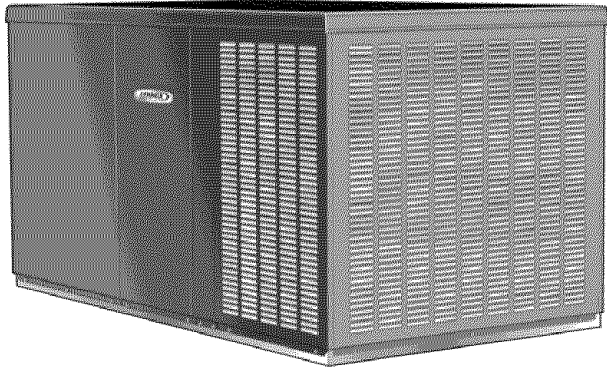




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Dallas, Texas, USA



**RETAIN THESE INSTRUCTIONS
FOR FUTURE REFERENCE**

Table of Contents

Shipping & Packing List	1
Unit Dimensions	2
Parts Arrangement	3
General	3
Requirements	4
Location Selection	4
Rigging & Setting Unit	4
Clearances	4
Existing Common Vent Systems	5
Condensate Drain	6
Filters	6
Supply & Return Connections	6
Compressors	7
Electrical	7
Defrost System	11
Unit Start-Up and Operation	11
Condenser Fan Clearances	12
Maintenance	12

INSTALLATION INSTRUCTIONS

13CHPX SERIES UNITS

PACKAGED HEAT PUMPS (2-5 TONS)

Field trial units
505,136M (38152A071)
10/05

TP Technical
Publications
Litho U.S.A.

Shipping & Packing List

1 - Assembled packaged heat pump unit
As soon as the unit is received, it should be inspected for possible damage during transit. If you find any damage, immediately contact the last carrier.

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer or service agency.

⚠ WARNING

If this unit is to be installed in a mobile or manufactured home application, the duct system must be sized to achieve static pressures within the manufacturer's guidelines. All other installation guidelines must also be followed. Failure to do so may result in equipment damage, personal injury and improper unit performance.

⚠ CAUTION

Danger of sharp metallic edges. Can cause injury. Take care when servicing unit to avoid accidental contact with sharp edges.

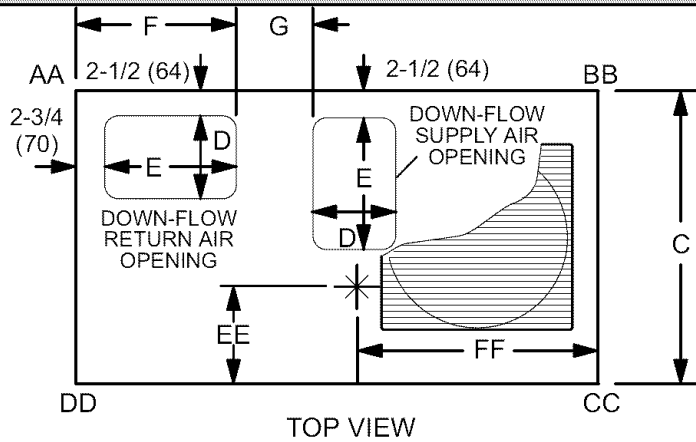
⚠ WARNING



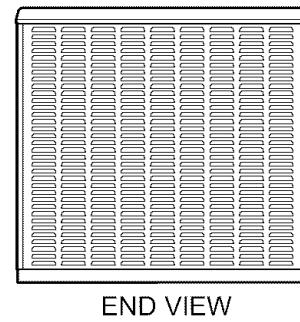
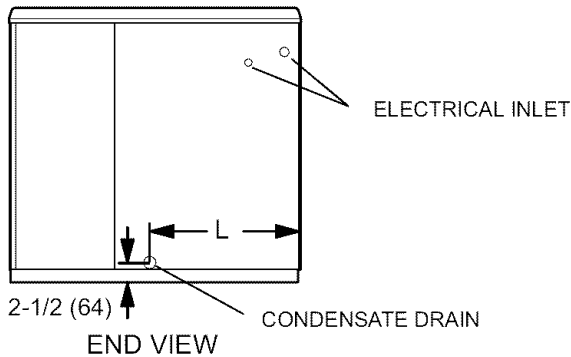
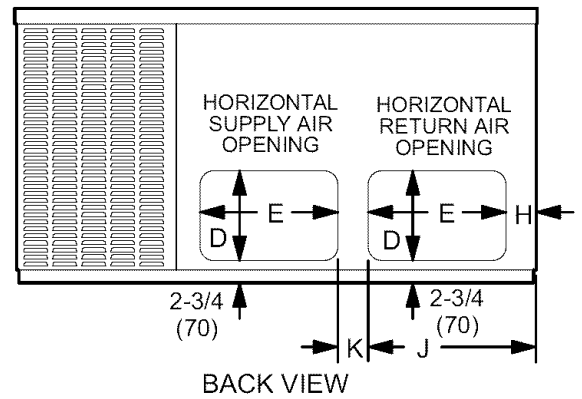
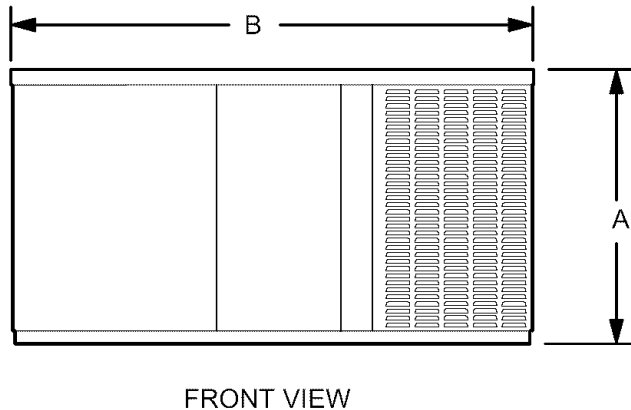
Electric shock hazard. Can cause injury or death. Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch(es). Unit may have multiple power supplies.



