

AIR CONDITIONING

Thermo Pride®



AFFECTED BY
ECN 5064-MA
DATE 04/20/09

14 SEER



INSTALLATION & SERVICE MANUAL

Thermo Products, LLC.
North Judson, Indiana

•• IMPORTANT ••

Do Not Destroy:

This envelope contains your assembly instructions and guarantee.

This device is potentially dangerous if improperly installed.

We recommend installation by qualified heating & air conditioning contractors.

Please read the enclosed instructions carefully, before & during installation.

Please keep these instructions as permanent reference near appliance.

CONTENTS

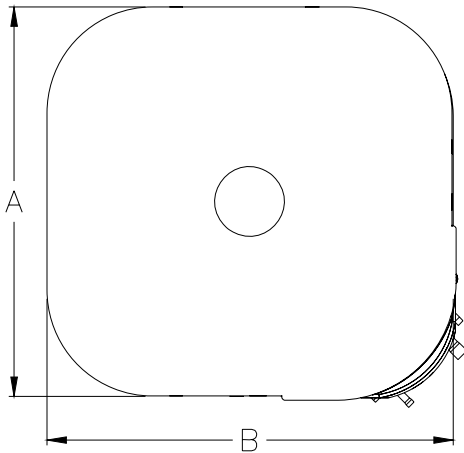
SECTION	PAGE
INSTALLATION INSTRUCTIONS	3
A. DESCRIPTION OF AIR CONDITIONING CONDENSER	3
B. LOCATION OF OUTDOOR CONDENSING UNIT	4
C. TUBING INSTALLATION	5
D. TUBING SIZE REFERENCE CHART	6
E. INSTALLATION OF TUBING LINES TO SERVICE VALVES	7
F. DUCT SYSTEM	8
G. ELECTRICAL	9
INITIAL START-UP OF OUTDOOR CONDENSING UNIT AND HOW TO MEASURE SUPERHEAT	13
RECOMMENDATIONS FOR OPERATING AT LOWER OUTDOOR AMBIENT CONDITIONS.	14
USER INFORMATION	14
SPECIFICATIONS	15
REPLACEMENT PARTS	15

INSTALLATION INSTRUCTIONS

NOTE: KEEP INSTRUCTIONS READILY AVAILABLE.

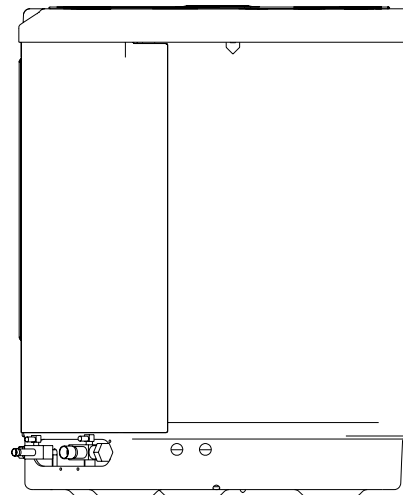
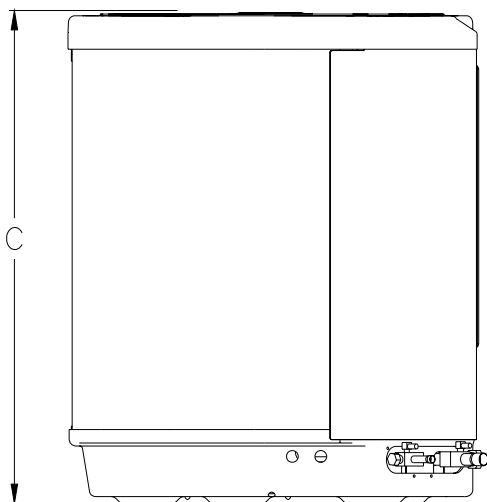
A. DESCRIPTION OF AIR CONDITIONING CONDENSER

The outdoor condensing unit is designed and built with a totally enclosed (hermetic) scroll compressor which offers the advantages of simplicity, quiet operation and reduced condenser size. The entire air conditioning system has been built and performance tested against rigid standards. The installation must comply with the National Electrical Code ANSI/NFPA 70-(latest edition), any state or local codes, and these instructions.



UNIT	AC14241E2, AC14301E2 AC14361E2, AC14421E2 AC14481E2, AC14601E2 AC14483E2, AC14603E2
DIMENSION	
A	29"
B	30"
C	36.375"

NOTE: ALL DIMENSIONS \pm 0.125"



B. LOCATION OF OUTDOOR CONDENSING UNIT

The primary consideration in selecting the location of the outdoor-condensing unit is how the location affects the length of the refrigerant tubing lines. Bear in mind, that the longer the tubing line, the greater the pressures drop causing a reduction in the cooling capacity of the unit.

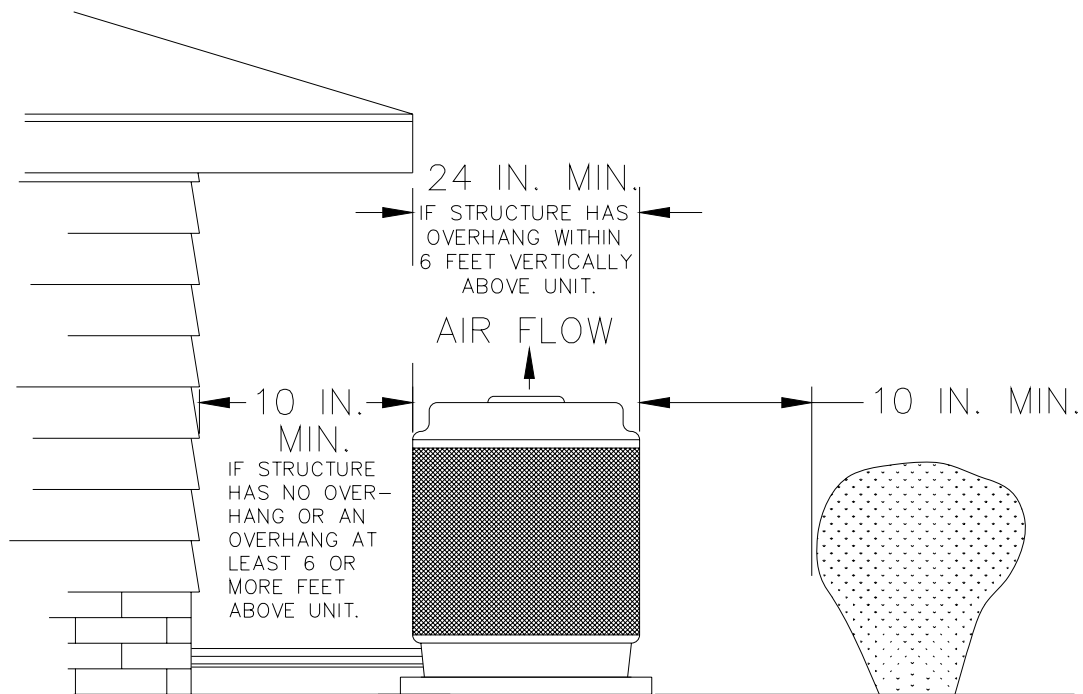
Another consideration in the location selection is the sun load placed on the outdoor condensing unit. Locations, which place the unit in direct exposure to the sun during the majority of a day, should be avoided if possible. Inside corners on the southeast or southwest corners are to be avoided as the heat build-up in such corners would place an increased workload on the unit. Shaded locations on the north side of a home or office are generally best if practical.

