6-20P	6-30P	L15-20P	6-50P	L15-30P	L16-30P	L17-30P
EER ③	10.6	10.1	11.3	10.9	10.7	10.7	10.1	10.1	10.1	10.1
Compressor HP	3/4	1	1 1/2	2	3	3	5	5	5	5
Compressor RLA	7.4	9.3	11.4	8.3	17.9	11.4	28.0	20.0	8.2	6.4
Compressor LRA	42	58	65	49	88	77	169	123	59.6	40
Evap CFM ④	300	400	600	810	1310	1310	1950	1950	1950	1950
Evap Motor HP	1/15	1/15	1/5	1/3	1/2	1/2	1	1	1	1
Evap Motor Watts	200	200	210	350	375	375	550	550	550	550
Condenser CFM	580	580	930	1010	1390	1390	2200	2200	2200	2200
Condenser Motor HP	1/8	1/8	1/3	1/2	3/4	3/4	1	1	1	1
Condenser Motor Watts	280	280	450	330	460	460	750	750	750	750
Condensate Pump Head (Pump Optional)	20 Feet Pump Optional on these units						20 Feet Pump Standard			
Sound Level ⑤	53	54	60	65	69		78			
R-22 Charge Oz.	24	29	42	40	45		68			
(A) Height with Casters	31 1/2		37 1/2		47		52 1/4			
(B) Width	20 1/8		24 1/4		28 1/4					
(C) Depth	22 5/8		24 3/4		31		39			
(D) Height Without Casters	28 1/2		34 1/2		42 1/4		48 3/4			
Net Weight	150	150	200	210	280		460	460	520	540
Shipping Weight	170	170	230	240	310		500	500	560	580
Shipping Volume	15		21		29		43			
(E) Condenser Air Discharge	12 inch round		12 inch round				16 inch round			
Optional Evap Nozzles	2-4 inch x15 inch long		2 - 6 in. x 23 in. long				2 - 8 in. x 20 long			
Optional Evap Duct Adapter	1 - 6 inch round		1 - 10 in. round				1 - 16 in. round			

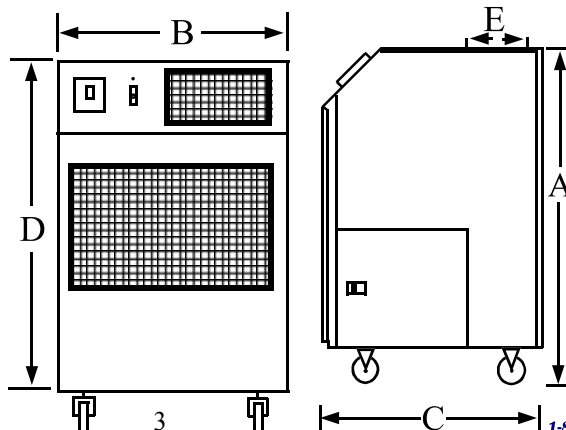
All units available in 220/50 cycle

- ① Cooling Capacity is total BTU/HR at 80°DB/67°WB high fan speed
- ② Time delay fuses/circuit breakers are recommended.
- ③ EER determined with condenser discharge air ducted into another area on high fan speed.
- ④ CFM with free discharge.
- ⑤ Sound pressure, dB at 5 feet, commercial configuration.
- ⑥ Amps & Watts at 208 Volts

Ambient Operating Range 65° to 105°

May operate to 55° if equipped with optional factory installed hot gas bypass

Specifications subject to change without notice



Optional nozzles length measured compressed.

Note: Condenser inlet air plenum adds 13 inches to dimension "C".

Electrical ratings per U.L. 484 at 95°F DB/75°WB on high fan speed



STANDARD FEATURES

SERVICEABILITY

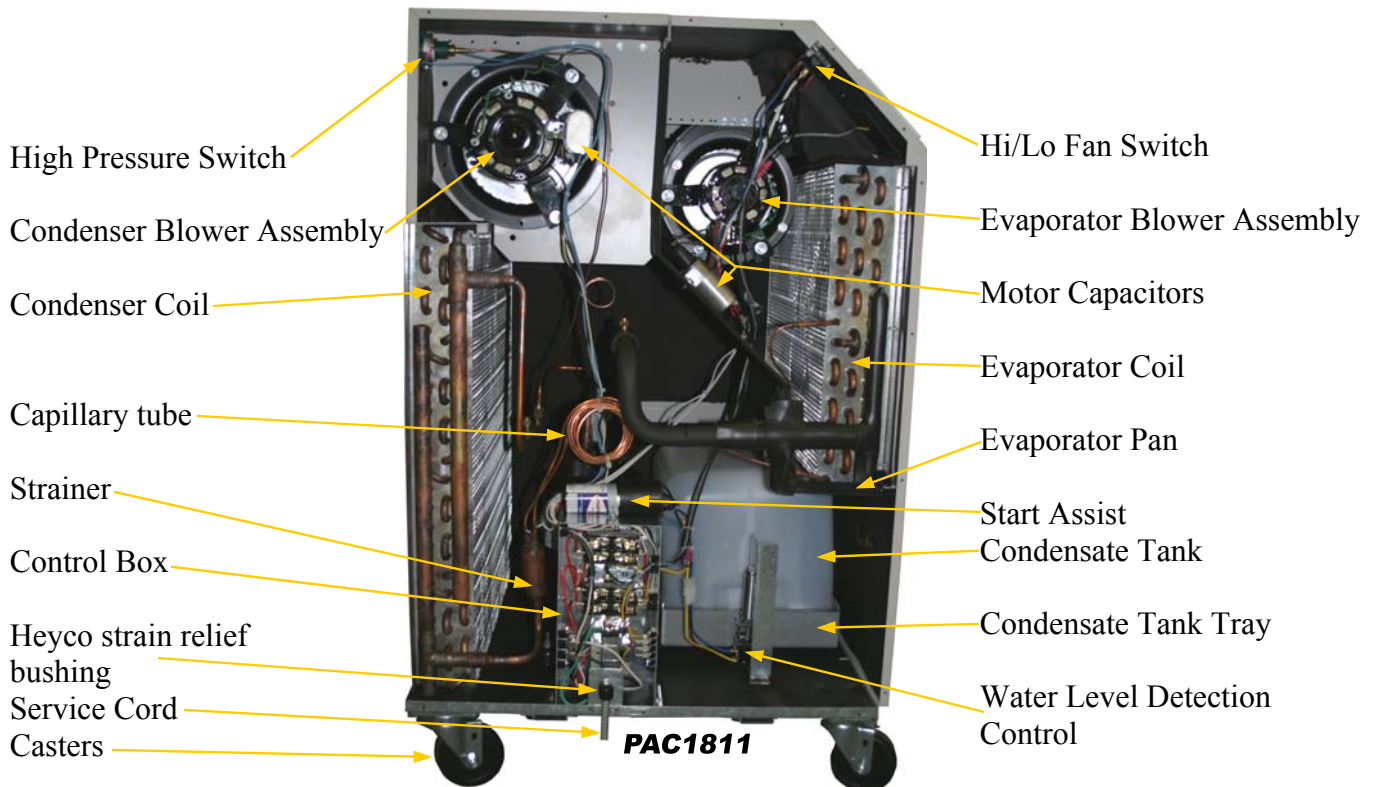
All AirBoss Series units are designed with removable panels to provide full service accessibility. Turn to page 13 “Part Replacement Procedure” for removal of the correct panel when replacing a part. The interior is divided into three sections. The upper front face encloses the evaporator coil and blower assembly. The lower front section contains the electrical controls and the condensate holding tank and its level detection system. The rear section encases the compressor, condenser blower assembly and the condenser coil.

ATTRACTIVE CABINET

The AirBoss Series cabinet is constructed of 18 gauge galvanized steel with a platinum texture polyester powder coated finish that will compliment any decor. The entire cabinet is insulated with a sound absorbant insulation for cool, quiet comfort.

HIGH PRESSURE SAFETY SWITCH

All units incorporate a manual re-set high pressure switch for maximum protection of the refrigeration system and compressor. The cut-out pressure setting is 375 ± 5 psig for models 10, 12, 18, 24 and 425 ± 5 psig for models 36 and 60. If the pressure exceeds this setting, the compressor stops and can be re-started by depressing the “RESET” button located on the back panel of the unit. The high pressure control’s capillary line is attached to a schrader valve. This allows replacement of a defective control without recovering the refrigerant.



NOTE: WAIT TWO MINUTES BEFORE RESTARTING UNIT AFTER TRIPPING BY HIGH PRESSURE SWITCH.

ELECTRONIC THERMOSTAT

The electronic thermostat displays room temperature if the cooling system is on. Select the temperature you want by pressing the ▲ or ▼ buttons. (The word COOL and the temperature setting is displayed for 5 seconds). The FAN button controls the evaporator fan motor. In the ON selection mode the fan runs continuously. In the AUTO selection mode the fan cycles with the compressor. The OUTDOOR button is not used in portable air conditioning. The MODE button controls the cooling function by selecting COOL or OFF. The DAY/NIGHT allows day and night set points. A built in 4 minute time delay protects the compressor from short cycling. Pressing the ▲ and ▼ simultaneously switches the display between Celsius and Fahrenheit.

A two position rocker switch located next to the thermostat provides high fan when depressed upward, low fan speed when depressed downward. The red light above or next to the rocker switch indicates tank is full and needs to be emptied. (Except 5-ton which is factory equipped with a condensate pump).

FILTER

All units are equipped with 1/2 or 1/8 inch thick, washable, mesh air filters located behind the evaporator and condenser inlet air grilles. They can be easily removed and cleaned. Just pull the grilles out and remove the filters.


