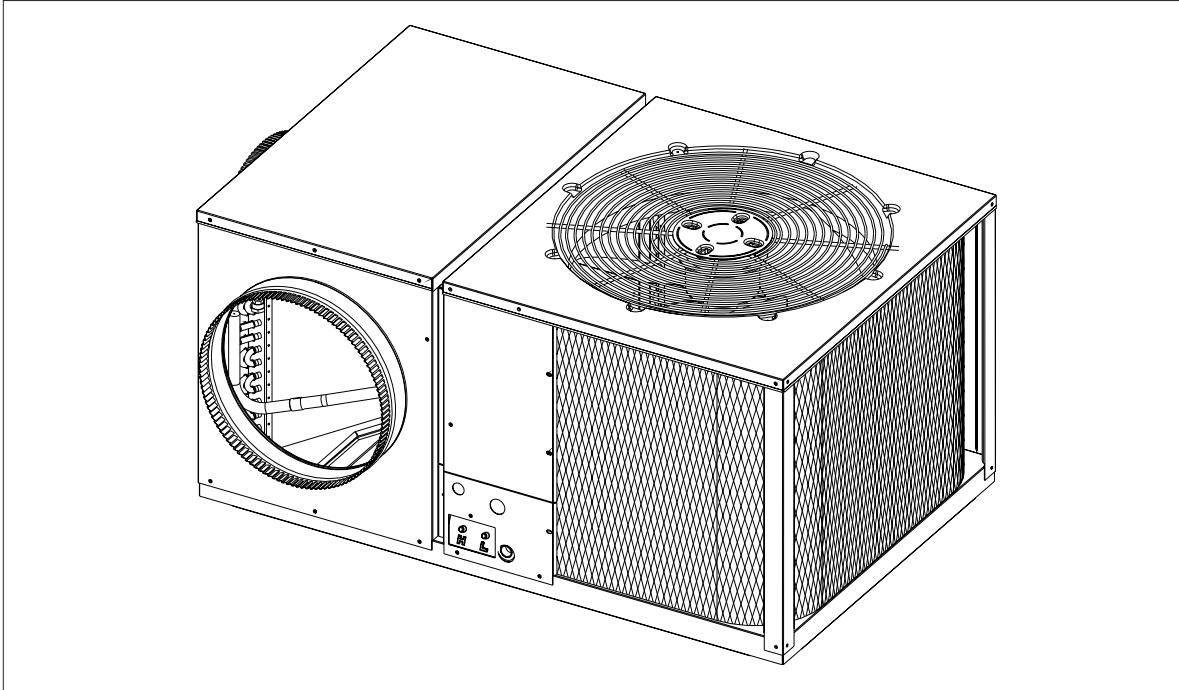


USER'S MANUAL AND INSTALLATION

P3BD Series 13 SEER Single Package Air Conditioner



IMPORTANT

Read this owner information to become familiar with the capabilities and use of your appliance. Keep this with literature of other appliances where you have easy access to it in the future. If a problem occurs, check the instructions and follow recommendations given. If these suggestions don't eliminate your problem, call your installing contractor or distributor in your area.

INTRODUCTION

Most any air conditioner will keep you cool. Our air conditioner was designed to do it efficiently. Efficiency means less cost to you while keeping you comfortable. The P3BD Series single packaged air conditioners are self contained cooling units that use the existing furnace to provide airflow and can be installed on a slab. P3BD series equipment can only be used with the following NORDYNE furnaces: E3EX*, M3RX* to achieve 13 SEER efficiency levels. Units are ETL and ETLc listed.

WHY YOUR AIR CONDITIONER WORKS SO WELL, SO QUIETLY

1. Air is cooled by a large evaporator coil. Moisture is also removed from the air by this same coil.
2. Air is then delivered through the main duct, via registers, into your home.
3. Return air is drawn through the return grille.
4. This air enters the unit, passes through the evaporator coil, is cooled and dehumidified. Then the cycle begins again.

SECTION 1. OWNER INFORMATION

OPERATING INSTRUCTIONS

To Turn On Air Conditioner

1. Set the system switch to "Cool."
2. Set the thermostat at the temperature level you desire.
3. Your air conditioner should start as soon as room temperature rises above the setting on the thermostat.

To Shut Off Air Conditioner

1. Turn the system switch to "Heat" or "Off."
2. Turn the thermostat to the desired heating temperature setting.

BEFORE YOU CALL A SERVICEMAN

Check your system at the start of each air conditioning season. Make sure it's working right, clean or change filters and make any needed adjustments.