Mount the unit on a sturdy base at least one inch above the ground. Be sure to use well-tamped gravel fill beneath the blocks or bricks to prevent settling if concrete blocks or bricks are used. Use a minimum 4"x4" "treated" timbers plus gravel fill to prevent settling if timbers are used.

⚠WARNING: A premature compressor failure may result and will "VOID THE WARRANTY" if the outdoor condensing unit is located in an enclosure such as a garage or not in accordance with these instructions.

Please refer to the Peace of Mind Warranty Certificate included with this product for warranty information.

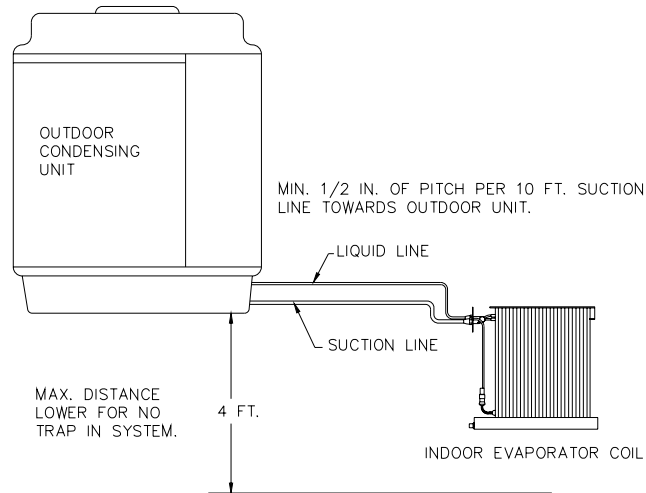
All models feature an "up-flow" airflow design discharged through the top grill. For this reason, the outdoor condensing unit should not be located under an overhang or any other construction, which would direct the discharged air back to the outdoor condensing unit. The unit should be located as illustrated below.



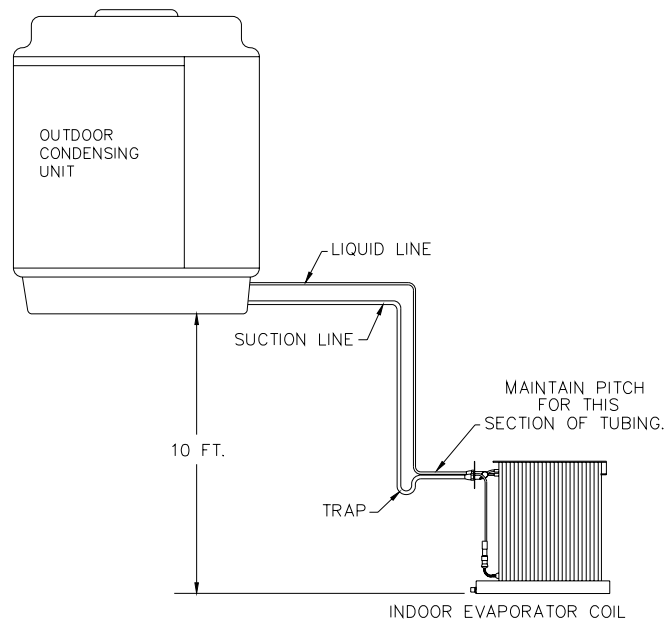
C. TUBING INSTALLATION

The compressor oil is constantly pumped through the liquid line, evaporator coil, and back through the suction line in normal operation of an Air Conditioning system. Please follow the guide lines listed below to insure proper lubrication of the compressor by avoiding oil accumulation at undesirable points in the system.

1. No traps in the suction line are necessary if the outdoor condensing unit is level with the indoor evaporator coil or the indoor evaporator coil is 4 feet or less lower than the outdoor condensing unit. Any horizontal runs of suction line should have minimum 1/2" pitch towards the outdoor condensing unit for every 10 feet of line.



2. A trap is necessary in the suction line at the indoor evaporator coil if the indoor evaporator coil is more than 4' below the outdoor condensing unit and 1 trap per every 10' of vertical rise thereafter.



⚠WARNING: A gradual loop in the tubing can be constructed to take up the excess tubing if you find that too much tubing has been brought onto a job. Such a loop **MUST** be kept in a horizontal (flat) plane to avoid trapping the oil. Refrigerant lines should be inserted into a suitable conduit or raceway when the lines are to be buried between the building and the outdoor condensing unit. The lines must be provided with sufficient protection and support to prevent damage when installed above the ground.

D. TUBING SIZE REFERENCE CHART

0'-50' TOTAL LINE LENGTH

MODEL	SUCTION LINE	LIQUID LINE
AC14241E2 & AC14301E2	3/4"	3/8"
AC14361E2, AC14421E2, AC14481E2 & AC14601E2 AC14483E2, AC14603E2	7/8"	1/2"

50'-75' TOTAL LINE LENGTH

MODEL	SUCTION LINE	LIQUID LINE
AC14241E2 & AC14301E2	7/8"	3/8"
AC14361E2, AC14421E2, AC14481E2 & AC14601E2 AC14483E2, AC14603E2	1-1/8"	1/2"

75'-100' TOTAL LINE LENGTH

MODEL	SUCTION LINE	LIQUID LINE
AC14241E2, AC14301E2 & AC14361E2	1-1/8"	1/2"
AC14421E2, AC14481E2 & AC14601E2 AC14483E2, AC14603E2	1-1/8"	5/8"

NOTES:

For line lengths over 25' adjust charge accordingly per foot of variation from chart.

