

Service Instructions

PC, PCK, PCKJ Package Cooling Units
PH, PHK,PHKJ Package Heat Pump Units
PGB, PGJ Package Gas/Electric Units

MODEL NUMBERS LISTED
ON PAGE 8



This Forced Air Central Unit Design Complies With
Requirements Embodied in The American National
Standard / National Standard of Canada Shown Below.
ANSI Z21.47•CSA-2.3 Central Furnaces



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IMPORTANT INFORMATION

Pride and workmanship go into every product to provide our customers with quality products. It is possible, however, that during its lifetime a product may require service. Products should be serviced only by a qualified service technician who is familiar with the safety procedures required in the repair and who is equipped with the proper tools, parts, testing instruments and the appropriate service manual. **REVIEW ALL SERVICE INFORMATION IN THE APPROPRIATE SERVICE MANUAL BEFORE BEGINNING REPAIRS.**

IMPORTANT NOTICES FOR CONSUMERS AND SERVICERS

RECOGNIZE SAFETY SYMBOLS, WORDS AND LABELS



WARNING

Hazards or unsafe practices which could result in property damage, product damage, personal injury or death.



CAUTION

Hazards or unsafe practices which may result in property damage, product damage, personal injury or death.



WARNING

Do not connect to or use any device that is not design certified by Goodman for use with this unit. Serious property damage, personal injury, reduced unit performance and/OR hazardous conditions may result from the use of such non-approved devices.



WARNING

ONLY individuals meeting the requirements of an "Entry Level Technician" as specified by the Air Conditioning and Refrigeration Institute (ARI) may use this information. Attempting to install or repair this unit without such background may result in product damage, personal injury, or death.



WARNING

To prevent the risk of property damage, personal injury, or death, do not store combustible materials or use gasoline or other flammable liquids or vapors in the vicinity of this appliance.



WARNING

Goodman will not be responsible for any injury or property damage arising from improper service or service procedures. If you perform service on your own product, you assume responsibility for any personal injury or property damage which may result.

To locate an authorized servicer, please consult your telephone book or the dealer from whom you purchased this product. For further assistance, please contact:

CONSUMER INFORMATION LINE - AMANA TOLL FREE

1-877-254-4729 (U.S. only)

email us at: hac.consumer.affairs@amanahvac.com

fax us at: (931) 438- 4362

(Not a technical assistance line for dealers.)

Outside the U.S., call 1-931-433-6101.

(Not a technical assistance line for dealers.)

Your telephone company will bill you for the call.

IMPORTANT INFORMATION

SAFE REFRIGERANT HANDLING

While these items will not cover every conceivable situation, they should serve as a useful guide.



WARNING

Refrigerants are heavier than air. They can "push out" the oxygen in your lungs or in any enclosed space. To avoid possible difficulty in breathing or death:

- Never purge refrigerant into an enclosed room or space. By law, all refrigerants must be reclaimed.
- If an indoor leak is suspected, thoroughly ventilate the area before beginning work.
- Liquid refrigerant can be very cold. To avoid possible frostbite or blindness, avoid contact with refrigerant and wear gloves and goggles. If liquid refrigerant does contact your skin or eyes, seek medical help immediately.
- Always follow EPA regulations. Never burn refrigerant, as poisonous gas will be produced.



WARNING

To avoid possible explosion:

- Never apply flame or steam to a refrigerant cylinder. If you must heat a cylinder for faster charging, partially immerse it in warm water.
- Never fill a cylinder more than 80% full of liquid refrigerant.
- Never add anything other than R-22 to an R-22 cylinder or R-410A to an R-410A cylinder. The service equipment used must be listed or certified for the type of refrigerant used.
- Store cylinders in a cool, dry place. Never use a cylinder as a platform or a roller.



WARNING

To avoid possible injury, explosion or death, practice safe handling of refrigerants.



WARNING

To avoid possible explosion, use only returnable (not disposable) service cylinders when removing refrigerant from a system.

- Ensure the cylinder is free of damage which could lead to a leak or explosion.
- Ensure the hydrostatic test date does not exceed 5 years.
- Ensure the pressure rating meets or exceeds 400 lbs.

When in doubt, do not use cylinder.



WARNING

System contaminants, improper service procedure and/or physical abuse affecting hermetic compressor electrical terminals may cause dangerous system venting.

System contaminants, improper Service Procedure and/or physical abuse affecting hermetic compressor electrical terminals may cause dangerous system venting.

The successful development of hermetically sealed refrigeration compressors has completely sealed the compressor's moving parts and electric motor inside a common housing, minimizing refrigerant leaks and the hazards sometimes associated with moving belts, pulleys or couplings.

Fundamental to the design of hermetic compressors is a method whereby electrical current is transmitted to the compressor motor through terminal conductors which pass through the compressor housing wall. These terminals are sealed in a dielectric material which insulates them from the housing and maintains the pressure tight integrity of the hermetic compressor. The terminals and their dielectric embedment are strongly constructed, but are vulnerable to careless compressor installation or maintenance procedures and equally vulnerable to internal electrical short circuits caused by excessive system contaminants.

In either of these instances, an electrical short between the terminal and the compressor housing may result in the loss of integrity between the terminal and its dielectric embedment. This loss may cause the terminals to be expelled, thereby venting the vaporous and liquid contents of the compressor housing and system.

A venting compressor terminal normally presents no danger to anyone, providing the terminal protective cover is properly in place.

If, however, the terminal protective cover is not properly in place, a venting terminal may discharge a combination of

- (a) hot lubricating oil and refrigerant
- (b) flammable mixture (if system is contaminated with air)

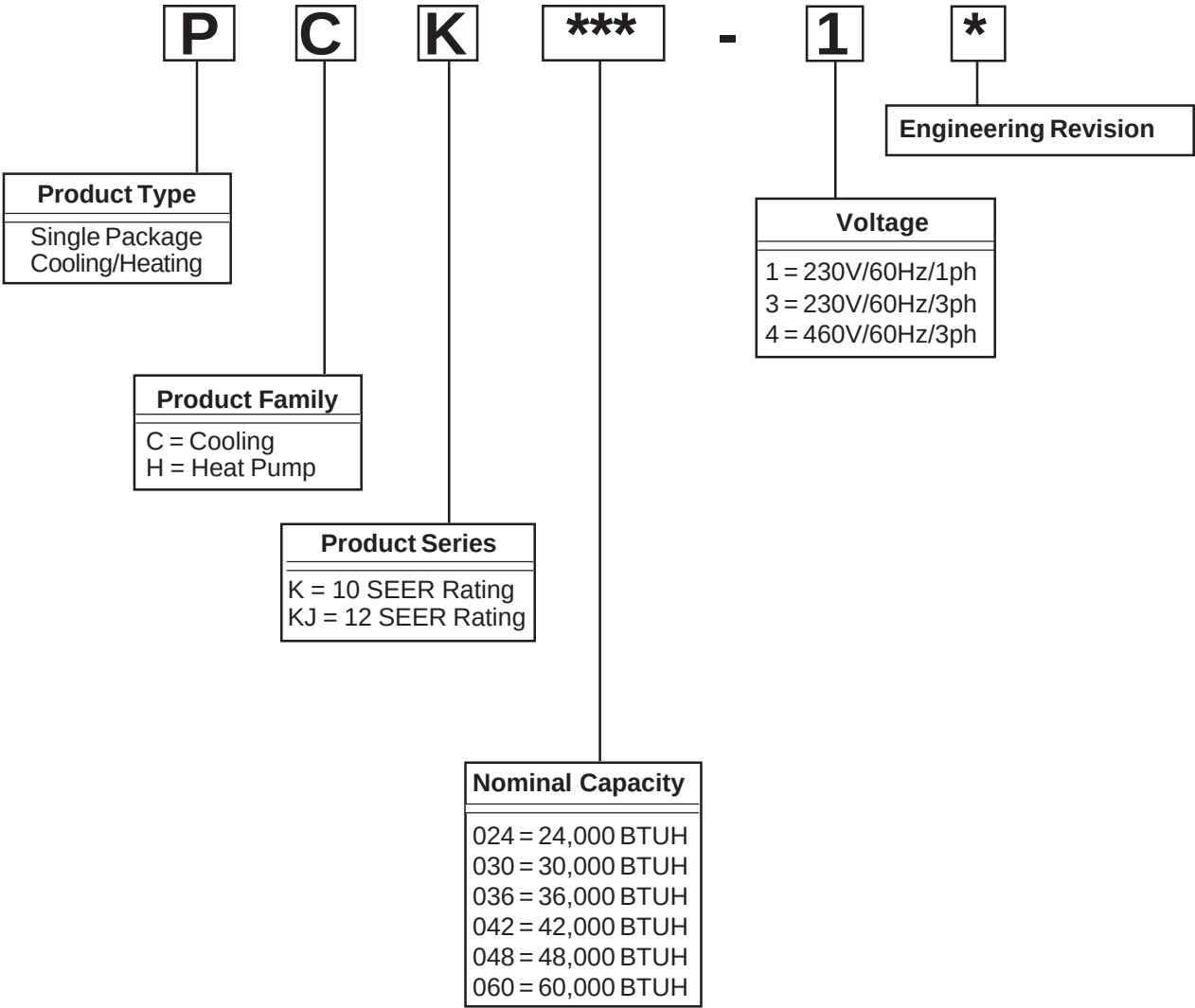
in a stream of spray which may be dangerous to anyone in the vicinity. Death or serious bodily injury could occur.

Under no circumstances is a hermetic compressor to be electrically energized and/or operated without having the terminal protective cover properly in place.

See Service Section S-17 for proper servicing.

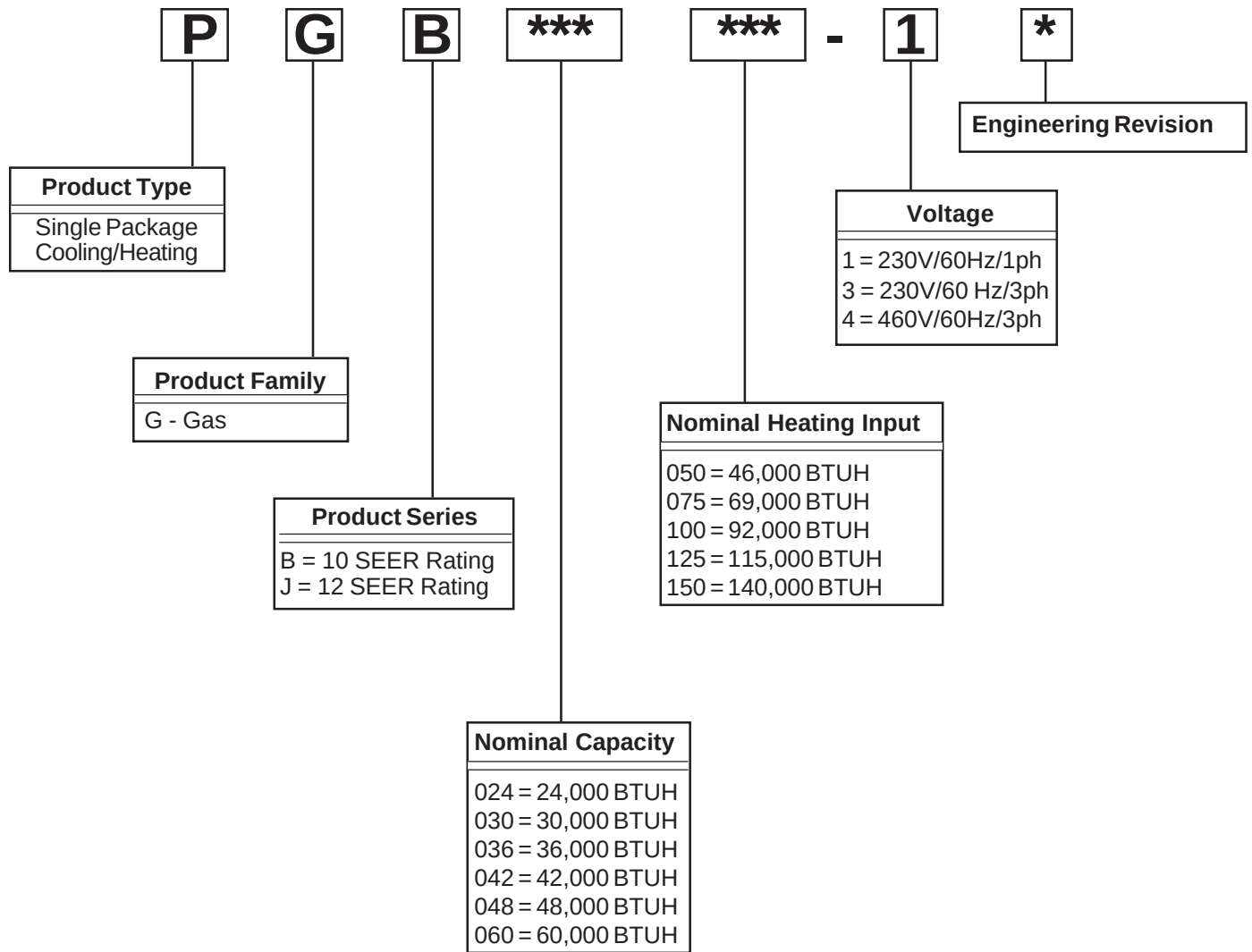
PRODUCT IDENTIFICATION

HEAT PUMPS AND COOLERS



PRODUCT IDENTIFICATION

PACKAGE GAS



PRODUCT IDENTIFICATION

MODEL NO.	DESCRIPTION
PGB*****-1*	Goodman Package Gas - 10 SEER 208-230/1/60 Single-Phase Gas/Electric Unit.
PGB*****-3*	Goodman Package Gas - 10 SEER 208-230/3/60 Three-Phase Gas/Electric Unit.
PGB*****-4*	Goodman Package Gas - 10 SEER 460/3/60 Three-Phase Gas/Electric Unit.
PGJ*****-1*	Goodman Package Gas - 12 SEER 208-230/1/60 Single-Phase Gas/Electric unit.
PC***-1*	Goodman Package Cooling - 10 SEER 208-230/1/60 Single-Phase Electric/Cooling Unit.
PC***-3*	Goodman Package Cooling - 10 SEER 208-230/3/60 Three-Phase Electric/Cooling Unit.
PC***-4*	Goodman Package Cooling - 10 SEER 460/3/60 Three-Phase Electric/Cooling Unit.
PCK***-1*	Goodman Package Cooling - 10 SEER 208-230/1/60 Single-Phase Electric/Cooling Unit.
PCK***-3*	Goodman Package Cooling - 10 SEER 208-230/3/60 Three-Phase Electric/Cooling Unit.
PCK***-4*	Goodman Package Cooling - 10 SEER 460/3/60 Three-Phase Electric/Cooling Unit.
PCKJ***-1*	Goodman Package Cooling - 12 SEER 208-230/1/60 Single-Phase Electric/Cooling Unit.
PH***-1*	Goodman Package Heat Pump - 10 SEER 208-230/1/60 Single-Phase Heat Pump Unit.
PH***-3*	Goodman Package Heat Pump - 10 SEER 208-230/3/60 Three-Phase Heat Pump Unit.
PHK***-1*	Goodman Package Heat Pump - 10 SEER 208-230/1/60 Single-Phase Heat Pump Unit.
PHK***-3*	Goodman Package Heat Pump - 10 SEER 208-230/3/60 Three-Phase Heat Pump Unit.
PHK***-4*	Goodman Package Heat Pump - 10 SEER 460/3/60 Three-Phase Heat Pump Unit.
PHKJ***-1*	Goodman Package Heat Pump - 12 SEER 208-230/1/60 Single-Phase Heat Pump Unit.

ACCESSORIES		
Part Number	Description	Fits Models
LPM-01	LP Conversion Kit	PGB, PGJ
HLPK-01	High and Low Pressure Switch Kit	PGB, PGJ
LA-01	Low Ambient Kit	PGB, PGJ
PGC1, 2, 3	Roof Curb	PGB, PGJ
PGED1, 2, 3	Downflow Economizer	PGB, PGJ
PGEH1, 2, 3	Horizontal Economizer	PGB, PGJ
PGMD1, 2, 3	Manual Fresh Air Damper	PGB, PGJ
PGMDM1, 2, 3	Motorized Fresh Air Damper	PGB, PGJ
SQRPG1, 2, 3	Square to Round Adapter	PGB, PGJ
PGFR1, 2, 3	Downflow Filter Rack	PGB, PGJ
HK**-*	Auxillary Heat Kit	PCK, PHK, PCKJ, PHKJ
PCCP-1, 2, 3	Roof Curb	PCK, PHK, PCKJ, PHKJ
PCE-1, -2, -3	Downflow Economizer	PCK, PHK, PCKJ, PHKJ
PCP-1, 2, 3	Downflow Plenum (Includes Filter Rack)	PCK, PHK, PCKJ, PHKJ
PCMD1, 2, 3	Manual Fresh Air Damper	PCK, PHK, PCKJ, PHKJ
SQRPC1, 2, 3	Square to Round Converter (Downflow)	PCK, PHK, PCKJ, PHKJ
SQRPCH1, 2, 3	Square to Round Converter (Horizontal)	PCK, PHK, PCKJ, PHKJ
PCEF1, 2, 3	Elbow and Flashing	PCK, PHK, PCKJ, PHKJ
LPAK-01*, 02*, 03*	Louvered Panel Accessory Kit	PCK, PHK, PCKJ, PHKJ
OT18-60A	Outdoor Thermostat	PCK, PHK, PCKJ, PHKJ
OT/EHR18-60A	Outdoor Thermostat/Em. Heat Relay Kit	PCK, PHK, PCKJ, PHKJ

LIGHTING INSTRUCTIONS

FOR YOUR SAFETY READ BEFORE OPERATING



WARNING



If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burners. Do not try to light the burners by hand.

B. BEFORE OPERATING smell around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electric switch; do not use any telephone in your building.
- Immediately call your supplier from a neighbor's phone. Follow the gas suppliers instructions.

- If you cannot reach your gas supplier, call the fire department.

C. Use only your hand to move the gas control switch or knob. Never use tools. If the gas control switch or knob will not operate, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

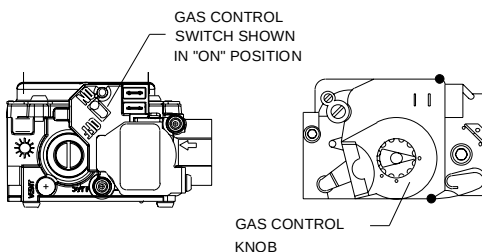
D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

WARNING: Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to the user's information manual provided with this furnace. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

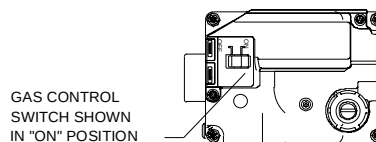
This furnace must be installed in accordance with the manufacturers instructions and local codes. In the absence of local codes, follow the National Fuel Gas Code, ANSI Z223.1.

OPERATING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an automatic ignition system which automatically lights the burners. Do not try to light the burners by hand.
5. Remove control access panel.
6. Move the gas control switch or knob to "OFF".



7. Wait five (5) minutes to clear out any gas. If you then smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to the next step.
8. Move the gas control switch or knob to "ON".
9. Replace control access panel.
10. Turn on all electric power to the appliance.
11. Set the thermostat to the desired setting.
12. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier.



For outdoor installation only.

WARNING: If not installed, operated and maintained in accordance with the manufacturer's instructions, this product could expose you to substances in fuel combustion which can cause death or serious illness and which are known to the State of California to cause cancer, birth defects or other reproductive harm. This product contains fiberglass insulation. Fiberglass insulation contains a chemical known by the State of California to cause cancer.

TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to its lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove control access panel.
4. Move the gas control switch or knob to "OFF". Do not force.
5. Replace control access panel.

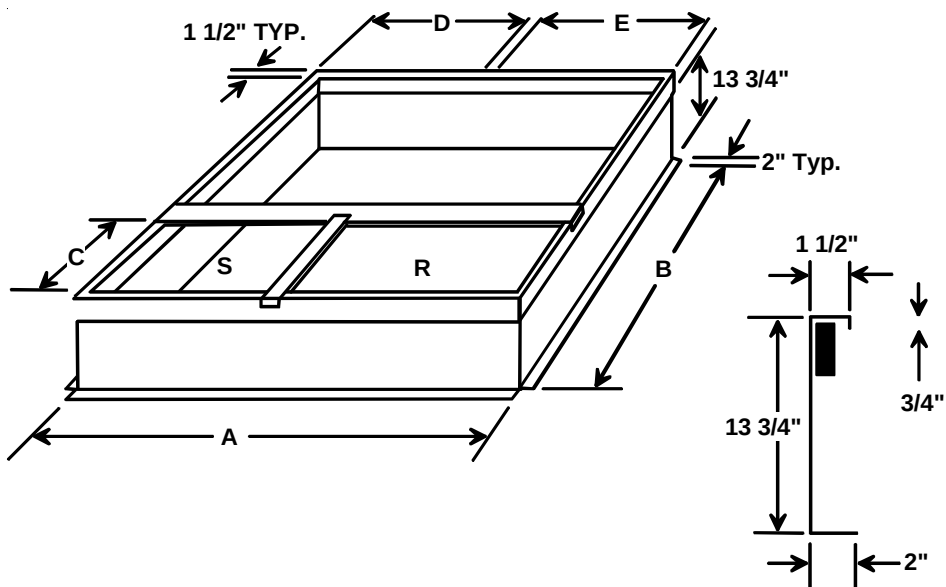
FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

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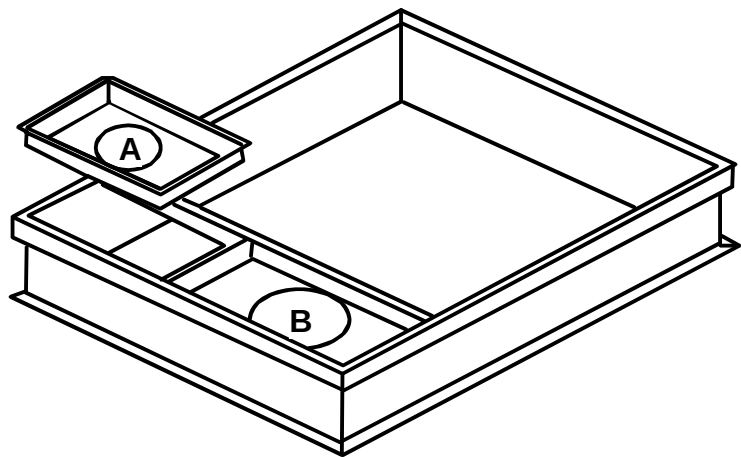
ACCESSORIES

ROOF CURB
PGB, PGJ



Model	A	B	C	D	E
PGC-1	34	42.625	15.25	15	18
PGC-2	39	46.625	15.25	17	21
PGC-3	53.75	50.75	17.25	25.375	27.375

