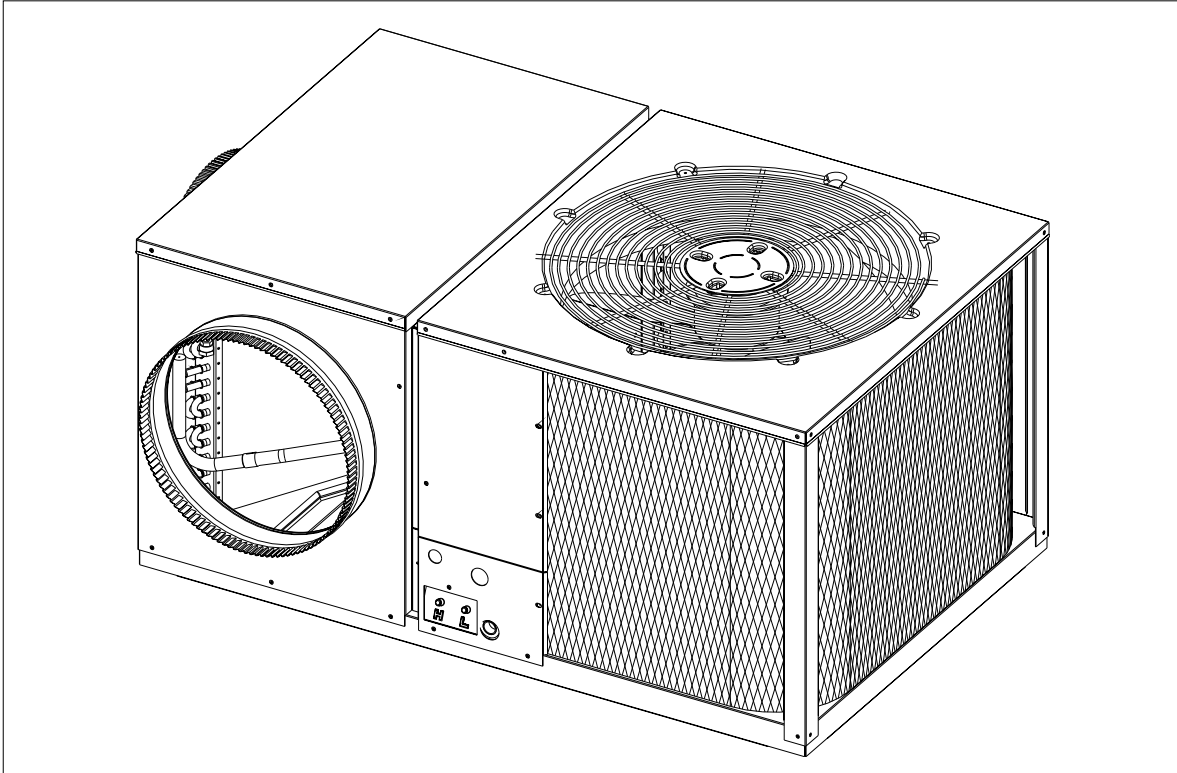


USER'S MANUAL AND INSTALLATION

P3B (A,C) Series 10 and 12 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.

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.