- .65 oz. per foot for 3/8" and 3/4" line set
- .674 oz. per foot for 3/8" and 7/8" line set
- .694 oz. per foot for 1/2" and 7/8" line set
- .72 oz. per foot for 1/2" and 1-1/8" line set
- .76 oz. per foot for 5/8" and 1-1/8" line set

These charges are to be used in conjunction with a superheat measurement for best performance.

1. Tubing dimensions are outside diameter.
2. Tubing Type ACR, (Type K heavy wall or Type L medium thick wall)
3. Refrigerant line lengths over 100' are **not** recommended.
4. These line size recommendations are based on the use of refrigeration grade tubing and do **not** include considerations for additional pressure drops due to elbows, valves, or reduced joint sizes.

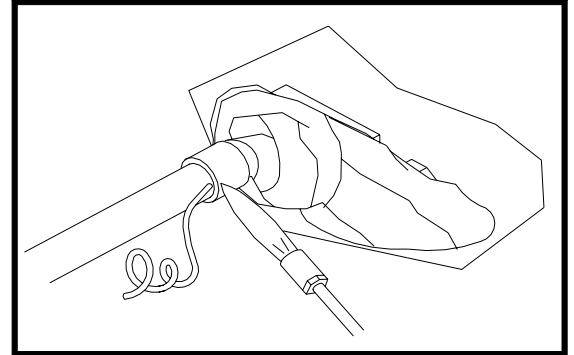
E. INSTALLATION OF TUBING LINES TO SERVICE VALVES

Please read the following instructions carefully before connecting your line set to the service valves.

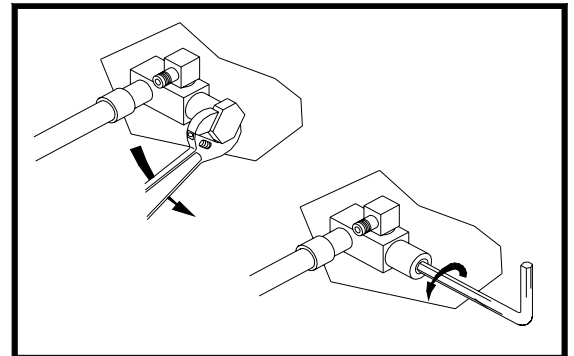
**** EXTREME CAUTION SHOULD BE USED WHEN BRAZING JOINTS. KEEP TORCH AWAY FROM CONDENSER CABINET, ALUMINUM COIL AND PLASTIC MESH WRAP.**

1. Wrap a wet rag around the valve body and copper stub before brazing. Flux the copper tube and the stub. Braze the joint, then use a second wet rag to cool joint before removing first rag wrapped around service valve.

When making “on the job” tubing, a solder such as SilFos®, Phos-Copper®, Easy-Flo® 35 or 45, should be used. No attempt will be made here to instruct proper soldering or brazing technique but it is necessary for the installer to use an accepted technique in accordance with good existing practices.

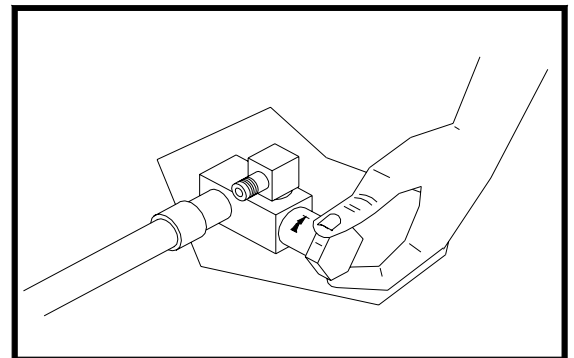


2. All joints and fittings must be properly leak tested as per EPA guidelines after “on the job” tubing has been made up. The line set and the evaporator coil must be evacuated to 29.96” Hg (1000 microns) or lower when all joints and fittings are leak free. The service valves on the condenser may then be opened to release the refrigerant to the system. Verify proper system performance. See condensing unit manual for additional performance data.



3. **This is not a back seating valve.** Open the valve cap with an adjustable wrench. Insert a 3/16” or 5/16” hex wrench into the stem. Back-out counterclockwise until the valve stem just touches the retaining ring. This opens the valve completely. The gauge port is (open) accessible at all times.

NOTE: Make sure all connections have been leak checked before opening service valves.



4. Replace the valve cap “finger-tight” then tighten an additional 1/12 turn or 1/2 hex flat. A metal-to-metal seal is now complete.



IF THE VALVE STEM IS BACKED OUT PAST THE RETAINING RING, SYSTEM PRESSURE COULD FORCE THE VALVE STEM OUT OF VALVE BODY AND POSSIBLY CAUSE PERSONAL INJURY. IN THE EVENT THE RETAINING RING IS MISSING. DO NOT ATTEMPT TO OPEN VALVE.

F. DUCT SYSTEM

The duct system and load sizing calculation should follow the design standards of Air Conditioning Contractors of America (ACCA) - Manuals D&J -or the American Society of Heating, Refrigeration & Air Conditioning Engineers, Inc. (ASHRAE) Fundamentals Volume (latest edition).

To quickly aid you in evaluating existing duct systems, review the chart below. The chart shows the CFM capacity for square inch areas based on .10" W.C. static pressure (SP) loss on the supply systems.

To insure the necessary air handling capacity of a duct system, each of the system's components (trunk lines, takeoffs, runs and register and grill free areas) must be properly sized and matched together. A 12x8 duct with a 400 CFM capacity, for example, WILL NOT flow 400 CFM if the register(s) can only flow a total of 200 CFM.