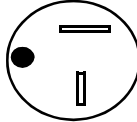
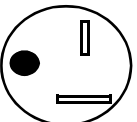
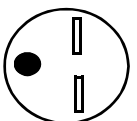
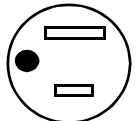




SERVICE

CORD

All AirBoss Series units are equipped with the standard ten foot long service cord with plug configurations and receptacle requirements as shown in this chart. As of August 1, 2004 units will be equipped with electric protection devices (LCDI/AFCI), as required by UL.

LCDI (Leakage Current Detection & Interruption).
AFCI (Arc Fault Circuit Interrupter).

ELECTRICAL SERVICE PLUG CONFIGURATION

UNIT/MODEL	PLUG CONFIGURATION	RECEPTACLE
115 VOLT PWC1011, PWC1211, PWC1811 PAC1011, PAC1211, OWC1211, OWC1811, OAC1211, OACH1211	 15A-125 VOLT NEMA 5-15P	NEMA-5-15R
115 VOLT PAC18, OAC18, OACH18	 20A-125 VOLT NEMA 5-20P	NEMA 5-20R
208/230 VOLT SINGLE PHASE PAC1012,1212,1812,2412 OAC1212,1812,2412 OACH1212,1812,2412 PWC1012,1212,1812,2412,3612 OWC1212,1812,2412,3612	 20A-250 VOLT NEMA 6-20P	NEMA 6-20R
208/230 VOLT SINGLE PHASE PAC3612, OAC3612, OACH3612	 30A-250 VOLT NEMA 6-30P	NEMA 6-30R
208/230 VOLT SINGLE PHASE PAC6012, OAC6012, OACH6012	 50A-250 VOLT NEMA 6-50P	NEMA 6-50R
208/230 3 PHASE OAC/PAC3632 OACH3632 OWC3632,PWC3632	 20A-250 VOLT NEMA L15-20P	NEMA L15-20R
208/230 3 PHASE PAC6032 OAC6032,OACH6032 PWC6032,OWC6032	 30A-250 VOLT NEMA L15-30P	NEMA L15-30R
460/480 3 PHASE OAC/PAC3634 OACH3634 PWC/OWC3634	 20A-460 VOLT NEMA L16-20P	NEMA L16-20R
460/480 3 PHASE OAC6034, PAC6034 OACH6034 PWC/OWC6034	 30A-460 VOLT NEMA L-16-30P	NEMA L16-30R

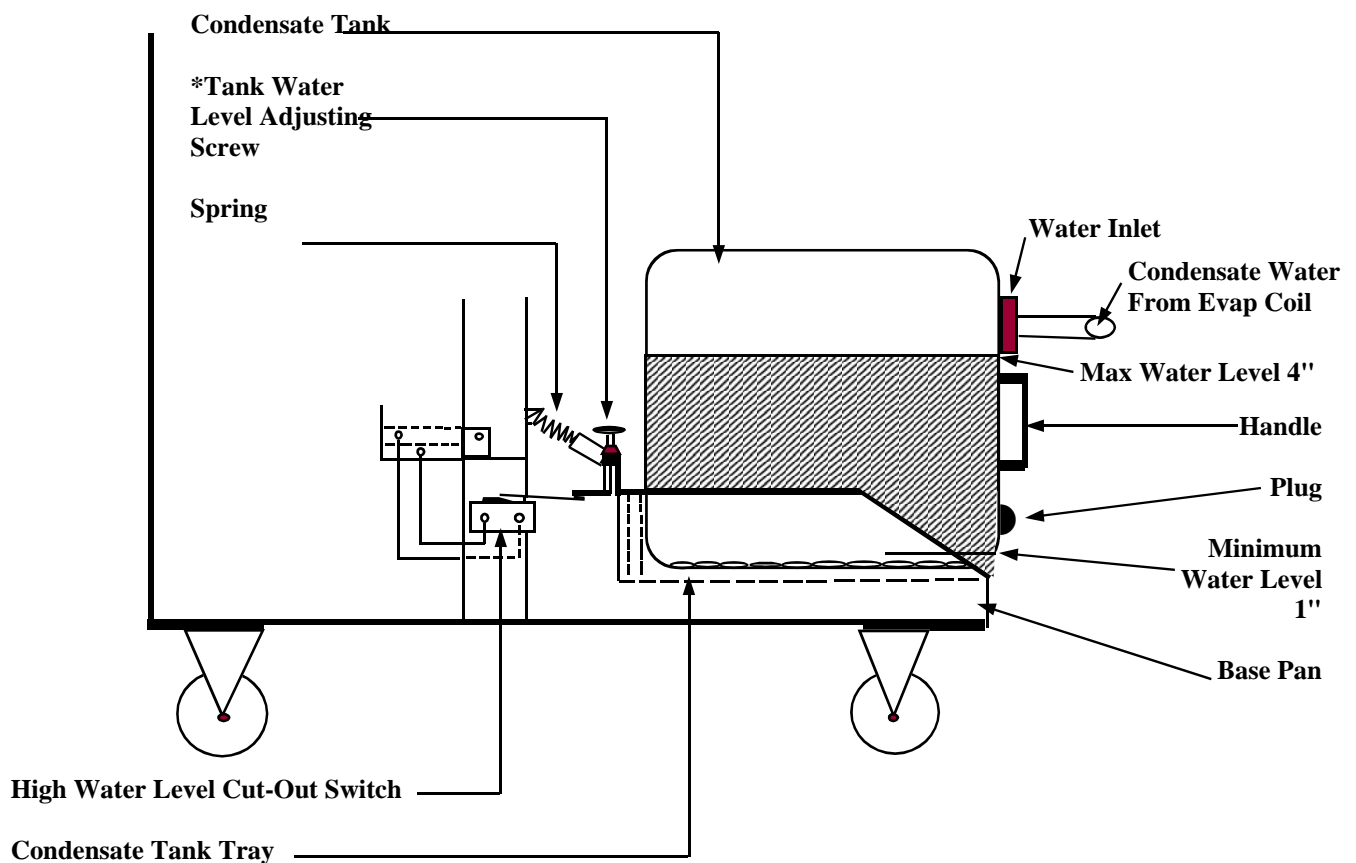
CONDENSATE RESERVOIR TANK

The OceanAire AirBoss utilizes a 5.0 gallon capacity, polyethylene condensate drain tank, located in the lower, front section of the unit. A high water level cut-out switch is used to stop the compressor and condenser fan automatically when the tank's pre-set water level has been reached. The evaporator fan will continue to run, circulating air.

An adjustment screw is provided to vary the cut-off of the tank full switch. If a lighter (less weight) level of water is desired, turn the adjusting screw clockwise. Do not exceed 6 full turns counter-clockwise.

CAUTION, TURN UNIT OFF:

***BEFORE ADJUSTING SET SCREW
BEFORE REMOVING TANK TO EMPTY CONDENSATE***



* Turn screw clockwise to lower water level. Less water makes tank lighter and easier to remove.

NOTE: Max. and Min. water levels shown are those at which the unit will shutdown and not restart until the condensate tank has been drained.

OPTIONAL FEATURES

TREATED EVAPORATOR AND CONDENSER COILS

When airborne contaminants are a problem for air conditioning applications, acrylic and heresite coated coils are recommended to guard against pitting and corrosion.

CONDENSER DUCT

Condenser duct may be used to direct and dispose of the warm condenser air out of the space. 12 inch round condenser air discharge duct is used on all models except the 5 ton unit. 16 inch duct is used on the 5 ton (PAC6012).

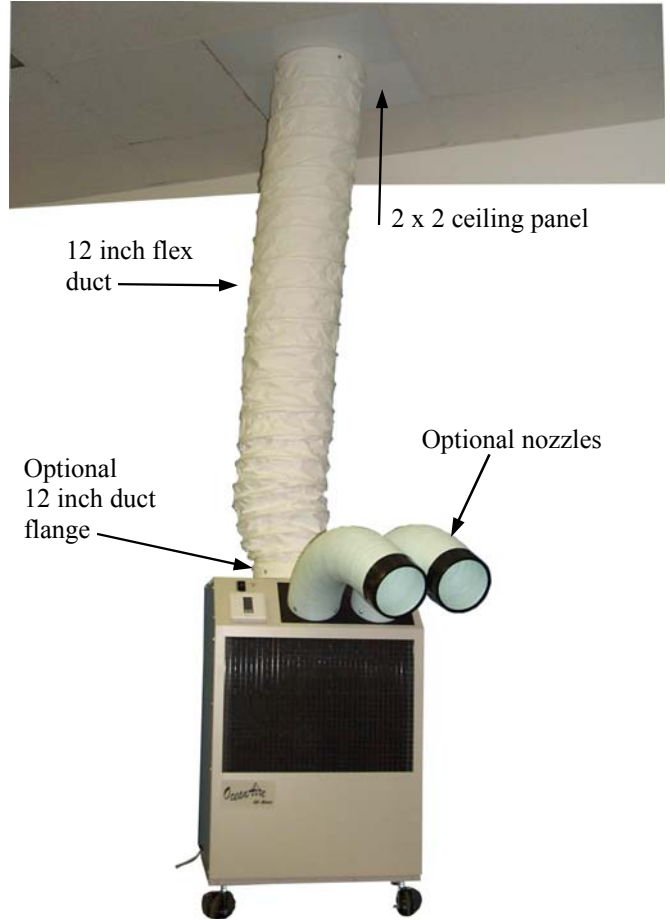
CEILING PANEL/DUCT KIT ASSEMBLY

An optional CK-12 (All Models except 5-ton) ceiling panel kit consists of 8 feet of flexible duct, a 2' X 2' lay in ceiling panel and a 12 inch duct flange that attaches to the condenser air discharge opening on the top of the unit. The optional CK-16 consists of similar components for 16 inch duct. Installation can be completed by following these simple steps:

- 1) Place the 2' X 2' lay-in ceiling panel in the false ceiling directly above the unit.
- 2) Attach the duct flange to the unit with three screws provided.