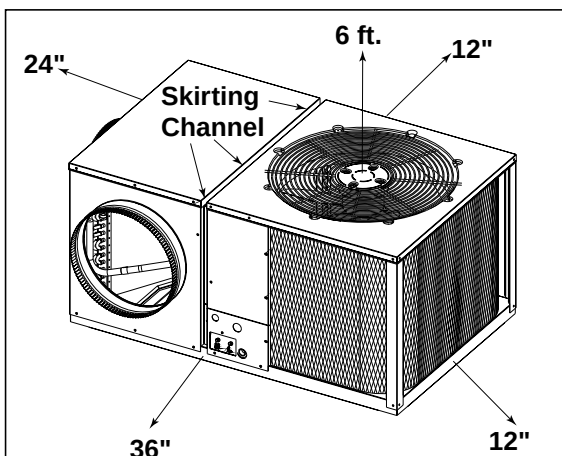


Figure 1. Minimum Unit Clearances

! 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

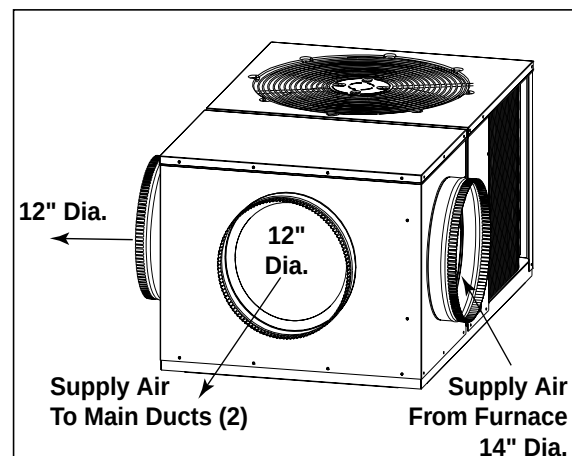


Figure 2. Supply Air Fittings

IN THE 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

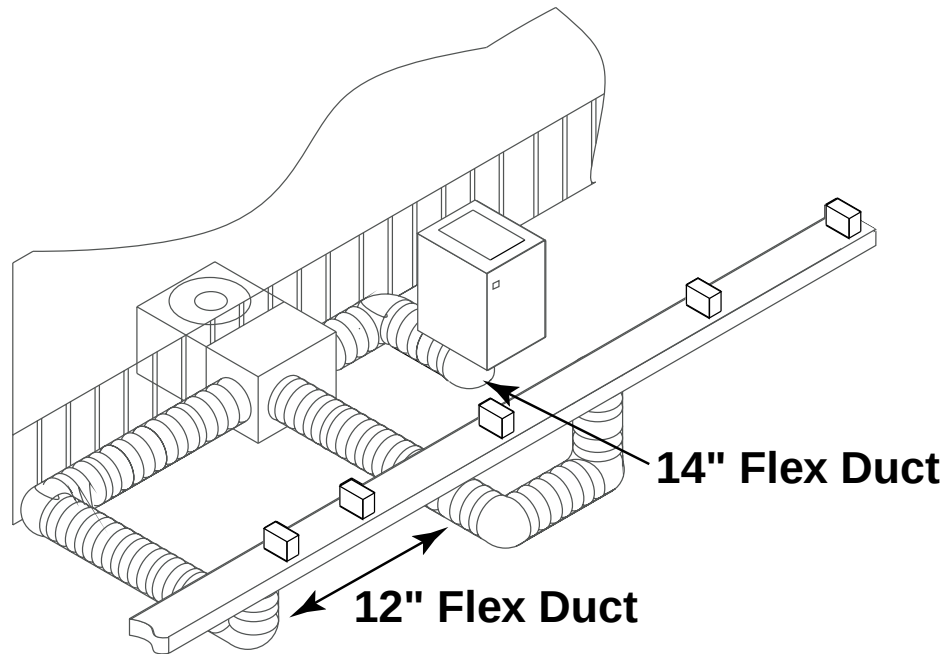
- a. Low voltage wiring from the indoor furnace and thermostat will be located under the home near the branch circuit receptacle and cover. Route the 24V control wires through the low voltage sealing grommet. (See Figure 4)
- b. Connect the low voltage control wires to the leads in the low voltage compartment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

2. OVERCURRENT PROTECTION

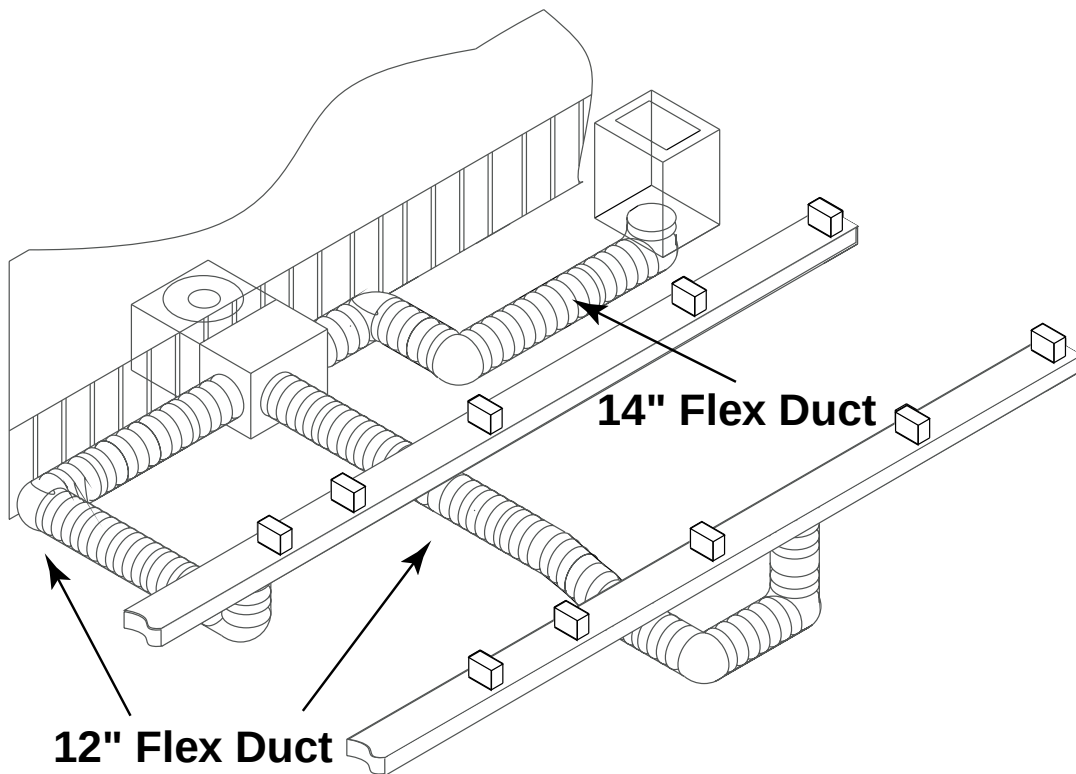
In general, the best fuse or breaker for any air conditioner is the smallest size that will permit the equipment to run under normal use and service without nuisance trips. Such a device, sized properly, gives maximum equipment protection. The principal reason for specifying a time delay type is to prevent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