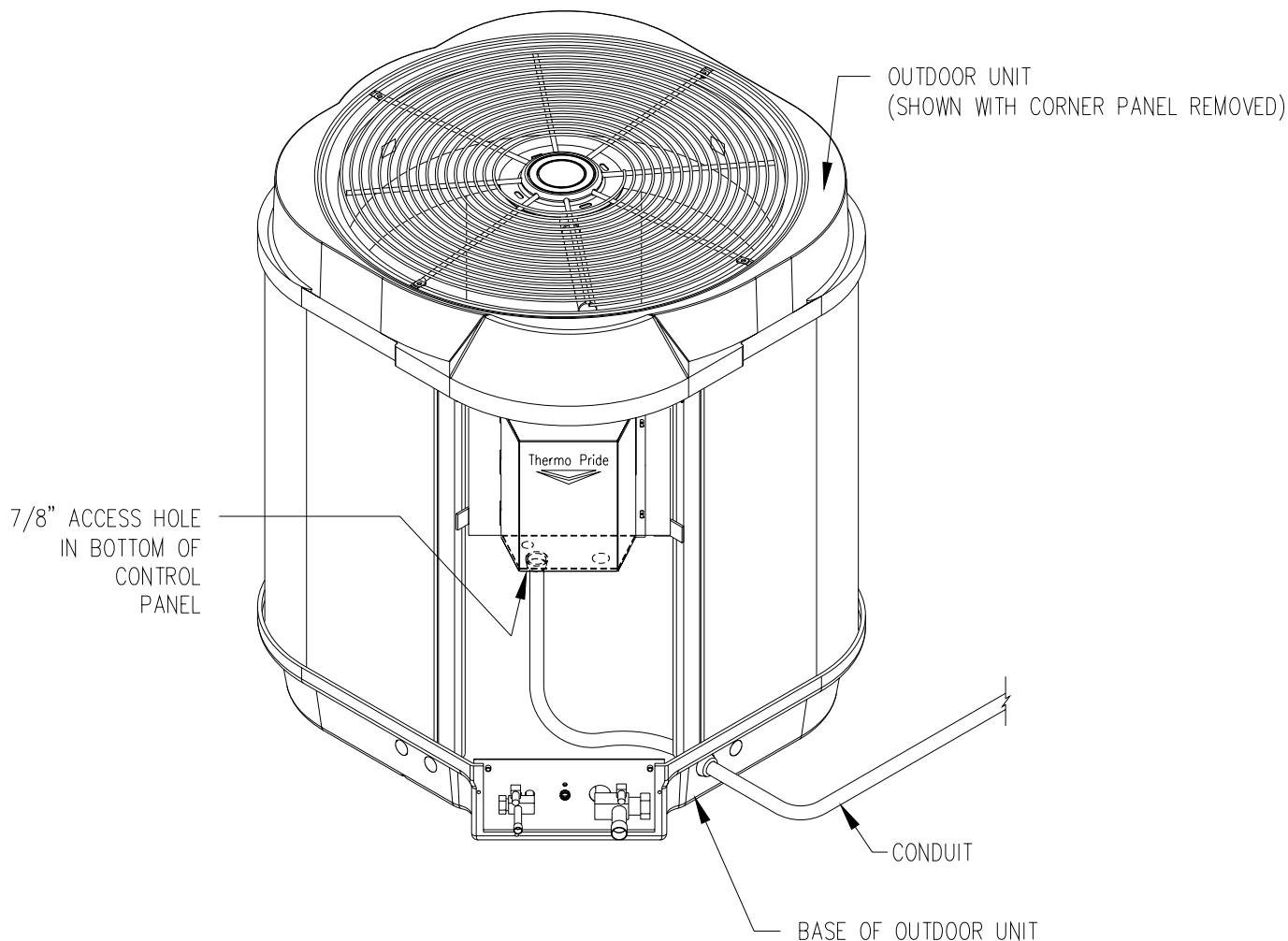
When sizing the return air duct system, the air handling capacity MUST BE EQUAL TO the supply system at a minimum. It is recommended that you follow design parameters established by ACCA or ASHRAE on the return air duct systems.

CFM	DIA.	SQ."	RECTANGULAR DUCT DIMENSIONS ... INCHES							
45	4	12.5								
65	5	19.6								
100	6	28							6x6	9x4
150	7	38							8x6	12x4
200	8	50							10x6	14x4
250	9	63						8x8	12x6	18x4
300	9	63						10x8	14x6	20x4
400	10	78						12x8	16x6	25x4
500	12	113					10x10	14x8	19x6	30x4
600	12	113					12x10	16x8	22x6	38x4
700	12	113					14x10	18x8	26x6	
800	14	154				12x12	15x10	20x8	28x6	
900	14	154				14x12	17x10	22x8	32x6	
1000	16	201				15x12	18x10	24x8	34x6	
1100	16	201			14x14	16x12	20x10	26x8	40x6	
1200	16	201			15x14	17x12	22x10	28x8	42x6	
1300	16	201			16x14	18x12	22x10	30x8	46x6	
1400	18	255			16x14	19x12	24x10	32x8	48x6	
1500	18	255			17x14	20x12	26x10	34x8	50x6	
1600	18	255		16x16	18x14	22x12	26x10	36x8	54x6	
1700	18	255		17x16	20x14	22x12	28x10	38x8	58x6	
1800	18	255		18x16	20x14	24x12	30x10	40x8	62x6	
1900	20	314		18x16	22x14	26x12	32x10	44x8	64x6	
2000	20	314		20x16	22x14	26x12	34x10	46x8		
2200	20	314	18x18	20x16	24x16	28x12	36x10	48x8		

G. ELECTRICAL

All wiring must conform to the provisions of local codes or, in the absence of local codes, with the provisions of the National Electrical Code, "Latest Edition" and this instruction manual. An equivalent type wire must be used if any of the original wire supplied with the unit needs to be replaced.

All field wiring of hazardous voltages must be routed through conduit to the 7/8" access hole provided in the base of the Control Panel.



Reference Table A for unit electrical characteristics. Bring proper service to the unit through a circuit breaker or fused disconnect switch, in accordance with local codes. In the case of a single phase 230 VAC unit, the neutral wire should be brought to the unit in order to provide ground service. A ground wire must be connected to the unit at the screw or pressure connector marked "ground".

The best fuse size is the smallest fuse that will allow the equipment to operate continuously without any nuisance trips. This type of fuse will give the equipment maximum protection. A time delay type fuse; such as Fustat® or Fusetron®, will prevent nuisance trips due to the starting current (locked rotor amps, LRA).

FUSE SIZING - TABLE A

Unit Model	Voltage/ Phase/ Hertz	Compressor		Fan Motor FLA ⁵	Minimum Circuit Ampacity AMPS	Recommendations		
		RLA ³	LRA ⁴			Min. Copper Wire Size* (AWG)	Fuse or HACR Circuit Breaker	
							Min. AMPS	Max. ² AMPS
AC14241E2	208-230/1/60	13.5	58.3	0.8	18	#12	20	25
AC14301E2	208-230/1/60	12.8	64	0.8	17	#12	20	25
AC14361E2	208-230/1/60	14.1	77	0.8	19	#12	20	25
AC14421E2	208-230/1/60	17.9	112	0.8	24	#10	25	30
AC14481E2	208-230/1/60	19.9	109	1.6	26	#10	30	35
AC14601E2	208-230/1/60	26.4	134	2.1	36	#8	35	40
AC14483E2	208-230/3/60	13.1	83.1	1.6	18	#12	20	25
AC14603E2	208-230/3/60	16	110	2.1	23	#10	25	30

NOTE: Recommended wire sizes are for copper conductors only.