Drop ceiling spaces should be vented or large enough to handle the warm condenser air. Check local codes to assure compliance.

If longer runs of duct are required, table below lists maximum duct run with no 90° elbows. For every 90° elbow, subtract 6 feet from the run.



Model Ceiling Kit	Round Flexible Duct Size Diameter Length	Fits PAC 10	Fits PAC 12	Fits PAC 18	Fits PAC 24	Fits PAC 36	Fits PAC 60
CK-12 Size/Fits	12 inch 8 feet	Yes	Yes	Yes	Yes	Yes	No
CK-16 Size/Fits	16 Inch 8 feet	No	No	No	No	No	Yes
Maximum Approx Equivalent Feet (ESP)		25 (.20)	25 (.20)	50 (.25)	50 (.25)	50 (.25)	100 (.50)

DISCHARGE AIR NOZZLE KIT ASSEMBLY

The optional Nozzles are used to direct cold air to a specific area or spot. They are most often applied in commercial and industrial applications such as production lines to cool people (making them more productive) or, to cool equipment or processes.

On PAC10 and 12 units 2 x 4 inch diameter nozzles are used. On PAC18, 24 and 36 units 2 x 6 inch diameter nozzles are used. On the PAC60, 32x 8 inch nozzles are used.

NK-1 nozzles have an approximate compressed length of 15 inches. The approximate extended length is 21 inches.

The NK-2 nozzles have an approximate compressed length of 22 inches. The approximate extended length is 32 inches.

NK-3 nozzles are 8 inch in diameter and have an approximate compressed length of 20 inches. The extended length is approximately 29 inches. They are only used on our 5– ton unit.

The nozzles are made of Virgin PVC 100, ribbon locked, bendable, self-supported, and will not rust or corrode. In fact, it has excellent resistance to abrasion, solvents, acids and chemicals. The black nozzle tips (finishing rings) are made of soft plastic and provide an attractive finish and protection from sharp edges. The nozzles can be “aimed” and will maintain that position until a change is desired.



DUCT FLANGE

The optional duct flange is attached to the condenser air discharge opening on the top of the unit. Flexible duct is then attached to it. The DF-12 (12 inch diameter) fits all units except the 5 ton. The DF-16 (16 inch diameter) fits only the 5 ton Model PAC60.

CONDENSATE PUMP KIT

A condensate pump kit is designed for automatic condensate removal system for water dripping off of the evaporator coil is available.

It is a convenience for those who do not want to empty the 5.0 gallon condensate tank. It is very convenient on units that are permanently installed.

This pump is capable of pumping against a 20 foot head and is controlled by a float/switch mechanism which turns the pump "on" when approximately 2 1/2 inches of water collects in the tank and automatically switches "off" when the tank drains to a level of approximately 1 1/4 inches. A built-in pump safety switch turns off the air conditioner if the condensate line becomes plugged or pump motor failure should occur.



ACCESSORY INSTALLATION INSTRUCTIONS

Plug-In Condensate Pump ALL PAC AIR-COOLED UNITS

March 15, 2004

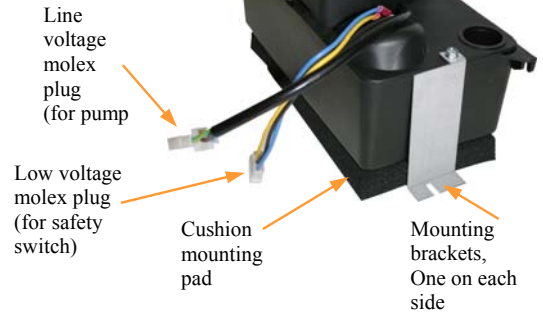
The Quick Connect Condensate Pump may be easily installed for one job, and just as easily reinstall the bucket for the next job. Our quick connect kit consists of our specially prepared and wired condensate pump, 20 feet of 3/8 plastic tubing, 2-10 inch pieces of 3/8 drain hose, 1 hose clamp, and 2 attaching screws.



Pump Kit

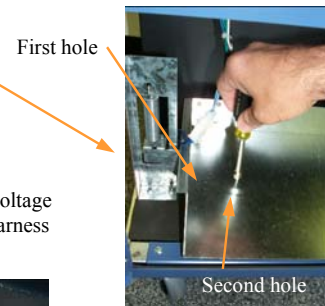
Part Number	Voltage
PC-1P	115v
PC-2P	208/230v

TOOLS REQUIRED:
Phillips screwdriver
(pump brackets)



1) Unplug unit. Open lower front door to expose condensate bucket. Remove bucket.

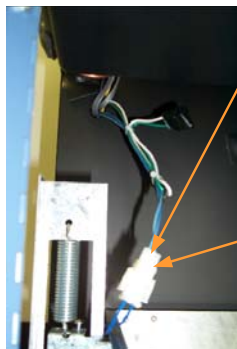
2) Start the first pump bracket mounting screw into the second hole located on the back side of the bucket tray. Just turn the screw enough to catch a few threads. Later you will slide the bracket under it.



3) Remove electrical tape covering pre-wired line voltage molex plug. This plug is located on the wiring harness behind the condensate pump.



4) Push large line voltage molex plug from the pump, into the pre-wired receptacle. No need to re-tape.

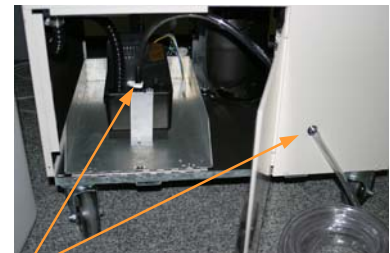


5) Disconnect molex plug from the low voltage micro switch that was used by the bucket.

6) Push the low voltage molex connector from the pump into the pre-wired molex receptacle.



7) Insert bracket mounting screw into the pre-drilled hole that lines up with the front pump mounting bracket. Tighten this screw, then tighten the rear mounting screw.



8) Remove the plastic plug from the condensate line access hole. Push the 3/8 I.D. tubing through the hole and attach to the pump discharge and secure with the included clamp.

The production start date for Plug-in condensate pumps; October 1, 2003 Serial Numbers dated G4 and later.

Installation complete

CONDENSER INLET AIR PLENUM

DCP, Condenser Plenums are used to duct condenser air to the unit. The plenum easily attaches with one screw (supplied) to the back of the unit. The plenum transitions the condenser inlet air opening to 12 inch round on the PAC10,12,18, 24 and 36. The PAC60 uses 2-12 inch round.

25 equivalent feet (.25 E.S.P.) of 12 inch round duct can be applied to the PAC10 and 12. 50 equivalent feet (.25 E.S.P.) of 12 inch round duct can be applied to the PAC18, 24 and 36. 100 equivalent feet (.50 E.S.P.) of 2-12 inch round ducts can be applied to the PAC60.

To calculate “equivalent feet”, add the length of the condenser intake duct run and the length of the condenser air discharge duct run...allowing for elbows (adding 6 equivalent feet per 90° (elbow)). This is total equivalent feet. At any rate, do not exceed the rated E.S.P.

Condenser air plenums can substantially reduce air noise and increase the number of options for solving difficult cooling problems.

AirBoss has a dedicated blower for the condenser section and a dedicated blower for the evaporator section. So, the “equivalent feet” may be applied to either or both sections at the same time.



PAC1811 with DCP-2 installed

Model Evaporator Plenum	Round Duct Size	PAC 10	PAC 12	PAC 18	PAC 24	PAC 36	PAC 60
DCP-1 Size/Fits	12 inch	Yes	Yes	No	No	No	No
DCP-2 Size/Fits	12 inch	No	No	Yes	Yes	No	No
DCP-3 Size/Fits	12 inch	No	No	No	No	Yes	No
DCP-4 Size/Fits	2-12 Inch	No	No	No	No	No	Yes
Maximum Approx Equivalent Feet (ESP)	-	25 (.20)	25 (.20)	50 (.25)	50 (.25)	50 (.25)	100 (.50)



DCP-2



DCP-4

EVAPORATOR INLET AIR PLENUM

DEP, Evaporator Plenums are used to allow a return air duct to be attached to the unit. The plenum easily attaches with mounting screws in place of the evaporator grille. The plenum transitions the return air opening to 10 inch round on the PAC10 & 12, and to a 12 inch round on the PAC18 and 24. 16 inch duct is used on the PAC36 & 60.

25 equivalent feet of 10 inch round duct can be applied to the PAC10 and 12. 50 equivalent feet of 12 inch round duct can be applied to the PAC18 and 24. 50 equivalent feet of 16 inch round duct can be applied to the PAC36. 100 equivalent feet of 16 inch duct can be applied to the PAC60. This air handling capacity is also found on the OceanAire Polaris water-cooled units.

To calculate “equivalent feet”, add the length of the supply duct run and the length of the return duct run...allowing for elbows(adding 6 equivalent feet per 90° elbow). This is total equivalent feet.

Evaporator plenums can substantially reduce air noise and increase the number of options for solving difficult cooling problems.

AirBoss has a dedicated blower for the evaporator section and a dedicated blower for the condensing section. So, the “equivalent feet” may be applied to either or both sections at the same time.



Model Evaporator Plenum	Round Duct Size	Fits PAC 10	Fits PAC 12	Fits PAC 18	Fits PAC 24	Fits PAC 36	Fits PAC 60
DEP-10 Size/Fits	10 inch	Yes	Yes	No	No	No	No
DEP-12 Size/Fits	12 inch	No	No	Yes	Yes	No	No
DEP-16 Size/Fits	16 Inch	No	No	No	No	Yes	Yes
Maximum Approx Equivalent Feet (ESP)		25 (.15)	25 (.15)	50 (.25)	50 (.25)	50 (.25)	100 (.50)

DUCT ADAPTER

DDA, Duct Adapter is used to apply a single discharge duct to the evaporator. The standard grille is removed and the Adapter is attached with sheet metal screws in its place. The PAC10 and 12 transition to 6 inch round duct. The evaporator blower section can handle 25 equivalent feet of 6 inch round duct or .15 E.S.P.