P3B WITH M1 OR E2 FURNACE INSTALLATION



SINGLE DUCT APPLICATION



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.

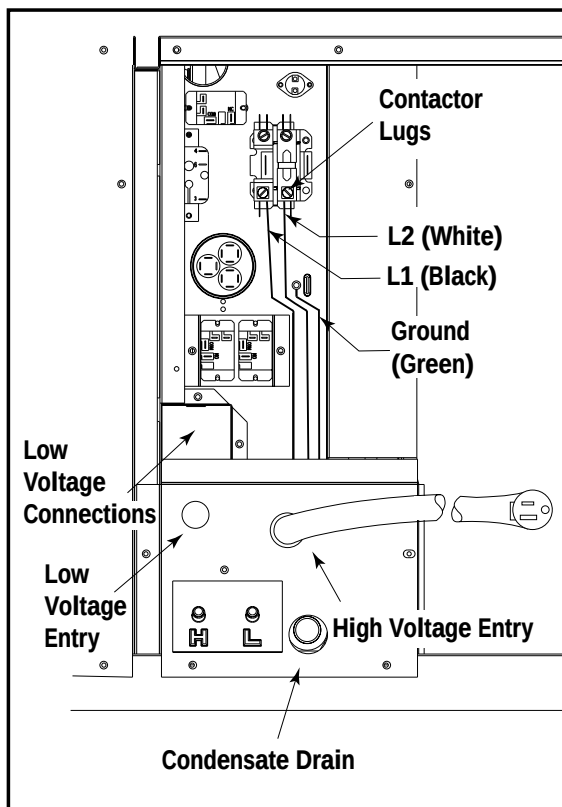


Figure 4. Power Entry and Hook Up

- ☐ 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.

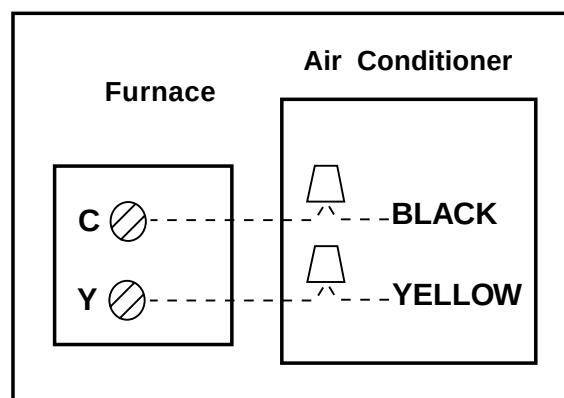


Figure 5. Low Voltage Connections

10 SEER - Refrigerant Charging Tables

2 Ton

	OUTDOOR TEMPERATURE (°F)															
	70		75		80		85		90		95		100		105	
Suct. Press.	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.	Dis. Press.	Dis. Temp.
71	172	151														
73	174	156	188	155												
75	176	161	190	160	203	159										
77	179	165	192	165	206	164	219	163								
79	183	167	195	169	208	169	221	168	235	167						
81			199	172	211	172	223	173	237	172	251	172				
83					214	176	227	176	239	176	253	176	266	176		
85							230	180	242	180	255	180	268	180	282	180
87							234	184	246	184	258	184	270	184	284	183
89									249	188	262	188	274	188	286	187
91											265	192	277	192	290	192
93													281	196	293	196
95															297	201
97																

2-1/2 Ton

	OUTDOOR TEMPERATURE (°F)															
	70		75		80		85		90		95		100		105	
Suct. Press.	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.	Dis. Press.	Dis. Temp.
69	187	153														
71	189	159	203	158												
73	191	164	205	163	220	162										
75	194	169	208	168	222	167	236	166								
77	197	171	210	172	224	171	238	170	252	170						
79			214	175	227	175	240	175	254	174	269	174				
81					230	179	243	179	257	178	271	178	285	177		
83							247	183	260	182	273	182	287	181	301	181
85							250	186	263	186	276	186	289	185	303	185
87									267	190	280	190	293	190	305	189
89											283	194	296	194	309	193
91													300	198	313	198
93															316	202
95																

* 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.