*Use (as minimum) type "T" or "TW" wire. 60 C.

Local and/or national electrical codes dictate which wire size you must use!

For example:

¹If a 25 or 30 amp fuse is used, a minimum wire size of 10 AWG must accompany it.

²If you fuse to maximum sizes, your wire size must be adjusted accordingly.

³R.L.A.=Compressor running load amps.

⁴L.R.A.=Compressor locked rotor amps.

⁵F.L.A.=Full load amps of condenser blower motors.

In the event a fuse blows, investigate for the cause. Do not put in a larger fuse and do not exceed maximum fuse size listed on name plate. The name plate is located just above the valve connection on the outside surface of the outdoor unit.

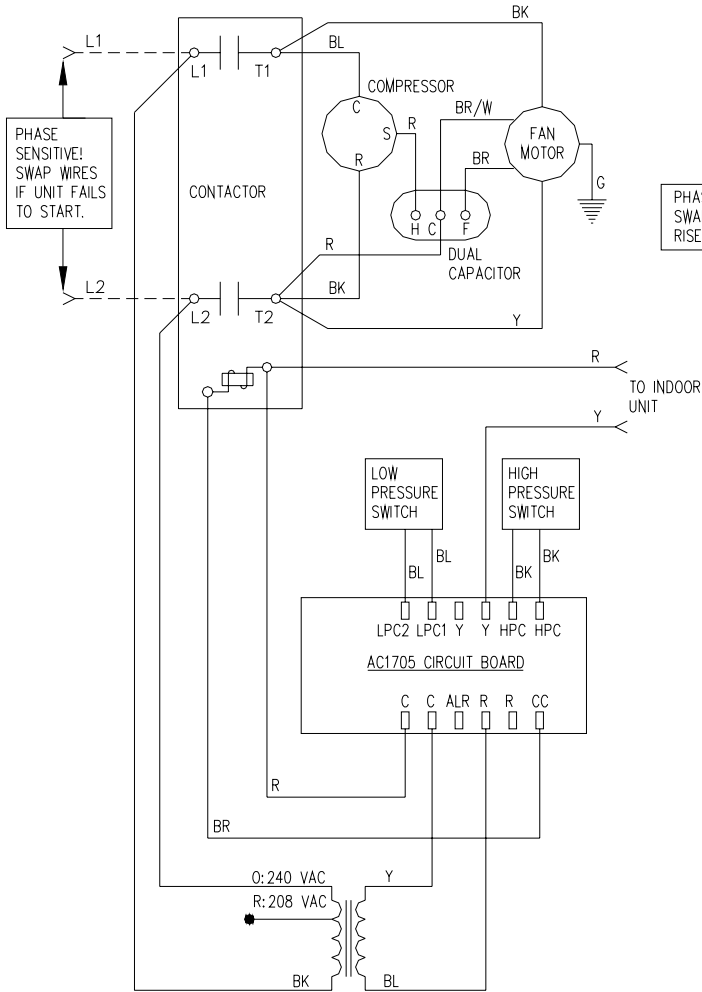
NOTICE: Before the Air Conditioner unit is started, the following points must be checked by the installer and/or electrician.

- 1). Check every electrical connection of "PUSH-ON" or "SCREW-ON" type terminals to insure it is secured tightly on its proper post.
- 2). Review wiring diagram for proper routing.
- 3). All wiring must comply with NEC or local codes for wire sizes. Also, it is suggested that the next larger size wire to be used when long runs in excess of 100 ft. are experienced. Reference the following wiring diagrams when wiring or servicing.

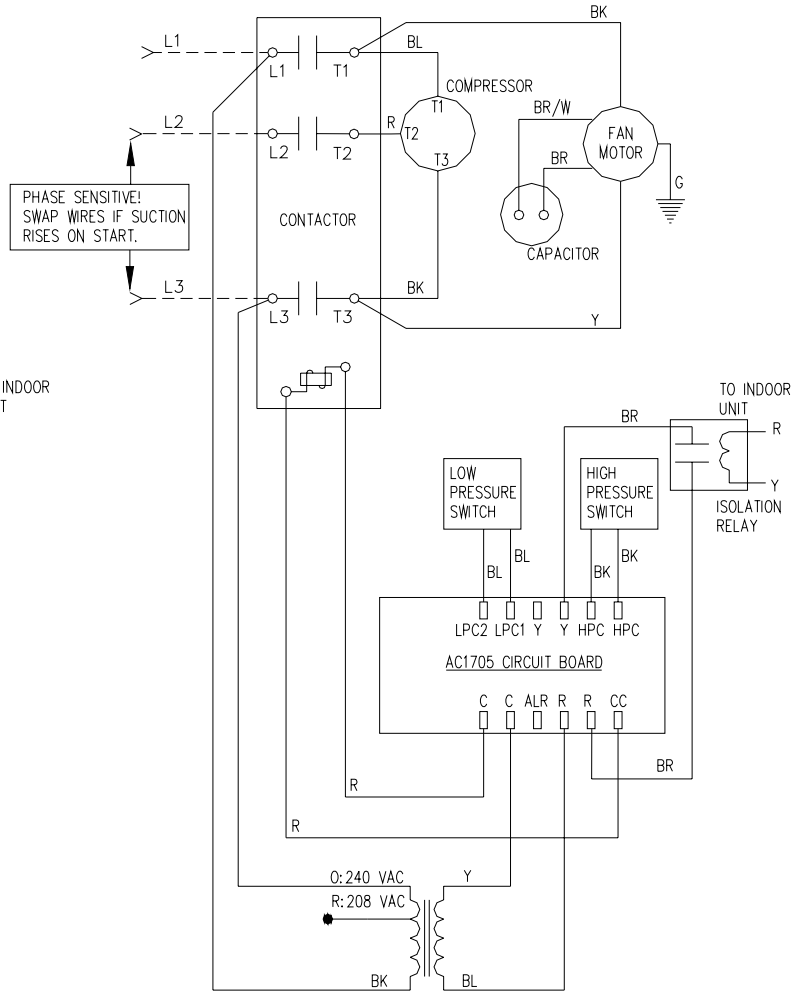
A loose terminal will cause poor flow of electrical power to the compressor and result in very high current draw. This can lead to blown fuses, burned wires, burned contact points and a premature compressor failure. Each electrical contact has been factory checked, however, connections may loosen up due to vibration in transit. Please be certain that all electrical connections are tight.