13CHPX Unit Dimensions - inches (mm)



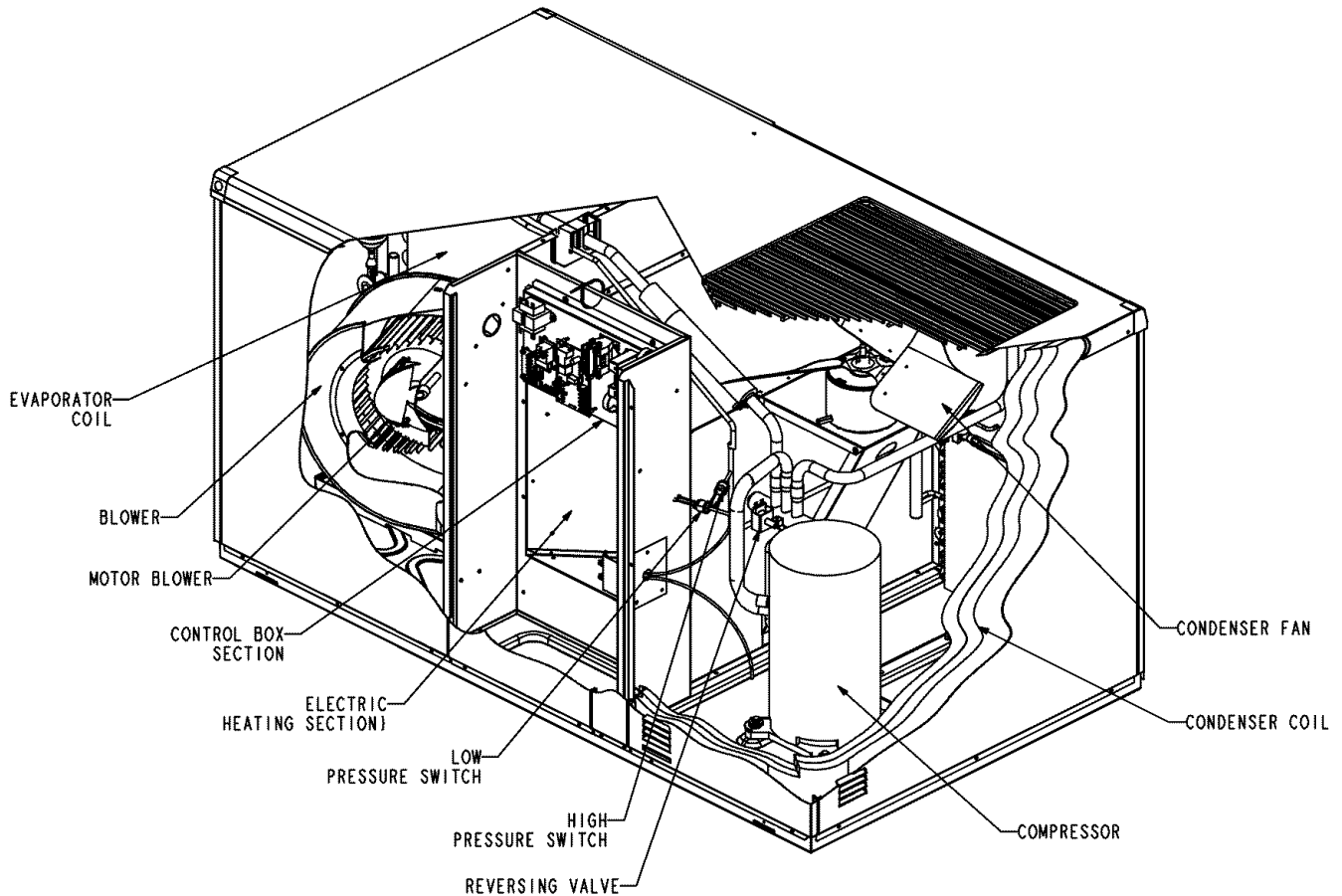
Model Number	Corner Weights				Center Of Gravity	
	AA lbs.	BB lbs.	CC lbs.	DD lbs.	EE in.	FF in.
13CHPX A-24	74	94	125	97	15.5	28.5
13CHPX A-30	74	94	125	97	15.5	28.5
13CHPX A-36	84	101	126	105	16	29.5
13CHPX A-42	108	136	176	140	20	33
13CHPX A-48	112	137	177	144	20	33.5
13CHPX A-60	117	143	184	151	20	33.5



Model No.	A		B		C		D		E		F	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
13CHPXAV-24 13CHPXAV-30 13CHPXAV-36	34-1/4	870	65-3/8	1661	36-1/2	927	11-1/4	286	17-1/4	438	20	508
13CHPXAV-42 13CHPXAV-48 13CHPXAV-60	38-1/4	972	75	1905	46	1168	11-1/4	286	19-1/4	489	22	559

Model No.	F		G		H		J		K		L	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
13CHPXAV-24 13CHPXAV-30 13CHPXAV-36	20	508	8-1/2	216	3	76	20-1/4	514	4-1/2	114	19	483
13CHPXAV-42 13CHPXAV-48 13CHPXAV-60	22	559	9-1/4	241	3-1/4	83	22-1/4	572	4	102	16-1/4	413

Parts Arrangement



General

These installation instructions are intended as a general guide only, for use by an experienced, qualified contractor. The 13CHPX units are single-package heat pump units designed for outdoor installation on a rooftop or a slab. The units are equipped with a transformer and blower control for applications which do not include electric heat. Electric heat sections are available for separate order.

The unit must be sized based on heat loss and heat gain calculations made according to the methods of the Air Conditioning Contractors of America (ACCA).

The units are shipped assembled. All piping, refrigerant charge, and electrical wiring are factory-installed and tested. The units require electric power, condensate drain and duct connections at the point of installation.

Use of this unit as a construction heater or air conditioner is not recommended during any phase of construction. Very low return air temperatures, harmful vapors and operation of the unit with clogged or misplaced filters will damage the unit.