DOWNFLOW SQUARE TO ROUND CONVERTER
PGB, PGJ

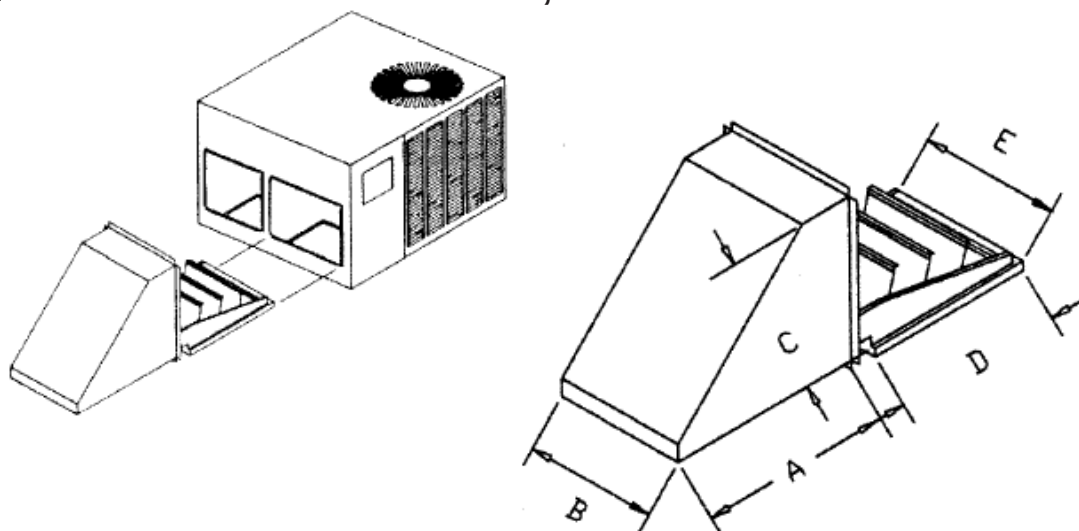


SQUARE TO ROUND CONVERTER		
MODEL	A	B
SQRPG-1	14	16
SQRPG-2	16	16
SQRPG-3	16	18

ACCESSORIES

ECONOMIZERS & FRESH AIR DAMPER

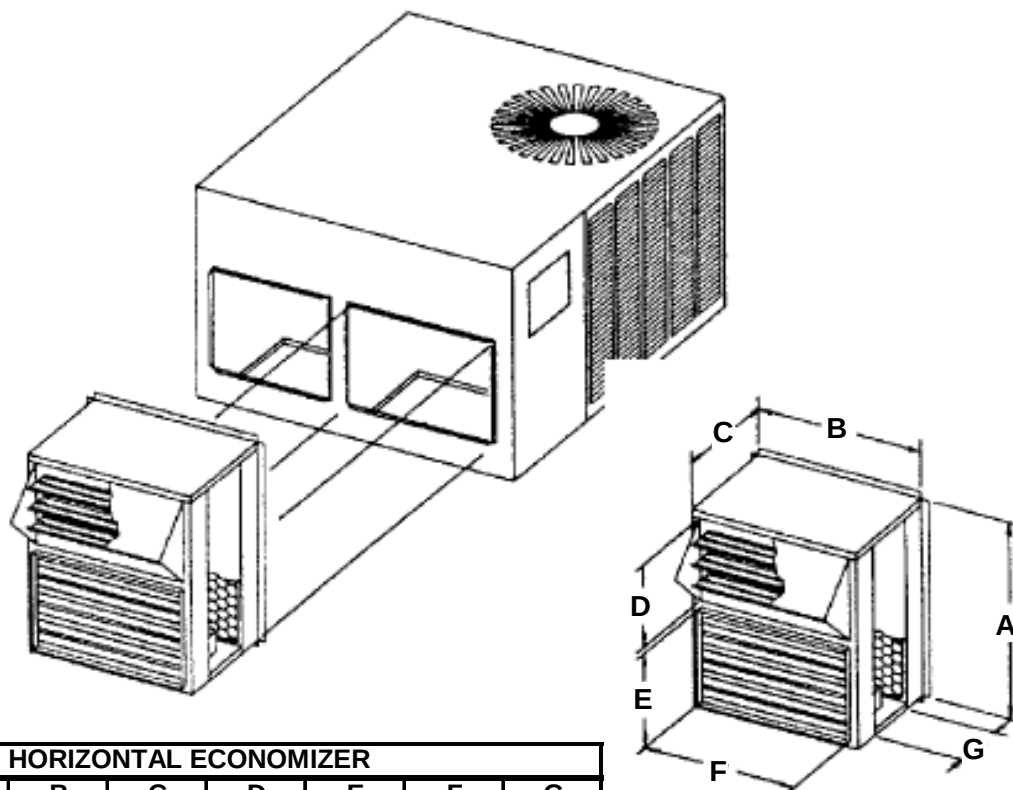
PGB, PGJ



DOWNFLOW ECONOMIZER					
MODEL	A	B	C	D	E
PGED-1	20	18.75	15.75	16.375	18.125
PGED-2	20	20.75	15.75	16.375	20.125
PGED-3	20	27	17.625	18.25	26.375

HORIZONTAL ECONOMIZER

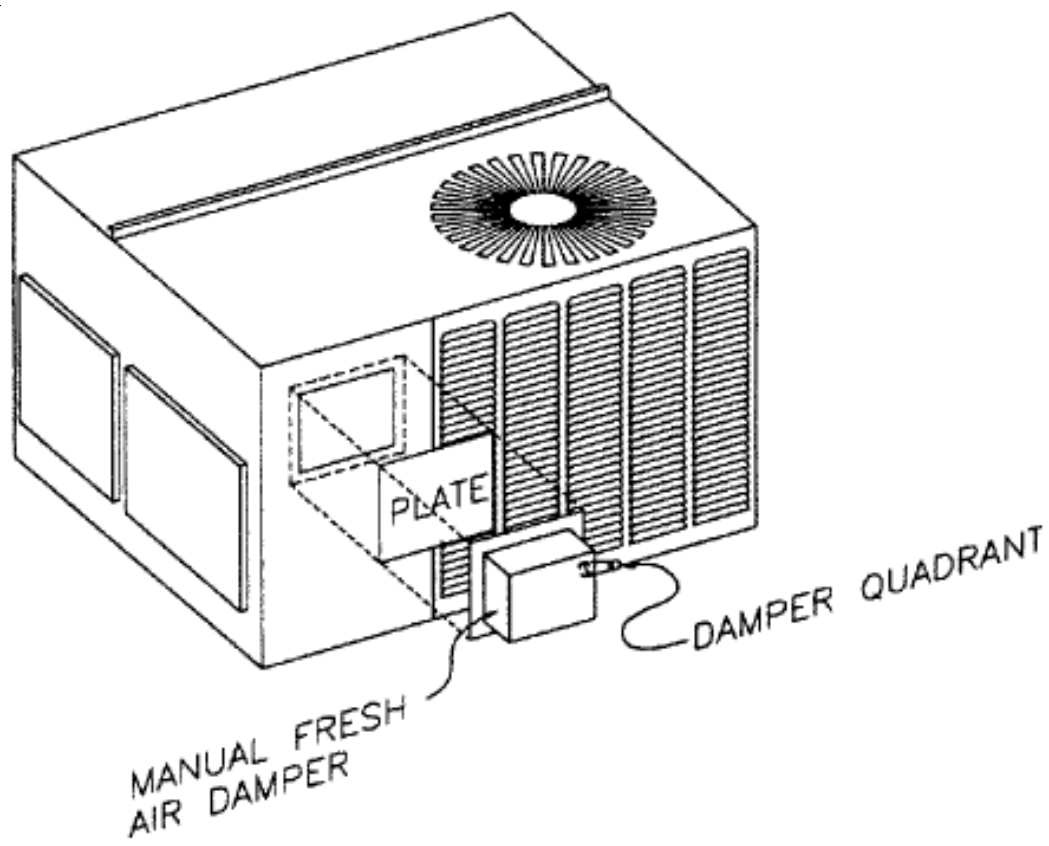
PGB, PGJ



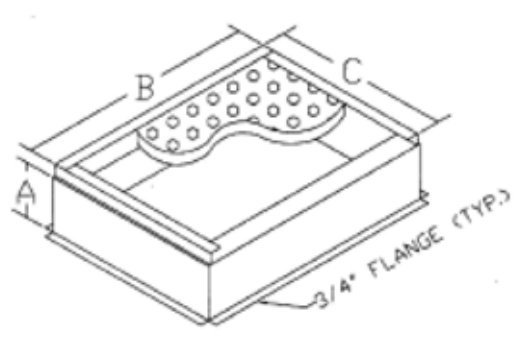
HORIZONTAL ECONOMIZER							
MODEL	A	B	C	D	E	F	G
PGEH-1	29	20.5	16	12	13.5	18.5	9.25
PGEH-2	29	22.5	16	12	13.5	20.5	9.25
PGEH-3	31	28.75	16	13	13.5	26.25	9.25

ACCESSORIES

PGMDM (MOTORIZED), PGMD (MANUAL) FRESH AIR DAMPERS -
PGB, PGJ



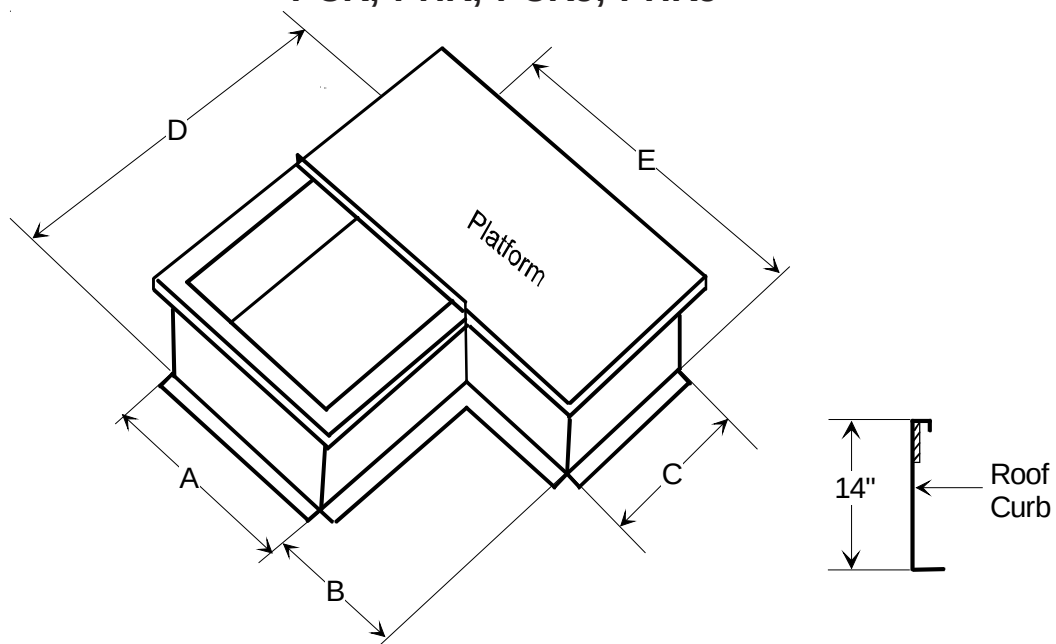
DOWNFLOW FILTER RACK
PGB, PGJ



DOWNFLOW FILTER RACK				
MODEL	A	B	C	FILTER SIZE
PGFR-1	4 3/4	18 7/8	15 3/8	16 X 18
PGFR-2	4 3/4	20 7/8	15 3/8	16 X 20
PGFR-3	4 3/4	27 7/8	17 3/8	16 X 25

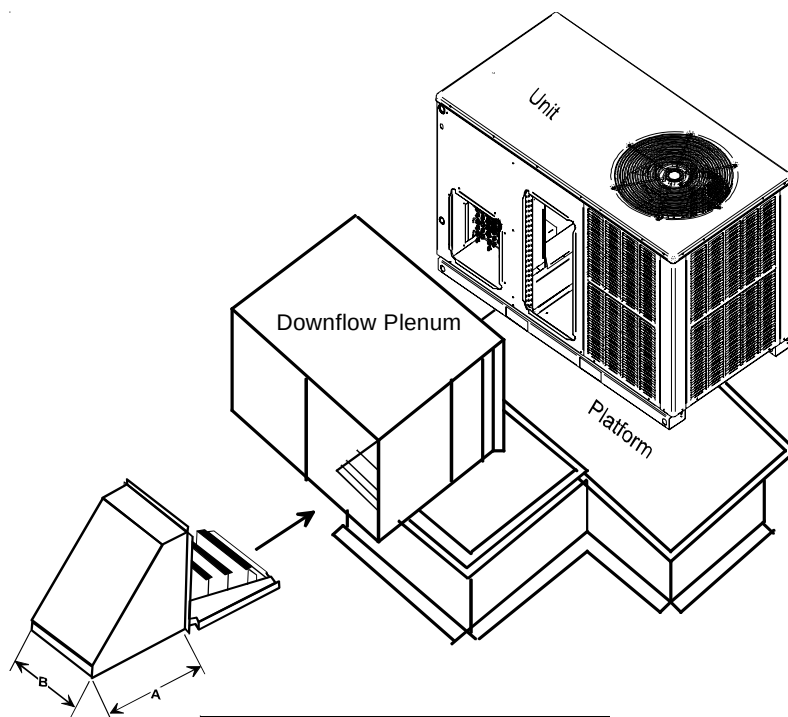
ACCESSORIES

ROOF CURB PCK, PHK, PCKJ, PHKJ



Model	A	B	C	D	E	PLATFORM
PCCP-1	23.625	21.125	17	46	44.75	48.75 X 21
PCCP 2-3	29.375	22.125	25	54	51.5	55.5 X 29

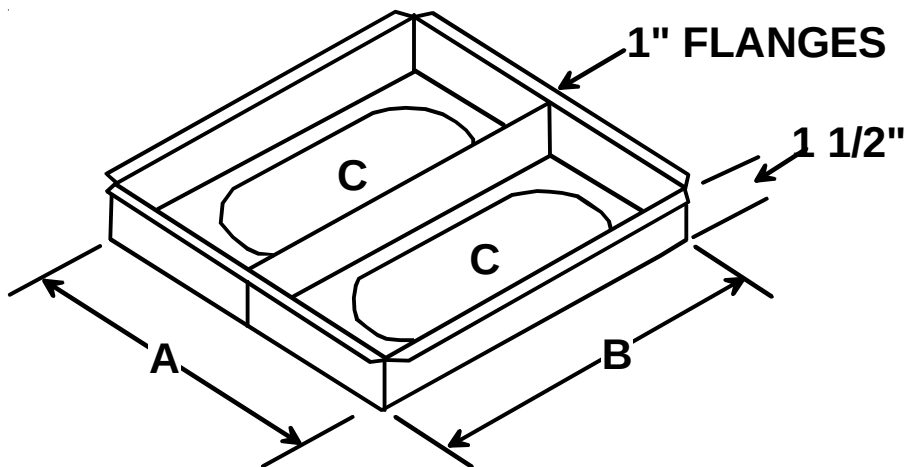
DOWNFLOW ECONOMIZER PCK, PHK, PCKJ, PHKJ



MODEL	A	B
PCE-1	20	14 3/4
PCE 2-3	20	18 3/4

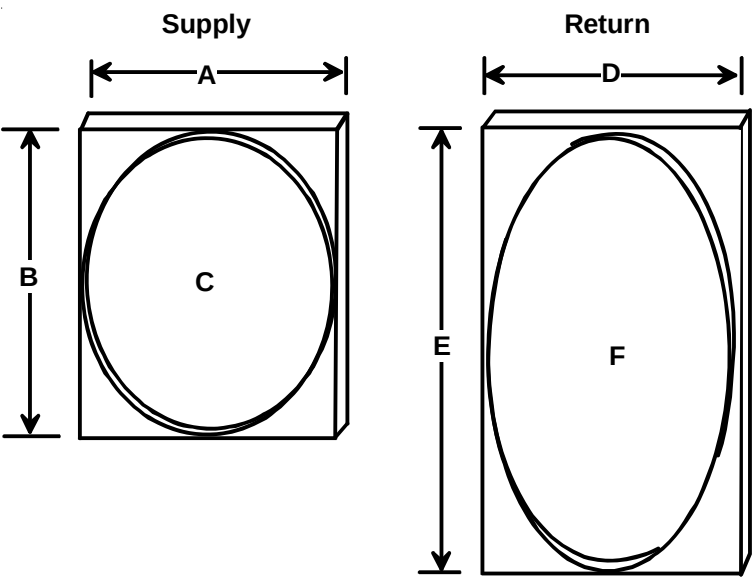
ACCESSORIES

DOWNFLOW SQUARE TO ROUND CONVERTER
PCK, PHK, PCKJ, PHKJ



Model	A	B	C
SQRPC-1	22 3/8	29	16
SQRPC 2-3	28 1/8	29	18

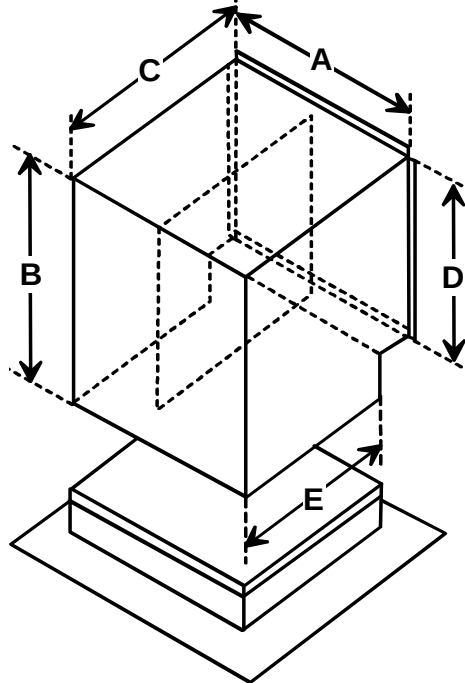
HORIZONTAL SQUARE TO ROUND CONVERTER
PCK, PHK, PCKJ, PHKJ



Model	A	B	C	D	E	F
SQRPCH-1	12 1/8	12 1/8	12	12 1/8	20 1/8	14
SQRPCH-2	14 1/8	14 1/8	14	14 1/8	22 1/8	16
SQRPCH-3	14 1/8	14 1/8	14	14 1/8	24 1/8	18
SQRPCH 2-14	14 1/8	14 1/8	14	14 1/8	22 1/8	14
SQRPCH-3-14	14 1/8	14 1/8	14	14 1/8	24 1/8	14

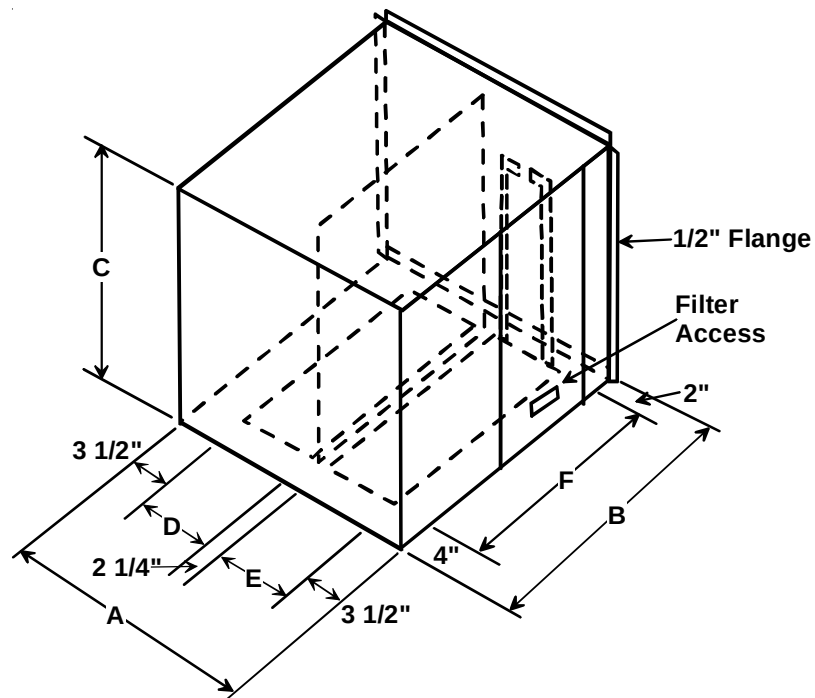
ACCESSORIES

ELBOW AND FLASHING PCK, PHK, PCKJ, PHKJ



MODEL	A	B	C	D	E
PCEF-1	28 1/2	28 1/4	25	20 1/4	20
PCEF 2-3	34 1/2	32 1/4	25	24 1/4	20

PLENUM PCK, PHK, PCKJ, PHKJ

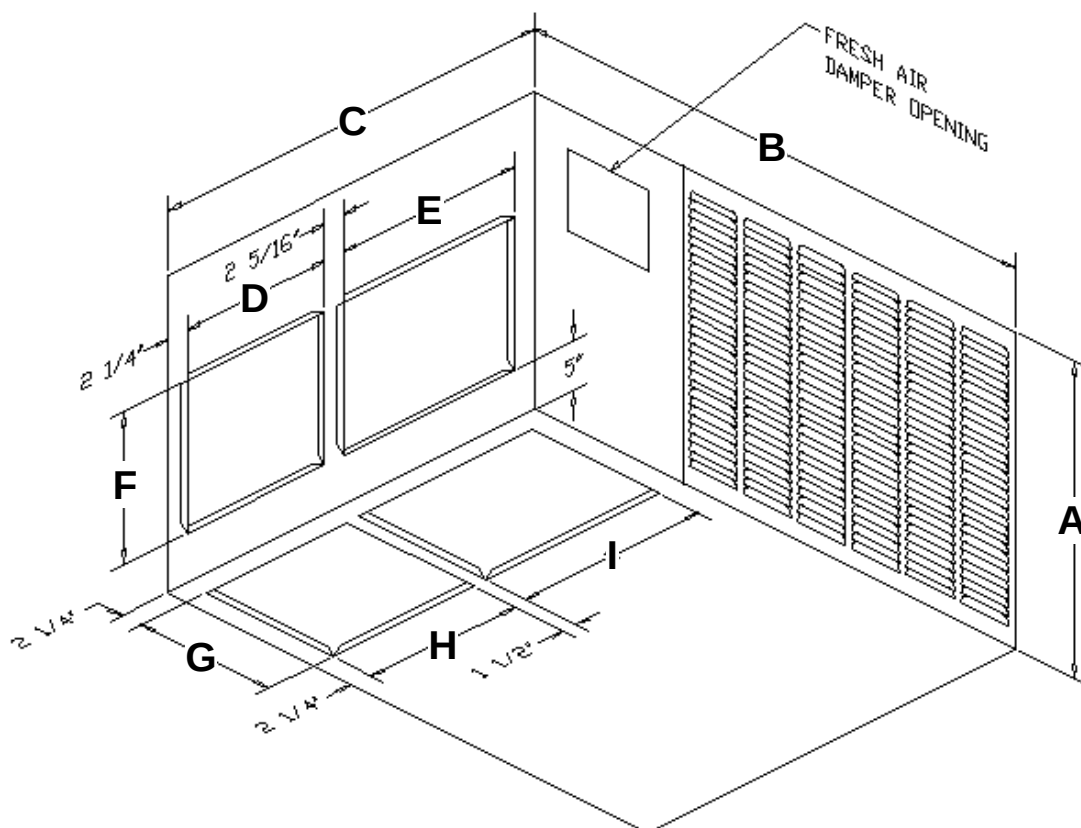


MODEL	A	B	C	D	E	F	FILTER
PCP-1	28.5	30	25.75	8	11.5	24	16 X 20
PCP 2-3	34.5	30	30	11	14.5	24	20 X 25

PRODUCT SPECIFICATIONS

PGB

DIMENSIONS (in.)	CHASSIS #1		CHASSIS #2	CHASSIS #3	
	PGB024050 PGB024075 PGB030050	PGB030075 PGB036050 PGB036075	PGB030100 PGB036100 PGB042075 PGB042100	PGB042125 PGB048075 PGB048100 PGB048125	PGB048150 PGB060100 PGB060125 PGB060150
A	31 1/8		31 1/8	33 5/8	
B	52		52	55 3/8	
C	38 3/4		43 3/4	58 1/8	
D	13 3/8		16 3/8	24 5/8	
E	18 3/8		20 3/8	26 5/8	
F	15		15	17	
G	15 1/4		15 1/4	17 1/4	
H	13 3/4		16 3/4	25	
I	18 3/4		20 3/4	27	



PRODUCT SPECIFICATIONS

PGB

	PGB024050-1	PGB024075-1	PGB030050-1A	PGB030075-1A	PGB030100-1A	PGB036050-1A
Total Cooling - BTUH	24000	24000	29000	29000	30000	34200
Sens. Cooling - BTUH	18200	18200	22000	22000	22500	24600
Cooling CFM Nominal	900	900	1050	1050	1050	1200
SEER (2)	10	10	10	10	10	10
EERa (3)	-	-	-	-	-	-
Sound Rating (2)	8.2	8.2	8.2	8.2	8.2	8.2
Heating Input	46000	69000	46000	69000	92000	46000
Heating Capacity	37700	56600	37700	56600	75400	37700
Output Capacity	-	-	-	-	-	-
AFUE (1)	80	80	80	80	80	80
Outdoor S. S. Eff.	-	-	-	-	-	-
California SEER	74.8	76.4	74.8	76	76.5	74.8
Temp. Rise Range	30-60	50-80	25-55	40-70	55-85	20-50
Indoor Blower						
Type	DD	DD	DD	DD	DD	DD
Size - D x W	9 x 6	9 x 6	9 x 6	9 x 6	10 x 6	10 x 6
Motor H.P.	1/5	1/5	1/3	1/3	1/3	1/3
Evaporator Coil						
Face (ft2)	2.41	2.41	2.41	2.41	2.86	2.41
Fin / In	14	14	14	14	14	14
No. of Rows	3	3	3	3	3	4
Outdoor Fan						
Fan Dia. (in.)	18	18	18	18	20	18
Motor H.P.	1/6	1/6	1/6	1/6	1/6	1/6
Condenser Coil						
Face Area (ft2)	10.05	10.05	10.05	10.05	11.3	10.05
Fin / In.	19	19	19	19	19	19
No. of Rows	1	1	1	1	1	1
Electrical						
Ph	1	1	1	1	1	1
Volts	208/230	208/230	208/230	208/230	208/230	208/230
Compr. RLA	12.1	12.1	14.1	14.1	14.1	17.3
Compr. LRA	57	57	73	73	76	89
Indoor Blw FLA.	1.7	1.7	2.6	2.6	2.6	2.6
Outdoor Blw FLA.	1	1	1.1	1.1	1.1	1.6
Min. Circuit Amp	17.9	17.9	21.4	21.4	21.4	26.8
Max. Fuse Size	25	25	35	35	35	40
Max HACR Breaker	20	20	30	30	30	40
Net Weight	360	370	360	370	385	365
Shipping Weight	370	380	370	380	395	365

PGB Models meet California NOx Requirements

- (1) In accordance with D.O.E. Test Procedures
- (2) Certified per ARI 210 and 270
- (3) BTU / Watt @ 80/67 F inside - 95 F outside air