In addition, follow these simple rules:

1. Never run your system without a filter. If you do, the cooling coils will collect dirt and may become clogged.
2. Set your thermostat at the comfort level you wish -- and then leave it alone. Let it control the operation of the air conditioning system. If you get chilly, turn it up a degree at a time until comfort is restored.
3. It takes longer for an air conditioner to cool your dwelling than it does for your furnace to heat it. So . . . don't turn the unit on and expect a dramatic drop in temperature, at least not right away. If your home is hot and humid, the temperature will drop slowly.
4. Check your filters every 30 days in summer to see if they are dirty. To keep them clean, use a mild solution of detergent and water on washable types. Replace non washable filters.
5. Keep your outdoor condenser coil clean. You can hose it down when it gets dirty.

If your air conditioner isn't working:

1. Make sure the fuses are not blown or that your circuit breakers are on.
2. See that your thermostat is set at the desired temperature and that your system's switch is on "Cool."

3. For best air flow, make sure your return grille is not covered and that the filter is clean.
4. Check the outdoor condenser coil and make sure it is clean and not clogged with grass or leaves.

If your air conditioner still isn't working, call your nearest distributor.

SECTION 2. INSTALLER INFORMATION

GENERAL

Read the following instructions completely before performing the installation.

These instructions are for the use of qualified personnel specially trained and experienced in the installation of this type of equipment and related system components. Some states require installation and service personnel to be licensed. Unqualified individuals should not attempt to interpret these instructions or install this equipment.

The single packaged air conditioners are designed for outdoor installation only and can be readily connected into the high static duct system of a home. The only connections needed for installation are the supply and return ducts, the line voltage, and thermostat wiring.

The single package air conditioner is completely assembled, factory wired, and factory run tested. The units are ready for easy and immediate installation.

PRE-INSTALLATION CHECK

Before any installation is attempted, the cooling load of the area to be conditioned must be calculated and a system of the proper capacity selected. It is recommended that the area to be conditioned be completely insulated and vapor sealed.

The installer should comply with all local codes and regulations which govern the installation of this type of equipment. Local codes and regulations take precedence over any recommendations contained in these instructions. Consult local building codes and the National Electrical Code (ANSI C1) for special installation requirements.

The electrical supply should be checked to determine if adequate power is available. If there is any question concerning the power supply, contact the local power company.

Inspecting Equipment: All units are securely packed at the time of shipment and, upon arrival, should be carefully inspected for damage. Claims for damage (apparent or concealed) should be filed immediately with the carrier.

INSTALLATION

(For Platinum Series ready homes)

1. LOCATE THE 40 AMP BRANCH CIRCUIT DISCONNECT RECEPTACLE AND DISCONNECT COVER LOCATED OUTSIDE ON ONE OF THE OUTER WALLS OF THE HOME.

Locate the unit within the reach of the Power Cord assembly and branch circuit receptacle.

- Create a solid, level position, preferably on a concrete slab or plastic pad (use NORDYNE P/N-903897 or equivalent) and slightly above grade level, located where the skirting channel across top of unit is directly under bottom edge of wall. (See Fig. 1)
- Minimum clearances to obstructions. (See Fig. 1)

2. UNPACK THE UNIT

It is recommended that the unit be unpacked at the installation site to minimize damage due to handling.

- Remove the bands from around the unit.
- Unfold the top and bottom cap flanges.
- Carefully remove the top cap and tube.

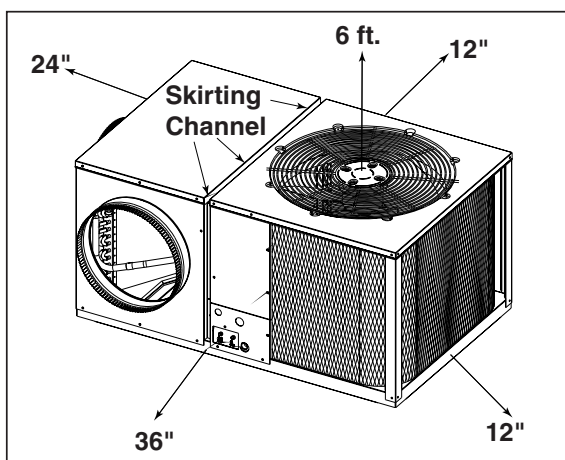


Figure 1. Minimum Unit Clearances

! CAUTION:

Do not tip the unit on its side. Oil may enter the compressor cylinders and cause starting trouble. If unit has been set on its side, restore to upright position and do not run for several hours. Then run unit for a few seconds. Do this three or four times with five minutes between runs.