If this unit has been used for heating or cooling of buildings or structures under construction, the following conditions must be met or the warranty will be void:

- A room thermostat must control the unit. The use of fixed jumpers that will provide continuous heating or cooling is not allowed.
- A pre-filter must be installed at the entry to the return air duct.
- The return air duct must be provided and sealed to the unit.
- Return air temperature range between 55°F (13°C) and 80°F (27°C) must be maintained.
- Air filters must be replaced and pre-filter must be removed upon construction completion.
- The unit components, duct system, air filters and evaporator coil must be thoroughly cleaned following final construction clean-up.
- The unit operating conditions (including airflow, cooling operation, and heating operation) must be verified according to these installation instructions.

Requirements

These units must be installed in accordance with all applicable national and local safety codes.

These instructions are intended as a general guide and do not supersede local codes in any way. Consult authorities having jurisdiction before installation.

If components are to be added to a unit to meet local codes, they are to be installed at the dealer's and/or customer's expense.

These units are design listed by UL in both the United States and Canada as follows:

- For use as a heat pump.
- For outdoor installation only.
- For installation on combustible material.

⚠ WARNING

Product contains fiberglass wool.

Disturbing the insulation in this product during installation, maintenance, or repair will expose you to fiberglass wool dust. Breathing this may cause lung cancer. (Fiberglass wool is known to the State of California to cause cancer.)

Fiberglass wool may also cause respiratory, skin, and eye irritation.

To reduce exposure to this substance or for further information, consult material safety data sheets available from address shown below, or contact your supervisor.

Lennox Industries Inc.

**P.O. Box 799900
Dallas, TX 75379-9900**

Location Selection

Use the following guidelines to select a suitable location for these units.

- 1 - Unit is designed for outdoor installation only. Unit must be installed so all electrical components are protected from water.
- 2 - Condenser coils must have an unlimited supply of air.
- 3 - For ground level installation, use a level pre-fabricated pad or use a level concrete slab with a minimum thickness of 4 inches. The length and width should be at least 6 inches greater than the unit base. Do not tie the slab to the building foundation.
- 4 - Maintain level within a tolerance of 1/4 inch maximum across the entire length or width of the unit.

- 5 - The unit foundation should be raised a minimum of 3" above finish grade. In areas which have prologed periods of temperature below freezing and snowfall, elevate the unit above the average snow line. Take care to allow free drainage of condensate from defrost cycles to prevent ice accumulation. Do not locate the unit near walkways to prevent the possible icing of surfaces due to defrost condensate.

Rigging & Setting Unit

Exercise care when moving the unit. Do not remove any packaging until the unit is near the place of installation. An optional lifting lug kit (92M51) may be purchased separately for use in rigging the unit for lifting. Spreaders **MUST** be used across the top of the unit. Recommended spreader length: 2, 2-1/2, 3-ton units -- 44"; 3-1/2, 4, 5-ton units -- 54".

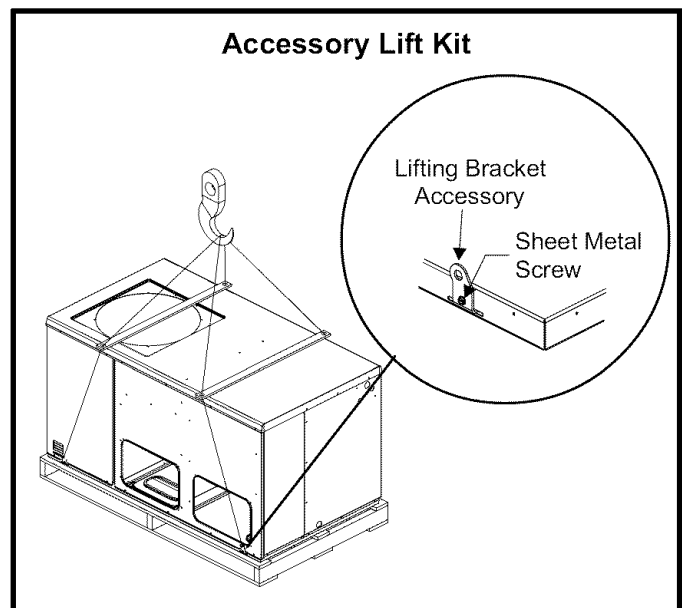


Figure 1

⚠ CAUTION

Before lifting a unit, make sure that the weight is distributed equally on the cables so that it will lift evenly.

Units may also be moved or lifted with a forklift while still in the factory supplied packaging.

NOTE - Length of forks must be a minimum of 42 inches.

Clearances

All units require certain clearances for proper operation and service. Refer to figure 2 for the clearances required for combustible construction, servicing, and proper unit operation.

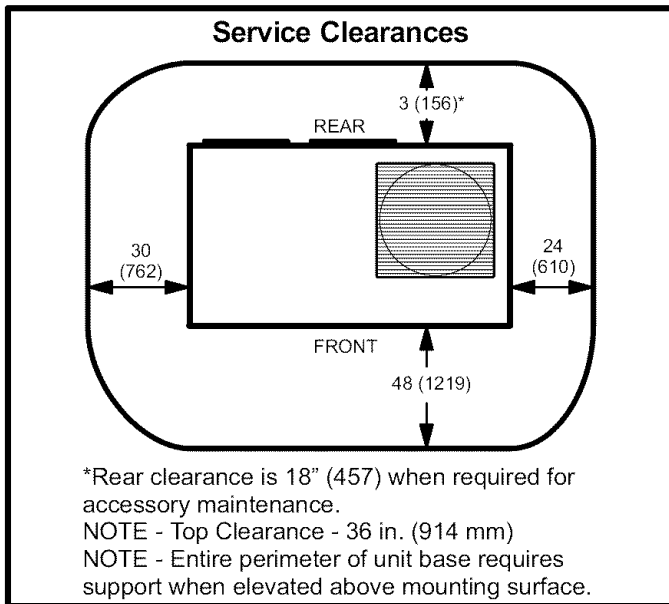


Figure 2

NOTE - Do not permit overhanging structures or shrubs to obstruct condenser air discharge outlet.