PRODUCT SPECIFICATIONS

PGB

	PGB036075-1A	PGB036075-3A	PGB036100-1A	PGB042075-1A	PGB042100-1A	PGB042125-1
Total Cooling - BTUH	34200	34200	35000	40000	40000	40000
Sens. Cooling - BTUH	24600	24600	25200	30400	30400	30400
Cooling CFM Nominal	1200	1200	1200	1450	1450	1450
SEER (2)	10	10	10	10	10	10
EERa (3)	-	-	-	-	-	-
Sound Rating (2)	8.2	8.2	8.2	8.4	8.4	8.4
Heating Input	69000	69000	92000	69000	92000	115000
Heating Capacity	56600	-	75400	56600	75400	94300
Output Capacity	-	56600	-	-	-	-
AFUE (1)	80	-	80	80	80	80
Outdoor S. S. Eff.	-	82	-	-	-	-
California SEER	75.2	75.2	75.2	74.3	75.5	76.2
Temp. Rise Range	35-65	35-65	55-85	30-60	45-75	45-75
Indoor Blower						
Type	DD	DD	DD	DD	DD	DD
Size - D x W	10 x 6	10 x 6	10 x 6	10 x 8	10 x 8	10 x 8
Motor H.P.	1/3	1/3	1/3	1/2	1/2	1/2
Evaporator Coil						
Face (ft2)	2.41	2.41	2.86	2.86	2.86	4.43
Fin / In	14	14	14	14	14	14
No. of Rows	4	4	3	4	4	3
Outdoor Fan						
Fan Dia. (in.)	18	18	20	20	20	22
Motor H.P.	1/6	1/6	1/4	1/4	1/4	1/4
Condenser Coil						
Face Area (ft2)	10.05	10.05	11.3	11.3	11.3	14.95
Fin / In.	19	19	19	19	19	19
No. of Rows	1	1	1	1	1	1
Electrical						
Ph	1	3	1	1	1	1
Volts	208/230	208/230	208/230	208/230	208/230	208/230
Compr. RLA	17.3	10.3	17.3	21.8	21.8	19.3
Compr. LRA	89	78	89	105	105	97
Indoor Blw FLA.	2.6	2.6	2.6	3.6	3.6	4.2
Outdoor Blw FLA.	1.6	1.6	1.8	1.8	1.8	1.6
Min. Circuit Amp	26.8	17.1	26.8	32.7	32.7	29.9
Max. Fuse Size	40	25	40	50	50	50
Max HACR Breaker	40	20	40	50	50	50
Net Weight	375	375	395	405	410	465
Shipping Weight	385	385	405	415	420	475

PGB Models meet California NOx Requirements

- (1) In accordance with D.O.E. Test Procedures
- (2) Certified per ARI 210 and 270
- (3) BTU / Watt @ 80/67 F inside - 95 F outside air

PRODUCT SPECIFICATIONS

PGB

	PGB048075-1A	PGB048100-3A	PGB048125-1A	PGB048150-1A	PGB048150-3A	PGB060100-1
Total Cooling - BTUH	48000	48000	48000	48000	48000	58000
Sens. Cooling - BTUH	38400	38400	38400	38400	38400	43800
Cooling CFM Nominal	1700	1700	1700	1700	1700	1950
SEER (2)	10.0	10.0	10.0	10.0	10.0	10.0
EERa (3)	-	9.3	-	9.3	9.3	-
Sound Rating (2)	8.4	8.4	8.4	8.4	8.4	8.4
Heating Input	69,000	92,000	115,000	140,000	140,000	92,000
Heating Capacity	56,600	-	94,300	114,800	-	75,400
Output Capacity	-	75,400	-	-	114,800	-
AFUE (1)	80.0	-	80.0	80.0	82.0	80.0
Outdoor S. S. Eff.	-	82.0	-	-	-	-
California SEER	73.3	74.8	75.8	76.5	76.6	73.6
Temp. Rise Range	20-50	30-60	40-70	45-75	45-75	25-55
Indoor Blower						
Type	DD	DD	DD	DD	DD	DD
Size - D x W	10 x 10	10 x 10	10 x 10	10 x 10	10 x 10	10 x 10
Motor H.P.	½	½	½	½	½	¾
Evaporator Coil						
Face (ft2)	4.43	4.43	4.43	4.43	4.43	4.43
Fin / In	14	14	14	14	14	14
No. of Rows	4	4	4	4	4	4
Outdoor Fan						
Fan Dia. (in.)	22	22	22	22	22	22
Motor H.P.	1/3	1/3	1/3	1/3	1/3	1/3
Condenser Coil						
Face Area (ft2)	14.95	14.95	14.95	14.95	14.95	14.95
Fin / In.	19	19	19	19	19	19
No. of Rows	1	1	1	1	1	1
Electrical						
Ph	1	3	1	1	3	1
Volts	208/230	208/230	208/230	208/230	208/230	208/230
Compr. RLA	19.3	13.5	19.3	19.3	13.5	28.2
Compr. LRA	118.0	110.0	118.0	118.0	110.0	135.0
Indoor Blw FLA.	3.6	3.6	3.6	3.6	3.6	6.0
Outdoor Blw FLA.	2.5	2.5	2.5	2.5	2.5	2.4
Min. Circuit Amp	30.3	23.0	30.3	30.3	23.0	43.7
Max. Fuse Size	50	35	50	50	35	60
Max HACR Breaker	50	30	50	50	30	60
Net Weight	470	480	490	500	500	525
Shipping Weight	480	490	500	510	510	535

PGB Models meet California NOx Requirements

- (1) In accordance with D.O.E. Test Procedures
- (2) Certified per ARI 210 and 270
- (3) BTU / Watt @ 80/67 F inside - 95 F outside air

PRODUCT SPECIFICATIONS

PGB

	PGB060100-3	PGB060125-1	PGB060125-3	PGB060150-1	PGB060150-3	PGB060150-4
Total Cooling - BTUH	58000	58000	58000	58000	58000	58000
Sens. Cooling - BTUH	43800	43800	43800	43800	43800	43800
Cooling CFM Nominal	1950	1950	1950	1950	1950	1950
SEER (2)	10	10	10	10	10	10
EERa (3)	9.3	-	9.3	-	9.3	9.3
Sound Rating (2)	8.4	8.4	8.4	8.4	8.4	8.4
Heating Input	92,000	115,000	115,000	140,000	140,000	140,000
Heating Capacity	-	94,300	-	114,800	-	-
Output Capacity	75,400	-	94,300	-	114,800	114,800
AFUE (1)	-	80.0	-	80.0	-	-
Outdoor S. S. Eff.	82.0	-	82.0	-	82.0	82.0
California SEER	73.6	74.8	74.8	75.6	75.6	75.0
Temp. Rise Range	25-55	35-65	35-65	40-70	40-70	40-70
Indoor Blower						
Type	DD	DD	DD	DD	DD	DD
Size - D x W	11 x10	11 x 10	11 x 10	11 x 10	11 x 10	11 x 10
Motor H.P.	¾	¾	¾	¾	¾	¾
Evaporator Coil						
Face (ft2)	4.43	4.43	4.43	4.43	4.43	4.43
Fin / In	14	14	14	14	14	14
No. of Rows	4	4	4	4	4	4
Outdoor Fan						
Fan Dia. (in.)	22	22	22	22	22	22
Motor H.P.	1/3	1/3	1/3	1/3	1/3	1/3
Condenser Coil						
Face Area (ft2)	14.95	14.95	14.95	14.95	14.95	14.95
Fin / In.	19	19	19	19	19	19
No. of Rows	1	1	1	1	1	1
Electrical						
Ph	3	1	3	1	3	3
Volts	208/230	208/230	208/230	208/230	208/230	460
Compr. RLA	16.0	28.2	16.0	28.2	16.0	8.0
Compr. LRA	137.0	135.0	137.0	135.0	137.0	68.0
Indoor Blw FLA.	6.0	6.0	6.0	6.0	6.0	2.2
Outdoor Blw FLA.	2.4	2.4	2.4	2.4	2.4	1.2
Min. Circuit Amp	28.4	43.7	28.4	43.7	28.4	13.4
Max. Fuse Size	40	60	40	60	40	20
Max HACR Breaker	40	60	40	60	40	20
Net Weight	525	535	535	545	545	545
Shipping Weight	535	545	545	555	555	555

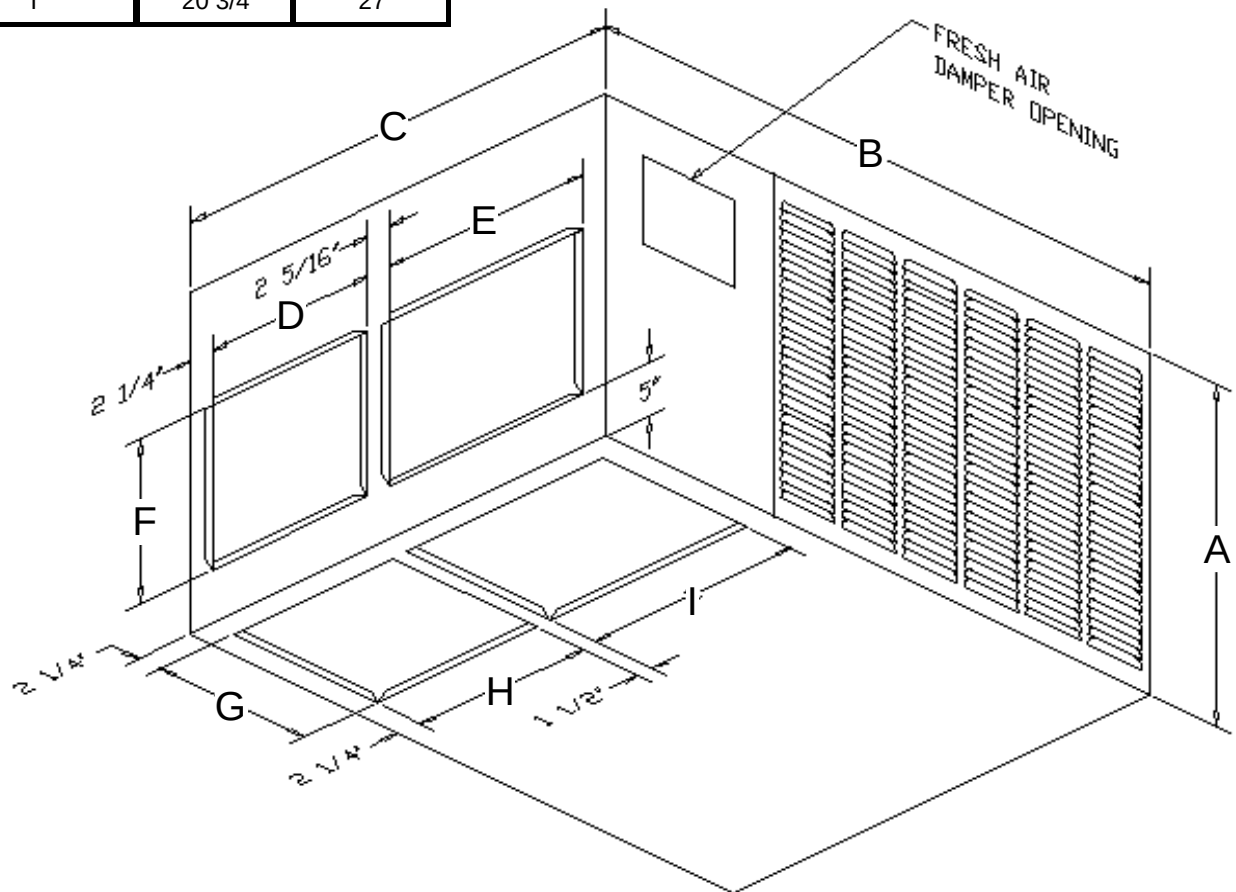
PGB Models meet California NOx Requirements

- (1) In accordance with D.O.E. Test Procedures
- (2) Certified per ARI 210 and 270
- (3) BTU / Watt @ 80/67 F inside - 95 F outside air

PRODUCT SPECIFICATIONS

PGJ

	CHASSIS #2	CHASSIS #3
DIMENSIONS (INCHES)	PGJ024050	PGJ036075
	PGJ024075	PGJ036100
	PGJ030050	PGJ042075
	PGJ030075	PGJ042100
		PGJ048075
		PGJ048100
A	31 1/8	33 5/8
B	52	55 3/8
C	43 3/4	58 1/8
D	16 3/8	24 5/8
E	20 3/8	26 5/8
F	15	17
G	15 1/4	17 1/4
H	16 3/4	25
I	20 3/4	27



ACCESSORY MODEL NUMBERS

ALL PGB MODELS	MODEL NUMBERS
LP Conversion Kit	LPM-01
Room Thermostat	CHT18-60
High & Low Pressure Switch Kit	HLPK-01
Low Ambient Kit	LA-01
Humidistat	B1370400

PRODUCT SPECIFICATIONS

PGJ

	PGJ024050-1A	PGJ024075-1	PGJ030050-1A	PGJ030075-1A	PGJ036075-1A	PGJ036100-1A
Total Cooling - BTUH	24000	24000	28000	28000	34400	34400
Sens. Cooling - BTUH	18200	18200	21000	21000	25800	25800
Cooling CFM Nominal	800	800	1000	1000	1200	1200
SEER (2)	12	12	12	12	12	12
EERa (3)	-	-	-	-	-	-
Sound Rating (2)	8.2	8.2	8.2	8.2	8.2	8.2
Heating Input	46000	69000	46000	69000	69000	92000
Heating Capacity	37700	56600	37700	56600	56600	75400
Output Capacity	-	-	-	-	-	-
AFUE (1)	80	80	80	80	80	80
Outdoor S. S. Eff.	-	-	-	-	-	-
California SEER	77	78	76.7	77.7	77.3	78
Temp. Rise Range	30-60	50-80	25-55	40-70	30-60	45-75
Indoor Blower						
Type	DD	DD	DD	DD	DD	DD
Size - D x W	10 x 8	10 x 8	10 x 8	10 x 8	11 x 10	11 x 10
Motor H.P.	1/2	1/2	1/2	1/2	1	1
Evaporator Coil						
Face (ft2)	2.86	2.86	2.86	2.86	4.43	4.43
Fin / In	14	14	14	14	14	14
No. of Rows	3	3	4	4	3	3
Outdoor Fan						
Fan Dia. (in.)	20	20	20	20	22	22
Motor H.P.	1/4	1/4	1/4	1/4	1/4	1/4
Condenser Coil						
Face Area (ft2)	11.3	11.3	11.3	11.3	14.95	14.95
Fin / In.	19	19	19	19	19	19
No. of Rows	1	1	1	1	1	1
Electrical						
Ph	1	1	1	1	1	1
Volts	208/230	208/230	208/230	208/230	208/230	208/230
Compr. RLA	10.9	10.9	12.2	12.2	14.1	14.1
Compr. LRA	60	60	66	66	79	79
Indoor Blw FLA.	4	4	4	4	8	8
Outdoor Blw FLA.	1.8	1.8	1.8	1.8	1.8	1.8
Min. Circuit Amp	19.4	19.4	21.1	21.1	27.4	27.4
Max. Fuse Size	30	30	30	30	40	40
Max HACR Breaker	30	30	30	30	40	40
Net Weight	375	385	380	390	405	410
Shipping Weight	385	395	390	400	415	420

PGJ Models meet California NOx Requirements

- (1) In accordance with D.O.E. Test Procedures
- (2) Certified per ARI 210 and 270
- (3) BTU / Watt @ 80/67 F inside - 95 F outside air

PRODUCT SPECIFICATIONS

PGJ

	PGJ042075-1A	PGJ042100-1A	PGJ048075-1	PGJ048100-1
Total Cooling - BTUH	42,000	42,000	46,000	46,000
Sens. Cooling - BTUH	31,500	31,500	36,300	36,300
Cooling CFM Nominal	1400	1400	1500	1500
SEER (2)	12.0	12.0	12.0	12.0
EERa (3)	-	-	-	-
Sound Rating (2)	8.4	8.4	8.4	8.4
Heating Input	69,000	92,000	69,000	92,000
Heating Capacity	56,600	75,400	56,600	75,400
Output Capacity	-	-	-	-
AFUE (1)	80.0	80.0	80.0	80.0
Outdoor S. S. Eff.	-	-	-	-
California SEER	77.3	78.0	76.3	77.2
Temp. Rise Range	30-60	45-75	20-50	30-60
Indoor Blower				
Type	DD	DD	DD	DD
Size - D x W	11 x 10	11 x 10	11 X 10	11 X 10
Motor H.P.	1	1	1	1
Evaporator Coil				
Face (ft2)	4.43	4.43	4.43	4.43
Fin / In	14	14	14	14
No. of Rows	4	4	4	4
Outdoor Fan				
Fan Dia. (in.)	22	22	22	22
Motor H.P.	1/4	1/4	1/3	1/3
Condenser Coil				
Face Area (ft2)	14.95	14.95	14.95	14.95
Fin / In.	19	19	19	19
No. of Rows	1	1	1	1
Electrical				
Ph	1	1	1	1
Volts	208/230	208/230	208/230	208/230
Compr. RLA	18.0	18.0	18.3	18.3
Compr. LRA	87.0	87.0	105.0	105.0
Indoor Blw FLA.	8.0	8.0	8.0	8.0
Outdoor Blw FLA.	1.8	1.8	2.4	2.4
Min. Circuit Amp	32.3	32.3	33.3	33.3
Max. Fuse Size	50	50	50	50
Max HACR Breaker	50	50	50	50
Net Weight	405	410	470	480
Shipping Weight	415	420	480	490

PGJ Models meet California NOx Requirements

- (1) In accordance with D.O.E. Test Procedures
- (2) Certified per ARI 210 and 270
- (3) BTU / Watt @ 80/67 F inside - 95 F outside air

PRODUCT SPECIFICATIONS

PGJ

	PGJ024050-1B	PGJ024075-1B	PGJ030050-1B	PGJ030075-1B	PGJ036075-1B	PGJ036100-1B
Total Cooling (BTUH)	24,000	24,000	29,000	29,000	34,400	34,400
Sensible Cooling (BTUH)	18,200	18,200	21,800	21,800	25,800	25,800
Nominal Cooling CFM	800	800	1000	1,000	1,200	1,200
SEER (2)	12.0	12.0	12.0	12.0	12.0	12.0
EERa (3)	11.0	11.0	11.0	11.0	11.0	11.0
Sound Rating (2)	8.2	8.2	8.2	8.2	8.2	8.2
Heating Input	46,000	69,000	46,000	69,000	69,000	92,000
Heating Capacity	37,700	56,600	37,700	56,600	56,600	75,400
Output Capacity	-	-	-	-	-	-
AFUE (1)	80	80	80	80	80	80
Outdoor S.S. Efficiency	-	-	-	-	-	-
California SEER	77.0	78.0	76.7	77.7	77.3	78.0
Temperature Rise Range	30-60	50-80	25-55	40-70	30-60	45-75
Indoor Blower						
Type	DD	DD	DD	DD	DD	DD
Size (D" x W")	10 x 8	10 x 8	10 x 8	10 x 8	11 x 10	11 x 10
Motor Horsepower	1/2	1/2	1/2	1/2	1	1
Evaporator Coil						
Face (Ft²)	2.86	2.86	2.86	2.86	4.43	4.43
Fins per Inch	14	14	14	14	14	14
Number of Rows	3	3	4	4	3	3
Outdoor Fan						
Fan Diameter	20"	20"	20"	20"	22"	22"
Motor Horsepower	1/4	1/4	1/4	1/4	1/4	1/4
Condenser Coi						
Face (Ft²)	11.3	11.3	11.3	11.3	14.95	14.95
Fins per Inch	19	19	19	19	19	19
Number of Rows	1	1	1	1	1	1
Electrical						
Ph	1	1	1	1	1	1
Volts	208/230	208/230	208/230	208/230	208/230	208/230
Compressor RLA	10.2	10.2	10.3	10.3	14.4	14.4
Compressor LRA	51.0	51.0	60.0	60.0	82.0	82.0
Indoor Blower FLA	4.0	4.0	4.0	4.0	8.0	8.0
Outdoor Blower FLA	1.8	1.8	1.8	1.8	1.8	1.8
Min. Circuit Ampacity	18.6	18.6	18.7	18.7	27.8	27.8
Max. Fuse Size	30	30	30	30	40	40
Max. HACR Breaker	30	30	30	30	40	40
Net Weight	375	385	380	390	405	410
Shipping Weight (lbs.)	385	395	390	400	415	420

PGJ Models meet California NOX Requirements

(1) In accordance with D.O.E. Test Procedures

(2) Certified per ARI 210 and 270

(3) BTU/Watt @ 80/67 °F inside - 95 °F outside air

PRODUCT SPECIFICATIONS

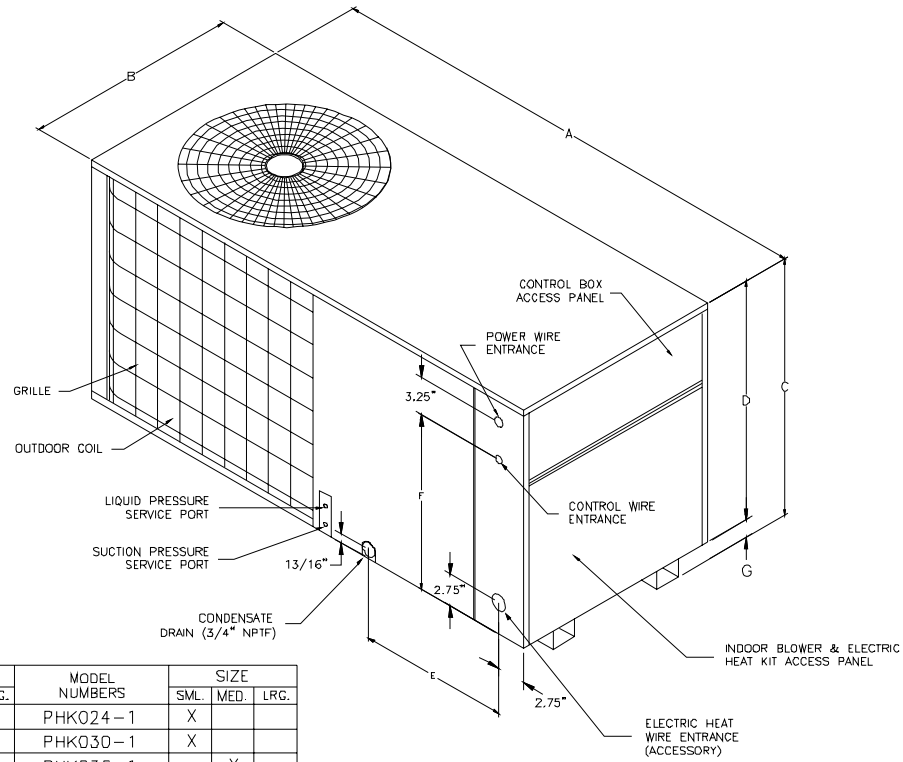
PGJ

	PGJ042075-1B	PGJ042100-1B	PGJ048075-1	PGJ048100-1
Total Cooling (BTUH)	40,000	40,000	46,000	46,000
Sensible Cooling (BTUH)	31,500	31,500	36,300	36,300
Nominal Cooling CFM	1,400	1,400	1,500	1,500
SEER (2)	12.0	12.0	12.0	12.0
EERa (3)	11.0	11.0	11.0	11.0
Sound Rating (2)	8.4	8.4	8.4	8.4
Heating Input	69,000	92,000	69,000	92,000
Heating Capacity	56,600	75,400	56,600	75,400
Output Capacity	-	-	-	-
AFUE (1)	80.0	80.0	80.0	80.0
Outdoor S.S. Efficiency	-	-	-	-
California SEER	77.3	78	76.3	77.2
Temperature Rise Range	30-60	45-75	20-50	30-60
Indoor Blower				
Type	DD	DD	DD	DD
Size (D" x W")	11 x 10	11 x 10	11 X 10	11 X 10
Motor Horsepower	1	1	1	1
Evaporator Coil				
Face (Ft²)	4.43	4.43	4.43	4.43
Fins per Inch	14	14	14	14
Number of Rows	4	4	4	4
Outdoor Fan				
Fan Diameter	22	22	22	22
Motor Horsepower	1/4	1/4	1/3	1/3
Condenser Coil				
Face (Ft²)	14.95	14.95	14.95	14.95
Fins per Inch	19	19	19	19
Number of Rows	1	1	1	1
Electrical				
Ph	1	1	1	1
Volts	208/230	208/230	208/230	208/230
Compressor RLA	16.6	16.6	18.3	18.3
Compressor LRA	95.0	95.0	105.0	105.0
Indoor Blower FLA	8.0	8.0	8.0	8.0
Outdoor Blower FLA	1.8	1.8	2.4	2.4
Min. Circuit Ampacity	30.6	30.6	33.3	33.3
Max. Fuse Size	40	40	50	50
Max. HACR Breaker	40	40	50	50
Net Weight	405	410	470	480
Shipping Weight (lbs.)	415	420	480	490

PGJ Models meet California NOX Requirements
 (1) In accordance with D.O.E. Test Procedures
 (2) Certified per ARI 210 and 270
 (3) BTU/Watt @ 80/67 °F inside - 95 °F outside air