10 SEER - Refrigerant Charging Tables

3 Ton

	OUTDOOR TEMPERATURE (°F)															
	70		75		80		85		90		95		100		105	
Suct. Press.	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.	Dis. Press.	Dis. Temp.
67	205	167														
69	208	172	221	171												
71	210	177	223	176	237	175										
73	212	182	225	181	239	180	252	179								
75	216	185	228	185	241	185	254	184	268	183						
77			232	188	244	189	256	188	270	187	283	187				
79					247	192	259	192	272	192	285	191	299	190		
81							263	196	275	196	287	195	301	194	314	194
83							266	199	278	199	291	199	303	198	316	198
85									282	203	294	203	306	203	318	202
87											297	207	310	207	322	206
89													313	211	325	211
91															329	215
93																

3-1/2 Ton

	OUTDOOR TEMPERATURE (°F)															
	70		75		80		85		90		95		100		105	
Suct. Press.	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.	Dis. Press.	Dis. Temp.
70	197	157														
72	199	162	213	162												
74	202	168	216	167	229	167										
76	203	174	218	172	232	171	246	171								
78	207	177	220	177	234	176	248	176	262	175						
80			223	180	236	181	250	180	264	180	278	180				
82					240	184	252	184	266	184	280	184	294	184		
84							256	188	269	188	282	188	296	188	310	188
86							259	192	272	192	285	192	298	192	312	191
88									276	196	289	196	302	196	314	195
90											292	200	305	200	318	200
92													308	205	321	205
94															325	209
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.

10 SEER - Refrigerant Charging Tables

4 Ton

	OUTDOOR TEMPERATURE (°F)															
	70		75		80		85		90		95		100		105	
Suct. Press	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.	Dis. Press.	Dis. Temp.
68	202	162														
70	204	168	219	169												
72	206	173	221	174	236	175										
74	208	180	223	179	238	179	253	181								
76	211	182	225	184	241	184	256	185	271	186						
78			229	187	243	189	258	190	273	191	288	192				
80					246	192	260	194	275	195	290	196	305	198		
82							264	198	278	199	292	200	307	202	322	203
84							267	201	281	203	295	204	309	206	324	207
86									285	207	299	209	313	210	326	211
88											302	213	316	214	330	215
90													320	218	334	220
92															337	224
94																

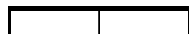
5 Ton

	OUTDOOR TEMPERATURE (°F)															
	70		75		80		85		90		95		100		105	
Suct. Press	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.	Dis. Press.	Dis. Temp.
58	195	166														
60	197	171	212	171												
62	199	177	214	176	229	176										
64	201	184	216	181	231	181	246	180								
66	204	186	218	187	234	185	249	185	264	185						
68			222	190	236	190	251	190	266	189	281	189				
70					239	194	253	194	268	194	283	193	298	193		
72							257	197	271	198	285	198	300	197	315	197
74							260	201	274	202	288	202	302	201	317	201
76									278	205	292	206	306	206	319	205
78											295	210	309	210	323	210
80													313	214	327	214
82															330	219
84																

* 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.

12 SEER - Refrigerant Charging Tables

2 Ton

	OUTDOOR TEMPERATURE (°F)															
	70		75		80		85		90		95		100		105	
Suct. Press.	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.	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	161
88							221	169	232	168	243	167	254	166	267	165
90									236	172	247	171	258	170	269	169
92											250	176	261	175	273	174
94													265	179	276	178
96															280	183
98																

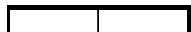
2-1/2 Ton

	OUTDOOR TEMPERATURE (°F)															
	70		75		80		85		90		95		100		105	
Suct. Press.	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.	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	180
88							227	179	239	181	250	182	262	183	274	184
90									242	185	254	186	265	187	276	187
92											257	190	269	191	280	192
94													272	196	284	197
96															287	201
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.

12 SEER - Refrigerant Charging Tables

3 Ton

	OUTDOOR TEMPERATURE (°F)															
	70		75		80		85		90		95		100		105	
Suct. Press.	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.	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															311	192
98																

3-1/2 Ton

	OUTDOOR TEMPERATURE (°F)															
	70		75		80		85		90		95		100		105	
Suct. Press.	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.	Dis. Press.	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															307	193
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.

12 SEER - Refrigerant Charging Tables

4 Ton

	OUTDOOR TEMPERATURE (°F)															
	70		75		80		85		90		95		100		105	
Suct. Press	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.	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	226	162								
72	187	166	200	167	215	166	228	166	242	167						
74			204	170	217	171	230	171	244	171	258	172				
76					220	174	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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Printed in U.S.A. (4/01)

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