In the U.S. units may be installed on combustible floors made from wood or class A, B, or C roof covering material. In Canada, units may be installed on combustible floors. Install the unit so that snow accumulation will not restrict the air flow. Allow a required minimum horizontal clearance of 4 feet from electric meters, gas meters, regulators and relief equipment. In addition to the above requirements, ensure that unwanted ice caused by condensate is not allowed to accumulate around the unit. Do not locate the unit on the side of the building where the prevailing winter winds could trap moisture, causing it to freeze on the walls or on overhangs (under eaves).

Existing Common Vent Systems

The 13CHPX packaged heat pump may replace an existing furnace which is being removed from a venting system commonly run with separate gas appliances. In this case, the existing vent system is likely to be too large to properly vent the remaining attached appliances.

Conduct the following test while each appliance is operating and the other appliances (which are not operating) re-

main connected to the common venting system. If the venting system has been installed improperly, you **must** correct the system as indicated in the general venting requirements section.

- 1 - Seal any unused openings in the common venting system.
- 2 - Inspect the venting system for proper size and horizontal pitch. Determine that there is no blockage, restriction, leakage, corrosion, or other deficiencies which could cause an unsafe condition.
- 3 - Close all building doors and windows and all doors between the space in which the appliances remaining connected to the common venting system are located and other spaces of the building. Turn on clothes dryers and any appliances not connected to the common venting system. Turn on any exhaust fans, such as range hoods and bathroom exhausts, so they will operate at maximum speed. Do not operate a summer exhaust fan. Close fireplace dampers.
- 4 - Follow the lighting instructions. Turn on the appliance that is being inspected. Adjust the thermostat so that the appliance operates continuously.
- 5 - After the main burner has operated for 5 minutes, test for leaks of flue gases at the draft hood relief opening. Use the flame of a match or candle, or smoke from a cigarette, cigar, or pipe.
- 6 - After determining that each appliance connected to the common venting system is venting properly, (step 3) return all doors, windows, exhaust fans, fireplace dampers, and any other gas-burning appliances to their previous mode of operation.
- 7 - If a venting problem is found during any of the preceding tests, the common venting system must be modified to correct the problem.

Resize the common venting system to the minimum vent pipe size determined by using the appropriate tables in Appendix G. (These are in the current standards of the National Fuel Gas Code ANSI-Z223.1/NFPA 54 in the USA, and the appropriate Category 1 Natural Gas and Propane appliances venting sizing tables in the current standards of the CSA B149 Natural Gas and Propane Installation Codes in Canada.)

Condensate Drain

The 13CHPX unit is equipped with a 3/4 inch FPT coupling for condensate line connection. Plumbing must conform to local codes. Use a sealing compound on male pipe threads.

The drain line must be properly trapped and routed to a suitable drain. See figure 3 for proper drain arrangement. The drain line must pitch to an open drain or pump a minimum of 1 inch per 10 feet to prevent clogging of the line. Seal around drain connection with suitable material to prevent air leakage into return air system.

Drain piping should not be smaller than drain connection at coil. An open vent in drain line will some times be required due to line length, friction and static pressure. Drains should be constructed in a manner to facilitate future cleaning.

NOTE - The condensate drain line MUST be trapped to provide proper drainage.

⚠ CAUTION

Condensate line connection must be hand-tightened. Do not use tools.

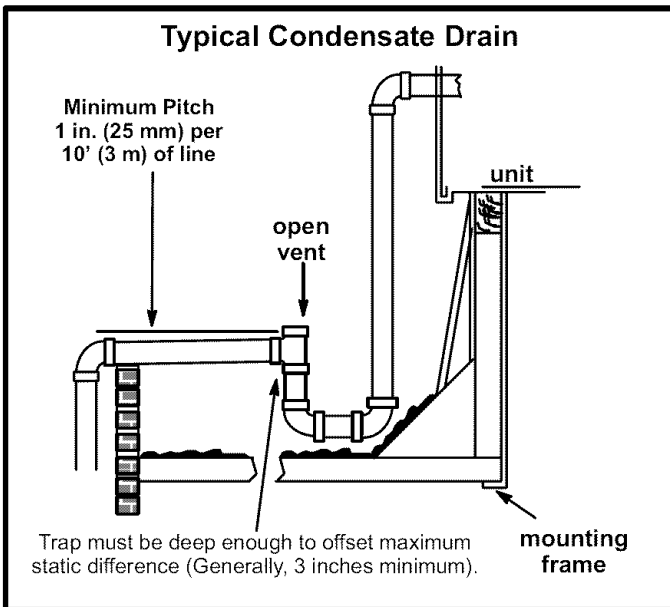


Figure 3

Filters

Filters are not factory-supplied with the unit; however, optional internally installed filter kits are available. Filter kit 92M54 is used with 2, 2-1/2 and 3-ton units. Filter kit 92M55 is used with 3-1/2, 4 and 5-ton units. The filter kits

accommodate the use of 1", 2" or 4" filters. If the optional filter kit is not used, a filter must be field-installed.

Filters must always be installed ahead of evaporator coil and must be kept clean or replaced. Dirty filters will reduce the airflow of the unit. Filter sizes are shown in table 1.

**Table 1
Unit Filter Size**

Unit Model	Filter Size	Filter Quantity
-24, -30, -36	20 in. X 25 in.	1
-42, -48, -60	16 in. X 25 in.	2

Supply & Return Duct Connections

The duct system should be designed and sized according to the methods in Manual Q of the Air Conditioning Contractors of America (ACCA).

A closed return duct system shall be used. This shall not preclude use of economizers or outdoor fresh air intake. It is recommended that supply and return duct connections at the unit be made with flexible joints.

The supply and return air duct systems should be designed for the CFM and static requirements of the job. **They should NOT be sized by simply matching the dimensions of the duct connections on the unit.**

Ducting installed outdoors **MUST** be insulated and waterproofed.

⚠ CAUTION

When fastening duct system to side duct flanges on unit, insert screws through duct flanges only. Do not insert screws through casing. Outdoor duct must be insulated and waterproofed.

The 13CHPX unit is shipped ready for horizontal air discharge (side duct connections). If bottom air discharge is desired, the covers must be removed from the supply and return air openings on the bottom of the unit and re-installed to cover the side openings.