The PAC18, 24 and 36 transition to 10 inch round duct. The evaporator blower section can handle 50 equivalent feet of 10 inch round duct at .25 E.S.P.

The PAC60 transitions to 16 inch round duct and can handle 100 equivalent feet of 16 inch round duct or .50 E.S.P.

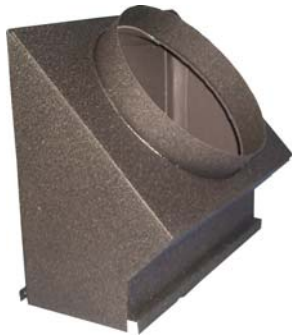
The Duct Adapter can be used with the evaporator plenum to provide true space air conditioning. Remember, when calculating “equivalent” feet, the length of the supply run must be added to the length of the return run.....and.....add 6 feet of length for each 90° bend.

For a straight run on a PAC12 with no elbows there could be 12 1/2 feet of 6 inch supply duct and 12 1/2 feet of 6 inch return duct, for 25 equivalent feet.

For a straight run on a PAC18, 24 or 36, there could be a 30 foot run of 10 inch, and a 20 foot run of 10 inch supply for a total of 50 equivalent feet.

These air handling characteristics are also found on the Polaris water cooled units.

The condenser section has its own blower and is independent of the evaporator section.



DDA-10

Duct Adapter Model	Round Duct Size	PAC 10	PAC 12	PAC 18	PAC 24	PAC 36	PAC 60
DDA-6	6 inch	Yes	Yes	No	No	No	No
DDA-10	10 inch	No	No	Yes	Yes	Yes	No
DDA-16	16 inch	No	No	No	No	No	Yes
Maximum Approx Equivalent Feet (add 6 feet for each 90° elbow)		25	25	50	50	50	100
Maximum E.S.P		.15	.15	.25	.25	.25	.50



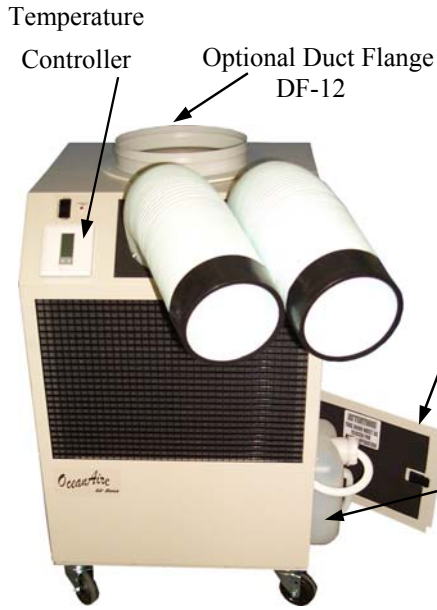
View of unit with the optional Duct Adapter installed.



DDA-10

DDA-16

UNIT ACCESSORIES



PAC1811

This door must be closed during operation or the unit may trip on the high pressure switch.



Optional ceiling panel

Optional condenser duct



Optional nozzles NK-3



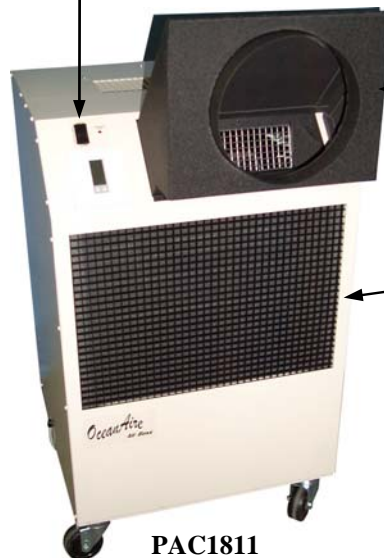
PAC6012

Optional condenser inlet air plenum DCP-2



PAC1811

Standard 2-speed evaporator fan switch



PAC1811

Optional Duct Adapter DDA-10

Standard evaporator grille

FAN ONLY

Plug unit in and push FAN button once. This turns the evaporator fan blower on. To turn the blower off, push the FAN button once again. This turns the fan blower off.

To change fan speeds, push the fan speed rocker switch up for high speed or down for low speed.

COOLING CYCLE

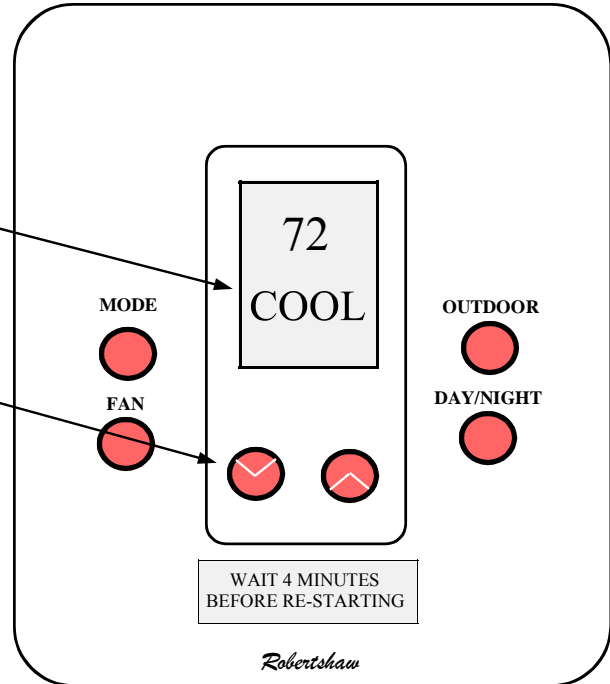
To operate unit for cooling, push MODE button to display COOL in the window.

Push down arrow button multiple times to lower set point to desired temperature.

The display will show the setpoint temperature for 5 seconds, then it will return to room temperature display.

After a slight pause, the fan motor and compressor will start, beginning the cooling cycle.

Remember, the setpoint must be lower than the room temperature for the unit to start.



The OUTDOOR and DAY/NIGHT buttons are not used and do not apply to portable air conditioning.

GENERAL INFORMATION

This is a cooling only thermostat. Select the temperature you want by pressing the ▲ or ▼ buttons. The word COOL and the temperature setpoint is displayed for 5 seconds.

To change display to Celsius, simultaneously press the ▲ and ▼ buttons. Press them again to change back to Fahrenheit.

No batteries are required. In the event of a power failure, when the power is restored the thermostat will continue operating as if the power had never been off.

Compressor short cycle protection is built-in to the thermostat. A 4 minute time delay will protect the unit.

Electrical rating	24 to 30VAC
Control Range	60° to 88°
Temperature differential	± 1°
Anticipation	Electronic
Manufacturer	Robertshaw

APPLICATIONS

ROOM AIR CONDITIONER

OceanAire AirBoss can be used as a room air conditioner to cool the entire enclosed space . In this application, condenser hot exhaust air venting and condenser air intake ducting is required. Use the optional "Flexible Duct Kit Assembly" and the "Condenser Return Air Plenum" as specified in the "unit accessories" section.

SPOT COOLER

AirBoss can be used in an open environment to cool specific objects or "spots" through the evaporator grille or the optional nozzles. Spot Cooling is a convenient and economical way to provide air conditioning where cooling the entire space is impractical. In this application, ducts for condenser air intake and hot air exhaust are not required.

AREA COOLER

When AirBoss is installed in an area that is not totally enclosed, the(optional) condenser hot air exhaust duct directs condenser air out of the area, allowing the evaporator air to cool the specific space.

INSTALLATION INSTRUCTIONS

BEFORE INSTALLING: Check the air conditioner/spot cooler for any damage. Air conditioners are thoroughly inspected at the factory and carefully packaged. If any damage is evident, file a claim with the delivering carrier immediately.

ELECTRICAL REQUIREMENTS: Check the data plate on the back of the unit to make certain that the proper power is available. Refer to "Specifications" section for voltage and fuse/circuit breaker requirement. For proper NEMA receptacles, refer to "Electrical service plug configuration". Operating the unit on improper voltage will void the warranty.

CAUTION:

FOR MODELS: PAC1011 AND PAC1211 AN EXTENSION CORD CAN BE USED PROVIDED IT IS RATED AT LEAST 15 AMPS @ 115 VOLTS WITH GROUNDING-TYPE ATTACHMENT PLUG AND GROUNDING TYPE CONNECTOR (LOAD FITTING)

FOR MODELS: PAC1811 AN EXTENSION CORD CAN BE USED PROVIDED IT IS RATED AT LEAST 20 AMPS @ 115 VOLTS WITH GROUNDING-TYPE ATTACHMENT PLUG AND GROUNDING TYPE CONNECTOR (LOAD FITTING)

FOR MODELS PAC2412 AND PAC3612 AN EXTENSION CORD CAN BE USED PROVIDED IT IS RATED AT LEAST 20 AMPS @ 250 VOLTS WITH GROUNDING-TYPE ATTACHMENT PLUG AND GROUNDING TYPE CONNECTOR (LOAD FITTING)

FOR MODELS PAC6012 AN EXTENSION CORD MAY BEUSED PROVIDED IT IS RATED AT LEAST 50 AMPS @ 250 VOLTS WITH GROUNDING-TYPE ATTACHMENT PLUG AND GROUNDING TYPE CONNECTOR (LOAD FITTING)

FOR MODELS PAC3632 AND PAC6032 AN EXTENSION CORD MAY BEUSED PROVIDED IT IS RATED AT LEAST 30 AMPS @ 250 VOLTS, 3 PHASE

OceanAire AirBoss portable air conditioner/spot cooler requires minimal installation. Plug unit in proper NEMA receptacle and it immediately begins to cool. The entire system is built into one compact unit which can be moved and installed with ease.