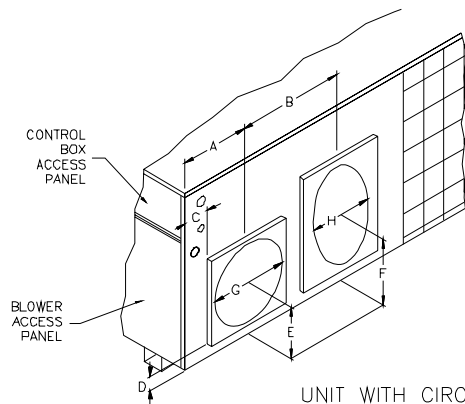
PRODUCT SPECIFICATIONS

PCK

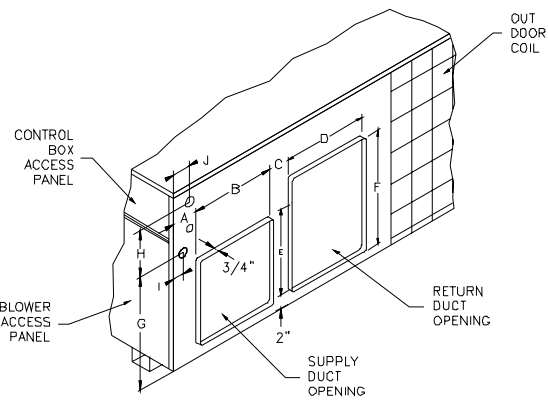


MODEL NUMBERS	SIZE			MODEL NUMBERS	SIZE		
	SML.	MED.	LRG.		SML.	MED.	LRG.
PCK024-1	X			PHK024-1	X		
PCK030-1	X			PHK030-1	X		
PCK036-1	X			PHK036-1		X	
PCK036-3	X			PHK036-5			X
PCK042-1		X		PHK042-1			X
PCK048-1		X		PHK048-1			X
PCK048-3		X		PHK048-3			X
PCK048-5			X	PHK048-5			X
PCK060-1			X	PHK060-1			X
PCK060-3			X	PHK060-3			X
PCK060-4			X	PHK060-5			X
PCK060-5			X				
PCKJ024-1	X						
PCKJ030-1	X			PHKJ024-1		X	
PCKJ036-1		X		PHKJ030-1		X	
PCKJ042-1		X		PHKJ036-1			X
PCKJ048-1			X	PHKJ048-1			X
PCKJ060-1			X	PHKJ060-1			X

MODEL SIZE	A	B	C	D	E	F	G
LARGE	63.15	32.15	34.62	32.50	19.56	27.06	2.12
MEDIUM	63.15	32.15	29.62	27.50	19.56	22.06	2.12
SMALL	56.35	24.14	27.12	25.00	16.68	19.56	2.12



UNIT WITH CIRCULAR DUCT PANEL ADDED



MODEL SIZE	A	B	C	D	E	F	G	H*
LARGE	10.75	20.25	3.75	2.00	9.00	14.00	14.00	18.00
MEDIUM	10.75	20.25	3.75	2.00	9.00	13.00	14.00	16.00
SMALL	9.62	16.24	3.62	2.00	8.00	12.00	12.00	14.00

MODEL SIZE	A	B	C	D	E	F	G	H	I	J
LARGE	3.75	14	6.25	14	14	24	18.68	11.62	2.25	2.75
MEDIUM	3.75	14	6.25	14	14	22	18.68	6.62	2.25	2.75
SMALL	3.62	12	4.25	12	12	20	16.18	6.62	2.59	2.59

H* RETURN OPENING IS EQUIVALENT TO ROUND DUCT STATED

PRODUCT SPECIFICATIONS

PCK

	PCK024-1	PCK030-1	PCK036-1	PCK036-3	PCK042-1
Total Cooling - Btuh	23,200	28,000	36,000	36,000	42,000
Sens. Cooling -Btuh	16,800	19,600	26,600	26,600	3,100
SEER ¹	10.0	10.0	10.0	10.0	10.0
EERa ²	9.0	9.0	9.0	9.0	9.0
Sound Ratings (bels)	8.0	8.0	8.0	8.0	8.4
Indoor Blower					
Type	DD	DD	DD	DD	DD
Size - D x W	9 x 6	9 x 6	9 x 6	9 x 6	9 x 6
Motor H.P.	1/5	1/3	1/3	1/3	1/3
Evaporator Coil					
Face Area (ft2)	3.33	3.33	3.33	3.33	5.25
Fin/In.	14	14	14	14	14
No. of Rows	2	2	3	3	3
Outdoor Fan					
Fan Diameter (in.)	18	18	18	18	22
Motor H.P.	1/6	1/6	1/6	1/6	1/4
Condenser Coil					
Face Area (ft2)	12.1	12.1	12.1	12.1	12.1
Fin/In.	16	16	16	16	16
No. of Rows	1	1	1	1	1
Electrical					
Ph	1	1	1	1	1
Volts	208/230	208/230	208/230	208/230	208/230
Compr. RLA	12.1	14.7	17.3	10.3	19.3
Compr. LRA	57.0	76.0	89.0	78.0	97.0
Indoor Blower FLA	1.7	2.6	2.6	2.6	2.6
Outdoor Blower FLA	1.0	1.0	1.0	1.0	1.6
MCA ³	17.9	22.0	25.3	16.5	28.3
MOP ⁴	30	30	40	20	40
Net Weight	240	245	265	265	335
Shipping Weight	255	260	280	280	350

¹ Certified per ARI 210

² BTU/Watt @ 80/67 F inside - 95°F outside air

³ M.C.A. (Minimum Circuit Ampacity)

⁴ M.O.P. (Maximum Overcurrent Protection)

PRODUCT SPECIFICATIONS

PCK

	PCK048-1	PCK048-3	PCK060-1	PCK060-3	PCK060-4
Total Cooling - Btuh	47,000	47,000	58,000	58,000	58,000
Sens. Cooling -Btuh	34,800	34,800	43,500	43,500	43,500
SEER ¹	10.0	10.0	10.0	10.0	10.0
EERa ²	9.0	9.0	9.0	9.0	9.0
Sound Ratings (bels)	8.4	8.4	8.4	8.4	8.4
Indoor Blower					
Type	DD	DD	DD	DD	DD
Size - D x W	10 x 8	10 x 8	10 x 8	10 x 8	10 x 8
Motor H.P.	1/2	1/2	3/4	3/4	3/4
Evaporator Coil					
Face Area (ft2)	5.75	5.75	6.22	6.22	6.22
Fin/In.	14	14	14	14	14
No. of Rows	4	4	4	4	4
Outdoor Fan					
Fan Diameter (in.)	22	22	22	22	22
Motor H.P.	1/4	1/4	1/3	1/3	1/3
Condenser Coil					
Face Area (ft2)	14.7	14.7	16.2	16.2	16.2
Fin/In.	19	19	19	19	19
No. of Rows	1	1	1	1	1
Electrical					
Ph	1	1	1	1	1
Volts	208/230	208/230	208/230	208/230	460
Compr. RLA	20.0	12.8	25.0	15.5	7.5
Compr. LRA	110.0	78.0	170.0	124.0	59.6
Indoor Blower FLA	3.6	3.6	5.1	5.1	2.2
Outdoor Blower FLA	1.6	1.6	2.5	2.5	1.2
MCA ³	30.2	21.2	38.9	27.0	12.8
MOP ⁴	50	30	60	40	20
Net Weight	340	340	350	350	350
Shipping Weight	365	365	375	375	375

¹ Certified per ARI 210

² BTU/Watt @ 80/67 F inside - 95°F outside air

³ M.C.A. (Minimum Circuit Ampacity)

⁴ M.O.P. (Maximum Overcurrent Protection)

PRODUCT SPECIFICATIONS

PCK*-1F**

	PCK024-1F	PCK030-1F	PCK036-1F	PCK036-3F	PCK042-1F
Total Cooling (BTUH)	23,200	28,400	35,000	35,000	42,000
Sensible Cooling (BTUH)	16,800	20,600	25,600	25,600	32,000
SEER¹	10.0	10.0	10.0	10.0	10.0
EER_a²	9.0	9.0	9.0	9.0	9.0
Sound Rating (bels)	8.0	8.0	8.0	8.0	8.4
Indoor Blower					
Type	DD	DD	DD	DD	DD
Size (D" x W")	9 x 6	9 x 6	9 x 6	9 x 6	9 x 8
Motor Horsepower	1/5	1/3	1/3	1/3	1/3
Evaporator Coil					
Face Area (ft2)	3.33	3.33	3.33	3.33	5.25
Fins per Inch	14	14	14	14	14
No. of Rows	2	2	3	3	3
Outdoor Fan					
Fan Diameter	18"	18"	18"	18"	22"
Motor Horsepower	1/6	1/6	1/6	1/6	1/4
Condenser Coil					
Face Area (ft2)	12.1	12.1	12.1	12.1	14.7
Fins per Inch	19	19	19	19	19
No. of Rows	1	1	1	1	1
Electrical					
Ph	1	1	1	3	1
Volts	208/230	208/230	208/230	208/230	208/230
Compressor RLA	9.8	13.8	16.2	10.3	17.1
Compressor LRA	56.0	75.0	96.0	75.0	105.0
Indoor Blower FLA	1.7	2.6	2.6	2.6	2.6
Outdoor Blower FLA	1.0	1.0	1.0	1.0	1.6
Minimum Circuit Ampacity	15.0	20.9	23.9	16.5	25.6
Maximum Overcurrent Protection	20	30	40	20	40
Net Weight (pounds)	240	245	265	265	335
Shipping Weight (pounds)	255	260	280	280	350

(1) Certified per ARI 210

(2) BTU/Watt @ 80/67 °F inside - 95 °F outside air

Note - May use fuses or HACR type Circuit Breakers of the same size as noted

PRODUCT SPECIFICATIONS

PCK***-1F

	PCK048-1F	PCK048-3F	PCK060-1F	PCK060-3F	PCK060-4F
Total Cooling (BTUH)	46,000	46,000	58,000	58,000	58,000
Sensible Cooling (BTUH)	35,800	35,800	43,500	43,500	43,500
SEER¹	10.0	10.0	10.0	10.0	10.0
EERa²	9.0	9.0	9.0	9.0	9.0
Sound Rating (bels)	8.4	8.4	8.4	8.4	8.4
Indoor Blower					
Type	DD	DD	DD	DD	DD
Size (D" x W")	10 x 8	10 x 8	10 x 8	10 x 8	10 x 8
Motor Horsepower	1/2	1/2	3/4	3/4	3/4
Evaporator Coil					
Face Area (ft2)	5.75	5.75	6.22	6.22	6.22
Fins per Inch	14	14	14	14	14
No. of Rows	4	4	4	4	4
Outdoor Fan					
Fan Diameter	22"	22"	22"	22"	22"
Motor Horsepower	1/4	1/4	1/3	1/3	1/3
Condenser Coil					
Face Area (ft2)	14.7	14.7	16.2	16.2	16.2
Fins per Inch	19	19	19	19	19
No. of Rows	1	1	1	1	1
Electrical					
Ph	1	3	1	3	3
Volts	208/230	208/230	208/230	208/230	460
Compressor RLA	18.3	12.6	25	15.5	7.5
Compressor LRA	102	91	170	124	59.6
Indoor Blower FLA	3.6	3.6	5.1	5.1	2.2
Outdoor Blower FLA	1.6	1.6	2.5	2.5	1.2
Minimum Circuit Ampacity	28.2	21	38.9	27	12.8
Maximum Overcurrent Protection	40	30	60	40	20
Net Weight (pounds)	340	340	350	350	350
Shipping Weight (pounds)	365	365	375	375	375

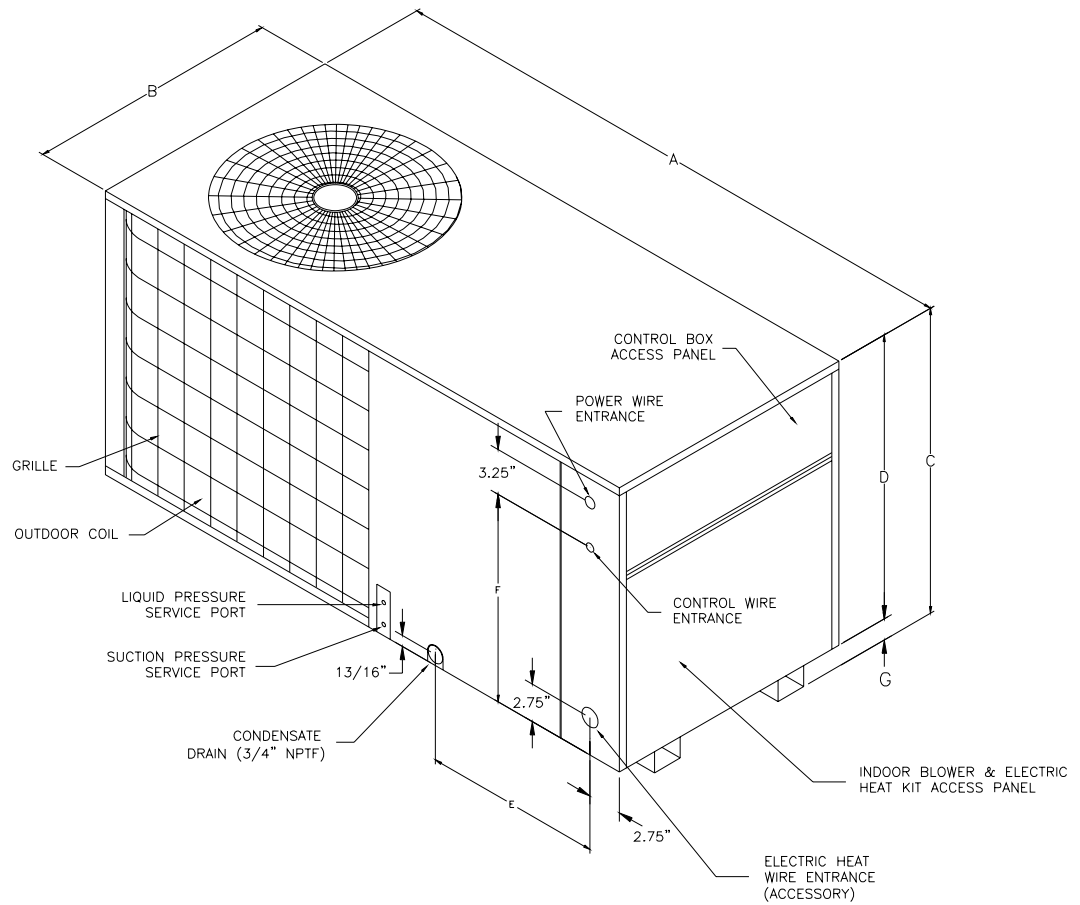
(1) Certified per ARI 210

(2) BTU/Watt @ 80/67 °F inside - 95 °F outside air

Note - May use fuses or HACR type Circuit Breakers of the same size as noted.

PRODUCT SPECIFICATIONS

PCKJ



Model Numbers	Size			Model Numbers	Size		
	SML.	MED.	LRG.		SML.	MED.	LRG.
PCK024-1A	X			PHK024-1A	X		
PCK030-1	X			PHK030-1	X		
PCK036-1	X			PHK036-1		X	
PCK036-3	X			PHK042-1			X
PCK042-1A		X		PHK048-1A			X
PCK048-1		X		PHK048-3			X
PCK048-3		X		PHK048-5			X
PCK048-5			X	PHK060-1			X
PCK060-1			X	PHK060-3			X
PCK060-3			X	PHK060-5			X
PCK060-4			X				X
PCK060-5			X				
PCKJ024-1A	X			PHKJ024-1A		X	
PCKJ030-1	X			PHKJ030-1		X	
PCKJ036-1A		X		PHKJ036-1A			X
PCKJ042-1D		X		PHKJ042-1			X
PCKJ048-1			X	PHKJ048-1A			X
PCKJ060-1			X	PHKJ060-1A			X

Model Size	A	B	C	D	E	F	G
LARGE	63.15	32.15	34.62	32.5	19.56	27.06	2.12
MEDIUM	63.15	32.15	29.62	27.5	19.56	22.06	2.12
SMALL	56.35	24.14	27.12	25	16.68	19.56	2.12

PRODUCT SPECIFICATIONS

PCKJ

MODELS	PCKJ024-1A	PCKJ030-1	PCKJ036-1A	PCKJ042-1D	PCKJ048-1	PCKJ060-1
Total Cooling-BTUH	23,800	29,000	36,000	40,200	46,000	56,000
Sens. Cooling-BTUH	16,900	21,100	26,300	29,400	34,500	41,400
SEER¹	12.0	12.0	12.0	12.0	12.0	12.0
EERa²	10.8	10.2	10.7	10.7	10.4	10.2
Indoor Blower						
Type	DD	DD	DD	DD	DD	DD
Size-DxW	9 x 6	9 X 6	9 X 8	9 X 8	9 X 8	10 X 8
Motor H.P.	1/5	1/3	1/3	1/3	1/2	3/4
Evaporator Coil						
Face Area (ft²)	3.33	33.3	5.25	5.25	6.22	6.22
Fin/In.	14	14	14	14	14	14
No. of Rows	3	4	3	4	4	4
Outdoor Fan						
Fan Dia. (In.)	18	18	22	22	22	22
Motor H.P.	1/6	1/6	1/4	1/4	1/4	1/3
Condenser Coil						
Face Area (ft²)	12.1	12.1	14.7	14.7	16.2	17.4
Fin/In.	19	19	19	19	19	19
No. of Rows	1	1	1	1	1	2
Electrical						
Ph	1	1	1	1	1	1
Volts	208/230	208/230	208/230	208/230	208/230	208/230
Compr. RLA	10.9	13.5	14.8	16.6	18.3	25.0
Compr. LRA	60.0	75.0	79.0	95.0	109.0	163.0
Indoor Blw FLA	1.7	2.6	2.6	2.6	3.6	5.1
Outdoor Blw FLA	1.0	1.0	1.6	1.6	1.6	2.5
Min. Circuit Amp.	16.4	20.2	22.7	25.0	28.1	38.9
M.O.P. ³	20	30	30	40	40	60
Net Weight	260	265	335	340	345	350
Shipping Weight	275	280	350	355	370	375

1. Certified per ARI 240

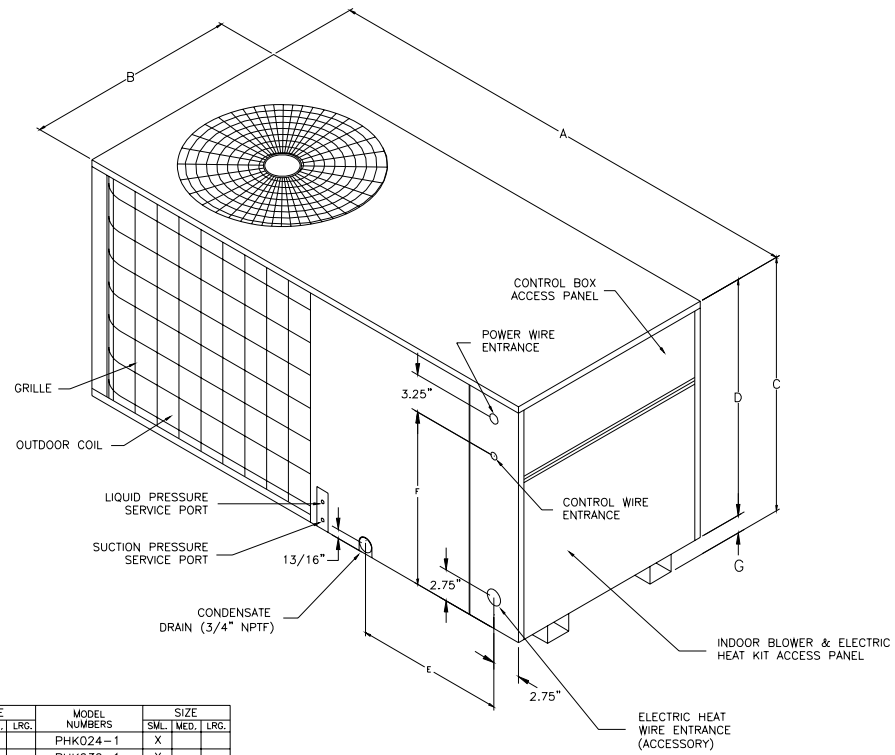
2. BTU/Watt @ 80 / 67 °F inside - 95 °F outside air

3. M.O.P. (Maximum Overcurrent Protection)

Note: May use fuses or HACR type Circuit Breakers of the same size as noted.

PRODUCT SPECIFICATIONS

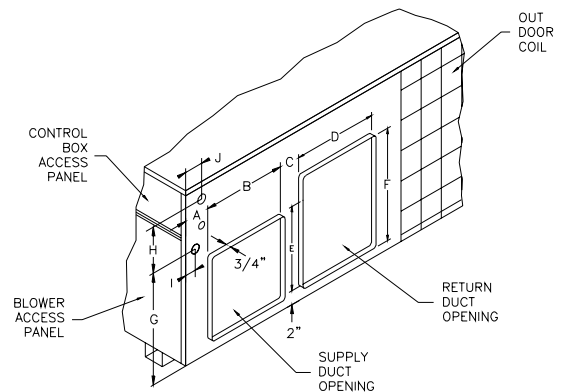
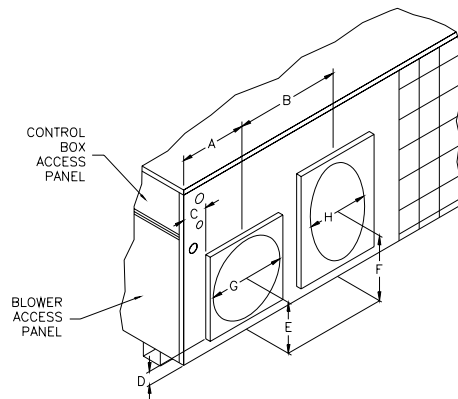
PHK



MODEL NUMBERS	SIZE			MODEL NUMBERS	SIZE		
	SML.	MED.	LRG.		SML.	MED.	LRG.
PCK024-1	X			PHK024-1	X		
PCK030-1	X			PHK030-1	X		
PCK036-1	X			PHK036-1		X	
PCK036-3	X			PHK036-5			X
PCK042-1		X		PHK042-1			X
PCK048-1		X		PHK048-1			X
PCK048-3		X		PHK048-3			X
PCK048-5			X	PHK048-5			X
PCK060-1			X	PHK060-1			X
PCK060-3			X	PHK060-3			X
PCK060-4			X	PHK060-5			X
PCK060-5			X				
PCKJ024-1	X						
PCKJ030-1	X			PHKJ024-1		X	
PCKJ036-1		X		PHKJ030-1		X	
PCKJ042-1			X	PHKJ036-1			X
PCKJ048-1			X	PHKJ048-1			X
PCKJ060-1			X	PHKJ060-1			X

MODEL SIZE	A	B	C	D	E	F	G
LARGE	63.15	32.15	34.62	32.50	19.56	27.06	2.12
MEDIUM	63.15	32.15	29.62	27.50	19.56	22.06	2.12
SMALL	56.35	24.14	27.12	25.00	16.68	19.56	2.12

UNIT WITH CIRCULAR DUCT PANEL ADDED



MODEL SIZE	A	B	C	D	E	F	G	H*
LARGE	10.75	20.25	3.75	2.00	9.00	14.00	14.00	18.00
MEDIUM	10.75	20.25	3.75	2.00	9.00	13.00	14.00	16.00
SMALL	9.62	16.24	3.62	2.00	8.00	12.00	12.00	14.00

MODEL SIZE	A	B	C	D	E	F	G	H	I	J
LARGE	3.75	14	6.25	14	14	24	18.68	11.62	2.25	2.75
MEDIUM	3.75	14	6.25	14	14	22	18.68	6.62	2.25	2.75
SMALL	3.62	12	4.25	12	12	20	16.18	6.62	2.59	2.59