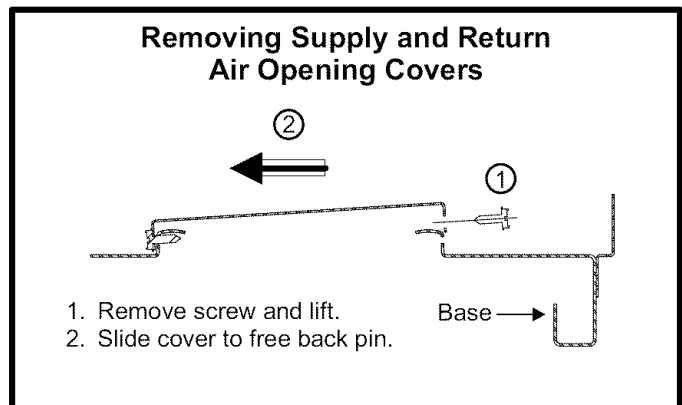


Figure 4

Compressors

Units are shipped with the compressor mountings factory-adjusted and ready for operation.

⚠ CAUTION

Do not loosen compressor mounting bolts.

Electrical

All wiring should be done in accordance with the current National Electric Code ANSI/NFPA No. 70 in the United States. In Canada, wiring must be done in accordance with the current CSA C22.2 Part 1. Local codes may take precedence.

Use wiring with a temperature limitation of 75°C min.; run the 208 or 230 volt, 60 hertz electric power supply through a fused disconnect switch to control box of unit and connect as shown in the wiring diagram located on the inside of the control access panel. Refer to figure 5 for electrical access.

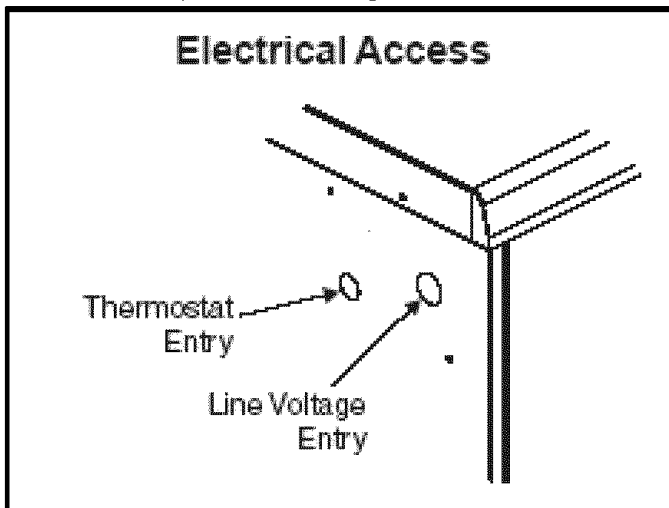


Figure 5

Unit must be electrically grounded in accordance with local codes or in the absence of local codes with the National Electric Code, ANSI/NFPA No. 70 (latest edition) or CSA C22.2 Part 1 (latest edition).

Power supply to the unit must be N.E.C. Class 1, and must comply with all applicable codes. A fused disconnect switch should be field provided for the unit. The switch must be separate from all other circuits. If any of the wire supplied with the unit must be replaced, replacement wire must be of the type shown on the wiring diagram.

Electrical wiring must be sized to carry minimum circuit ampacity marked on the unit. **USE COPPER**

CONDUCTORS ONLY. Each unit must be wired with a separate branch circuit and be properly fused.

⚠ WARNING

Unit is equipped with a single-pole contactor. Line voltage is present at all components when unit is not in operation. Disconnect all remote electric power supplies before opening access panel. Unit may have multiple power supplies. Failure to disconnect all power supplies could result in personal injury or death.

⚠ CAUTION

When connecting electrical power and control wiring to the unit, waterproof type connectors **MUST be used so that water or moisture cannot be drawn into the unit during normal operation.**

⚠ WARNING

Unit must be grounded in accordance with national and local codes. Failure to ground unit properly can result in personal injury or death.

See figure 7 for typical field wiring connections and figure 8 for typical unit wiring diagram.

Optional Electric Heat

Optional electric heat is available and must be purchased separately. Install the electric heat section as outlined in the installation instructions packaged with the electric heat section.

Thermostat

The room thermostat should be located on an inside wall where it will not be subject to drafts, sun exposure or heat from electrical fixtures or appliances. Follow manufacturer's instructions enclosed with thermostat for general installation procedure. Color coded insulated wires (# 18 AWG) should be used to connect thermostat to unit. Six wires are required for heat pump operation (including a common wire, if required by the thermostat).

Blower Control Board

The circulating air blower is controlled by a blower control board located in the unit control box. Blower operation is NOT delayed after a call for either heating or cooling. A blower "off" delay of 90 seconds begins when the thermostat demand is satisfied. These delays are not adjustable. See figure 6.