3. INSTALL THE RETURN AND SUPPLY AIR FITTINGS ON THE UNIT

The supply and return fittings are shipped in the supply duct. They attach to the unit openings with a flange and bead arrangement, secured with two sheet metal screws. Note: For ease of access, install fitting before positioning unit in final location.

SUPPLY DUCT

Position the supply duct collar so the edge of the unit openings fit between the flange and the bead. Overlap the collar ends keeping the small screw holes underneath. Align the holes in the crimped area and install one screw.

Tap collar as necessary to ensure engagement with unit opening and install second screw. Tighten first screw.

DUCTING SYSTEM

DUCT REQUIREMENTS

THE AIR OUTPUT OF THE SYSTEM WILL NOT CONDITION THE HOME IF THE AIR IS LOST TO THE OUTSIDE THROUGH LEAKS IN THE

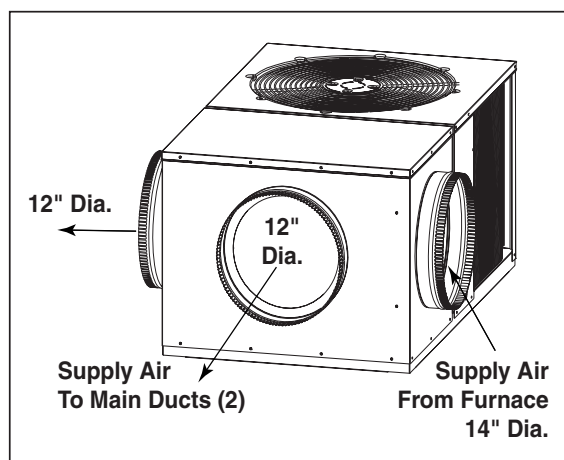


Figure 2. Supply Air Fittings

DUCT SYSTEM. ALSO, DUCTS WHICH ARE COLLAPSED OR RESTRICTED BY FOREIGN OBJECTS WILL PREVENT ADEQUATE AIR FLOW.

CONNECTING THE RETURN AND SUPPLY AIR FLEXIBLE DUCTS

- a. Use 12" duct to connect unit to the home duct system. (See Fig. 2 and 3)
- b. Use 14" duct to connect unit to furnace. (See Fig. 2 and 3)
- c. The flexible ducts can be connected to the corresponding fittings with the clamps provided with the ducts. Note: All connections should be leak tight or a loss in cooling capacity will result.
- d. The flexible ducts may be cut to the required length, see instructions packed with duct. Keep all ducts as short and straight as possible. Avoid sharp bends.
- e. Ducts may be spliced with sheet metal sleeves and clamps.
- f. Once the inner duct is connected to the proper fitting, the insulation and plastic sleeve should be pulled over the connection and clamped.
- g. For homes with multiple supply ducts or for special applications, a Y fitting is available to divide the supply air so it can be ducted to different areas of the home for more efficient cooling. Note: The Y fitting should be insulated for maximum performance.

CONDENSATE DRAIN

A 3/4" condensate drain connection is located on the side of the unit below the electrical compartment. A field supplied condensate drain should be installed. Route the condensate to a suitable drainage area. Any connecting tube or hose must have the outlet below the fitting on the unit for proper drainage.



WARNING:

Turn off electrical power before servicing controls. Severe electrical shock may result unless power is turned off. Unit must be installed in compliance with the National Electrical Code (NEC) and local codes.

ELECTRICAL CONNECTIONS

1. ELECTRICAL SERVICE

HIGH VOLTAGE

- a. An approved branch circuit disconnect receptacle of adequate size and disconnect cover per NEC has already been installed at the intended location of the unit on one of the four exterior walls of the home.
- b. Attach the approved Power Cord/Disconnect Plug (NORDYNE P/N-903899) to the unit using a strain relief connector (Romex type or equivalent) through the high voltage knockout provided.
- c. Extend the power cord leads up into the control panel and connect L1 (Black) and L2 (White) directly to the contactor lugs provided. (See Fig. 4)
- d. Ground the air conditioning unit by attaching the power cord ground wire (Green-w/eyelet) to the unit using the green grounding screw provided in the control panel. (See Fig. 4)