H* RETURN OPENING IS EQUIVALENT TO ROUND DUCT STATED

PRODUCT SPECIFICATIONS

PHK

MODELS	PHK024-1	PHK030-1	PHK036-1	PHK036-3	PHK042-1	PHK048-1	PHK048-3	PHK060-1	PHK060-3
Total Cooling-BTUH	23,600	28,800	35,000	35,000	40,500	47,000	47,000	55,000	55,000
Sens. Cooling-BTUH	17,200	21,600	26,300	26,300	30,400	35,200	35,200	42,400	42,400
SEER ¹	10	10	10	10	10	10	10	10	10
EER ²	9	9	9	9	9	9	9	9	9
Heating BTUH	23,800	27,400	33,400	33,400	39,000	44,400	44,400	55,000	55,000
C.O.P (47°F)	2.8	3	3	3	3.2	3.1	3.1	3.5	3.5
Heating-BTUH (17°F)	12,000	14,000	20,000	20,000	21,000	24,000	24,000	32,000	32,000
C.O.P. (17°F)	1.9	1.8	2	2	2	1.9	1.9	2.1	2.1
H.S.P.F.	6.8	6.8	7	7	7.5	6.8	6.8	7.5	7.5
Sound Rating(bels)	8	8	8.4	8.4	8.4	8.4	8.4	8.4	8.4
Indoor Blower									
Type	DD	DD	DD	DD	DD	DD	DD	DD	DD
Size - D x W	9 X 6	9 X 6	9 X 6	9 X 8	9 X 8	9 X 8	9 X 8	10 x 8	10 x 8
Motor H.P.	1/5	1/3	1/3	1/3	1/2	1/2	1/2	3/4	3/4
Evaporator Coil									
Face Area (ft2)	3.33	3.33	5.25	5.25	6.22	6.22	6.22	6.22	6.22
Fin/In.	14	14	14	14	14	14	14	14	14
No. of Rows	2	2	2	2	2	4	4	4	4
Outdoor Fan									
Fan Dia. (In.)	18	18	22	22	22	22	22	22	22
Motor H.P.	1/6	1/6	1/4	1/4	1/4	1/4	1/4	1/3	1/3
Condenser Coil									
Face Area (ft2)	12.1	12.1	14.7	14.7	16.2	16.2	16.2	16.2	16.2
Fin/In.	19	19	19	19	19	19	19	19	19
No. of Rows	1	1	1	1	1	1	1	1	1
Electrical									
Ph	1	1	1	3	1	1	3	1	3
Volts	208/230	208/230	208/230	208/230	208/230	208/230	208/230	208/230	208/230
Compr. RLA	12.9	14.8	17.3	10.3	19.3	20	12.8	25	18
Compr. LRA	66	81	89	78	97	110	78	163	129
Indoor Blw FLA	1.7	2.6	2.6	2.6	3.6	3.6	3.6	5.1	5.1
Outdoor Blw FLA	1	1	1.6	1.6	1.6	2.5	2.5	2.5	2.5
Min. Circuit Amp.	18.9	22.1	25.3	17.1	29.3	31.1	22.1	38.9	30.1
M.O.P. ³	30	30	40	20	40	50	30	60	40
Net Weight	255	260	340	340	355	385	385	390	390
Shipping Weight	270	275	365	365	380	410	410	415	415
Capacities @ 95°F									
Outside air, 75°F									
Dry bulb @ 63°F									
Wet bulb inside									
Total MBTU	21.7	27.2	32.5	32.5	38.2	43.4	43.4	50.5	50
Sensible MBTU	15.6	20.2	23.3	23.3	29.1	30	30	36.3	36.3

1. Certified per ARI 240

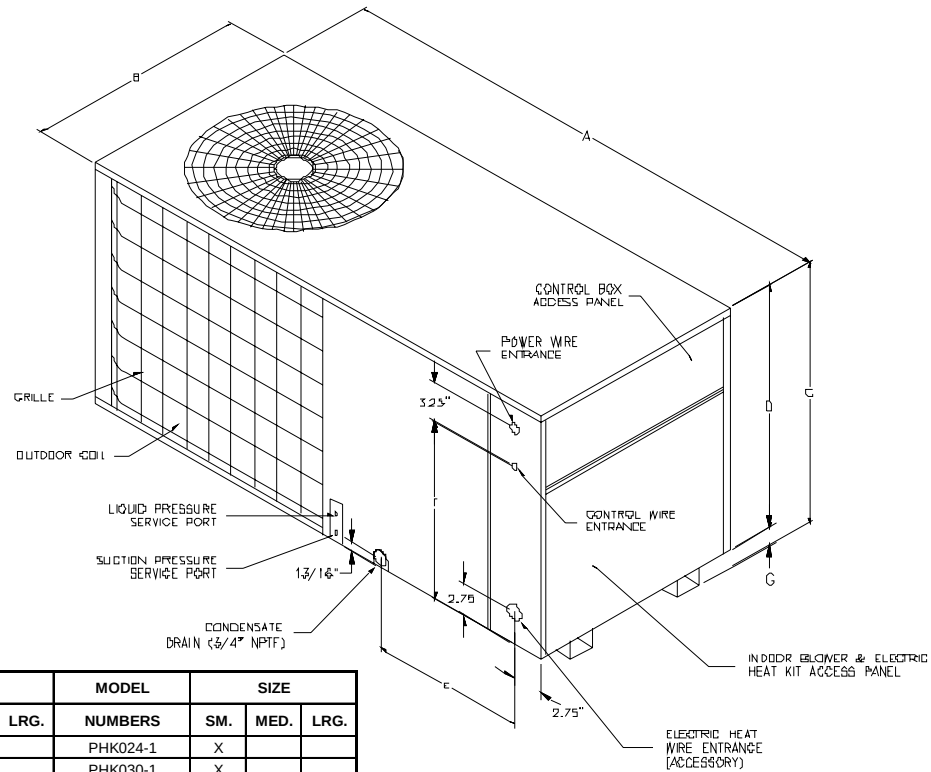
2. BTU/Watt @ 80 / 67 °F inside - 95 °F outside air

3. M.O.P. (Maximum Overcurrent Protection)

Note: May use fuses or HACR type Circuit Breakers of the same size as noted.

PRODUCT SPECIFICATIONS

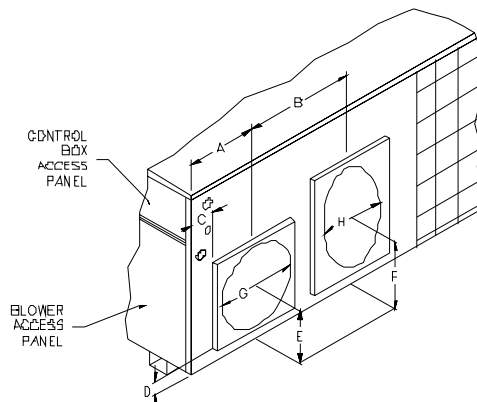
PHKJ



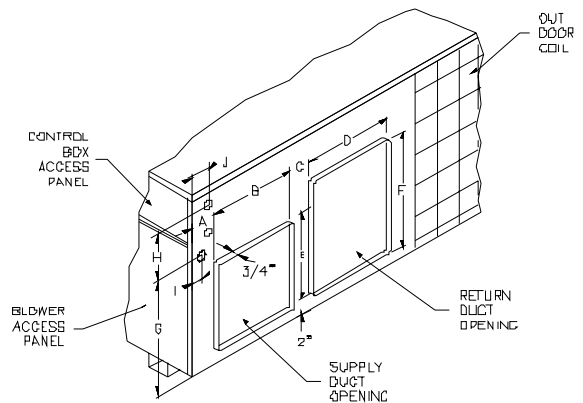
MODEL	SIZE			MODEL	SIZE		
NUMBERS	SM.	MED.	LRG.	NUMBERS	SM.	MED.	LRG.
PCK024-1	X			PHK024-1	X		
PCK030-1	X			PHK030-1	X		
PCK036-1	X			PHK036-1		X	
PCK036-3	X			PHK036-5			X
PCK042-1		X		PHK042-1			X
PCK038-1		X		PHK048-1			X
PCK048-3		X		PHK048-3			X
PCK048-5			X	PHK048-5			X
PCK060-1			X	PHK060-1			X
PCK060-3			X	PHK060-3			X
PCK060-4			X	PHK060-5			X
PCK060-5			X				
PCKJ024-1	X			PHKJ024-1F		X	
PCKJ030-1	X			PHKJ030-1F		X	
PCKJ036-1		X		PHKJ036-1F		X	
PCKJ042-1		X		PHKJ042-1F			X
PCKJ048-1			X	PHKJ048-1F			X
PCKJ060-1			X	PHKJ060-1F			X

MODEL SIZE	A	B	C	D	E	F	G
LARGE	63.15	32.15	34.62	32.50	19.56	27.06	2.12
MEDIUM	63.15	32.15	29.62	27.50	19.56	27.05	2.12
SMALL	56.35	24.14	27.12	25.00	16.68	19.56	2.12

UNIT WITH CIRCULAR DUCT PANEL ADDED



MODEL SIZE	A	B	C	D	E	F	G	H*
LARGE	10.75	20.25	3.75	2.00	9.00	15.00	14.00	15.00
MEDIUM	10.75	20.25	3.75	27.50	19.56	27.05	2.12	2.12
SMALL	9.62	16.24	3.62	2.00	8.00	12.00	12.00	14.00



MODEL SIZE	A	B	C	D	E	F	G	H	I	J
LARGE	3.75	14.00	6.25	14.00	14.00	24.00	18.68	11.62	2.59	2.75
MEDIUM	3.75	14.00	6.25	14.00	14.00	22.00	18.68	6.62	2.25	2.75
SMALL	3.75	12.00	4.25	12.00	12.00	20.00	16.18	6.62	2.25	2.59

* H Return Opening is equivalent to round duct stated

PRODUCT SPECIFICATIONS

PHKJ

MODELS	PHKJ024-1A	PHKJ030-1	PHKJ036-1A	PHKJ042-1	PHKJ048-1	PHKJ060-1A
Total Cooling-BTUH	23000	29000	36000	40000	47000	52600
Sens. Cooling-BTUH	17400	22400	27000	30000	35200	39600
SEER¹	12	12	12	12	12	11
EERa²	11	11	11	11	11	10
Heating-BTUH (47°F)	22000	27000	33000	36200	43000	53000
C.O.P. (47°F)	3.35	3.25	3.45	3.5	3.4	3.4
Heating-BTUH (17°F)	11400	14000	17700	22000	23600	30600
C.O.P. (17°F)	1.9	1.9	2	2.2	2.1	2.2
H.S.P.F.	7.4	7	7.5	7.5	7.5	7.5
Sound Rating (bels)	8.4	8.4	8.4	8.4	8.4	8.4
Indoor Blower						
Type	DD	DD	DD	DD	DD	DD
Size-DxW	9 x 6	9 X 6	9 X 8	9 X 8	9 X 8	10 X 8
Motor H.P.	1/5	1/3	1/3	1/3	1/2	3/4
Evaporator Coil						
Face Area (ft ²)	5.25	5.25	6.22	6.22	6.22	6.22
Fin/In.	14	14	14	14	14	14
No. of Rows	3	3	3	4	4	4
Outdoor Fan						
Fan Dia. (In.)	22	22	22	22	22	22
Motor H.P.	1/4	1/4	1/4	1/4	1/3	1/3
Condenser Coil						
Face Area (ft ²)	14.7	14.7	16.2	16.2	17.4	17.4
Fin/In.	19	19	19	19	19	19
No. of Rows	1	1	1	1	1	2
Electrical						
Ph	1	1	1	1	1	1
Volts	208/230	208/230	208/230	208/230	208/230	208/230
Compr. RLA	10.9	13.5	14.1	16.6	19.4	19.9
Compr. LRA	60	75	79	95	109.0	137
Indoor Blw FLA	1.7	2.6	2.6	2.6	3.6	5.1
Outdoor Blw FLA	1	1	1.6	1.6	2.5	2.5
Min. Circuit Amp.	16.4	20.2	21.8	24.8	30.4	32.5
M.O.P. ³	20	30	30	40	50	50
Net Weight	325	330	340	365	385	400
Shipping Weight	350	355	365	390	410	425

1. Certified per ARI 240

2. BTU/Watt @ 80 / 67 °F inside - 95 °F outside air

3. M.O.P. (Maximum Overcurrent Protection)

Note: May use fuses or HACR type Circuit Breakers of the same size as noted.

PRODUCT SPECIFICATIONS

HEAT KITS

HEAT KIT ELECTRICAL DATA

MODEL NO.	NOMINAL kW	HEATER AMPERAGE	MINIMUM AMPACITY	MAXIMUM OVERCURRENT PROTECTION	MULTIPLE SUPPLY CIRCUIT				
					MINIMUM		MAXIMUM		
		208/240V				208/240V			
		1	2	1	2	1	2	1	2
HK05-1*	4.75	17.2/19.8	22/25	30/30					
HK08-1*	7.00	25.3/29.2	32/37	60/60					
HK10-1*	9.50	34.4/39.6	45/50	60/60					
HK10-3	9.50	20.7/23.6	26/30	30/30					
HK15-1	14.25	51.5/59.4	65/75	90/90	22/25	43/50	30/30	60/60	
HK15-3*	15.00	31.7/36.2	40/46	50/50					
HK15-4**	15.00	18.1	23	30					
HK20-1*	19.00	68.7/79.2	86/99	120/120	43/50	43/50	60/60	60/60	
HK20-3	19.60	41.4/47.2	52/59	60/60					
HK20-4**	19.60	23.6	30	30					

* Circuit Breaker Models

** Ratings at 480 VAC, Phase 3

NOTE: Ratings are at 208/240 VAC unless otherwise noted.

kW Correction Factor

Supply Voltage	240	230	220	210	208
Correction Factor	1	0.93	0.85	0.78	0.76
(Multiply the 240 VAC capacity by factors)					

NOTE: SPECIFICATIONS AND PERFORMANCE DATA LISTED HEREIN ARE SUBJECT TO CHANGE WITHOUT NOTICE

HK Heat Kit Selection Charts

	PC / PCK / PCKJ											
	024-1	030-1	036-1	036-3	042-1	042-3	048-1	048-3	048-4	060-1	060-3	060-4
HK05-X	X	X	X	X	X	X	X	X	X	X	X	X
HK08-X	X	X	X	X	X	X	X	X	X	X	X	X
HK10-X	X	X	X	X	X	X	X	X	X	X	X	X
HK15-X		X	X	X	X	X	X	X	X	X	X	X
HK20-X			X	X	X	X	X	X	X	X	X	X

	PH / PHK / PHKJ									
	024-1	030-1	036-1	036-3	042-1	048-1	048-3	048-4	060-1	060-3
HK05-X	X	X	X	X	X	X	X	X	X	X
HK08-X	X	X	X	X	X	X	X	X	X	X
HK10-X	X	X	X	X	X	X	X	X	X	X
HK15-X		X	X	X	X	X	X	X	X	X
HK20-X			X	X	X	X	X	X	X	X

Note: X – 1,3 & 4 are electrical designators

1 – 208/240 V, 1 PH

3 – 208/240 V, 3 PH

4 – 480 V, 3 PH

EXPANDED PERFORMANCE DATA

PGB

OUTDOOR UNIT PGB024050-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
680	72	27.8	13.7	2.51	26.6	13.1	2.64	25.2	12.6	2.75	23.8	12.0	2.88	22.3	11.5	3.01
	67	25.4	16.9	2.35	24.2	16.4	2.45	23.0	15.8	2.59	21.6	15.3	2.72	20.2	15.3	2.85
	62	23.5	20.0	2.19	22.3	19.5	2.32	21.7	18.9	2.45	21.1	18.4	2.59	19.9	17.7	2.69
	57	22.6	21.7	2.13	21.6	20.7	2.27	20.6	19.8	2.40	19.4	18.7	2.56	18.5	17.7	2.67
800	72	29.0	15.1	2.59	27.6	14.6	2.69	26.2	14.0	2.83	24.7	13.7	2.96	23.0	12.9	3.09
	67	26.6	19.3	2.43	25.4	18.7	2.53	24.0	18.2	2.67	22.6	17.7	2.80	21.1	17.1	2.93
	62	24.7	23.1	2.29	23.5	22.4	2.40	22.3	21.5	2.53	21.4	20.4	2.67	20.2	19.3	2.83
	57	24.5	23.5	2.27	23.3	22.6	2.40	22.3	21.5	2.53	21.4	20.4	2.67	20.2	19.3	2.83
920	72	29.8	16.4	2.64	28.3	15.8	2.75	26.9	15.3	2.88	25.2	14.7	3.01	23.8	14.4	3.15
	67	27.6	21.3	2.48	26.2	20.9	2.59	24.7	20.4	2.72	23.3	19.7	2.85	21.8	19.1	2.99
	62	25.9	24.9	2.37	25.0	23.8	2.51	23.5	22.8	2.64	22.6	21.7	2.77	21.1	20.4	2.93
	57	25.9	24.9	2.37	25.0	23.8	2.51	23.5	22.8	2.64	22.6	21.7	2.77	21.1	20.4	2.93

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR
TOTAL MBTUH 22.7 SENSIBLE MBTUH 17.5 LATENT MBTUH 5.2

OUTDOOR UNIT PGB024075-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
680	72	27.8	13.7	2.51	26.6	13.1	2.64	25.2	12.6	2.75	23.8	12.0	2.88	22.3	11.5	3.01
	67	25.4	16.9	2.35	24.2	16.4	2.45	23.0	15.8	2.59	21.6	15.3	2.72	20.2	15.3	2.85
	62	23.5	20.0	2.19	22.3	19.5	2.32	21.7	18.9	2.45	21.1	18.4	2.59	19.9	17.7	2.69
	57	22.6	21.7	2.13	21.6	20.7	2.27	20.6	19.8	2.40	19.4	18.7	2.56	18.5	17.7	2.67
800	72	29.0	15.1	2.59	27.6	14.6	2.69	26.2	14.0	2.83	24.7	13.7	2.96	23.0	12.9	3.09
	67	26.6	19.3	2.43	25.4	18.7	2.53	24.0	18.2	2.67	22.6	17.7	2.80	21.1	17.1	2.93
	62	24.7	23.1	2.29	23.5	22.4	2.40	22.3	21.5	2.53	21.4	20.4	2.67	20.2	19.3	2.83
	57	24.5	23.5	2.27	23.3	22.6	2.40	22.3	21.5	2.53	21.4	20.4	2.67	20.2	19.3	2.83
920	72	29.8	16.4	2.64	28.3	15.8	2.75	26.9	15.3	2.88	25.2	14.7	3.01	23.8	14.4	3.15
	67	27.6	21.3	2.48	26.2	20.9	2.59	24.7	20.4	2.72	23.3	19.7	2.85	21.8	19.1	2.99
	62	25.9	24.9	2.37	25.0	23.8	2.51	23.5	22.8	2.64	22.6	21.7	2.77	21.1	20.4	2.93
	57	25.9	24.9	2.37	25.0	23.8	2.51	23.5	22.8	2.64	22.6	21.7	2.77	21.1	20.4	2.93

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR
TOTAL MBTUH 22.7 SENSIBLE MBTUH 17.5 LATENT MBTUH 5.2

OUTDOOR UNIT PGB030050-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
822	72	33.6	16.5	3.03	32.2	15.8	3.19	30.5	15.2	3.32	28.7	14.5	3.48	27.0	13.9	3.64
	67	30.7	20.5	2.84	29.3	19.8	2.96	27.8	19.1	3.13	26.1	18.5	3.29	24.4	18.5	3.45
	62	28.4	24.2	2.64	27.0	23.5	2.80	26.2	22.9	2.96	25.5	22.2	3.13	24.1	21.3	3.25
	57	27.3	26.2	2.58	26.1	25.1	2.74	24.9	24.0	2.90	23.5	22.7	3.09	22.3	21.3	3.22
967	72	35.1	18.3	3.13	33.4	17.6	3.25	31.6	16.9	3.42	29.9	16.5	3.58	27.8	15.6	3.74
	67	32.2	23.3	2.93	30.7	22.7	3.06	29.0	22.0	3.22	27.3	21.3	3.38	25.5	20.7	3.54
	62	29.9	27.9	2.77	28.4	27.1	2.90	27.0	26.0	3.06	25.8	24.6	3.22	24.4	23.3	3.42
	57	29.6	28.4	2.74	28.1	27.3	2.90	27.0	26.0	3.06	25.8	24.6	3.22	24.4	23.3	3.42
1112	72	36.0	19.8	3.19	34.2	19.1	3.32	32.5	18.5	3.48	30.5	17.8	3.64	28.7	17.4	3.80
	67	33.4	25.7	3.00	31.6	25.3	3.13	29.9	24.6	3.29	28.1	23.8	3.45	26.4	23.1	3.61
	62	31.3	30.1	2.87	30.2	28.8	3.03	28.4	27.5	3.19	27.3	26.2	3.35	25.5	24.6	3.54
	57	31.3	30.1	2.87	30.2	28.8	3.03	28.4	27.5	3.19	27.3	26.2	3.35	25.5	24.6	3.54

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR
TOTAL MBTUH 27.4 SENSIBLE MBTUH 21.1 LATENT MBTUH 6.3

EXPANDED PERFORMANCE DATA

PGB

OUTDOOR UNIT PGB030075-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
822	72	33.6	16.5	3.03	32.2	15.8	3.19	30.5	15.2	3.32	28.7	14.5	3.48	27.0	13.9	3.64
	67	30.7	20.5	2.84	29.3	19.8	2.96	27.8	19.1	3.13	26.1	18.5	3.29	24.4	18.5	3.45
	62	28.4	24.2	2.64	27.0	23.5	2.80	26.2	22.9	2.96	25.5	22.2	3.13	24.1	21.3	3.25
	57	27.3	26.2	2.58	26.1	25.1	2.74	24.9	24.0	2.90	23.5	22.7	3.09	22.3	21.3	3.22
967	72	35.1	18.3	3.13	33.4	17.6	3.25	31.6	16.9	3.42	29.9	16.5	3.58	27.8	15.6	3.74
	67	32.2	23.3	2.93	30.7	22.7	3.06	29.0	22.0	3.22	27.3	21.3	3.38	25.5	20.7	3.54
	62	29.9	27.9	2.77	28.4	27.1	2.90	27.0	26.0	3.06	25.8	24.6	3.22	24.4	23.3	3.42
	57	29.6	28.4	2.74	28.1	27.3	2.90	27.0	26.0	3.06	25.8	24.6	3.22	24.4	23.3	3.42
1112	72	36.0	19.8	3.19	34.2	19.1	3.32	32.5	18.5	3.48	30.5	17.8	3.64	28.7	17.4	3.80
	67	33.4	25.7	3.00	31.6	25.3	3.13	29.9	24.6	3.29	28.1	23.8	3.45	26.4	23.1	3.61
	62	31.3	30.1	2.87	30.2	28.8	3.03	28.4	27.5	3.19	27.3	26.2	3.35	25.5	24.6	3.54
	57	31.3	30.1	2.87	30.2	28.8	3.03	28.4	27.5	3.19	27.3	26.2	3.35	25.5	24.6	3.54

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 27.4 SENSIBLE MBTUH 21.1 LATENT MBTUH 6.3

OUTDOOR UNIT PGB030100-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
850	72	34.8	8.6	3.13	33.3	8.2	3.30	31.5	7.9	3.43	29.7	7.5	3.60	27.9	7.2	3.77
	67	31.8	10.6	2.93	30.3	10.3	3.07	28.8	9.9	3.23	27.0	9.6	3.40	25.2	9.6	3.57
	62	29.4	12.5	2.73	27.9	12.2	2.90	27.2	11.9	3.07	26.4	11.5	3.23	24.9	11.1	3.37
	57	28.2	13.6	2.67	27.0	13.0	2.83	25.8	12.4	3.00	24.3	11.7	3.20	23.1	11.1	3.33
1000	72	36.3	9.5	3.23	34.5	9.1	3.37	32.7	8.8	3.53	30.9	8.6	3.70	28.8	8.1	3.87
	67	33.3	12.1	3.03	31.8	11.7	3.17	30.0	11.4	3.33	28.2	11.1	3.50	26.4	10.7	3.67
	62	30.9	14.5	2.87	29.4	14.0	3.00	27.9	13.5	3.17	26.7	12.8	3.33	25.2	12.1	3.53
	57	30.6	14.7	2.83	29.1	14.1	3.00	27.9	13.5	3.17	26.7	12.8	3.33	25.2	12.1	3.53
1150	72	37.2	10.3	3.30	35.4	9.9	3.43	33.6	9.6	3.60	31.5	9.2	3.77	29.7	9.0	3.93
	67	34.5	13.3	3.10	32.7	13.1	3.23	30.9	12.8	3.40	29.1	12.3	3.57	27.3	12.0	3.73
	62	32.4	15.6	2.97	31.2	14.9	3.13	29.4	14.3	3.30	28.2	13.6	3.47	26.4	12.8	3.67
	57	32.4	15.6	2.97	31.2	14.9	3.13	29.4	14.3	3.30	28.2	13.6	3.47	26.4	12.8	3.67

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 28.3 SENSIBLE MBTUH 8.8 LATENT MBTUH 19.5

OUTDOOR UNIT PGB036050-1A

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
969	72	39.7	18.5	3.57	38.0	17.7	3.76	35.9	17.0	3.91	33.9	16.2	4.10	31.8	15.5	4.29
	67	36.3	22.9	3.34	34.5	22.1	3.50	32.8	21.4	3.69	30.8	20.7	3.88	28.7	20.7	4.07
	62	33.5	27.1	3.12	31.8	26.3	3.31	31.0	25.6	3.50	30.1	24.8	3.69	28.4	23.9	3.84
	57	32.1	29.3	3.04	30.8	28.0	3.23	29.4	26.8	3.42	27.7	25.3	3.65	26.3	23.9	3.80
1140	72	41.4	20.4	3.69	39.3	19.7	3.84	37.3	18.9	4.03	35.2	18.5	4.22	32.8	17.5	4.41
	67	38.0	26.1	3.46	36.3	25.3	3.61	34.2	24.6	3.80	32.1	23.9	3.99	30.1	23.1	4.18
	62	35.2	31.2	3.27	33.5	30.3	3.42	31.8	29.0	3.61	30.4	27.6	3.80	28.7	26.1	4.03
	57	34.9	31.7	3.23	33.2	30.5	3.42	31.8	29.0	3.61	30.4	27.6	3.80	28.7	26.1	4.03
1311	72	42.4	22.1	3.76	40.4	21.4	3.91	38.3	20.7	4.10	35.9	19.9	4.29	33.9	19.4	4.48
	67	39.3	28.8	3.53	37.3	28.3	3.69	35.2	27.6	3.88	33.2	26.6	4.07	31.1	25.8	4.26
	62	36.9	33.7	3.38	35.6	32.2	3.57	33.5	30.8	3.76	32.1	29.3	3.95	30.1	27.6	4.18
	57	36.9	33.7	3.38	35.6	32.2	3.57	33.5	30.8	3.76	32.1	29.3	3.95	30.1	27.6	4.18