Blower Drive Control

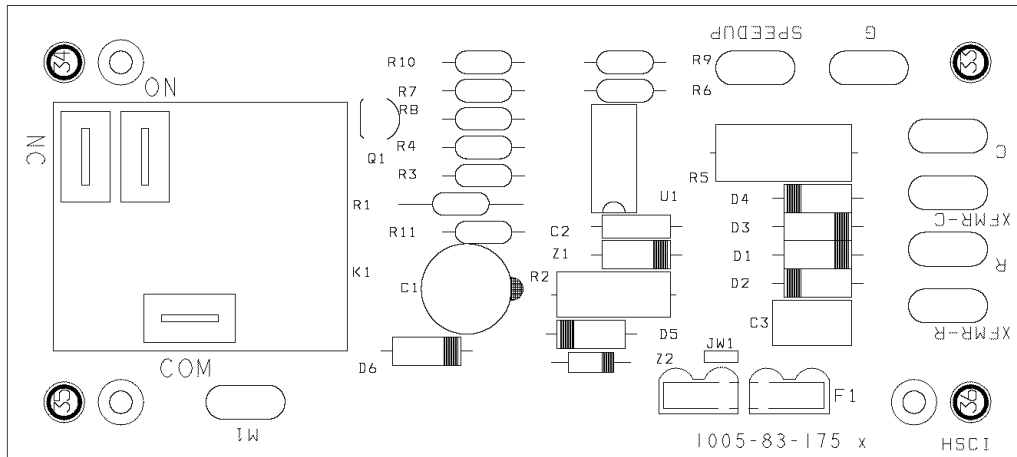


Figure 6

Typical Single-Phase Unit Wiring Connections

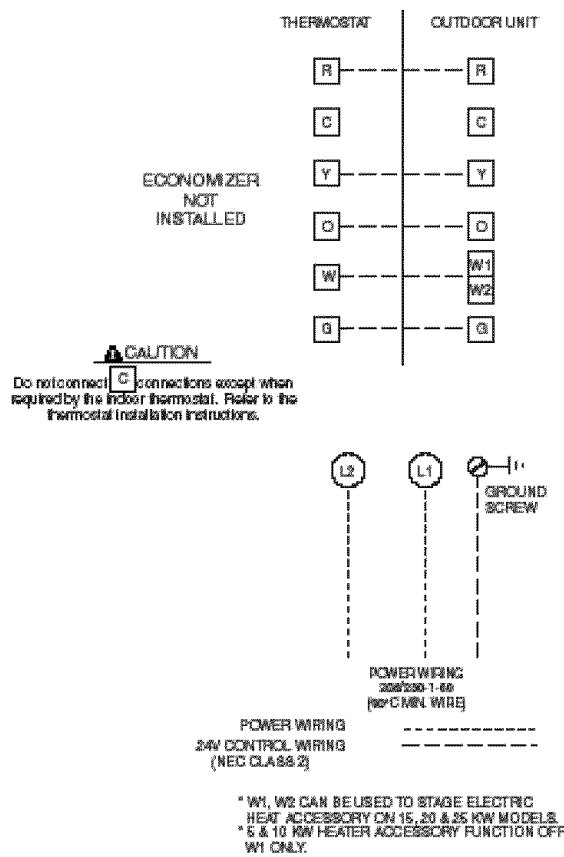


Figure 7

13CHPX Series Packaged Heat Pump Units

Typical Wiring Diagram

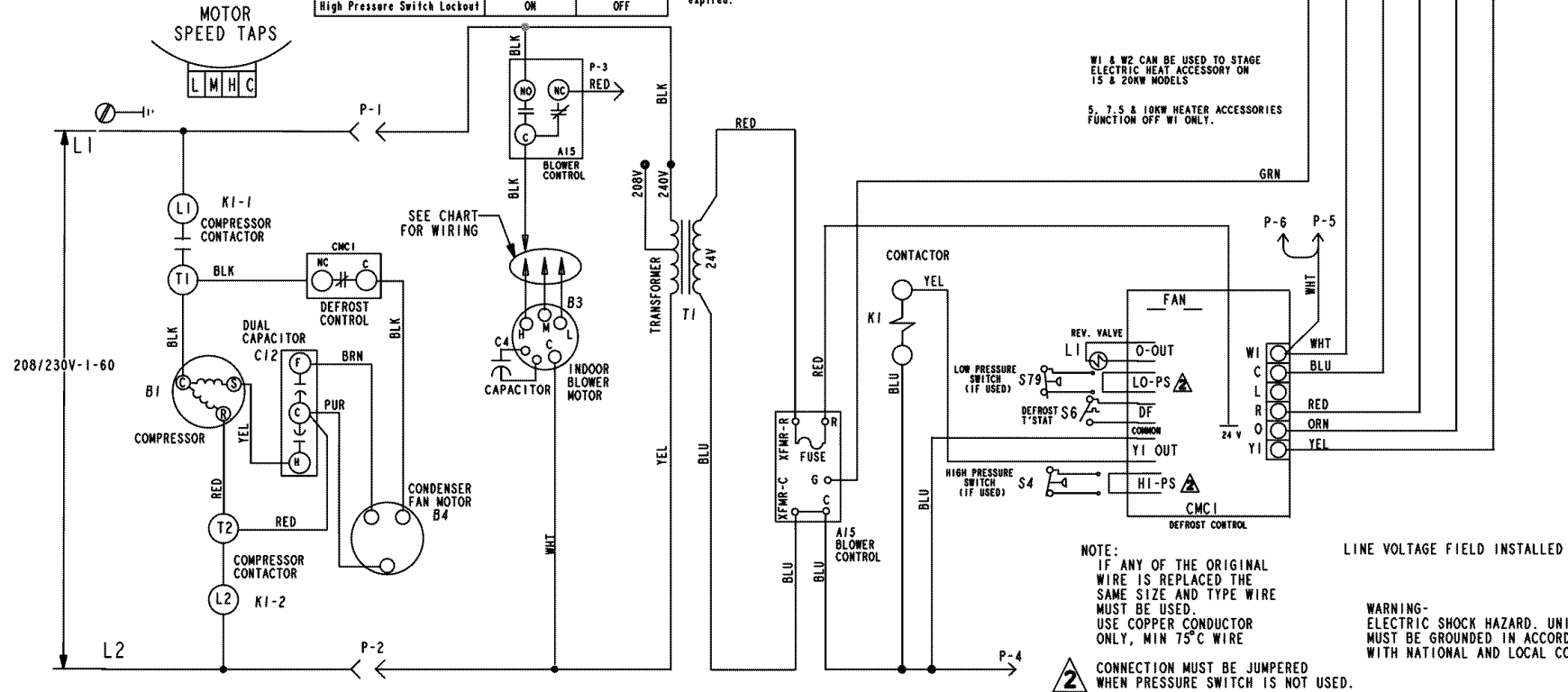
BLOWER SPEED CHART	
UNIT	FACTORY SHIPPED SETTINGS
COOLING INPUT	(BLK)
24	LOW
30	MED
36	HIGH
42	LOW
48	MED
60	HIGH

DIAGNOSTIC DISPLAY

Description	DS1 (P-3)	DS2 (P-2)
No Power to Control	OFF	OFF
Normal Operation / Power to Control	Simultaneous Slow Flash	
Anti-Short Cycle Lockout	Alternate Slow Flash	
Low Pressure Switch Fault	OFF	Slow Flash
Low Pressure Switch Lockout	OFF	ON
High Pressure Switch Fault	Slow Flash	OFF
High Pressure Switch Lockout	ON	OFF

Note: Because the Pressure Switches are monitored only when "Y1" (Input) is active, the code for pressure switch open will not be seen when "Y1" is off. Instead, the "Normal Operation" or "Anti Short Cycle" code will be seen.