UNIT WIRING DIAGRAMS

SINGLE PHASE



THREE PHASE



γ WARNING: CORRECT POLARITY REQUIRED.
IF UNIT FAILS TO START PROPERLY, SWAP POWER WIRES.

SPECIFICATIONS

INPUTS

R, R-C, C	Secondary of control transformer ~ 18-30 VAC
Y, R	From Thermostat
LPC1, LPC2	Low Pressure Switch
HPC, HPC	High Pressure Switch

OUTPUTS

CC	Compressor Contactor ~ 1.5 Amp
ALR	Alarm Output (Switched R) ~ 2 Amp

TOLERANCE

RANDOM START	150-180 seconds*
DELAY ON BREAK	fixed 180 seconds*
TEST MODE	DOB = 10 seconds, RNDM STRT = 3 seconds*

*All timings +/- 10%

PRINTED CIRCUIT BOARD

MODE OF OPERATION

STATUS LED A green status LED indicates that control power is present.

A red status LED indicates DELAY ON BREAK or faults. A flashing red LED indicates:

NO FLASH	COMPRESSOR IS RUNNING
1 Flash	DELAY ON BREAK
2 Flash	Less-than 1 Hr since loss of LPS
3 Flash	Less-than 1 Hr since loss of HPS
4 Flash	Less-than 1 Hr since loss of LPS & HPS
5 Flash	Manual lockout LPS
6 Flash	Manual lockout HPS

RANDOM START When power is first applied to the PCB, a random start time delay will occur that is 150-180 seconds long. If the thermostat is calling (Y) and the high-pressure switch is closed, the compressor contactor will energize after the random start time is complete.

DELAY ON BREAK Breaking the circuit with the HPS, LPS, or the thermostat will de-energize the compressor contactor and initiate the DELAY ON BREAK timer.

The compressor contactor will remain de-energized until the DELAY ON BREAK time has expired.

The DELAY ON BREAK time is 180 seconds.

HIGH PRESSURE SWITCH If the HPS opens while the compressor contactor is energized for greater than 500 ms, the compressor contactor will de-energize until the DELAY ON BREAK time has expired and the HPS has closed.

If the HPS opens twice within 1 hr, the fault protection feature will energize and the control will go into lockout. The control will not reset until the thermostat and/or power is cycled and the HPS is closed.

LOW PRESSURE SWITCH There is a 120-second bypass time for the LPS. If the LPS opens for greater than 120 seconds, the compressor contactor will de-energize until the DELAY ON BREAK time has expired and the LPS has closed.

NOTE: If the LPS opens twice within 1 hr, the fault protection feature will energize and the control will go into lockout. The control will not reset until the thermostat and/or power is cycled and the LPS is closed.

INITIAL START UP OF OUTDOOR CONDENSING UNIT

On cooler days (65° F or lower), attempts to operate the air conditioner and take gauged pressure readings may be unsuccessful, as unusually low pressures will be observed on the suction line. This type of operation may give the impression of an undercharged unit. Such is **NOT** necessarily the case. The low-pressure reading may exist because of the large condenser surface area and the cold ambient air removing so much heat from the refrigerant. Sub-cooling occurs and results in very low pressures. Adding refrigerant in cold weather will result in an overcharged unit, which may then trip out on high pressure limit during warm or hot weather. Line pressures should not be taken for test purposes when the outdoor temperature is below 70° F since a false reading may occur. Do not attempt to operate the air conditioner on a day of 45° F or cooler.

TABLE 1: APPROXIMATE OPERATING PRESSURES

Inside Temp. vs. Suction Press.		Outside Temp. vs. Liquid Press.	
INSIDE TEMP. (°F)	SUCTION PRESS. (P.S.I.G.)	OUTSIDE TEMP. (°F)	LIQUID PRESS (P.S.I.G.)
65	106	70	266
70	117	75	286
72	121	80	308
74	126	85	331
76	131	90	354
80	140	95	380
85	154	100	406
90	168	105	434

When an inside temp. of 76– 78°F is reached then superheat measurement must be between 8 – 10°F. This is done by comparing the gauge temp. of R-410A on the suction line to the measured temp. on the low side of the condenser. The difference is the superheat. If the superheat is less than 8 °F decrease charge. If the superheat is more than 10°F then increase charge.

Another check on system charge, would be to measure the temperature of the liquid line leaving the condenser and it's R-410A gauge temperature.

For proper operation, the measured liquid temperature will be about 10°F lower than its gauge temperature. If the difference is less add charge. If the difference is greater remove charge. The system should run for at least 10 minutes before rechecking.

All Thermo Pride outdoor condensing units are equipped with gauge ports to connect both liquid and suction line pressure gauges. Refrigerant hoses must be the type which incorporate a "finger" to depress the core. Connections may be made to ports at any time; even while unit is in operation. Follow EPA guidelines in connecting service equipment to refrigerant lines. For example: The use of quick connects and short service hoses are recommended to minimize refrigerant losses.

⚠WARNING: Refrigerant is under pressure. Guard against refrigerant spraying into the face or on skin. Always wear protective equipment, i.e. safety glasses or goggles and gloves when working with refrigerant.

⚠CAUTION: R-410a systems operate at higher pressures than R-22 systems. Do not use R-22 service equipment or components on R-410a equipment. Service equipment must be rated for R410a.

Line pressures on an operating air conditioning unit will vary with outdoor temperatures. As outdoor temperatures rise, pressures will also rise. See pressure temperature chart for system line pressures at different temperatures.

The suction pressure is the most significant when reading gauges. If a unit is suspected of low charge, unit should be recharged using the suction pressure as a guide. Unit is fully charged when proper suction pressure is obtained. Any additional refrigerant may cause damage or additional problems.

The pressure/temperature chart on the wiring diagram is to serve only as a guide. Pressures shown are realistic averages, which will vary somewhat with changes in air temperatures, air volume across the evaporator coil, condenser coil, and changes in humidity - both inside and outside, and variations in line length.

⚠CAUTION: DO NOT UNDER ANY CIRCUMSTANCES; HEAT THE REFRIGERANT CYLINDER WITH A TORCH OR BY ANY OTHER MEANS OTHER THAN WARM WATER. EXCESSIVE PRESSURES GENERATED IN THIS MANNER MAY WEAKEN THE REFRIGERANT CONTAINER AND RESULT IN A CYLINDER EXPLOSION!

If a charge must be added to the system, 410A refrigerant must be removed from the storage cylinder as a liquid. Slowly add liquid refrigerant through the suction service port while the compressor is running.