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 32.3 SENSIBLE MBTUH 23.4 LATENT MBTUH 8.9

EXPANDED PERFORMANCE DATA

PGB

OUTDOOR UNIT PGB036075-1A

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
969	72	39.7	18.5	3.57	38.0	17.7	3.76	35.9	17.0	3.91	33.9	16.2	4.10	31.8	15.5	4.29
	67	36.3	22.9	3.34	34.5	22.1	3.50	32.8	21.4	3.69	30.8	20.7	3.88	28.7	20.7	4.07
	62	33.5	27.1	3.12	31.8	26.3	3.31	31.0	25.6	3.50	30.1	24.8	3.69	28.4	23.9	3.84
	57	32.1	29.3	3.04	30.8	28.0	3.23	29.4	26.8	3.42	27.7	25.3	3.65	26.3	23.9	3.80
1140	72	41.4	20.4	3.69	39.3	19.7	3.84	37.3	18.9	4.03	35.2	18.5	4.22	32.8	17.5	4.41
	67	38.0	26.1	3.46	36.3	25.3	3.61	34.2	24.6	3.80	32.1	23.9	3.99	30.1	23.1	4.18
	62	35.2	31.2	3.27	33.5	30.3	3.42	31.8	29.0	3.61	30.4	27.6	3.80	28.7	26.1	4.03
	57	34.9	31.7	3.23	33.2	30.5	3.42	31.8	29.0	3.61	30.4	27.6	3.80	28.7	26.1	4.03
1311	72	42.4	22.1	3.76	40.4	21.4	3.91	38.3	20.7	4.10	35.9	19.9	4.29	33.9	19.4	4.48
	67	39.3	28.8	3.53	37.3	28.3	3.69	35.2	27.6	3.88	33.2	26.6	4.07	31.1	25.8	4.26
	62	36.9	33.7	3.38	35.6	32.2	3.57	33.5	30.8	3.76	32.1	29.3	3.95	30.1	27.6	4.18
	57	36.9	33.7	3.38	35.6	32.2	3.57	33.5	30.8	3.76	32.1	29.3	3.95	30.1	27.6	4.18

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 32.3 SENSIBLE MBTUH 23.4 LATENT MBTUH 8.9

OUTDOOR UNIT PGB036075-3A

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
969	72	39.7	18.5	3.57	38.0	17.7	3.76	35.9	17.0	3.91	33.9	16.2	4.10	31.8	15.5	4.29
	67	36.3	22.9	3.34	34.5	22.1	3.50	32.8	21.4	3.69	30.8	20.7	3.88	28.7	20.7	4.07
	62	33.5	27.1	3.12	31.8	26.3	3.31	31.0	25.6	3.50	30.1	24.8	3.69	28.4	23.9	3.84
	57	32.1	29.3	3.04	30.8	28.0	3.23	29.4	26.8	3.42	27.7	25.3	3.65	26.3	23.9	3.80
1140	72	41.4	20.4	3.69	39.3	19.7	3.84	37.3	18.9	4.03	35.2	18.5	4.22	32.8	17.5	4.41
	67	38.0	26.1	3.46	36.3	25.3	3.61	34.2	24.6	3.80	32.1	23.9	3.99	30.1	23.1	4.18
	62	35.2	31.2	3.27	33.5	30.3	3.42	31.8	29.0	3.61	30.4	27.6	3.80	28.7	26.1	4.03
	57	34.9	31.7	3.23	33.2	30.5	3.42	31.8	29.0	3.61	30.4	27.6	3.80	28.7	26.1	4.03
1311	72	42.4	22.1	3.76	40.4	21.4	3.91	38.3	20.7	4.10	35.9	19.9	4.29	33.9	19.4	4.48
	67	39.3	28.8	3.53	37.3	28.3	3.69	35.2	27.6	3.88	33.2	26.6	4.07	31.1	25.8	4.26
	62	36.9	33.7	3.38	35.6	32.2	3.57	33.5	30.8	3.76	32.1	29.3	3.95	30.1	27.6	4.18
	57	36.9	33.7	3.38	35.6	32.2	3.57	33.5	30.8	3.76	32.1	29.3	3.95	30.1	27.6	4.18

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 32.3 SENSIBLE MBTUH 23.4 LATENT MBTUH 8.9

OUTDOOR UNIT PGB036100-1A

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
992	72	40.6	18.9	3.66	38.9	18.1	3.85	36.8	17.4	4.01	34.7	16.6	4.20	32.6	15.9	4.39
	67	37.1	23.4	3.42	35.4	22.7	3.58	33.6	21.9	3.77	31.5	21.2	3.97	29.4	21.2	4.16
	62	34.3	27.7	3.19	32.6	27.0	3.38	31.7	26.2	3.58	30.8	25.5	3.77	29.1	24.4	3.93
	57	32.9	30.0	3.11	31.5	28.7	3.31	30.1	27.5	3.50	28.4	26.0	3.73	27.0	24.4	3.89
1167	72	42.4	20.9	3.77	40.3	20.2	3.93	38.2	19.4	4.12	36.1	18.9	4.32	33.6	17.9	4.51
	67	38.9	26.7	3.54	37.1	26.0	3.69	35.0	25.2	3.89	32.9	24.4	4.08	30.8	23.7	4.28
	62	36.1	32.0	3.34	34.3	31.0	3.50	32.6	29.7	3.69	31.2	28.2	3.89	29.4	26.7	4.12
	57	35.7	32.5	3.31	34.0	31.2	3.50	32.6	29.7	3.69	31.2	28.2	3.89	29.4	26.7	4.12
1342	72	43.4	22.7	3.85	41.3	21.9	4.01	39.2	21.2	4.20	36.8	20.4	4.39	34.7	19.9	4.59
	67	40.3	29.5	3.62	38.2	29.0	3.77	36.1	28.2	3.97	34.0	27.2	4.16	31.9	26.5	4.36
	62	37.8	34.5	3.46	36.4	33.0	3.66	34.3	31.5	3.85	32.9	30.0	4.04	30.8	28.2	4.28
	57	37.8	34.5	3.46	36.4	33.0	3.66	34.3	31.5	3.85	32.9	30.0	4.04	30.8	28.2	4.28

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 33.0 SENSIBLE MBTUH 23.9 LATENT MBTUH 9.1

EXPANDED PERFORMANCE DATA

PGB

OUTDOOR UNIT PGB042075-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1133	72	46.4	22.8	4.18	44.4	21.9	4.40	42.0	21.0	4.58	39.6	20.1	4.80	37.2	19.2	5.02
	67	42.4	28.3	3.91	40.4	27.4	4.09	38.4	26.4	4.31	36.0	25.5	4.53	33.6	25.5	4.76
	62	39.2	33.4	3.64	37.2	32.5	3.87	36.2	31.6	4.09	35.2	30.7	4.31	33.2	29.5	4.49
	57	37.6	36.2	3.56	36.0	34.7	3.78	34.4	33.1	4.00	32.4	31.3	4.27	30.8	29.5	4.44
1333	72	48.4	25.2	4.31	46.0	24.3	4.49	43.6	23.4	4.71	41.2	22.8	4.93	38.4	21.6	5.16
	67	44.4	32.2	4.04	42.4	31.3	4.22	40.0	30.4	4.44	37.6	29.5	4.67	35.2	28.6	4.89
	62	41.2	38.6	3.82	39.2	37.4	4.00	37.2	35.9	4.22	35.6	34.0	4.44	33.6	32.2	4.71
	57	40.8	39.2	3.78	38.8	37.7	4.00	37.2	35.9	4.22	35.6	34.0	4.44	33.6	32.2	4.71
1533	72	49.6	27.4	4.40	47.2	26.4	4.58	44.8	25.5	4.80	42.0	24.6	5.02	39.6	24.0	5.24
	67	46.0	35.6	4.13	43.6	35.0	4.31	41.2	34.0	4.53	38.8	32.8	4.76	36.4	31.9	4.98
	62	43.2	41.6	3.96	41.6	39.8	4.18	39.2	38.0	4.40	37.6	36.2	4.62	35.2	34.0	4.89
	57	43.2	41.6	3.96	41.6	39.8	4.18	39.2	38.0	4.40	37.6	36.2	4.62	35.2	34.0	4.89

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 37.8 SENSIBLE MBTUH 29.2 LATENT MBTUH 8.6

OUTDOOR UNIT PGB042100-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1133	72	46.4	22.8	4.18	44.4	21.9	4.40	42.0	21.0	4.58	39.6	20.1	4.80	37.2	19.2	5.02
	67	42.4	28.3	3.91	40.4	27.4	4.09	38.4	26.4	4.31	36.0	25.5	4.53	33.6	25.5	4.76
	62	39.2	33.4	3.64	37.2	32.5	3.87	36.2	31.6	4.09	35.2	30.7	4.31	33.2	29.5	4.49
	57	37.6	36.2	3.56	36.0	34.7	3.78	34.4	33.1	4.00	32.4	31.3	4.27	30.8	29.5	4.44
1333	72	48.4	25.2	4.31	46.0	24.3	4.49	43.6	23.4	4.71	41.2	22.8	4.93	38.4	21.6	5.16
	67	44.4	32.2	4.04	42.4	31.3	4.22	40.0	30.4	4.44	37.6	29.5	4.67	35.2	28.6	4.89
	62	41.2	38.6	3.82	39.2	37.4	4.00	37.2	35.9	4.22	35.6	34.0	4.44	33.6	32.2	4.71
	57	40.8	39.2	3.78	38.8	37.7	4.00	37.2	35.9	4.22	35.6	34.0	4.44	33.6	32.2	4.71
1533	72	49.6	27.4	4.40	47.2	26.4	4.58	44.8	25.5	4.80	42.0	24.6	5.02	39.6	24.0	5.24
	67	46.0	35.6	4.13	43.6	35.0	4.31	41.2	34.0	4.53	38.8	32.8	4.76	36.4	31.9	4.98
	62	43.2	41.6	3.96	41.6	39.8	4.18	39.2	38.0	4.40	37.6	36.2	4.62	35.2	34.0	4.89
	57	43.2	41.6	3.96	41.6	39.8	4.18	39.2	38.0	4.40	37.6	36.2	4.62	35.2	34.0	4.89

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 37.8 SENSIBLE MBTUH 29.2 LATENT MBTUH 8.6

OUTDOOR UNIT PGB042125-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1133	72	46.4	22.8	4.18	44.4	21.9	4.40	42.0	21.0	4.58	39.6	20.1	4.80	37.2	19.2	5.02
	67	42.4	28.3	3.91	40.4	27.4	4.09	38.4	26.4	4.31	36.0	25.5	4.53	33.6	25.5	4.76
	62	39.2	33.4	3.64	37.2	32.5	3.87	36.2	31.6	4.09	35.2	30.7	4.31	33.2	29.5	4.49
	57	37.6	36.2	3.56	36.0	34.7	3.78	34.4	33.1	4.00	32.4	31.3	4.27	30.8	29.5	4.44
1333	72	48.4	25.2	4.31	46.0	24.3	4.49	43.6	23.4	4.71	41.2	22.8	4.93	38.4	21.6	5.16
	67	44.4	32.2	4.04	42.4	31.3	4.22	40.0	30.4	4.44	37.6	29.5	4.67	35.2	28.6	4.89
	62	41.2	38.6	3.82	39.2	37.4	4.00	37.2	35.9	4.22	35.6	34.0	4.44	33.6	32.2	4.71
	57	40.8	39.2	3.78	38.8	37.7	4.00	37.2	35.9	4.22	35.6	34.0	4.44	33.6	32.2	4.71
1533	72	49.6	27.4	4.40	47.2	26.4	4.58	44.8	25.5	4.80	42.0	24.6	5.02	39.6	24.0	5.24
	67	46.0	35.6	4.13	43.6	35.0	4.31	41.2	34.0	4.53	38.8	32.8	4.76	36.4	31.9	4.98
	62	43.2	41.6	3.96	41.6	39.8	4.18	39.2	38.0	4.40	37.6	36.2	4.62	35.2	34.0	4.89
	57	43.2	41.6	3.96	41.6	39.8	4.18	39.2	38.0	4.40	37.6	36.2	4.62	35.2	34.0	4.89

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 37.8 SENSIBLE MBTUH 29.2 LATENT MBTUH 8.6

EXPANDED PERFORMANCE DATA

PGB

OUTDOOR UNIT PGB048075-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1360	72	55.7	28.8	5.01	53.3	27.6	5.28	50.4	26.5	5.49	47.5	25.3	5.76	44.6	24.2	6.03
	67	50.9	35.7	4.69	48.5	34.6	4.91	46.1	33.4	5.17	43.2	32.3	5.44	40.3	32.3	5.71
	62	47.0	42.2	4.37	44.6	41.1	4.64	43.4	39.9	4.91	42.2	38.8	5.17	39.8	37.2	5.39
	57	45.1	45.7	4.27	43.2	43.8	4.53	41.3	41.9	4.80	38.9	39.6	5.12	37.0	37.2	5.33
1600	72	58.1	31.9	5.17	55.2	30.7	5.39	52.3	29.6	5.65	49.4	28.8	5.92	46.1	27.3	6.19
	67	53.3	40.7	4.85	50.9	39.6	5.07	48.0	38.4	5.33	45.1	37.2	5.60	42.2	36.1	5.87
	62	49.4	48.8	4.59	47.0	47.2	4.80	44.6	45.3	5.07	42.7	43.0	5.33	40.3	40.7	5.65
	57	49.0	49.5	4.53	46.6	47.6	4.80	44.6	45.3	5.07	42.7	43.0	5.33	40.3	40.7	5.65
1840	72	59.5	34.6	5.28	56.6	33.4	5.49	53.8	32.3	5.76	50.4	31.1	6.03	47.5	30.3	6.29
	67	55.2	44.9	4.96	52.3	44.2	5.17	49.4	43.0	5.44	46.6	41.5	5.71	43.7	40.3	5.97
	62	51.8	52.6	4.75	49.9	50.3	5.01	47.0	48.0	5.28	45.1	45.7	5.55	42.2	43.0	5.87
	57	51.8	52.6	4.75	49.9	50.3	5.01	47.0	48.0	5.28	45.1	45.7	5.55	42.2	43.0	5.87

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F,
or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR
TOTAL MBTUH 45.3 SENSIBLE MBTUH 37.2 LATENT MBTUH 8.1

OUTDOOR UNIT PGB048100-3

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1360	72	55.7	28.8	5.01	53.3	27.6	5.28	50.4	26.5	5.49	47.5	25.3	5.76	44.6	24.2	6.03
	67	50.9	35.7	4.69	48.5	34.6	4.91	46.1	33.4	5.17	43.2	32.3	5.44	40.3	32.3	5.71
	62	47.0	42.2	4.37	44.6	41.1	4.64	43.4	39.9	4.91	42.2	38.8	5.17	39.8	37.2	5.39
	57	45.1	45.7	4.27	43.2	43.8	4.53	41.3	41.9	4.80	38.9	39.6	5.12	37.0	37.2	5.33
1600	72	58.1	31.9	5.17	55.2	30.7	5.39	52.3	29.6	5.65	49.4	28.8	5.92	46.1	27.3	6.19
	67	53.3	40.7	4.85	50.9	39.6	5.07	48.0	38.4	5.33	45.1	37.2	5.60	42.2	36.1	5.87
	62	49.4	48.8	4.59	47.0	47.2	4.80	44.6	45.3	5.07	42.7	43.0	5.33	40.3	40.7	5.65
	57	49.0	49.5	4.53	46.6	47.6	4.80	44.6	45.3	5.07	42.7	43.0	5.33	40.3	40.7	5.65
1840	72	59.5	34.6	5.28	56.6	33.4	5.49	53.8	32.3	5.76	50.4	31.1	6.03	47.5	30.3	6.29
	67	55.2	44.9	4.96	52.3	44.2	5.17	49.4	43.0	5.44	46.6	41.5	5.71	43.7	40.3	5.97
	62	51.8	52.6	4.75	49.9	50.3	5.01	47.0	48.0	5.28	45.1	45.7	5.55	42.2	43.0	5.87
	57	51.8	52.6	4.75	49.9	50.3	5.01	47.0	48.0	5.28	45.1	45.7	5.55	42.2	43.0	5.87

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F,
or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR
TOTAL MBTUH 45.3 SENSIBLE MBTUH 37.2 LATENT MBTUH 8.1

OUTDOOR UNIT PGB048125-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1360	72	55.7	28.8	5.01	53.3	27.6	5.28	50.4	26.5	5.49	47.5	25.3	5.76	44.6	24.2	6.03
	67	50.9	35.7	4.69	48.5	34.6	4.91	46.1	33.4	5.17	43.2	32.3	5.44	40.3	32.3	5.71
	62	47.0	42.2	4.37	44.6	41.1	4.64	43.4	39.9	4.91	42.2	38.8	5.17	39.8	37.2	5.39
	57	45.1	45.7	4.27	43.2	43.8	4.53	41.3	41.9	4.80	38.9	39.6	5.12	37.0	37.2	5.33
1600	72	58.1	31.9	5.17	55.2	30.7	5.39	52.3	29.6	5.65	49.4	28.8	5.92	46.1	27.3	6.19
	67	53.3	40.7	4.85	50.9	39.6	5.07	48.0	38.4	5.33	45.1	37.2	5.60	42.2	36.1	5.87
	62	49.4	48.8	4.59	47.0	47.2	4.80	44.6	45.3	5.07	42.7	43.0	5.33	40.3	40.7	5.65
	57	49.0	49.5	4.53	46.6	47.6	4.80	44.6	45.3	5.07	42.7	43.0	5.33	40.3	40.7	5.65
1840	72	59.5	34.6	5.28	56.6	33.4	5.49	53.8	32.3	5.76	50.4	31.1	6.03	47.5	30.3	6.29
	67	55.2	44.9	4.96	52.3	44.2	5.17	49.4	43.0	5.44	46.6	41.5	5.71	43.7	40.3	5.97
	62	51.8	52.6	4.75	49.9	50.3	5.01	47.0	48.0	5.28	45.1	45.7	5.55	42.2	43.0	5.87
	57	51.8	52.6	4.75	49.9	50.3	5.01	47.0	48.0	5.28	45.1	45.7	5.55	42.2	43.0	5.87

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F,
or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR
TOTAL MBTUH 45.3 SENSIBLE MBTUH 37.2 LATENT MBTUH 8.1

EXPANDED PERFORMANCE DATA

PGB

OUTDOOR UNIT PGB048150-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1360	72	55.7	28.8	5.01	53.3	27.6	5.28	50.4	26.5	5.49	47.5	25.3	5.76	44.6	24.2	6.03
	67	50.9	35.7	4.69	48.5	34.6	4.91	46.1	33.4	5.17	43.2	32.3	5.44	40.3	32.3	5.71
	62	47.0	42.2	4.37	44.6	41.1	4.64	43.4	39.9	4.91	42.2	38.8	5.17	39.8	37.2	5.39
	57	45.1	45.7	4.27	43.2	43.8	4.53	41.3	41.9	4.80	38.9	39.6	5.12	37.0	37.2	5.33
1600	72	58.1	31.9	5.17	55.2	30.7	5.39	52.3	29.6	5.65	49.4	28.8	5.92	46.1	27.3	6.19
	67	53.3	40.7	4.85	50.9	39.6	5.07	48.0	38.4	5.33	45.1	37.2	5.60	42.2	36.1	5.87
	62	49.4	48.8	4.59	47.0	47.2	4.80	44.6	45.3	5.07	42.7	43.0	5.33	40.3	40.7	5.65
	57	49.0	49.5	4.53	46.6	47.6	4.80	44.6	45.3	5.07	42.7	43.0	5.33	40.3	40.7	5.65
1840	72	59.5	34.6	5.28	56.6	33.4	5.49	53.8	32.3	5.76	50.4	31.1	6.03	47.5	30.3	6.29
	67	55.2	44.9	4.96	52.3	44.2	5.17	49.4	43.0	5.44	46.6	41.5	5.71	43.7	40.3	5.97
	62	51.8	52.6	4.75	49.9	50.3	5.01	47.0	48.0	5.28	45.1	45.7	5.55	42.2	43.0	5.87
	57	51.8	52.6	4.75	49.9	50.3	5.01	47.0	48.0	5.28	45.1	45.7	5.55	42.2	43.0	5.87

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 45.3 SENSIBLE MBTUH 37.2 LATENT MBTUH 8.1

OUTDOOR UNIT PGB048150-3

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1360	72	55.7	28.8	5.01	53.3	27.6	5.28	50.4	26.5	5.49	47.5	25.3	5.76	44.6	24.2	6.03
	67	50.9	35.7	4.69	48.5	34.6	4.91	46.1	33.4	5.17	43.2	32.3	5.44	40.3	32.3	5.71
	62	47.0	42.2	4.37	44.6	41.1	4.64	43.4	39.9	4.91	42.2	38.8	5.17	39.8	37.2	5.39
	57	45.1	45.7	4.27	43.2	43.8	4.53	41.3	41.9	4.80	38.9	39.6	5.12	37.0	37.2	5.33
1600	72	58.1	31.9	5.17	55.2	30.7	5.39	52.3	29.6	5.65	49.4	28.8	5.92	46.1	27.3	6.19
	67	53.3	40.7	4.85	50.9	39.6	5.07	48.0	38.4	5.33	45.1	37.2	5.60	42.2	36.1	5.87
	62	49.4	48.8	4.59	47.0	47.2	4.80	44.6	45.3	5.07	42.7	43.0	5.33	40.3	40.7	5.65
	57	49.0	49.5	4.53	46.6	47.6	4.80	44.6	45.3	5.07	42.7	43.0	5.33	40.3	40.7	5.65
1840	72	59.5	34.6	5.28	56.6	33.4	5.49	53.8	32.3	5.76	50.4	31.1	6.03	47.5	30.3	6.29
	67	55.2	44.9	4.96	52.3	44.2	5.17	49.4	43.0	5.44	46.6	41.5	5.71	43.7	40.3	5.97
	62	51.8	52.6	4.75	49.9	50.3	5.01	47.0	48.0	5.28	45.1	45.7	5.55	42.2	43.0	5.87
	57	51.8	52.6	4.75	49.9	50.3	5.01	47.0	48.0	5.28	45.1	45.7	5.55	42.2	43.0	5.87

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 45.3 SENSIBLE MBTUH 37.2 LATENT MBTUH 8.1

OUTDOOR UNIT PGB060100-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1643	72	67.3	32.9	6.06	64.4	31.5	6.38	60.9	30.2	6.64	57.4	28.9	6.96	53.9	27.6	7.28
	67	61.5	40.7	5.67	58.6	39.4	5.93	55.7	38.1	6.25	52.2	36.8	6.57	48.7	36.8	6.90
	62	56.8	48.2	5.28	53.9	46.9	5.61	52.5	45.6	5.93	51.0	44.2	6.25	48.1	42.5	6.51
	57	54.5	52.1	5.16	52.2	49.9	5.48	49.9	47.7	5.80	47.0	45.1	6.19	44.7	42.5	6.44
1933	72	70.2	36.4	6.25	66.7	35.0	6.51	63.2	33.7	6.83	59.7	32.9	7.15	55.7	31.1	7.48
	67	64.4	46.4	5.86	61.5	45.1	6.12	58.0	43.8	6.44	54.5	42.5	6.77	51.0	41.2	7.09
	62	59.7	55.6	5.54	56.8	53.9	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
	57	59.2	56.5	5.48	56.3	54.3	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
2223	72	71.9	39.4	6.38	68.4	38.1	6.64	65.0	36.8	6.96	60.9	35.5	7.28	57.4	34.6	7.60
	67	66.7	51.2	5.99	63.2	50.4	6.25	59.7	49.1	6.57	56.3	47.3	6.90	52.8	46.0	7.22
	62	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09
	57	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 54.8 SENSIBLE MBTUH 42.0 LATENT MBTUH 12.8