Also, when a pressure switch opens and caused a short cycle lockout, the pressure switch-open code will be seen until it closes, then the short cycle lockout code will flash unless it has already expired.



W1 & W2 CAN BE USED TO STAGE ELECTRIC HEAT ACCESSORY ON 15 & 20KW MODELS
5, 7.5 & 10KW HEATER ACCESSORIES FUNCTION OFF W1 ONLY.

NOTE:
IF ANY OF THE ORIGINAL WIRE IS REPLACED THE SAME SIZE AND TYPE WIRE MUST BE USED.
USE COPPER CONDUCTOR ONLY, MIN 75°C WIRE

⚠ CONNECTION MUST BE JUMPERED WHEN PRESSURE SWITCH IS NOT USED.

LINE VOLTAGE FIELD INSTALLED

WARNING-
ELECTRIC SHOCK HAZARD. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.

Page 9
Figure 8

Defrost System

13CHPX units are equipped with a defrost control board that includes the combined functions of time/temperature defrost control, defrost relay, diagnostic LEDs and a low voltage terminal strip. See figure 9.

The control provides automatic switching from normal heating operation to defrost mode and back. During the compressor cycle (call for defrost), the control accumulates compressor run time at 30, 60 or 90-minute field-adjustable intervals. If the defrost thermostat is closed when the selected compressor run time interval ends, the defrost relay is energized and the defrost begins.

The **defrost timing jumper** is factory-installed to provide a 60-minute defrost interval. If the timing selector jumper is not in place, the control defaults to a 90-minute defrost interval. The maximum defrost period is 14 minutes and is not adjustable. See figure 9 for the location of the defrost interval timing pins.

A **test option** is provided for troubleshooting. The test mode may be started any time the unit is in the heating mode and the defrost thermostat is closed or jumpered. If the jumper is in the TEST position at power up, the control will ignore the test pins. When the jumper is placed across the TEST pins for 2 seconds, the control will enter the defrost mode. If the jumper is removed before an additional 5-second period has elapsed (7 seconds total), the unit will remain in defrost mode until the defrost thermostat opens or 14 minutes have passed. If the jumper is not removed until after the additional 5-second period has elapsed, the defrost will terminate and the test option will not function again until the jumper is removed and reapplied.

The defrost control board includes a **compressor delay** function which cycles the compressor off for 30 seconds while going into and coming out of the defrost cycle. This function is activated when the jumper is removed from the compressor delay pins.

NOTE -- The 30-second compressor delay is not functional when the TEST pins are jumpered.

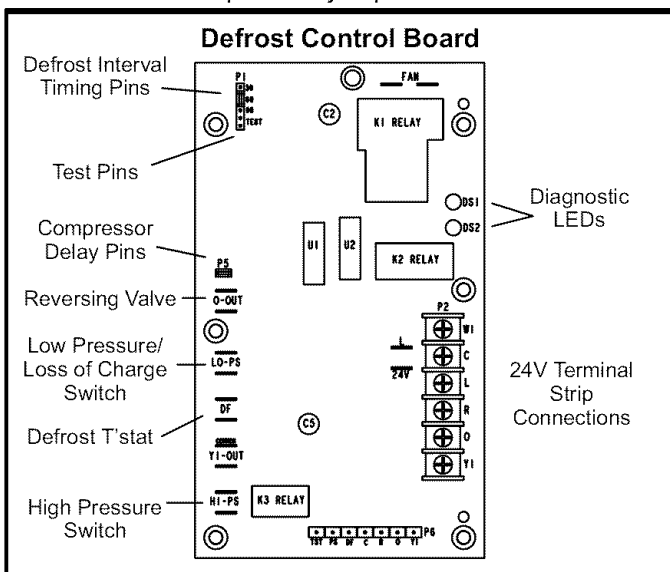


Figure 9

The **defrost thermostat** is located on the liquid line between the check/expansion valve and the distributor. When the defrost thermostat senses a liquid line temperature of 42°F or cooler, the thermostat contacts close and send a signal to the defrost control board to begin the defrost timing. The defrost thermostat also terminates the defrost when the liquid line temperature warms to 70°F.

The defrost control board includes **HI-PS and LO-PS terminals** to receive signals from the unit high pressure switch and loss of charge switch.

During a single demand cycle, the defrost control locks out compressor operation after the fifth time that the circuit is interrupted by any pressure switch wired to the control board. In addition, the diagnostic LEDs indicate a locked-out pressure switch after the fifth open pressure switch occurrence. Compressor operation remains locked out until power to the board is interrupted, then re-established, or until the jumper is applied to the TEST pins for 0.5 seconds.

NOTE -- The defrost control board ignores input from the loss of charge switch terminals as follows:

During the test mode;

During the defrost cycle;

During the 90-second start-up period;

During the first 90 seconds following a reversing valve switch between the heating and cooling modes.

EXCEPTION -- If the TEST pins are jumpered and the 5-minute delay is being bypassed, the LO-PS terminal signal is not ignored during the 90-second start-up period.

The defrost control board includes two diagnostic LEDs. LED codes indicate operating status. The diagnostics codes are given in table 2.

Table 2
Defrost Control Board Diagnostic LEDs

Mode	Green LED (DS2)	Red LED (DS1)
No power to board	OFF	OFF
Normal Operation / Power to Board	Simultaneous Slow Flash	
Anti-Short Cycle Lockout	Alternating Slow Flash	
Loss of Charge Pressure Switch Fault	OFF	Slow Flash
Loss of Charge Pressure Switch Lockout	OFF	ON
High Pressure Switch Fault	Slow Flash	OFF
High Pressure Switch Lockout	ON	OFF

Unit Start-Up and Operation

Each 13CHPX packaged heat pump is factory-charged with R-410A refrigerant. The compressor is hermetically sealed, internally sprung and base-mounted with rubber-insulated hold-down bolts.