LOW VOLTAGE

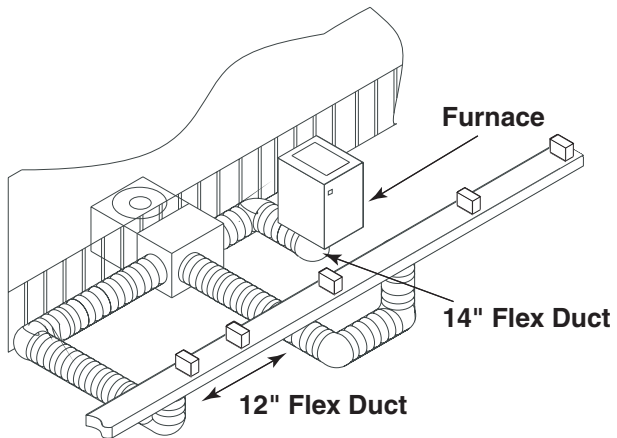
- a. Low voltage wiring from the indoor furnace and thermostat will be located under the home near the branch circuit receptacle and cover. Route the 24V control wires through the low voltage sealing grommet. (See Figure 4)
- b. Connect the low voltage control wires to the leads in the low voltage compartment as shown in Figure 4 and 5.

2. OVERCURRENT PROTECTION

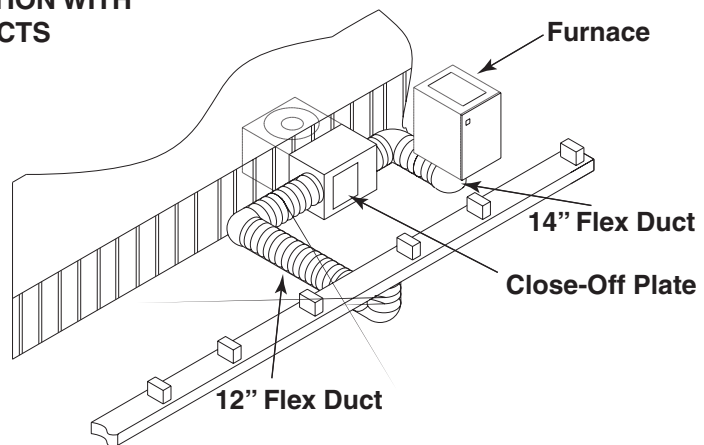
In general, the best fuse or breaker for any air conditioner is the smallest size that will permit the equipment to run under normal use and service without nuisance trips. Such a device, sized properly, gives maximum equipment protection. The principal reason for specifying a time delay type is to prevent nuisance trips when the unit starts.

In the event that a fuse does blow or a breaker trips, always determine the reason. Do not arbitrarily put in a larger fuse or breaker and do not, in any case, exceed the maximum size listed on the data label of the unit.

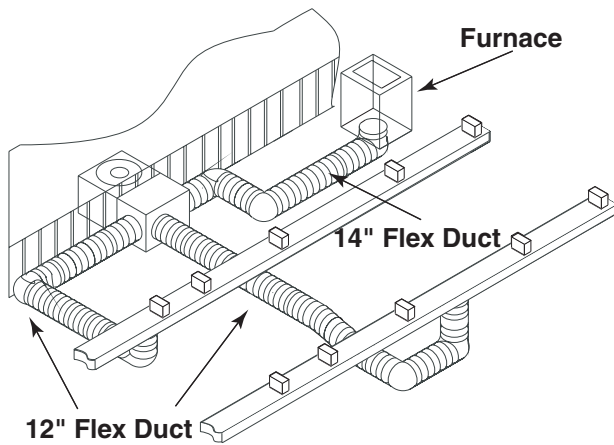
P3BD WITH M3 OR E3 FURNACE INSTALLATION



SINGLE DUCT APPLICATION WITH DUAL SUPPLY DUCTS



SINGLE DUCT APPLICATION WITH SINGLE DUCT AND CLOSE OFF PLATE



MULTIPLE DUCT APPLICATION

Figure 3. Typical Applications

3. HEAT-COOL THERMOSTAT OPERATION

Heat-Cool Thermostat: Your thermostat should be located on an inside wall approximately five feet from the floor away from drafts and doors. Do not locate lamps or other objects near the thermostat which could affect its operation or block a free flow of air.

The heat-cool thermostat is equipped with a system HEAT-COOL switch, which provides a positive means of preventing simultaneous operation of the heating and cooling mode. The thermostat is also equipped with an AUTO-ON fan switch which allows the home owner to operate the indoor blower when air circulation is desired.

SYSTEM OPERATION

1. PRE-START CHECK LIST

The following check list should be observed prior to starting the unit.