RECOMMENDATIONS FOR OPERATING AT LOWER OUTDOOR AMBIENT CONDITIONS

If you are going to be operating the system below 65°F, Thermo Products specifies you must add to the system the items listed below to aid in its longevity and durability of the compressor.

1. There should be a crankcase heater installed on compressor.
2. A low ambient control (45° contact) added to the 24 volt control circuit.
3. Suction line accumulator.
4. Confirm compressor superheat.

These items will assist in preventing liquid floodback, flooded starts, and refrigerant migration during off cycle. These situations are detrimental to the life of a compressor.

USER INFORMATION

The following maintenance points should be reviewed periodically to assure that the air conditioning system will operate properly.

- 1.) Keep clean air filters in the path of the air flow. If excessively dirty air filters are not changed, this will cause poor performance of the system, put unnecessary strain on the compressor and this may cause the system to lock out. Never operate system without clean air filters in place.
- 2.) Keep the outside condenser coil clean by spraying with a garden hose from the inside of the coil outward.

⚠WARNING: TURN OFF OR DISCONNECT THE ELECTRICAL POWER SOURCE BEFORE CLEANING THE CONDENSER COIL.

If the air conditioning system will not operate, check the following points before calling a qualified serviceman.

- 1.) Is the sub-base of the thermostat switched to the “COOL” position?
- 2.) Is the temperature setting on the thermostat low enough to bring the air conditioner on?
- 3.) If the fan motor or compressor have locked out on thermal-overload, it may be necessary to wait several hours before the unit will restart. If this happens with any regularity, call your local serviceman.

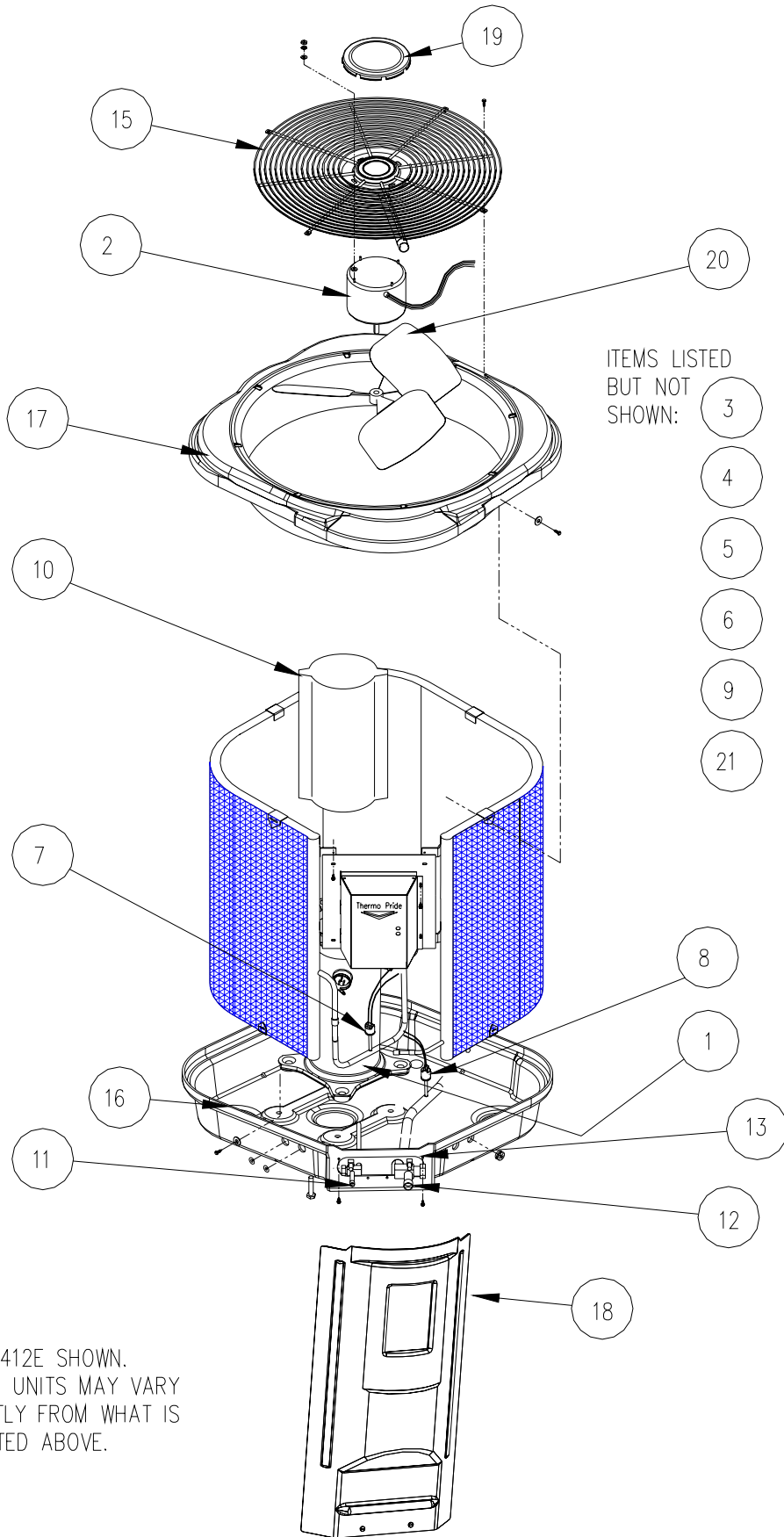
SPECIFICATIONS

Unit Model	AC14241E2	AC14301E2	AC14361E2	AC14421E2	AC14481E2 & 3E2	AC14601E2 & 3E2
Capacity BTU/H*	24,000	29,200	35,000	39,500	45,000	58,500
Evaporator CFM	800	1,000	1,200	1,400	1,600	1,800
R410A oz.*	92	92	92	108	108	108
Shipping Weight	185	185	189	211	212/207	215/212

*May vary with, dependant on evaporator selection. See full A/C spec page. (Approximate charge, see unit rating label for factory charge) Contact Thermo Pride technical service @ (574) 896-2133 for more info