Pre-Start Check List:

- 1 - Make sure refrigerant lines do not rub against the cabinet or each other.
- 2 - Inspect all electrical wiring, both factory- and field-installed, for loose connections.
- 3 - Check voltage at the disconnect switch. Voltage must be within the range listed on the unit nameplate. If not, consult power company and have voltage condition corrected before starting unit.
- 4 - Recheck voltage with unit running. If power is not within the range listed on the unit nameplate, stop the unit and consult the power company. Check unit amperage. Refer to unit nameplate for correct running amps.
- 5 - Make sure filter is in place before unit start-up.
- 6 - Before placing the unit into full operation, energize the unit for three false starts. Energize the compressor just long enough for it to make a few revolutions, wait five to seven minutes before repeating a second and third time.

Cooling Sequence of Operation

When the thermostat calls for cooling, the "O" circuit is energized to activate the reversing valve. The "R" to "Y" circuit is closed to energize the compressor contactor. The contactor brings on both the compressor and outdoor fan.

The thermostat also closes the "R" to "G" circuit to energize the circulating air blower. When the cooling demand is satisfied, the thermostat opens the circuits, as well as the compressor contactor. The compressor and outdoor fan immediately stop. The circulating air blower continues operating through a 90-second delay.

Unit compressors have internal protection. If there is an abnormal rise in the compressor temperature, the protector will open and the compressor will stop.

Heating Sequence of Operation

When the thermostat calls for heating, the "R" to "Y" circuit is closed to energize the compressor contactor. The contactor brings on both the compressor and outdoor fan. The reversing valve is not energized in the heating mode. The thermostat also closes the "R" to "G" circuit to energize the circulating air blower. When the heating demand is satisfied, the thermostat opens these circuits, as well as the compressor contactor. The compressor and outdoor fan immediately stop. The circulating air blower continues operating through a 90-second delay.

System Performance

Verify system performance using table 3 and table 4 as a general guide. Minor variations in these pressures may be expected due to differences in installations. Significant differences could mean that the system is not properly charged or that a problem exists with some component in the system.

Used carefully, these tables could serve as a useful service guide. Data is based on 80°F dry bulb / 67°F wet bulb return air. Allow unit operation to stabilize before taking pressure readings.

Table 3
Cooling Mode -- Normal Operating Pressures

80°F db / 67°F wb RETURN AIR		Air Temperature Entering Outdoor Coil (°F)											
UNIT	PRESSURE	65	70	75	80	82	85	90	95	100	105	110	115
13CHPX-24	Suction	143	144	146	147	148	149	150	152	153	154	156	157
13CHPX-30		140	141	142	144	144	145	146	147	149	150	152	153
13CHPX-36		142	143	144	145	145	146	146	147	148	149	150	151
13CHPX-42		135	136	138	139	140	141	143	144	147	149	151	154
13CHPX-48		142	143	145	146	147	148	149	151	152	153	155	156
13CHPX-60		137	138	140	141	142	143	145	146	148	149	151	153
13CHPX-24	Liquid	222	244	265	288	297	311	333	354	379	397	424	447
13CHPX-30		229	251	273	295	304	318	341	361	387	406	434	457
13CHPX-36		246	269	291	314	323	337	360	382	407	426	454	478
13CHPX-42		231	251	271	291	299	313	335	351	380	398	425	448
13CHPX-48		236	259	282	305	314	328	351	374	397	415	443	466
13CHPX-60		246	271	296	322	332	347	373	398	424	444	475	500

**Table 4
Heating Mode -- Normal Operating Pressures**

70°F RETURN AIR		Air Temperature Entering Outdoor Coil (°F)												
UNIT	PRESSURE	0	5	10	15	20	25	30	35	40	45	50	55	60
13CHPX-24	Suction	37	44	52	62	66	74	81	88	96	106	110	118	125
13CHPX-30		32	40	47	58	63	70	78	86	93	104	109	116	124
13CHPX-36		32	39	47	57	61	69	76	83	91	101	105	113	120
13CHPX-42		33	41	49	60	65	73	80	88	96	107	112	120	127
13CHPX-48		32	39	47	57	62	69	77	84	92	102	107	114	122
13CHPX-60		30	37	44	54	58	65	73	80	87	97	101	108	116
13CHPX-24	Liquid	283	291	300	312	317	326	335	343	352	364	369	378	387
13CHPX-30		273	281	290	301	306	314	322	330	339	350	355	363	371
13CHPX-36		259	266	273	283	287	294	302	309	316	326	330	337	345
13CHPX-42		300	309	319	332	338	347	357	366	376	389	395	404	414
13CHPX-48		279	284	291	302	307	314	322	330	337	348	353	360	368
13CHPX-60		318	328	339	353	359	370	380	390	401	415	421	432	442

Condenser Fan Clearances

The top of the condenser fan should be 1-1/2 inches from the bottom of the top grille. This dimension should be checked and the fan should be adjusted accordingly any time servicing of the outdoor fan system is required.

Maintenance

Periodic inspection and maintenance normally consists of changing or cleaning filters and (under some conditions) cleaning the main burners.

Filters

Not supplied. Inspect once a month. Replace disposable or clean permanent type as necessary. DO NOT replace permanent type with disposable.

Motors

Indoor, outdoor fan and vent motors are permanently lubricated and require no further lubrication. Motors should be cleaned yearly to prevent the accumulation of dust and dirt on the windings or motor exterior.

Coil

Dirt and debris should not be allowed to accumulate on the coil surfaces or other parts in the air conditioning circuit. Cleaning should be performed as often as necessary. Use a brush, vacuum cleaner attachment, or other suitable means. If water is used to clean the coil, be sure the power to unit is shut off prior to cleaning.

NOTE - Care should be used when cleaning the coil so that the coil fins are not damaged.

Do not permit the hot condenser air discharge to be obstructed by overhanging structures or shrubs.

Accessories	
Description	LENNOX Cat. Number
Filter Kit (2-ton to 3-ton capacity units)	92M54
Filter Kit (3-1/2-ton to 5-ton capacity units)	92M55