EXPANDED PERFORMANCE DATA

PGB

OUTDOOR UNIT PGB060100-3

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1643	72	67.3	32.9	6.06	64.4	31.5	6.38	60.9	30.2	6.64	57.4	28.9	6.96	53.9	27.6	7.28
	67	61.5	40.7	5.67	58.6	39.4	5.93	55.7	38.1	6.25	52.2	36.8	6.57	48.7	36.8	6.90
	62	56.8	48.2	5.28	53.9	46.9	5.61	52.5	45.6	5.93	51.0	44.2	6.25	48.1	42.5	6.51
	57	54.5	52.1	5.16	52.2	49.9	5.48	49.9	47.7	5.80	47.0	45.1	6.19	44.7	42.5	6.44
1933	72	70.2	36.4	6.25	66.7	35.0	6.51	63.2	33.7	6.83	59.7	32.9	7.15	55.7	31.1	7.48
	67	64.4	46.4	5.86	61.5	45.1	6.12	58.0	43.8	6.44	54.5	42.5	6.77	51.0	41.2	7.09
	62	59.7	55.6	5.54	56.8	53.9	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
	57	59.2	56.5	5.48	56.3	54.3	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
2223	72	71.9	39.4	6.38	68.4	38.1	6.64	65.0	36.8	6.96	60.9	35.5	7.28	57.4	34.6	7.60
	67	66.7	51.2	5.99	63.2	50.4	6.25	59.7	49.1	6.57	56.3	47.3	6.90	52.8	46.0	7.22
	62	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09
	57	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F,
or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH54.8SENSIBLE MBTUH42.0LATENT MBTUH12.8

OUTDOOR UNIT PGB060125-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1643	72	67.3	32.9	6.06	64.4	31.5	6.38	60.9	30.2	6.64	57.4	28.9	6.96	53.9	27.6	7.28
	67	61.5	40.7	5.67	58.6	39.4	5.93	55.7	38.1	6.25	52.2	36.8	6.57	48.7	36.8	6.90
	62	56.8	48.2	5.28	53.9	46.9	5.61	52.5	45.6	5.93	51.0	44.2	6.25	48.1	42.5	6.51
	57	54.5	52.1	5.16	52.2	49.9	5.48	49.9	47.7	5.80	47.0	45.1	6.19	44.7	42.5	6.44
1933	72	70.2	36.4	6.25	66.7	35.0	6.51	63.2	33.7	6.83	59.7	32.9	7.15	55.7	31.1	7.48
	67	64.4	46.4	5.86	61.5	45.1	6.12	58.0	43.8	6.44	54.5	42.5	6.77	51.0	41.2	7.09
	62	59.7	55.6	5.54	56.8	53.9	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
	57	59.2	56.5	5.48	56.3	54.3	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
2223	72	71.9	39.4	6.38	68.4	38.1	6.64	65.0	36.8	6.96	60.9	35.5	7.28	57.4	34.6	7.60
	67	66.7	51.2	5.99	63.2	50.4	6.25	59.7	49.1	6.57	56.3	47.3	6.90	52.8	46.0	7.22
	62	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09
	57	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F,
or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH54.8SENSIBLE MBTUH42.0LATENT MBTUH12.8

OUTDOOR UNIT PGB060125-3

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1643	72	67.3	32.9	6.06	64.4	31.5	6.38	60.9	30.2	6.64	57.4	28.9	6.96	53.9	27.6	7.28
	67	61.5	40.7	5.67	58.6	39.4	5.93	55.7	38.1	6.25	52.2	36.8	6.57	48.7	36.8	6.90
	62	56.8	48.2	5.28	53.9	46.9	5.61	52.5	45.6	5.93	51.0	44.2	6.25	48.1	42.5	6.51
	57	54.5	52.1	5.16	52.2	49.9	5.48	49.9	47.7	5.80	47.0	45.1	6.19	44.7	42.5	6.44
1933	72	70.2	36.4	6.25	66.7	35.0	6.51	63.2	33.7	6.83	59.7	32.9	7.15	55.7	31.1	7.48
	67	64.4	46.4	5.86	61.5	45.1	6.12	58.0	43.8	6.44	54.5	42.5	6.77	51.0	41.2	7.09
	62	59.7	55.6	5.54	56.8	53.9	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
	57	59.2	56.5	5.48	56.3	54.3	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
2223	72	71.9	39.4	6.38	68.4	38.1	6.64	65.0	36.8	6.96	60.9	35.5	7.28	57.4	34.6	7.60
	67	66.7	51.2	5.99	63.2	50.4	6.25	59.7	49.1	6.57	56.3	47.3	6.90	52.8	46.0	7.22
	62	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09
	57	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F,
or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH54.8SENSIBLE MBTUH42.0LATENT MBTUH12.8

EXPANDED PERFORMANCE DATA

PGB

OUTDOOR UNIT PGB060150-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1643	72	67.3	32.9	6.06	64.4	31.5	6.38	60.9	30.2	6.64	57.4	28.9	6.96	53.9	27.6	7.28
	67	61.5	40.7	5.67	58.6	39.4	5.93	55.7	38.1	6.25	52.2	36.8	6.57	48.7	36.8	6.90
	62	56.8	48.2	5.28	53.9	46.9	5.61	52.5	45.6	5.93	51.0	44.2	6.25	48.1	42.5	6.51
	57	54.5	52.1	5.16	52.2	49.9	5.48	49.9	47.7	5.80	47.0	45.1	6.19	44.7	42.5	6.44
1933	72	70.2	36.4	6.25	66.7	35.0	6.51	63.2	33.7	6.83	59.7	32.9	7.15	55.7	31.1	7.48
	67	64.4	46.4	5.86	61.5	45.1	6.12	58.0	43.8	6.44	54.5	42.5	6.77	51.0	41.2	7.09
	62	59.7	55.6	5.54	56.8	53.9	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
	57	59.2	56.5	5.48	56.3	54.3	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
2223	72	71.9	39.4	6.38	68.4	38.1	6.64	65.0	36.8	6.96	60.9	35.5	7.28	57.4	34.6	7.60
	67	66.7	51.2	5.99	63.2	50.4	6.25	59.7	49.1	6.57	56.3	47.3	6.90	52.8	46.0	7.22
	62	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09
	57	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 54.8 SENSIBLE MBTUH 42.0 LATENT MBTUH 12.8

OUTDOOR UNIT PGB060150-3

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1643	72	67.3	32.9	6.06	64.4	31.5	6.38	60.9	30.2	6.64	57.4	28.9	6.96	53.9	27.6	7.28
	67	61.5	40.7	5.67	58.6	39.4	5.93	55.7	38.1	6.25	52.2	36.8	6.57	48.7	36.8	6.90
	62	56.8	48.2	5.28	53.9	46.9	5.61	52.5	45.6	5.93	51.0	44.2	6.25	48.1	42.5	6.51
	57	54.5	52.1	5.16	52.2	49.9	5.48	49.9	47.7	5.80	47.0	45.1	6.19	44.7	42.5	6.44
1933	72	70.2	36.4	6.25	66.7	35.0	6.51	63.2	33.7	6.83	59.7	32.9	7.15	55.7	31.1	7.48
	67	64.4	46.4	5.86	61.5	45.1	6.12	58.0	43.8	6.44	54.5	42.5	6.77	51.0	41.2	7.09
	62	59.7	55.6	5.54	56.8	53.9	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
	57	59.2	56.5	5.48	56.3	54.3	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
2223	72	71.9	39.4	6.38	68.4	38.1	6.64	65.0	36.8	6.96	60.9	35.5	7.28	57.4	34.6	7.60
	67	66.7	51.2	5.99	63.2	50.4	6.25	59.7	49.1	6.57	56.3	47.3	6.90	52.8	46.0	7.22
	62	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09
	57	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 54.8 SENSIBLE MBTUH 42.0 LATENT MBTUH 12.8

OUTDOOR UNIT PGB060150-4

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1643	72	67.3	32.9	6.06	64.4	31.5	6.38	60.9	30.2	6.64	57.4	28.9	6.96	53.9	27.6	7.28
	67	61.5	40.7	5.67	58.6	39.4	5.93	55.7	38.1	6.25	52.2	36.8	6.57	48.7	36.8	6.90
	62	56.8	48.2	5.28	53.9	46.9	5.61	52.5	45.6	5.93	51.0	44.2	6.25	48.1	42.5	6.51
	57	54.5	52.1	5.16	52.2	49.9	5.48	49.9	47.7	5.80	47.0	45.1	6.19	44.7	42.5	6.44
1933	72	70.2	36.4	6.25	66.7	35.0	6.51	63.2	33.7	6.83	59.7	32.9	7.15	55.7	31.1	7.48
	67	64.4	46.4	5.86	61.5	45.1	6.12	58.0	43.8	6.44	54.5	42.5	6.77	51.0	41.2	7.09
	62	59.7	55.6	5.54	56.8	53.9	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
	57	59.2	56.5	5.48	56.3	54.3	5.80	53.9	51.7	6.12	51.6	49.1	6.44	48.7	46.4	6.83
2223	72	71.9	39.4	6.38	68.4	38.1	6.64	65.0	36.8	6.96	60.9	35.5	7.28	57.4	34.6	7.60
	67	66.7	51.2	5.99	63.2	50.4	6.25	59.7	49.1	6.57	56.3	47.3	6.90	52.8	46.0	7.22
	62	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09
	57	62.6	60.0	5.74	60.3	57.4	6.06	56.8	54.8	6.38	54.5	52.1	6.70	51.0	49.1	7.09

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 54.8 SENSIBLE MBTUH 42.0 LATENT MBTUH 12.8

EXPANDED PERFORMANCE DATA

PCK

OUTDOOR UNIT PCK024-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
SCFM	WB	75F			85F			95F			105F			115F		
		TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
657	72	26.9	12.6	2.42	25.8	12.1	2.55	24.4	11.6	2.66	23.0	11.1	2.78	21.6	10.6	2.91
	67	24.6	15.6	2.27	23.4	15.1	2.37	22.3	14.6	2.50	20.9	14.1	2.63	19.5	14.1	2.76
	62	22.7	18.5	2.11	21.6	18.0	2.24	21.0	17.5	2.37	20.4	17.0	2.50	19.3	16.3	2.60
773	72	21.8	20.0	2.06	20.9	19.2	2.19	20.0	18.3	2.32	18.8	17.3	2.47	17.9	16.3	2.58
	67	28.1	13.9	2.50	26.7	13.4	2.60	25.3	12.9	2.73	23.9	12.6	2.86	22.3	11.9	2.99
	62	25.8	17.8	2.35	24.6	17.3	2.45	23.2	16.8	2.58	21.8	16.3	2.71	20.4	15.8	2.84
889	72	23.9	21.3	2.22	22.7	20.7	2.32	21.6	19.8	2.45	20.6	18.8	2.58	19.5	17.8	2.73
	67	23.7	21.7	2.19	22.5	20.8	2.32	21.6	19.8	2.45	20.6	18.8	2.58	19.5	17.8	2.73
	62	28.8	15.1	2.55	27.4	14.6	2.66	26.0	14.1	2.78	24.4	13.6	2.91	23.0	13.3	3.04
	72	26.7	19.7	2.40	25.3	19.3	2.50	23.9	18.8	2.63	22.5	18.1	2.76	21.1	17.6	2.89
	67	25.1	23.0	2.29	24.1	22.0	2.42	22.7	21.0	2.55	21.8	20.0	2.68	20.4	18.8	2.84
	57	25.1	23.0	2.29	24.1	22.0	2.42	22.7	21.0	2.55	21.8	20.0	2.68	20.4	18.8	2.84

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH21.9SENSIBLE MBTUH16.0LATENT MBTUH5.9

OUTDOOR UNIT PCK030-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
SCFM	WB	75F			85F			95F			105F			115F		
		TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
793	72	32.5	14.7	2.92	31.1	14.1	3.08	29.4	13.5	3.20	27.7	12.9	3.36	26.0	12.3	3.52
	67	29.7	18.2	2.74	28.3	17.6	2.86	26.9	17.1	3.02	25.2	16.5	3.17	23.5	16.5	3.33
	62	27.4	21.6	2.55	26.0	21.0	2.71	25.3	20.4	2.86	24.6	19.8	3.02	23.2	19.0	3.14
933	72	26.3	23.3	2.49	25.2	22.3	2.64	24.1	21.4	2.80	22.7	20.2	2.99	21.6	19.0	3.11
	67	33.9	16.3	3.02	32.2	15.7	3.14	30.5	15.1	3.30	28.8	14.7	3.45	26.9	13.9	3.61
	62	31.1	20.8	2.83	29.7	20.2	2.96	28.0	19.6	3.11	26.3	19.0	3.27	24.6	18.4	3.42
1073	72	28.8	24.9	2.68	27.4	24.1	2.80	26.0	23.1	2.96	24.9	22.0	3.11	23.5	20.8	3.30
	67	28.6	25.3	2.64	27.2	24.3	2.80	26.0	23.1	2.96	24.9	22.0	3.11	23.5	20.8	3.30
	62	34.7	17.6	3.08	33.0	17.1	3.20	31.4	16.5	3.36	29.4	15.9	3.52	27.7	15.5	3.67
	72	32.2	22.9	2.89	30.5	22.5	3.02	28.8	22.0	3.17	27.2	21.2	3.33	25.5	20.6	3.48
	67	30.2	26.9	2.77	29.1	25.7	2.92	27.4	24.5	3.08	26.3	23.3	3.24	24.6	22.0	3.42
	57	30.2	26.9	2.77	29.1	25.7	2.92	27.4	24.5	3.08	26.3	23.3	3.24	24.6	22.0	3.42

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH26.4SENSIBLE MBTUH18.5LATENT MBTUH7.9

OUTDOOR UNIT PCK036-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
SCFM	WB	75F			85F			95F			105F			115F		
		TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1020	72	41.8	20.0	3.76	40.0	19.2	3.96	37.8	18.4	4.12	35.6	17.6	4.32	33.5	16.8	4.52
	67	38.2	24.7	3.52	36.4	23.9	3.68	34.6	23.1	3.88	32.4	22.3	4.08	30.2	22.3	4.28
	62	35.3	29.3	3.28	33.5	28.5	3.48	32.6	27.7	3.68	31.7	26.9	3.88	29.9	25.8	4.04
1200	72	33.8	31.7	3.20	32.4	30.3	3.40	31.0	29.0	3.60	29.2	27.4	3.84	27.7	25.8	4.00
	67	43.6	22.1	3.88	41.4	21.3	4.04	39.2	20.5	4.24	37.1	20.0	4.44	34.6	18.9	4.64
	62	40.0	28.2	3.64	38.2	27.4	3.80	36.0	26.6	4.00	33.8	25.8	4.20	31.7	25.0	4.40
1380	72	37.1	33.8	3.44	35.3	32.7	3.60	33.5	31.4	3.80	32.0	29.8	4.00	30.2	28.2	4.24
	67	36.7	34.3	3.40	34.9	33.0	3.60	33.5	31.4	3.80	32.0	29.8	4.00	30.2	28.2	4.24
	62	44.6	23.9	3.96	42.5	23.1	4.12	40.3	22.3	4.32	37.8	21.5	4.52	35.6	21.0	4.72
	72	41.4	31.1	3.72	39.2	30.6	3.88	37.1	29.8	4.08	34.9	28.7	4.28	32.8	27.9	4.48
	67	38.9	36.4	3.56	37.4	34.8	3.76	35.3	33.3	3.96	33.8	31.7	4.16	31.7	29.8	4.40
	57	38.9	36.4	3.56	37.4	34.8	3.76	35.3	33.3	3.96	33.8	31.7	4.16	31.7	29.8	4.40

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH34.0SENSIBLE MBTUH25.4LATENT MBTUH8.6

EXPANDED PERFORMANCE DATA

PCK

OUTDOOR UNIT PCK036-3

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1020	72	41.8	20.0	3.76	40.0	19.2	3.96	37.8	18.4	4.12	35.6	17.6	4.32	33.5	16.8	4.52
	67	38.2	24.7	3.52	36.4	23.9	3.68	34.6	23.1	3.88	32.4	22.3	4.08	30.2	22.3	4.28
	62	35.3	29.3	3.28	33.5	28.5	3.48	32.6	27.7	3.68	31.7	26.9	3.88	29.9	25.8	4.04
1200	72	43.6	22.1	3.88	41.4	21.3	4.04	39.2	20.5	4.24	37.1	20.0	4.44	34.6	18.9	4.64
	67	40.0	28.2	3.64	38.2	27.4	3.80	36.0	26.6	4.00	33.8	25.8	4.20	31.7	25.0	4.40
	62	37.1	33.8	3.44	35.3	32.7	3.60	33.5	31.4	3.80	32.0	29.8	4.00	30.2	28.2	4.24
1380	72	44.6	23.9	3.96	42.5	23.1	4.12	40.3	22.3	4.32	37.8	21.5	4.52	35.6	21.0	4.72
	67	41.4	31.1	3.72	39.2	30.6	3.88	37.1	29.8	4.08	34.9	28.7	4.28	32.8	27.9	4.48
	62	38.9	36.4	3.56	37.4	34.8	3.76	35.3	33.3	3.96	33.8	31.7	4.16	31.7	29.8	4.40
	57	38.9	36.4	3.56	37.4	34.8	3.76	35.3	33.3	3.96	33.8	31.7	4.16	31.7	29.8	4.40

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 34.0 SENSIBLE MBTUH 25.4 LATENT MBTUH 8.6

OUTDOOR UNIT PCK042-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1190	72	48.7	23.3	4.39	46.6	22.3	4.62	44.1	21.4	4.81	41.6	20.5	5.04	39.1	19.5	5.27
	67	44.5	28.8	4.11	42.4	27.9	4.29	40.3	27.0	4.53	37.8	26.0	4.76	35.3	26.0	4.99
	62	41.2	34.1	3.83	39.1	33.2	4.06	38.0	32.2	4.29	37.0	31.3	4.53	34.9	30.1	4.71
1400	72	50.8	25.7	4.53	48.3	24.8	4.71	45.8	23.9	4.95	43.3	23.3	5.18	40.3	22.0	5.41
	67	46.6	32.9	4.25	44.5	31.9	4.43	42.0	31.0	4.67	39.5	30.1	4.90	37.0	29.1	5.13
	62	43.3	39.4	4.01	41.2	38.1	4.20	39.1	36.6	4.43	37.4	34.7	4.67	35.3	32.9	4.95
1610	72	52.1	27.9	4.62	49.6	27.0	4.81	47.0	26.0	5.04	44.1	25.1	5.27	41.6	24.5	5.51
	67	48.3	36.3	4.34	45.8	35.7	4.53	43.3	34.7	4.76	40.7	33.5	4.99	38.2	32.6	5.23
	62	45.4	42.5	4.15	43.7	40.6	4.39	41.2	38.8	4.62	39.5	36.9	4.85	37.0	34.7	5.13
	57	45.4	42.5	4.15	43.7	40.6	4.39	41.2	38.8	4.62	39.5	36.9	4.85	37.0	34.7	5.13

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 39.6 SENSIBLE MBTUH 29.6 LATENT MBTUH 10.1

OUTDOOR UNIT PCK048-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1332	72	54.5	26.1	4.91	52.2	25.1	5.17	49.4	24.0	5.38	46.5	23.0	5.64	43.7	21.9	5.90
	67	49.8	32.4	4.60	47.5	31.3	4.80	45.1	30.3	5.07	42.3	29.2	5.33	39.5	29.2	5.59
	62	46.1	38.3	4.28	43.7	37.2	4.54	42.5	36.2	4.80	41.4	35.1	5.07	39.0	33.8	5.27
1567	72	56.9	28.9	5.07	54.1	27.8	5.27	51.2	26.8	5.54	48.4	26.1	5.80	45.1	24.7	6.06
	67	52.2	36.9	4.75	49.8	35.8	4.96	47.0	34.8	5.22	44.2	33.8	5.48	41.4	32.7	5.74
	62	48.4	44.2	4.49	46.1	42.8	4.70	43.7	41.1	4.96	41.8	39.0	5.22	39.5	36.9	5.54
1802	72	58.3	31.3	5.17	55.5	30.3	5.38	52.6	29.2	5.64	49.4	28.2	5.90	46.5	27.5	6.16
	67	54.1	40.7	4.86	51.2	40.0	5.07	48.4	39.0	5.33	45.6	37.6	5.59	42.8	36.5	5.85
	62	50.8	47.7	4.65	48.9	45.6	4.91	46.1	43.5	5.17	44.2	41.4	5.43	41.4	39.0	5.74
	57	50.8	47.7	4.65	48.9	45.6	4.91	46.1	43.5	5.17	44.2	41.4	5.43	41.4	39.0	5.74

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 44.4 SENSIBLE MBTUH 33.2 LATENT MBTUH 11.1

EXPANDED PERFORMANCE DATA

PCK

OUTDOOR UNIT PCK048-3

INDOOR UNIT

INDOOR AIR		CONDENSER AIR TEMPERATURE														
SCFM	WB	75F			85F			95F			105F			115F		
		TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1332	72	54.5	26.1	4.91	52.2	25.1	5.17	49.4	24.0	5.38	46.5	23.0	5.64	43.7	21.9	5.90
	67	49.8	32.4	4.60	47.5	31.3	4.80	45.1	30.3	5.07	42.3	29.2	5.33	39.5	29.2	5.59
	62	46.1	38.3	4.28	43.7	37.2	4.54	42.5	36.2	4.80	41.4	35.1	5.07	39.0	33.8	5.27
	57	44.2	41.4	4.18	42.3	39.7	4.44	40.4	37.9	4.70	38.1	35.8	5.01	36.2	33.8	5.22
1567	72	56.9	28.9	5.07	54.1	27.8	5.27	51.2	26.8	5.54	48.4	26.1	5.80	45.1	24.7	6.06
	67	52.2	36.9	4.75	49.8	35.8	4.96	47.0	34.8	5.22	44.2	33.8	5.48	41.4	32.7	5.74
	62	48.4	44.2	4.49	46.1	42.8	4.70	43.7	41.1	4.96	41.8	39.0	5.22	39.5	36.9	5.54
	57	47.9	44.9	4.44	45.6	43.2	4.70	43.7	41.1	4.96	41.8	39.0	5.22	39.5	36.9	5.54
1802	72	58.3	31.3	5.17	55.5	30.3	5.38	52.6	29.2	5.64	49.4	28.2	5.90	46.5	27.5	6.16
	67	54.1	40.7	4.86	51.2	40.0	5.07	48.4	39.0	5.33	45.6	37.6	5.59	42.8	36.5	5.85
	62	50.8	47.7	4.65	48.9	45.6	4.91	46.1	43.5	5.17	44.2	41.4	5.43	41.4	39.0	5.74
	57	50.8	47.7	4.65	48.9	45.6	4.91	46.1	43.5	5.17	44.2	41.4	5.43	41.4	39.0	5.74

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH44.4SENSIBLE MBTUH33.2LATENT MBTUH11.1

OUTDOOR UNIT PCK060-1

INDOOR UNIT

INDOOR AIR		CONDENSER AIR TEMPERATURE														
SCFM	WB	75F			85F			95F			105F			115F		
		TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1643	72	67.3	32.6	6.06	64.4	31.3	6.38	60.9	30.0	6.64	57.4	28.7	6.96	53.9	27.4	7.28
	67	61.5	40.5	5.67	58.6	39.2	5.93	55.7	37.8	6.25	52.2	36.5	6.57	48.7	36.5	6.90
	62	56.8	47.9	5.28	53.9	46.5	5.61	52.5	45.2	5.93	51.0	43.9	6.25	48.1	42.2	6.51
	57	54.5	51.8	5.16	52.2	49.6	5.48	49.9	47.4	5.80	47.0	44.8	6.19	44.7	42.2	6.44
1933	72	70.2	36.1	6.25	66.7	34.8	6.51	63.2	33.5	6.83	59.7	32.6	7.15	55.7	30.9	7.48
	67	64.4	46.1	5.86	61.5	44.8	6.12	58.0	43.5	6.44	54.5	42.2	6.77	51.0	40.9	7.09
	62	59.7	55.2	5.54	56.8	53.5	5.80	53.9	51.3	6.12	51.6	48.7	6.44	48.7	46.1	6.83
	57	59.2	56.1	5.48	56.3	53.9	5.80	53.9	51.3	6.12	51.6	48.7	6.44	48.7	46.1	6.83
2223	72	71.9	39.2	6.38	68.4	37.8	6.64	65.0	36.5	6.96	60.9	35.2	7.28	57.4	34.4	7.60
	67	66.7	50.9	5.99	63.2	50.0	6.25	59.7	48.7	6.57	56.3	47.0	6.90	52.8	45.7	7.22
	62	62.6	59.6	5.74	60.3	57.0	6.06	56.8	54.4	6.38	54.5	51.8	6.70	51.0	48.7	7.09
	57	62.6	59.6	5.74	60.3	57.0	6.06	56.8	54.4	6.38	54.5	51.8	6.70	51.0	48.7	7.09

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH54.8SENSIBLE MBTUH41.6LATENT MBTUH13.1