REPLACEMENT PROCEDURE FOR PARTS

A. FAN MOTORS

1. Remove cabinet's left-hand (when looking at the front of the unit) side panel.
2. Disconnect evaporator motor wires from evaporator contactor and fan speed rocker switch.
3. Disconnect condenser motor wires from condenser contactor.
4. Remove screws securing motors and inlet-ring to blower housings. All screws are external and visible.
5. Loosen clamp around motors and remove motors.
6. Install new motors, reversing the removal procedure.

B. THERMOSTAT (NO BATTERIES REQUIRED)

1. Pull up from the bottom of the thermostat to remove it from the mounting sub-base. No tools are required since it is a snap on/snap off fit. Make sure small thermistor located in the bottom of the thermostat for temperature sensing, is not bent or damaged.
2. To remove the thermostat sub-base, remove the 2 mounting screws and the 3 wires (red, yellow, green). Make sure the 3 wires do not fall into the cabinet. Install sub-base by reversing removal procedure.

C. TANK FULL LIGHT

1. To replace Tank Full light on all models, disconnect wires from control panel, bend tinnerman clip retaining light and pull out. Install new light, reversing the procedure.

D. CONDENSATE PUMP (OPTIONAL ON ALL UNITS UNDER 5 TON/STANDARD ON 5 TON)

1. Open condensate bucket access door located on lower right side panel (looking at the front of the unit).
2. Remove brackets securing condensate pump in base pan by removing
3. Disconnect pump wire leads from Molex connectors. Remove retainer clamp and tubing. Replace pump, install by reversing procedure.

E. HIGH PRESSURE CONTROL

1. Remove cabinets right hand side panel.
2. Remove flare nut that secures capillary to the refrigeration system high pressure side. A built-in schrader valve allows removal without dumping the refrigerant charge.
3. Remove two screws that retain high pressure switch.
4. Disconnect wire leads from compressor contactor and condensate pump safety switch.
5. Install new High Pressure Control, reversing the procedure.

To gain access to compressor and compressor run capacitor, remove left hand side panel.

TROUBLESHOOTING GUIDE

The following steps and procedures are recommended for correcting the problems indicated. Service, other than routine maintenance, should be performed only by a qualified refrigeration serviceman.

PROBLEM: THE ENTIRE UNIT DOES NOT RUN.

1. **CAUSE:** POWER INTERRUPTION

REMEDY: Check external power supply. Look for blown fuses or tripped circuit breakers. Reset or replace if needed.

2. (REASON) THERMOSTAT INOPERABLE.

REMEDY: Setting may be too high; Make sure setpoint is lower than room temperature, check and reset. Remember, there is a 4 minute time delay between cycles. Thermostat may be defective...remove and replace.

3. (CAUSE) ELECTRICAL PANEL:

a) 24 volt transformer defective; (b) contactor coil defective, contacts stuck open, burned or dirty; (c) loose wires.

(REMEDY) Correct as follows: (a) Replace; (b) Correct or change; (c) Tighten connections

PROBLEM: EVAPORATOR FAN RUNS BUT COMPRESSOR AND CONDENSER FAN DO NOT START

1. (REASON) Low Voltage.

(FIXING) Check power supply for voltage outside the range of 106-126 volts on the 115volt unit and 187-253 volts on the 208/230 volt unit.

2. (CAUSE) Thermostat

(REMEDY) Examine the control unit for loose wires. Tighten any loose connections. Wait 4-minutes before re-start.

3. (REASON) High Pressure Switch tripping turning unit off.

(FIXING) Depress high pressure switch red button, check for loose wire connections, broken or burned contacts. If switch is defective, replace.

4. (CAUSE) Compressor contactor open or burned. (CURE) Replace

5. (REASON) Refrigerant leak-no freon. (REMEDY) Locate leak and repair. Evacuate unit and recharge.

6. (CAUSE) Loose or defective wires. (FIXING) Tug on wires to see if they will separate from connections.

7. (REASON) Defective compressor (REMEDY) Check for shorts, opens and grounds. Remove and replace compressor.

8. CAUSE) Shorted or open run capacitor (FIXING) Remove and replace.

9. (CAUSE) Defective tank full unit cut-out switch. (REMEDY) Check and replace.

10 (CAUSE) Condensate tank could be full, but, red light might be defective. (REMEDY) Check tank and replace red light if defective.

PROBLEM: COMPRESSOR STARTS AND RUNS, BUT, EVAPORATOR FAN DOES NOT RUN.

1. (CAUSE) Faulty rocker switch (REMEDY) Replace

2. (REASON) Open fan motor coil circuit (FIXING) Replace fan motor.

3. (CAUSE) Shorted or open fan motor capacitor (REMEDY) Replace capacitor.

4. (REASON) Loose or defective wires (REMEDY) Trace and repair

PROBLEM: INSUFFICIENT COOLING

1. (CAUSE) Insufficient air flow through evaporator coil due to:

- A. Dirty air filter in unit
- B. Dirty evaporator coil
- C. Ice on evaporator coil
- D. Obstructed air intake

(REMEDY) Correct as noted:

- A. Clean filter (see "Preventive Maintenance" section of this manual)
- B. Clean filter with a vacuum cleaner & hose.
- C. Defrost; turn on fan only.
- D. Remove obstruction

2. (REASON) IMPROPER SIZING OF UNIT

(FIXING) Check to make sure unit is properly sized for load. Add supplemental unit if required.

PROBLEM: NOISY OPERATION

1.(CAUSE) Copper tubing vibrating

(REMEDY) Adjust by bending slightly to firm position. Segregate tubes touching cabinet or each other.

2.(REASON) Loose cabinet or internal component

(FIXING) check and tighten loose screws.

3.(CAUSE) Machine vibrating out of level

(REMEDY) Level unit base.

4.(REASON) Loose blower wheel

(REMEDY) Tighten screws on blower wheel to motor shaft.

5.(CAUSE) Blower wheel hitting housing.

(REMEDY) Adjust wheel position on motor shaft.

6. (CAUSE) Blower motor bearing defective.

(REMEDY) Replace blower motor.

PROBLEM: WATER LEAKING FROM PAN

1. (CAUSE) Leaky drain pan

(REMEDY) Locate leak and repair pan.

2. (CAUSE) Loose evaporator, drain or condensate pump hose

(REMEDY) Tighten connections.

3. (CAUSE) Defective condensate pump or excessive lift on pump

(REMEDY) Examine to see if elevation exceeds 20 ft. (if it does, a larger pump will be required). Otherwise, change pump if defective. Pump will operate properly against 20 ft. of water total head pressure on pump. If combination of vertical height and horizontal drain line exceeds 20 ft. of water pressure drop, problems will occur.

PROBLEM: THERMOSTAT (LCD) LIQUID CRYSTAL DISPLAY WINDOW DOES NOT ILLUMINATE.

1. (CAUSE) No Power or defective thermostat.

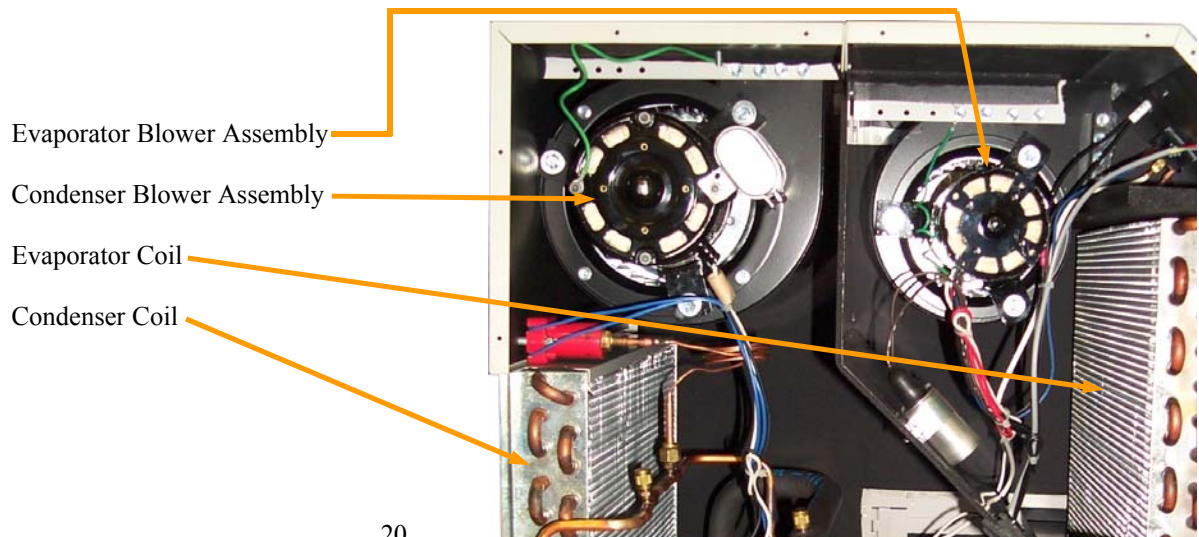
(REMEDY) Make sure 24 volts are present at the thermostat terminals.