- ☐ Is the unit level? It should be level or slightly slanted toward the drain for proper condensate drainage.

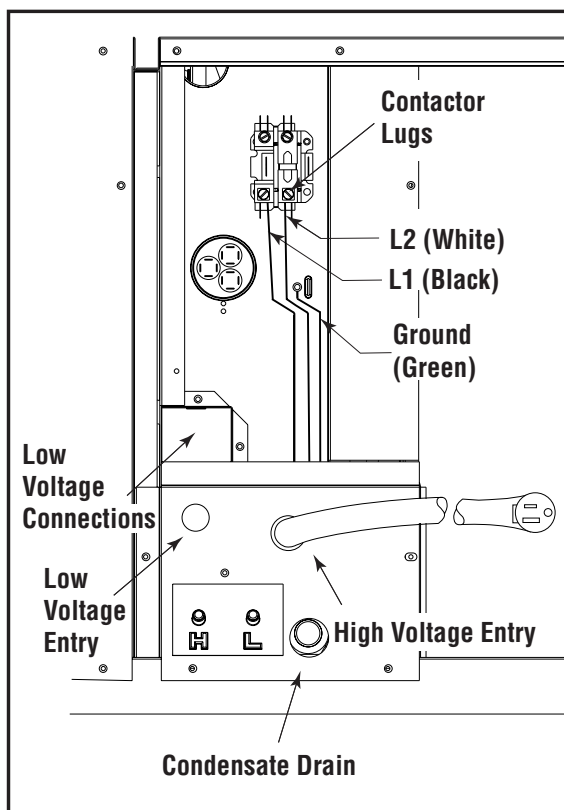


Figure 4. Power Entry and Hook Up

- ☐ Is there free air flow to and from the condenser? A one foot clearance around the coil, and six foot clearance above the fan?
- ☐ Is the wiring correct according to the wiring diagram and electrical codes?
- ☐ Are all the wiring connections tight? Check the condenser fan to make sure it turns freely.
- ☐ Is the thermostat wired correctly? Is it installed in a proper location?

2. START-UP PROCEDURE

- a. Set the system switch to the OFF position.
- b. Dial thermostat setting as high as it will go.
- c. Turn on power supply at the circuit breaker.
- d. Set the system switch to ON or COOL. Set the temperature setting to below room temperature. Verify that the indoor blower, outdoor fan, and compressor are energized and the cooling function starts.
- e. Verify that the discharge air grilles are adjusted and the system is balanced.
- f. Verify that there are no air leaks in the duct work.
- g. Verify that the condensate drain is properly installed and that it functions correctly.
- h. Dial the thermostat higher than room temperature. The unit should stop.
- i. If using a combination heating-cooling thermostat, set to the HEAT position. Proceed to check for correct furnace operation.
- j. Verify that the furnace controls and burners or heating elements operate correctly.
- k. Instruct the owner on unit operation, filter servicing, and proper thermostat operation.

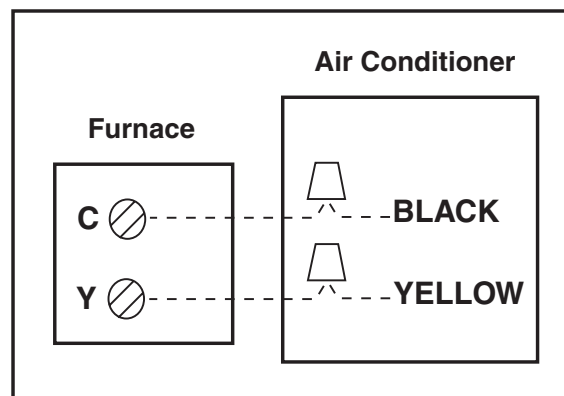


Figure 5. Low Voltage Connections

13 SEER - Refrigerant Charging Tables

2 Ton

OUTDOOR TEMPERATURE (°F)															
		70		75		80		85		90		95		100	
Suct. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.
72	163	137													
74	165	143	178	141											
76	167	148	180	146	192	145									
78	170	153	182	151	194	150	207	148							
80	173	156	185	156	196	154	209	153	221	152					
82			188	159	199	158	211	157	223	156	236	155			
84					203	162	214	161	225	160	238	159	250	158	
86							217	165	229	164	240	163	252	162	265
88							221	169	232	168	243	167	254	166	267
90									236	172	247	171	258	170	269
92											250	176	261	175	273
94											265	179	276	179	276
96															280
98															183

2-1/2 Ton

OUTDOOR TEMPERATURE (°F)															
		70		75		80		85		90		95		100	
Suct. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.
72	168	142													
74	171	147	183	147											
76	173	152	185	152	198	153									
78	175	158	188	157	200	158	213	159							
80	178	160	190	162	202	163	215	163	228	164					
82			194	165	205	167	217	168	230	168	243	169			
84					209	170	220	172	232	173	245	174	258	175	
86							224	176	235	177	247	178	260	179	272
88							227	179	239	181	250	182	262	183	274
90									242	185	254	186	265	187	276
92											257	190	269	191	280
94													272	196	284
96															287
98															

* Note: All pressures are listed in psig, and all temperatures in °F.