REPLACEMENT PARTS

ITEM	PARTS DESCRIPTION	UNIT		AC14241E2		AC14301E2		AC14361E2		AC14421E2		AC14481E2		AC14601E2		AC14483E2		AC14603E2	
		PART NO.	QTY.	PART NO.	QTY.	PART NO.	QTY.	PART NO.	QTY.	PART NO.	QTY.	PART NO.	QTY.	PART NO.	QTY.	PART NO.	QTY.	PART NO.	QTY.
1	COMPRESSOR	360512	1	360513	1	360526	1	360527	1	360528	1	360529	1	360530	1	360531	1		
2	FAN MOTOR	360415	1	360415	1	360415	1	360415	1	360416	1	350970	1	360416	1	350970	1		
3	CAPACITOR	350840	1	350842	1	350845	1	350845	1	350964	1	350965	1	350071	1	350071	1		
4	CONTACTOR	350110	1	350110	1	350110	1	350110	1	350110	1	350112	1	350111	1	350111	1		
5	TRANSFORMER	360430	1	360430	1	360430	1	360430	1	360430	1	360430	1	360430	1	360430	1		
6	CONTROL BOARD	360431	1	360431	1	360431	1	360431	1	360431	1	360431	1	360431	1	360431	1		
7	SWITCH, HIGH PRESSURE	350954	1	350954	1	350954	1	350954	1	350954	1	350954	1	350954	1	350954	1		
8	SWITCH, LOW PRESSURE	360441	1	360441	1	360441	1	360441	1	360441	1	360441	1	360441	1	360441	1		
9	CONDENSER COIL REPLACEMENT KIT	AOPS2682	1	AOPS2682	1	AOPS2682	1	AOPS2682	1	AOPS2682	1	AOPS2682	1	AOPS2682	1	AOPS2682	1		
10	COVER, COMPRESSOR	360103	1	360103	1	360103	1	360103	1	360103	1	360103	1	360103	1	360103	1		
11	VALVE, LIQUID LINE	360442	1	360442	1	360443	1	360443	1	360443	1	360443	1	360443	1	360443	1		
12	VALVE, SUCTION LINE	360267	1	360267	1	360268	1	360268	1	360268	1	360268	1	360268	1	360268	1		
13	PANEL, VALVE	618820	1	618820	1	618820	1	618820	1	618820	1	618820	1	618820	1	618820	1		
14																			
15	GRILLE, TOP	320821	1	320821	1	320821	1	320821	1	320821	1	320821	1	320821	1	320821	1		
16	BASE	320890	1	320890	1	320890	1	320890	1	320890	1	320890	1	320890	1	320890	1		
17	TOP	320892	1	320892	1	320892	1	320892	1	320892	1	320892	1	320892	1	320892	1		
18	CORNER	18784	1	18784	1	18784	1	18784	1	18784	1	18784	1	18784	1	18784	1		
19	DISC, TOP GRILLE	320832	1	320832	1	320832	1	320832	1	320832	1	320832	1	320832	1	320832	1		
20	PROP	340350	1	340350	1	340350	1	340350	1	360516	1	340347	1	360516	1	340347	1		
21	DRIER, FILTER 3/8"	360534	1	360534	1	360534	1	360534	1	360534	1	360534	1	360534	1	360534	1		



Owner's Copy

Thermo Products, LLC. "PEACE OF MIND" Warranty

Thermo Products, LLC., a Delaware Corporation Hereby Warrants the Thermo Pride air conditioning condensing unit and evaporator coil to be free from defects in material and workmanship. The warranty is extended to the original owner(s) whose name(s) appear on this certificate, on the Warranty Registration Card returned to Thermo Products, LLC. and also to any subsequent owner(s).

FIRST THROUGH FIFTH YEAR WARRANTY

If a warranted replacement part is ordered, it will be shipped by prepaid transportation and instructions will be given as to the disposition of the defective part. The owner may arrange with the original installing dealer, or any other dealer of his choice, to replace the defective part. Any labor costs involved in the diagnosis of a defective part, its removal and installation of the new part, except the compressor, are the responsibility of the owner. Any labor charges associated with the replacement of the compressor only, within the first year from the date of installation, will be paid by Thermo Products, LLC. up to a maximum of \$150.00. After the first year, any labor cost associated with the replacement of the compressor will be the owner's responsibility.

SIXTH THROUGH TENTH YEAR

If at any time after the fifth year through the tenth year from the date of installation, the compressor, condenser coil or evaporator coil (excluding expansion valve and couplings) becomes defective, Thermo Products, LLC. will provide, at its option, a replacement or necessary repair parts to the original owner(s) at no charge. Any labor costs associated with the replacement of the compressor, condenser coil or evaporator coil, will be the owner's responsibility. Any transportation costs associated with the replacement of the compressor, condenser coil or evaporator coil after the fifth year will also be the responsibility of the owner. The owner may arrange for the replacement of these parts with any qualified dealer of his choice. If Thermo Products, LLC. requests the return of the defective compressor, condenser coil or evaporator coil after the fifth year, it must be returned by prepaid transportation at the owner's expense.

THE CONDITIONS OF THIS WARRANTY ARE

1. The condensing unit and evaporator coil must be installed and set up as specified in the installation and service instructions.
2. The condensing unit and evaporator coil must operate in conjunction with a duct system designed in accordance with ACCA (Air Conditioning Contractors of America) Manual D (current edition) recommendations.
3. The condensing unit must be installed in accordance with local and state codes regarding safety and electrical wiring requirements and/or installation instructions furnished by Thermo Products, LLC.
4. The condensing unit and evaporator coil must operate within their rated capacity, as indicated on the rating label.
5. The condensing unit and evaporator coil must be provided reasonable and necessary maintenance.
6. The condensing unit and evaporator coil cannot be modified and/or operated in any manner other than in their intended design configuration.
7. The controls (original or identical replacements) built into the condensing unit must not be modified, altered or by-passed.
8. Thermo Products, LLC. shall not be responsible for any failure due to water damage, lightning, Acts of God or circumstances external to the air conditioning system. FAILURE TO COMPLY WITH ANY OF THE ABOVE CONDITIONS WILL VOID ALL WARRANTIES LISTED HERE.

This warranty expressly supersedes all other warranties and obligations of Thermo Products, LLC.. No person has authority to alter or modify the terms of this warranty in any manner. Thermo Products, LLC. assumes no liability for incidental or consequential damage of any kind, and the purchaser, by acceptance of this equipment, assumes all liability for the consequence of its use or misuse by the purchaser, his employee or others. All implied warranties, including warranties of merchantability, are limited to the duration of the warranty listed above. Some states do not allow limitations or exclusions, so these may not apply to you. This warranty gives you, the customer, certain specific rights and you may have other rights which may vary from state to state.

Thermo Products, LLC.

PO BOX 217, NORTH JUDSON, IN 46366 PH. 574-896-2133

DEALER'S NAME _____

MODEL NO. _____ SERIAL NO. _____

ADDRESS _____

OWNER _____

CITY, STATE, ZIP _____

INSTALLATION ADDRESS _____

DATE OF INSTALLATION _____

CITY, STATE, ZIP _____