PREVENTIVE MAINTENANCE

AirBoss Series air conditioners are designed to last a long time and to give maximum performance and reliability with minimum maintenance. To prolong the life of the unit, regular maintenance must be performed as specified below:

1. BLOWER MOTORS

The motors on all units have permanently lubricated bearings. No oiling is necessary



2. FILTERS

A clogged filter will cause the unit to operate at greatly reduced efficiencies. We recommend that the filter be inspected on a regular bases every six weeks or more often depending on the environment. The Evaporator washable filter is located behind the return air grille and can be easily removed by pulling the grille out. The condenser washable filter is located in the lower backside of the unit. Remove by loosening one screw holding retaining clip and pull out. The filters must be washed periodically as needed by placing them in a dishwasher or soaking them in a solution of warm water and detergent for 10 minutes. Then rinsing them clean with hot water and shaking excess moisture from filter.

3. CONDENSATE PUMP

When servicing pump follow these steps;

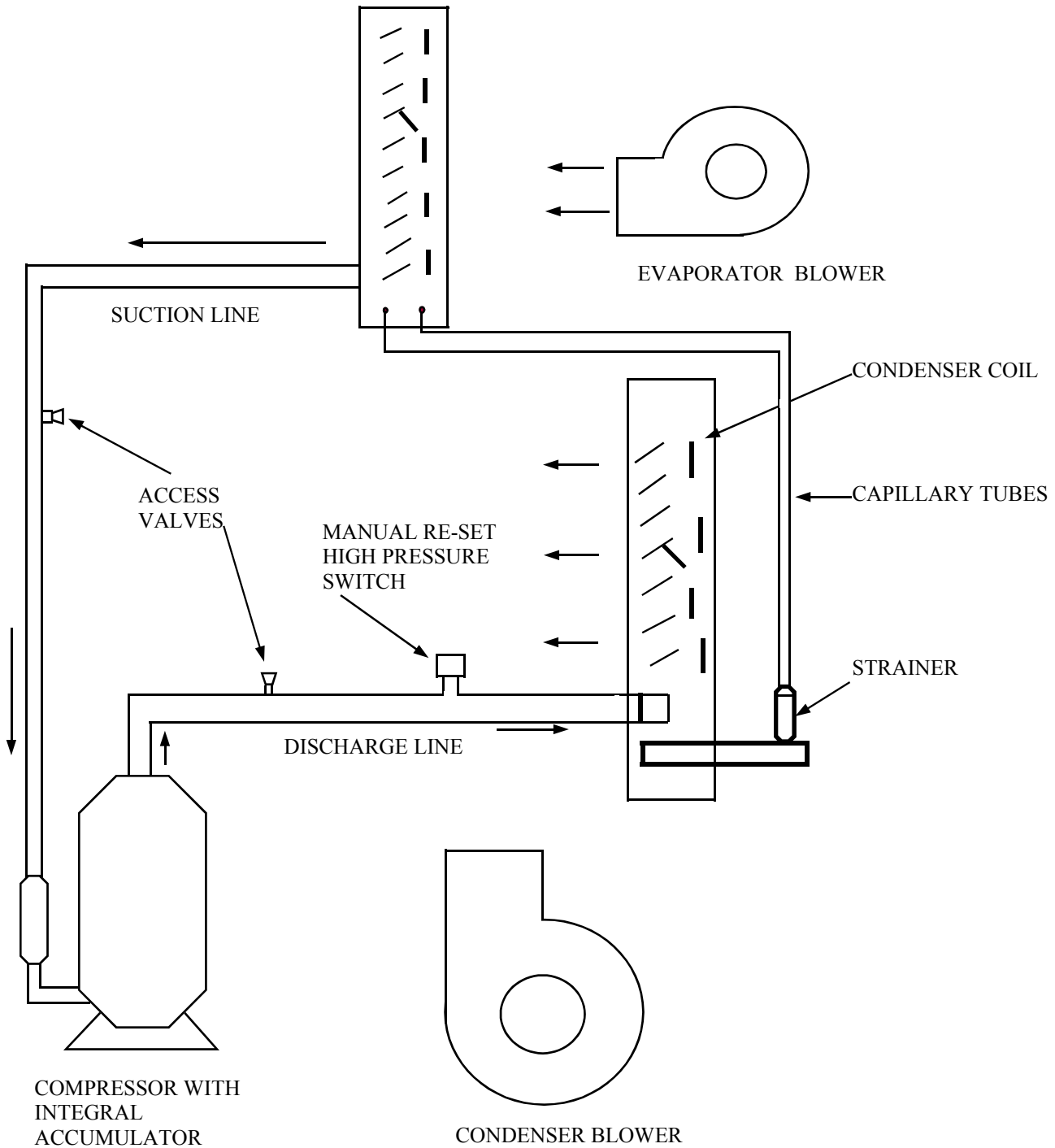
1. Make certain that the unit is disconnected from the power source before attempting to service or remove any component.
2. Be sure the floats move freely. Clean as necessary.
3. Remove the volute and check for obstructions. Clean as needed.
4. Clean the tank with warm water and mild soap when mineral deposits are visible.
5. Check the inlet and outlet piping. Clean as necessary. Be sure there are no kinks in the lines that would inhibit flow.

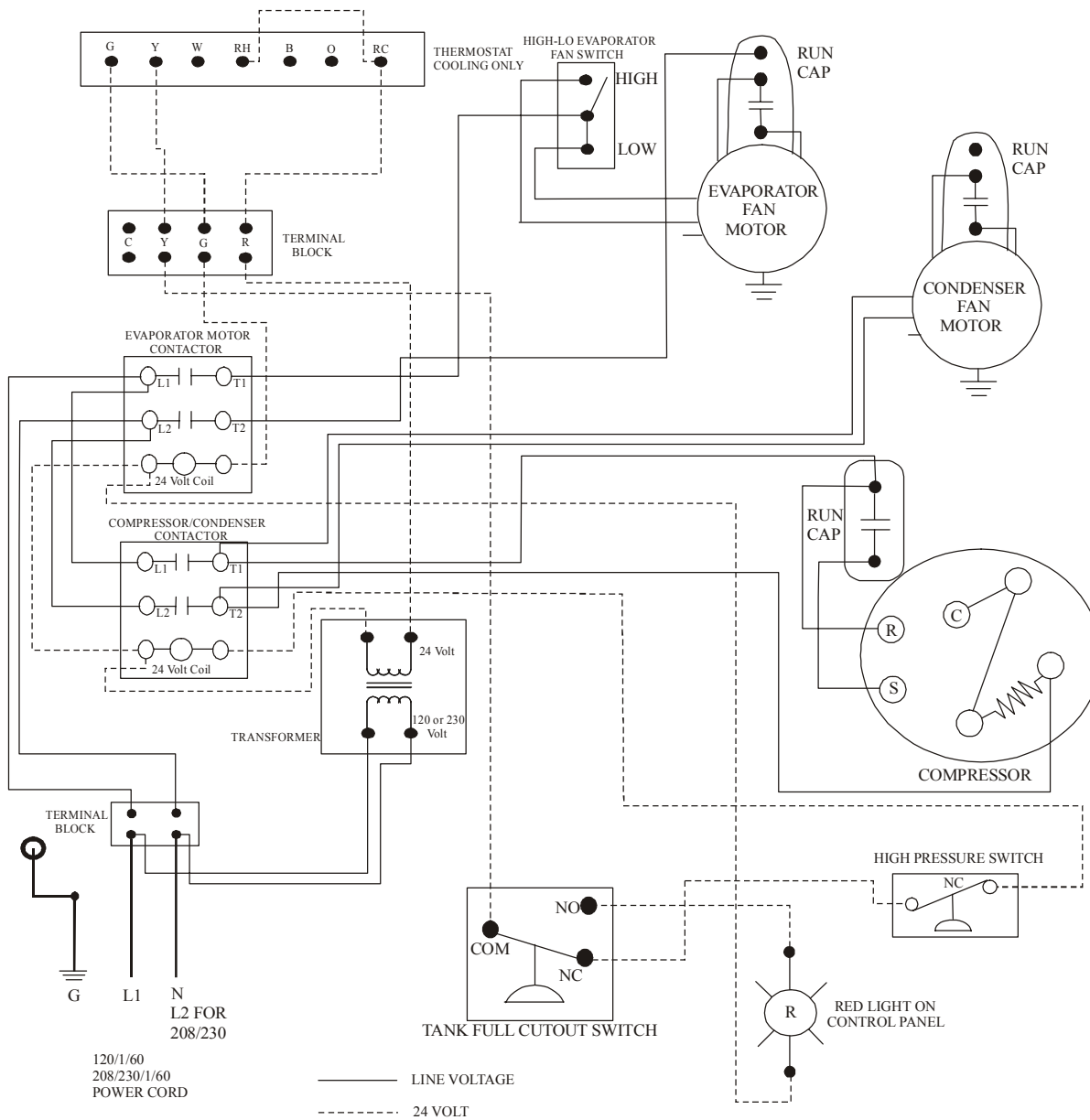
GENERAL

When necessary maintenance steps outlined above are followed, the air conditioner will provide long and reliable service. The refrigeration and electrical circuits of the system should only be serviced by a fully qualified service technician.