- Shaded Boxes indicate flooded conditions

- Rated Design Values. Suction Pressure will be lower than design value if indoor air flow, entering dry bulb, or entering wet bulb temperatures are lower than design.

- Discharge temperatures greater than charted values indicate an undercharged system.

13 SEER - Refrigerant Charging Tables (Cont.)

3 Ton

		OUTDOOR TEMPERATURE (°F)																						
		70			75			80			85			90			95			100			105	
Suct. Press	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Press	Dis. Temp.		
72	175	128																						
74	177	133	192	135																				
76	179	139	195	140	210	141																		
78	180	148	197	145	212	146	227	148																
80	183	151	198	152	214	151	229	152	244	154														
82			201	155	215	157	231	157	246	158	262	160												
84					219	160	233	162	248	163	264	164	279	165										
86							237	165	251	167	266	168	281	169	296	170								
88							240	169	255	171	269	172	283	173	298	174								
90									258	174	272	176	287	178	300	178								
92											276	180	290	182	305	183								
94													294	186	308	188								
96																								
98																								

3-1/2 Ton

OUTDOOR TEMPERATURE (°F)																																															
70						75						80						85						90						95						100						105					
Suct. Press	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Press	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Press	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Press	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Temp.	Dis. Press	Dis. Temp.	Dis. Temp.	Dis. Press	Dis. Temp.	Dis. Temp.	Dis. Press	Dis. Temp.	Dis. Temp.	Dis. Press	Dis. Temp.	Dis. Temp.	Dis. Press	Dis. Temp.	Dis. Temp.													
70	171	152																																													
72	173	157	188	155																																											
74	176	162	191	160	206	158																																									
76	179	165	193	165	208	162	223	160																																							
78	183	168	196	168	210	167	225	165	240	163																																					
80			200	171	214	171	227	170	242	168	258	166																																			
82					217	174	231	173	245	172	260	170	275	169																																	
84							234	177	248	176	262	175	277	173	292	172																															
86							238	181	251	180	265	179	279	177	294	176																															
88									255	184	269	183	282	181	296	179																															
90											272	187	286	185	300	184																															
92													289	190	303	188																															
94																																															
96																																															

* Note: All pressures are listed in psig, and all temperatures in °F.

- Shaded Boxes indicate flooded conditions

- Rated Design Values. Suction Pressure will be lower than design value if indoor air flow, entering dry bulb, or entering wet bulb temperatures are lower than design.

- Discharge temperatures greater than charted values indicate an undercharged system.

13 SEER - Refrigerant Charging Tables (Cont.)

4 Ton

		OUTDOOR TEMPERATURE (°F)															
		70		75		80		85		90		95		100		105	
Suct. Press.	Dis. Press.	Dis. Temp.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.	Dis. Press.	Dis. Temp.
64	178	145															
66	181	150	194	151													
68	183	156	197	156	210	156											
70	184	163	199	161	212	161	162	226	162								
72	187	166	200	167	215	166	166	228	166	242	167						
74			204	170	217	171	171	230	171	244	171	258	172				
76					220	174	175	233	175	246	176	260	176	274	177		
78								236	179	249	180	262	180	276	181	289	181
80								240	183	253	184	265	184	278	185	291	185
82										256	188	269	188	282	189	293	189
84												272	193	285	193	298	194
86														289	198	301	198
88																305	203
90																	

* Note: All pressures are listed in psig, and all temperatures in °F.

- Shaded Boxes indicate flooded conditions

- Rated Design Values. Suction Pressure will be lower than design value if indoor air flow, entering dry bulb, or entering wet bulb temperatures are lower than design.

- Discharge temperatures greater than charted values indicate an undercharged system.

**INSTALLER:
PLEASE LEAVE THESE INSTALLATION INSTRUCTIONS
WITH THE HOMEOWNER.**



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Specifications and illustrations subject to change
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