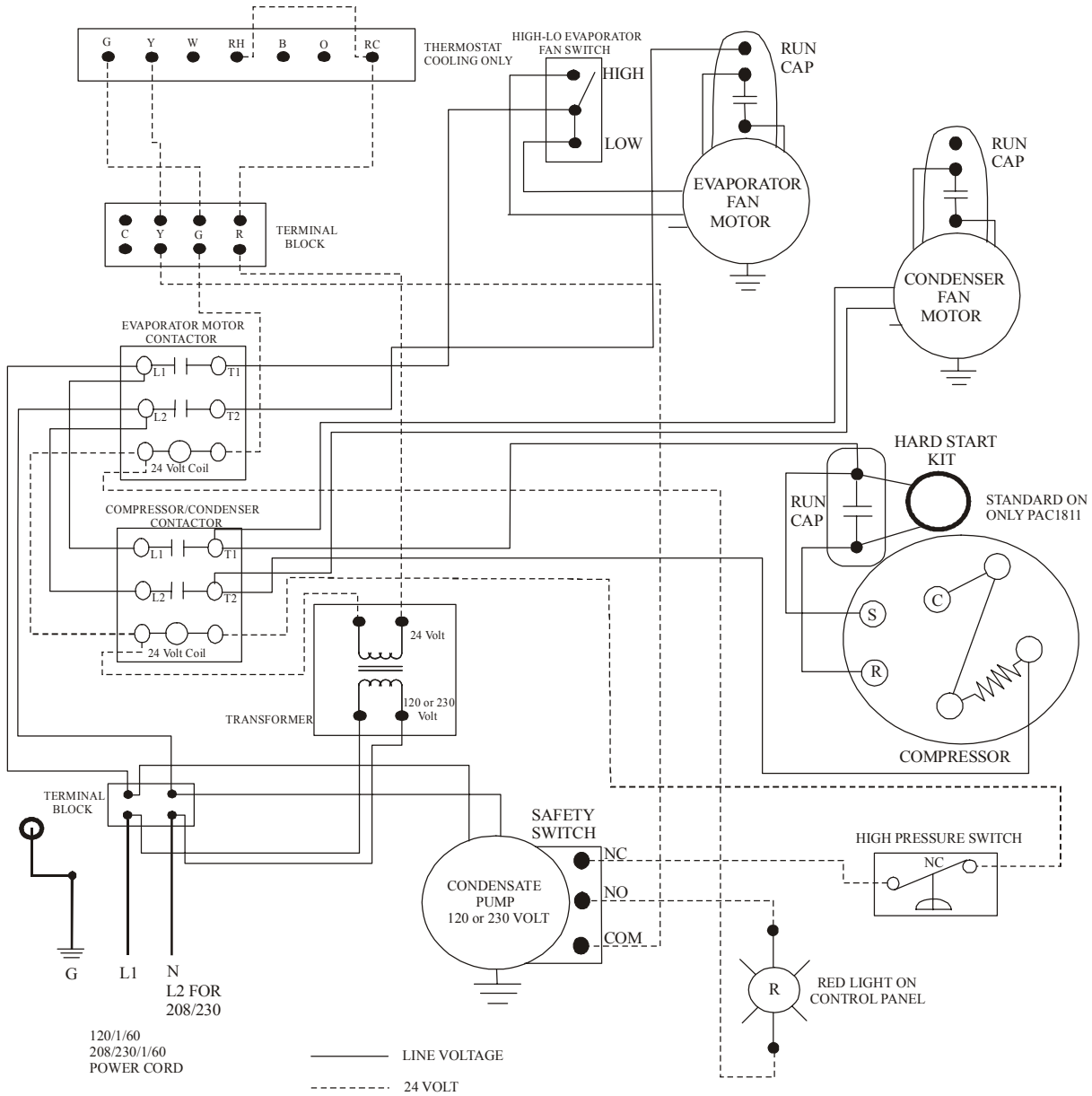
PIPING SCHEMATIC

AIR COOLED-AIR CONDITIONER



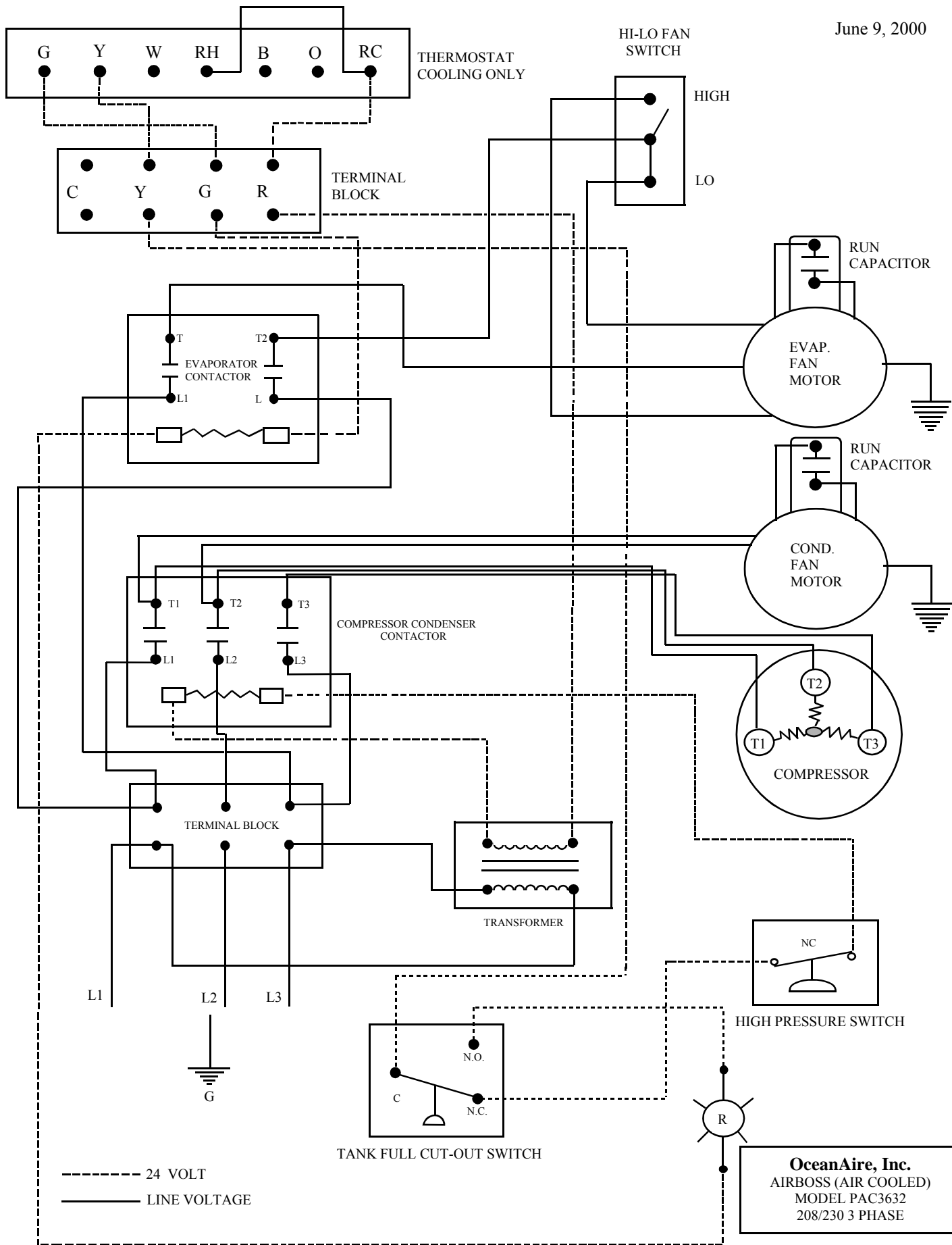


Oceanaire, Inc.
AIRBOSS, (AIR COOLED) MODELS
MODELS PAC10, 12, 18, 24, 36,
120/1/60 208/230/1/60



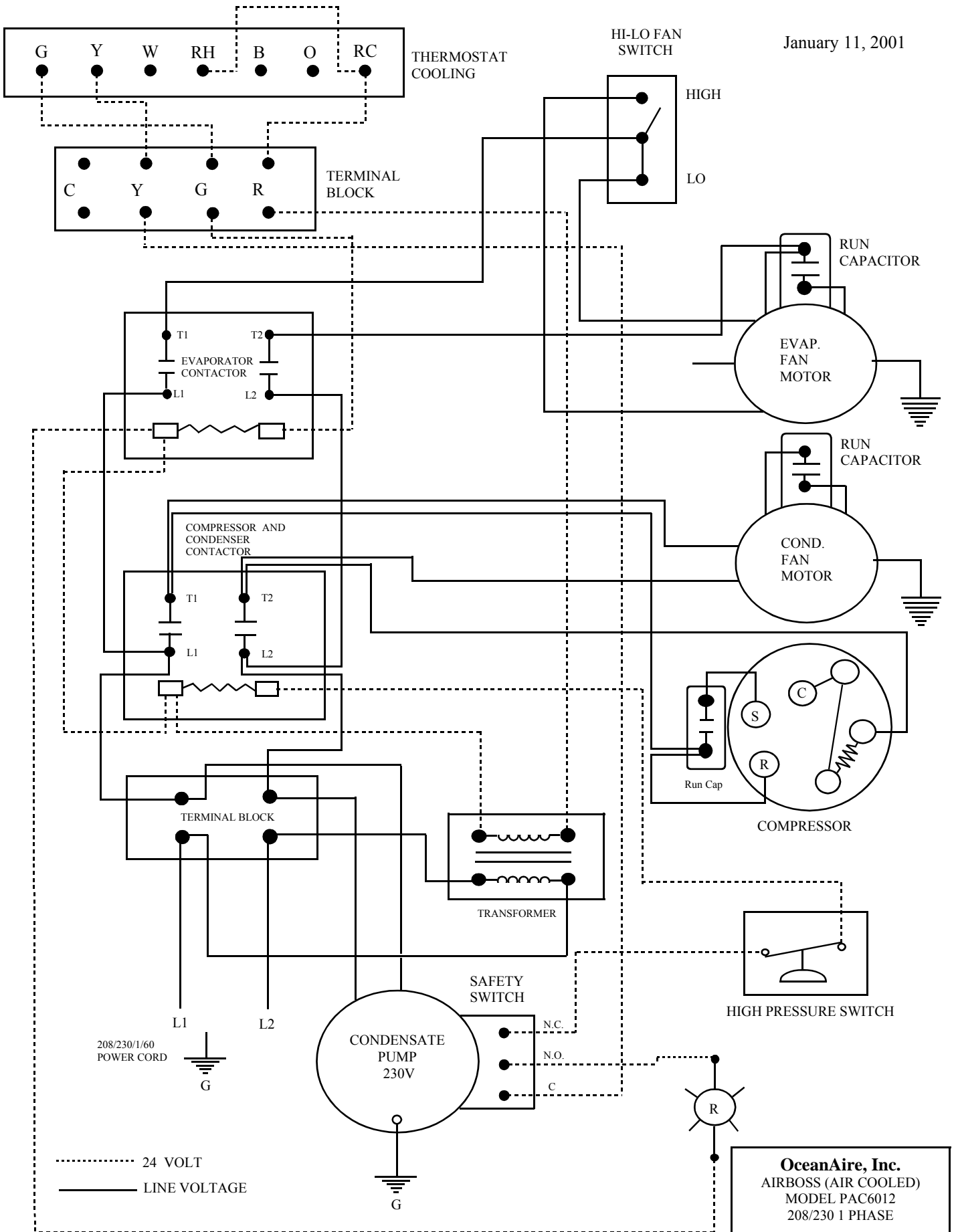
Hard Start Kit is factory installed
on the: PAC1811
PAC6012

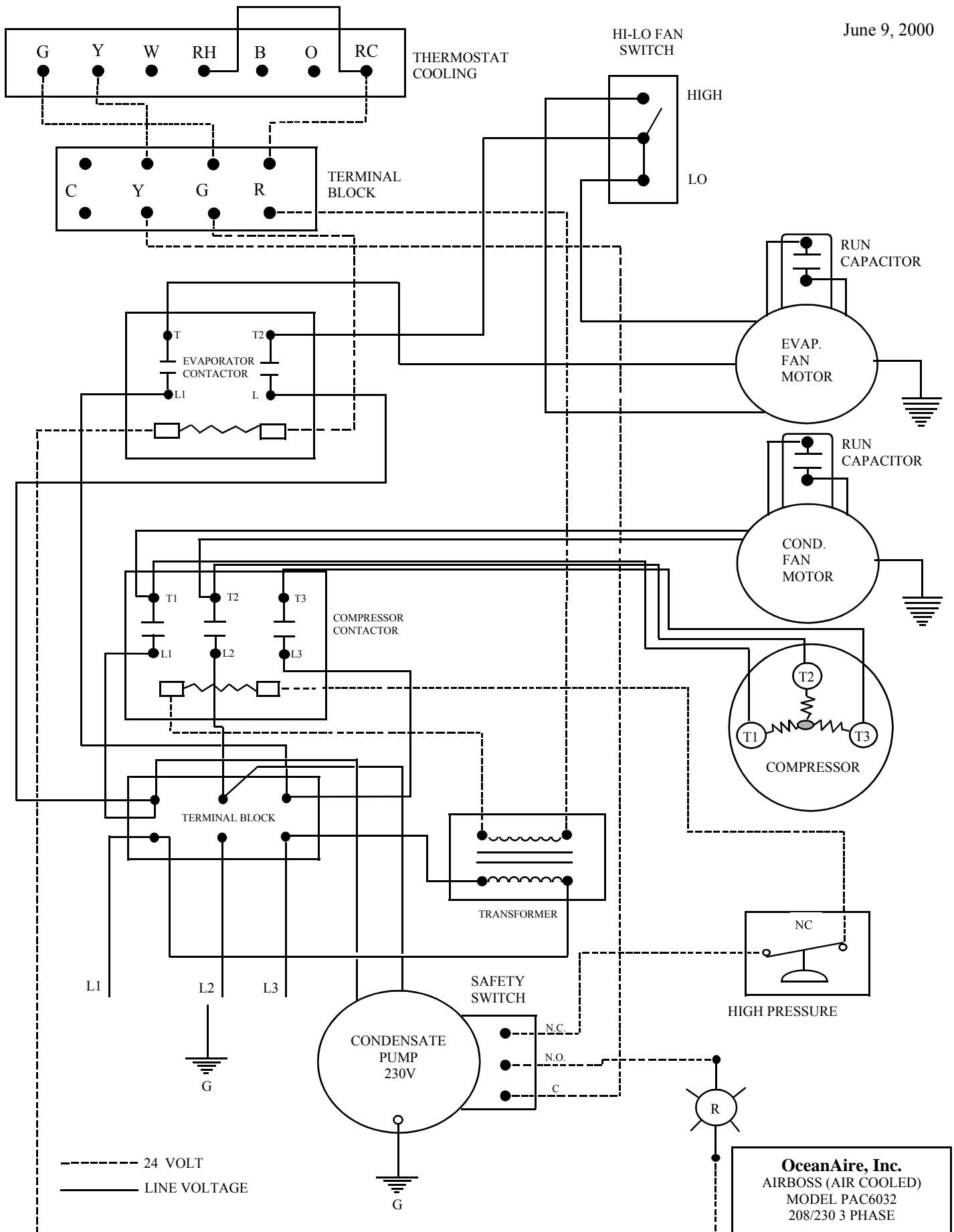
Oceanaire, Inc.
AIRBOSS, (AIR COOLED) MODELS
MODELS PAC10, 12, 18, 24, 36, WITH CONDENSATE PUMP
120/1/60 208/230/1/60

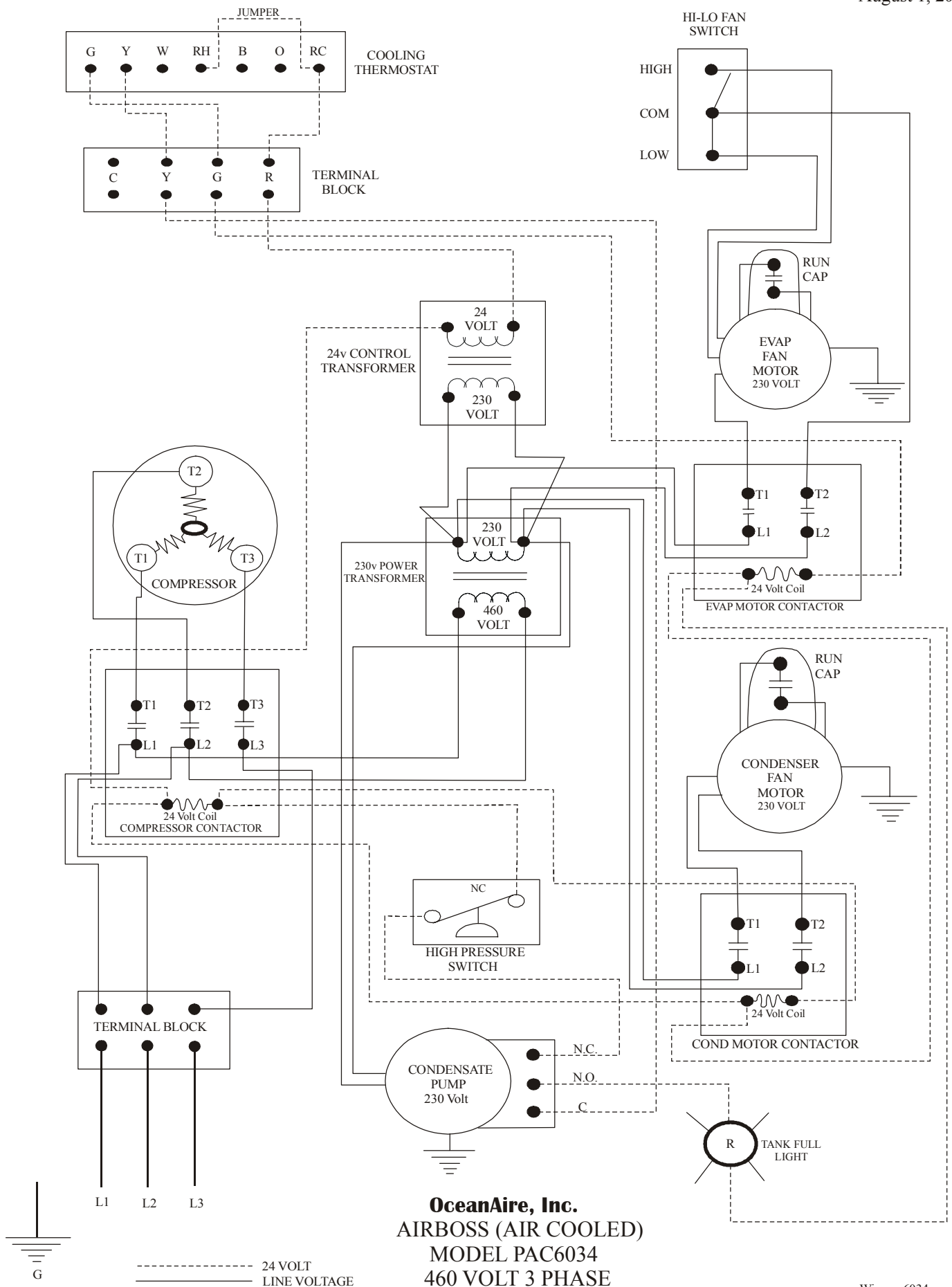


wirepac3632

airbossmanpg25







LIMITED WARRANTY

The Manufacturer (OceanAire, Inc.) warrants to the original owner that the Product will be free from defects in material or workmanship for a period not to exceed one (1) year from date of installation. 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.

The Manufacturer further warrants that the product's compressor-motor will be free from defects in materials and workmanship for five (5) years from the date of installation. If upon examination by the Manufacturer the Product is shown to have a defect in materials 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. Electrical parts (such as relays, overloads, capacitors, etc...) and the sealed refrigeration system (condenser and evaporator) are included in the one year limited warranty, but not with the five year limited warranty of the compressor. 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 Product.
- c) to any workmanship of the installer of the Product.

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.