OUTDOOR UNIT PCK060-3

INDOOR UNIT

INDOOR AIR		CONDENSER AIR TEMPERATURE														
SCFM	WB	75F			85F			95F			105F			115F		
		TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1643	72	67.3	32.6	6.06	64.4	31.3	6.38	60.9	30.0	6.64	57.4	28.7	6.96	53.9	27.4	7.28
	67	61.5	40.5	5.67	58.6	39.2	5.93	55.7	37.8	6.25	52.2	36.5	6.57	48.7	36.5	6.90
	62	56.8	47.9	5.28	53.9	46.5	5.61	52.5	45.2	5.93	51.0	43.9	6.25	48.1	42.2	6.51
	57	54.5	51.8	5.16	52.2	49.6	5.48	49.9	47.4	5.80	47.0	44.8	6.19	44.7	42.2	6.44
1933	72	70.2	36.1	6.25	66.7	34.8	6.51	63.2	33.5	6.83	59.7	32.6	7.15	55.7	30.9	7.48
	67	64.4	46.1	5.86	61.5	44.8	6.12	58.0	43.5	6.44	54.5	42.2	6.77	51.0	40.9	7.09
	62	59.7	55.2	5.54	56.8	53.5	5.80	53.9	51.3	6.12	51.6	48.7	6.44	48.7	46.1	6.83
	57	59.2	56.1	5.48	56.3	53.9	5.80	53.9	51.3	6.12	51.6	48.7	6.44	48.7	46.1	6.83
2223	72	71.9	39.2	6.38	68.4	37.8	6.64	65.0	36.5	6.96	60.9	35.2	7.28	57.4	34.4	7.60
	67	66.7	50.9	5.99	63.2	50.0	6.25	59.7	48.7	6.57	56.3	47.0	6.90	52.8	45.7	7.22
	62	62.6	59.6	5.74	60.3	57.0	6.06	56.8	54.4	6.38	54.5	51.8	6.70	51.0	48.7	7.09
	57	62.6	59.6	5.74	60.3	57.0	6.06	56.8	54.4	6.38	54.5	51.8	6.70	51.0	48.7	7.09

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH54.8SENSIBLE MBTUH41.6LATENT MBTUH13.1

EXPANDED PERFORMANCE DATA

PCK

OUTDOOR UNIT PCK060-4

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1643	72	67.3	32.6	6.06	64.4	31.3	6.38	60.9	30.0	6.64	57.4	28.7	6.96	53.9	27.4	7.28
	67	61.5	40.5	5.67	58.6	39.2	5.93	55.7	37.8	6.25	52.2	36.5	6.57	48.7	36.5	6.90
	62	56.8	47.9	5.28	53.9	46.5	5.61	52.5	45.2	5.93	51.0	43.9	6.25	48.1	42.2	6.51
	57	54.5	51.8	5.16	52.2	49.6	5.48	49.9	47.4	5.80	47.0	44.8	6.19	44.7	42.2	6.44
1933	72	70.2	36.1	6.25	66.7	34.8	6.51	63.2	33.5	6.83	59.7	32.6	7.15	55.7	30.9	7.48
	67	64.4	46.1	5.86	61.5	44.8	6.12	58.0	43.5	6.44	54.5	42.2	6.77	51.0	40.9	7.09
	62	59.7	55.2	5.54	56.8	53.5	5.80	53.9	51.3	6.12	51.6	48.7	6.44	48.7	46.1	6.83
	57	59.2	56.1	5.48	56.3	53.9	5.80	53.9	51.3	6.12	51.6	48.7	6.44	48.7	46.1	6.83
2223	72	71.9	39.2	6.38	68.4	37.8	6.64	65.0	36.5	6.96	60.9	35.2	7.28	57.4	34.4	7.60
	67	66.7	50.9	5.99	63.2	50.0	6.25	59.7	48.7	6.57	56.3	47.0	6.90	52.8	45.7	7.22
	62	62.6	59.6	5.74	60.3	57.0	6.06	56.8	54.4	6.38	54.5	51.8	6.70	51.0	48.7	7.09
	57	62.6	59.6	5.74	60.3	57.0	6.06	56.8	54.4	6.38	54.5	51.8	6.70	51.0	48.7	7.09

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 54.8 SENSIBLE MBTUH 41.6 LATENT MBTUH 13.1

EXPANDED PERFORMANCE DATA

PCKJ

OUTDOOR UNIT PCKJ024-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
SCFM	WB	75F			85F			95F			105F			115F		
		TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
674	72	27.6	12.7	2.03	26.4	12.2	2.14	25.0	11.7	2.23	23.6	11.2	2.34	22.1	10.6	2.44
	67	25.2	15.7	1.90	24.0	15.2	1.99	22.8	14.7	2.10	21.4	14.2	2.21	20.0	14.2	2.32
	62	23.3	18.6	1.77	22.1	18.1	1.88	21.5	17.6	1.99	20.9	17.1	2.10	19.8	16.4	2.19
	57	22.4	20.1	1.73	21.4	19.3	1.84	20.5	18.4	1.95	19.3	17.4	2.08	18.3	16.4	2.16
793	72	28.8	14.0	2.10	27.4	13.5	2.19	25.9	13.0	2.29	24.5	12.7	2.40	22.8	12.0	2.51
	67	26.4	17.9	1.97	25.2	17.4	2.06	23.8	16.9	2.16	22.4	16.4	2.27	20.9	15.9	2.38
	62	24.5	21.5	1.86	23.3	20.8	1.95	22.1	19.9	2.06	21.2	18.9	2.16	20.0	17.9	2.29
	57	24.3	21.8	1.84	23.1	21.0	1.95	22.1	19.9	2.06	21.2	18.9	2.16	20.0	17.9	2.29
912	72	29.5	15.2	2.14	28.1	14.7	2.23	26.7	14.2	2.34	25.0	13.7	2.44	23.6	13.4	2.55
	67	27.4	19.8	2.01	25.9	19.4	2.10	24.5	18.9	2.21	23.1	18.3	2.32	21.7	17.7	2.42
	62	25.7	23.2	1.93	24.8	22.1	2.03	23.3	21.1	2.14	22.4	20.1	2.25	20.9	18.9	2.38
	57	25.7	23.2	1.93	24.8	22.1	2.03	23.3	21.1	2.14	22.4	20.1	2.25	20.9	18.9	2.38

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH22.5SENSIBLE MBTUH16.0LATENT MBTUH6.5

OUTDOOR UNIT PCKJ030-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
SCFM	WB	75F			85F			95F			105F			115F		
		TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
822	72	33.6	15.8	2.48	32.2	15.2	2.61	30.5	14.6	2.72	28.7	13.9	2.85	27.0	13.3	2.98
	67	30.7	19.6	2.32	29.3	19.0	2.43	27.8	18.4	2.56	26.1	17.7	2.69	24.4	17.7	2.82
	62	28.4	23.2	2.16	27.0	22.6	2.29	26.2	21.9	2.43	25.5	21.3	2.56	24.1	20.5	2.66
	57	27.3	25.1	2.11	26.1	24.1	2.24	24.9	23.0	2.37	23.5	21.7	2.53	22.3	20.5	2.64
967	72	35.1	17.5	2.56	33.4	16.9	2.66	31.6	16.2	2.79	29.9	15.8	2.93	27.8	15.0	3.06
	67	32.2	22.4	2.40	30.7	21.7	2.50	29.0	21.1	2.64	27.3	20.5	2.77	25.5	19.8	2.90
	62	29.9	26.8	2.27	28.4	26.0	2.37	27.0	24.9	2.50	25.8	23.6	2.64	24.4	22.4	2.79
	57	29.6	27.2	2.24	28.1	26.2	2.37	27.0	24.9	2.50	25.8	23.6	2.64	24.4	22.4	2.79
1112	72	36.0	19.0	2.61	34.2	18.4	2.72	32.5	17.7	2.85	30.5	17.1	2.98	28.7	16.7	3.11
	67	33.4	24.7	2.45	31.6	24.3	2.56	29.9	23.6	2.69	28.1	22.8	2.82	26.4	22.2	2.95
	62	31.3	28.9	2.35	30.2	27.6	2.48	28.4	26.4	2.61	27.3	25.1	2.74	25.5	23.6	2.90
	57	31.3	28.9	2.35	30.2	27.6	2.48	28.4	26.4	2.61	27.3	25.1	2.74	25.5	23.6	2.90

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH27.4SENSIBLE MBTUH20.1LATENT MBTUH7.3

OUTDOOR UNIT PCKJ036-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
SCFM	WB	75F			85F			95F			105F			115F		
		TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1020	72	41.8	19.7	3.08	40.0	18.9	3.24	37.8	18.1	3.37	35.6	17.4	3.53	33.5	16.6	3.70
	67	38.2	24.5	2.88	36.4	23.7	3.01	34.6	22.9	3.17	32.4	22.1	3.34	30.2	22.1	3.50
	62	35.3	28.9	2.68	33.5	28.1	2.85	32.6	27.4	3.01	31.7	26.6	3.17	29.9	25.5	3.31
	57	33.8	31.3	2.62	32.4	30.0	2.78	31.0	28.7	2.95	29.2	27.1	3.14	27.7	25.5	3.27
1200	72	43.6	21.8	3.17	41.4	21.0	3.31	39.2	20.3	3.47	37.1	19.7	3.63	34.6	18.7	3.80
	67	40.0	27.9	2.98	38.2	27.1	3.11	36.0	26.3	3.27	33.8	25.5	3.44	31.7	24.7	3.60
	62	37.1	33.4	2.81	35.3	32.3	2.95	33.5	31.0	3.11	32.0	29.5	3.27	30.2	27.9	3.47
	57	36.7	33.9	2.78	34.9	32.6	2.95	33.5	31.0	3.11	32.0	29.5	3.27	30.2	27.9	3.47
1380	72	44.6	23.7	3.24	42.5	22.9	3.37	40.3	22.1	3.53	37.8	21.3	3.70	35.6	20.8	3.86
	67	41.4	30.8	3.04	39.2	30.2	3.17	37.1	29.5	3.34	34.9	28.4	3.50	32.8	27.6	3.67
	62	38.9	36.0	2.91	37.4	34.5	3.08	35.3	32.9	3.24	33.8	31.3	3.40	31.7	29.5	3.60
	57	38.9	36.0	2.91	37.4	34.5	3.08	35.3	32.9	3.24	33.8	31.3	3.40	31.7	29.5	3.60

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH34.0SENSIBLE MBTUH25.0LATENT MBTUH8.9

EXPANDED PERFORMANCE DATA

PCKJ

OUTDOOR UNIT PCKJ042-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1139	72	46.6	22.1	3.44	44.6	21.2	3.62	42.2	20.3	3.76	39.8	19.4	3.95	37.4	18.5	4.13
	67	42.6	22.3	3.22	40.6	26.5	3.36	38.6	25.6	3.54	36.2	24.7	3.73	33.8	24.7	3.91
	62	39.4	32.3	3.00	37.4	31.5	3.18	36.4	30.6	3.36	35.4	29.7	3.54	33.4	28.5	3.69
1340	72	37.8	35.0	2.92	36.2	33.5	3.11	34.6	32.0	3.29	32.6	30.3	3.51	31.0	28.5	3.65
	67	48.6	24.4	3.54	46.2	23.5	3.69	43.8	22.6	3.87	41.4	22.1	4.06	38.6	20.9	4.24
	62	44.6	31.2	3.33	42.6	30.3	3.47	40.2	29.4	3.65	37.8	28.5	3.84	35.4	27.6	4.02
1541	72	41.4	37.3	3.14	39.4	36.2	3.29	37.4	34.7	3.47	35.8	32.9	3.65	33.8	31.2	3.87
	67	41.0	37.9	3.11	39.0	36.5	3.29	37.4	34.7	3.47	35.8	32.9	3.65	33.8	31.2	3.87
	62	49.8	26.5	3.62	47.4	25.6	3.76	45.0	24.7	3.95	42.2	23.8	4.13	39.8	23.2	4.31
1742	72	46.2	34.4	3.40	43.8	33.8	3.54	41.4	32.9	3.73	39.0	31.8	3.91	36.6	30.9	4.09
	67	43.4	40.3	3.25	41.8	38.5	3.44	39.4	36.8	3.62	37.8	35.0	3.80	35.4	32.9	4.02
	62	43.4	40.3	3.25	41.8	38.5	3.44	39.4	36.8	3.62	37.8	35.0	3.80	35.4	32.9	4.02

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 37.9 SENSIBLE MBTUH 28.0 LATENT MBTUH 9.9

OUTDOOR UNIT PCKJ048-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1303	72	53.4	25.9	3.93	51.1	24.8	4.14	48.3	23.8	4.31	45.5	22.8	4.52	42.8	21.7	4.73
	67	48.8	32.1	3.68	46.5	31.1	3.85	44.2	30.0	4.06	41.4	29.0	4.27	38.6	29.0	4.47
	62	45.1	38.0	3.43	42.8	36.9	3.64	41.6	35.9	3.85	40.5	34.8	4.06	38.2	33.5	4.22
1533	72	43.2	41.1	3.35	41.4	39.3	3.55	39.6	37.6	3.76	37.3	35.5	4.01	35.4	33.5	4.18
	67	55.7	28.6	4.06	52.9	27.6	4.22	50.1	26.6	4.43	47.4	25.9	4.64	44.2	24.5	4.85
	62	51.1	36.6	3.81	48.8	35.5	3.97	46.0	34.5	4.18	43.2	33.5	4.39	40.5	32.4	4.60
1763	72	47.4	43.8	3.60	45.1	42.4	3.76	42.8	40.7	3.97	40.9	38.6	4.18	38.6	36.6	4.43
	67	46.9	44.5	3.55	44.6	42.8	3.76	42.8	40.7	3.97	40.9	38.6	4.18	38.6	36.6	4.43
	62	57.0	31.1	4.14	54.3	30.0	4.31	51.5	29.0	4.52	48.3	27.9	4.73	45.5	27.3	4.93
1963	72	52.9	40.4	3.89	50.1	39.7	4.06	47.4	38.6	4.27	44.6	37.3	4.47	41.9	36.2	4.68
	67	49.7	47.3	3.72	47.8	45.2	3.93	45.1	43.1	4.14	43.2	41.1	4.35	40.5	38.6	4.60
	62	49.7	47.3	3.72	47.8	45.2	3.93	45.1	43.1	4.14	43.2	41.1	4.35	40.5	38.6	4.60

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 43.4 SENSIBLE MBTUH 33.0 LATENT MBTUH 10.4

OUTDOOR UNIT PCKJ060-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1587	72	65.0	31.1	4.79	62.2	29.8	5.04	58.8	28.6	5.24	55.4	27.3	5.50	52.1	26.1	5.75
	67	59.4	38.5	4.48	56.6	37.3	4.68	53.8	36.0	4.94	50.4	34.8	5.19	47.0	34.8	5.45
	62	54.9	45.5	4.17	52.1	44.3	4.43	50.7	43.1	4.68	49.3	41.8	4.94	46.5	40.2	5.14
1867	72	52.6	49.3	4.07	50.4	47.2	4.33	48.2	45.1	4.58	45.4	42.6	4.89	43.1	40.2	5.09
	67	67.8	34.4	4.94	64.4	33.1	5.14	61.0	31.9	5.40	57.7	31.1	5.65	53.8	29.4	5.91
	62	62.2	43.9	4.63	59.4	42.6	4.84	56.0	41.4	5.09	52.6	40.2	5.35	49.3	38.9	5.60
2147	72	57.7	52.6	4.38	54.9	50.9	4.58	52.1	48.9	4.84	49.8	46.4	5.09	47.0	43.9	5.40
	67	57.1	53.4	4.33	54.3	51.3	4.58	52.1	48.9	4.84	49.8	46.4	5.09	47.0	43.9	5.40
	62	69.4	37.3	5.04	66.1	36.0	5.24	62.7	34.8	5.50	58.8	33.5	5.75	55.4	32.7	6.01
2427	72	64.4	48.4	4.73	61.0	47.6	4.94	57.7	46.4	5.19	54.3	44.7	5.45	51.0	43.5	5.70
	67	60.5	56.7	4.53	58.2	54.2	4.79	54.9	51.8	5.04	52.6	49.3	5.29	49.3	46.4	5.60
	62	60.5	56.7	4.53	58.2	54.2	4.79	54.9	51.8	5.04	52.6	49.3	5.29	49.3	46.4	5.60

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 52.9 SENSIBLE MBTUH 39.5 LATENT MBTUH 13.3

EXPANDED PERFORMANCE DATA

PHK

OUTDOOR UNIT PHK024-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
669	72	27.4	12.9	2.46	26.2	12.4	2.60	24.8	11.9	2.70	23.4	11.4	2.83	21.9	10.8	2.96
	67	25.0	16.0	2.31	23.8	15.5	2.41	22.7	15.0	2.54	21.2	14.4	2.67	19.8	14.4	2.81
	62	23.1	18.9	2.15	21.9	18.4	2.28	21.4	17.9	2.41	20.8	17.4	2.54	19.6	16.7	2.65
787	72	22.2	20.5	2.10	21.2	19.6	2.23	20.3	18.7	2.36	19.1	17.7	2.52	18.2	16.7	2.62
	67	28.6	14.3	2.54	27.1	13.8	2.65	25.7	13.2	2.78	24.3	12.9	2.91	22.7	12.2	3.04
	62	26.2	18.2	2.39	25.0	17.7	2.49	23.6	17.2	2.62	22.2	16.7	2.75	20.8	16.2	2.88
905	72	24.3	21.8	2.26	23.1	21.2	2.36	21.9	20.3	2.49	21.0	19.3	2.62	19.8	18.2	2.78
	67	24.1	22.2	2.23	22.9	21.3	2.36	21.9	20.3	2.49	21.0	19.3	2.62	19.8	18.2	2.78
	62	29.3	15.5	2.60	27.8	15.0	2.70	26.4	14.4	2.83	24.8	13.9	2.96	23.4	13.6	3.09
	72	27.1	20.1	2.44	25.7	19.8	2.54	24.3	19.3	2.67	22.9	18.6	2.81	21.5	18.1	2.94
	67	25.5	23.6	2.33	24.5	22.5	2.46	23.1	21.5	2.60	22.2	20.5	2.73	20.8	19.3	2.88
	62	25.5	23.6	2.33	24.5	22.5	2.46	23.1	21.5	2.60	22.2	20.5	2.73	20.8	19.3	2.88

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F,
or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR
TOTAL MBTUH 22.3 SENSIBLE MBTUH 16.4 LATENT MBTUH 5.9

OUTDOOR UNIT PHK030-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
816	72	33.4	16.1	3.01	32.0	15.5	3.17	30.2	14.8	3.30	28.5	14.2	3.46	26.8	13.5	3.62
	67	30.5	20.0	2.82	29.1	19.4	2.94	27.6	18.7	3.10	25.9	18.1	3.26	24.2	18.1	3.42
	62	28.2	23.7	2.62	26.8	23.0	2.78	26.1	22.4	2.94	25.3	21.7	3.10	23.9	20.9	3.23
960	72	27.1	25.6	2.56	25.9	24.5	2.72	24.8	23.4	2.88	23.3	22.1	3.07	22.2	20.9	3.20
	67	34.8	17.8	3.10	33.1	17.2	3.23	31.4	16.6	3.39	29.7	16.1	3.55	27.6	15.3	3.71
	62	32.0	22.8	2.91	30.5	22.1	3.04	28.8	21.5	3.20	27.1	20.9	3.36	25.3	20.2	3.52
1104	72	29.7	27.3	2.75	28.2	26.4	2.88	26.8	25.4	3.04	25.6	24.1	3.20	24.2	22.8	3.39
	67	29.4	27.7	2.72	27.9	26.7	2.88	26.8	25.4	3.04	25.6	24.1	3.20	24.2	22.8	3.39
	62	35.7	19.4	3.17	34.0	18.7	3.30	32.3	18.1	3.46	30.2	17.4	3.62	28.5	17.0	3.78
	72	33.1	25.2	2.98	31.4	24.7	3.10	29.7	24.1	3.26	27.9	23.2	3.42	26.2	22.6	3.58
	67	31.1	29.5	2.85	30.0	28.2	3.01	28.2	26.9	3.17	27.1	25.6	3.33	25.3	24.1	3.52
	62	31.1	29.5	2.85	30.0	28.2	3.01	28.2	26.9	3.17	27.1	25.6	3.33	25.3	24.1	3.52

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F,
or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR
TOTAL MBTUH 27.2 SENSIBLE MBTUH 20.6 LATENT MBTUH 6.6

OUTDOOR UNIT PHK036-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
992	72	40.6	19.7	3.66	38.9	18.9	3.85	36.8	18.1	4.01	34.7	17.4	4.20	32.6	16.6	4.39
	67	37.1	24.5	3.42	35.4	23.7	3.58	33.6	22.9	3.77	31.5	22.1	3.97	29.4	22.1	4.16
	62	34.3	28.9	3.19	32.6	28.1	3.38	31.7	27.4	3.58	30.8	26.6	3.77	29.1	25.5	3.93
1167	72	32.9	31.3	3.11	31.5	30.0	3.31	30.1	28.7	3.50	28.4	27.1	3.73	27.0	25.5	3.89
	67	42.4	21.8	3.77	40.3	21.0	3.93	38.2	20.3	4.12	36.1	19.7	4.32	33.6	18.7	4.51
	62	38.9	27.9	3.54	37.1	27.1	3.69	35.0	26.3	3.89	32.9	25.5	4.08	30.8	24.7	4.28
1342	72	36.1	33.4	3.34	34.3	32.3	3.50	32.6	31.0	3.69	31.2	29.5	3.89	29.4	27.9	4.12
	67	35.7	33.9	3.31	34.0	32.6	3.50	32.6	31.0	3.69	31.2	29.5	3.89	29.4	27.9	4.12
	62	43.4	23.7	3.85	41.3	22.9	4.01	39.2	22.1	4.20	36.8	21.3	4.39	34.7	20.8	4.59
	72	40.3	30.8	3.62	38.2	30.2	3.77	36.1	29.5	3.97	34.0	28.4	4.16	31.9	27.6	4.36
	67	37.8	36.0	3.46	36.4	34.5	3.66	34.3	32.9	3.85	32.9	31.3	4.04	30.8	29.5	4.28
	62	37.8	36.0	3.46	36.4	34.5	3.66	34.3	32.9	3.85	32.9	31.3	4.04	30.8	29.5	4.28

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F,
or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR
TOTAL MBTUH 33.0 SENSIBLE MBTUH 25.2 LATENT MBTUH 7.9

EXPANDED PERFORMANCE DATA

PHK

OUTDOOR UNIT PHK036-3

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
992	72	40.6	19.7	3.66	38.9	18.9	3.85	36.8	18.1	4.01	34.7	17.4	4.20	32.6	16.6	4.39
	67	37.1	24.5	3.42	35.4	23.7	3.58	33.6	22.9	3.77	31.5	22.1	3.97	29.4	22.1	4.16
	62	34.3	28.9	3.19	32.6	28.1	3.38	31.7	27.4	3.58	30.8	26.6	3.77	29.1	25.5	3.93
1167	72	32.9	31.3	3.11	31.5	30.0	3.31	30.1	28.7	3.50	28.4	27.1	3.73	27.0	25.5	3.89
	67	42.4	21.8	3.77	40.3	21.0	3.93	38.2	20.3	4.12	36.1	19.7	4.32	33.6	18.7	4.51
	62	38.9	27.9	3.54	37.1	27.1	3.69	35.0	26.3	3.89	32.9	25.5	4.08	30.8	24.7	4.28
1342	72	36.1	33.4	3.34	34.3	32.3	3.50	32.6	31.0	3.69	31.2	29.5	3.89	29.4	27.9	4.12
	67	35.7	33.9	3.31	34.0	32.6	3.50	32.6	31.0	3.69	31.2	29.5	3.89	29.4	27.9	4.12
	62	43.4	23.7	3.85	41.3	22.9	4.01	39.2	22.1	4.20	36.8	21.3	4.39	34.7	20.8	4.59
1553	72	40.3	30.8	3.62	38.2	30.2	3.77	36.1	29.5	3.97	34.0	28.4	4.16	31.9	27.6	4.36
	67	37.8	36.0	3.46	36.4	34.5	3.66	34.3	32.9	3.85	32.9	31.3	4.04	30.8	29.5	4.28
	62	37.8	36.0	3.46	36.4	34.5	3.66	34.3	32.9	3.85	32.9	31.3	4.04	30.8	29.5	4.28

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 33.0 SENSIBLE MBTUH 25.2 LATENT MBTUH 7.9

OUTDOOR UNIT PHK042-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1148	72	47.0	22.8	4.23	45.0	21.9	4.46	42.5	21.0	4.64	40.1	20.1	4.86	37.7	19.2	5.09
	67	42.9	28.3	3.96	40.9	27.4	4.14	38.9	26.4	4.37	36.5	25.5	4.59	34.0	25.5	4.82
	62	39.7	33.4	3.69	37.7	32.5	3.92	36.7	31.6	4.14	35.6	30.7	4.37	33.6	29.5	4.55
1350	72	38.1	36.2	3.60	36.5	34.7	3.83	34.8	33.1	4.05	32.8	31.3	4.32	31.2	29.5	4.50
	67	49.0	25.2	4.37	46.6	24.3	4.55	44.1	23.4	4.77	41.7	22.8	5.00	38.9	21.6	5.22
	62	45.0	32.2	4.10	42.9	31.3	4.28	40.5	30.4	4.50	38.1	29.5	4.73	35.6	28.6	4.95
1553	72	41.7	38.6	3.87	39.7	37.4	4.05	37.7	35.9	4.28	36.0	34.0	4.50	34.0	32.2	4.77
	67	41.3	39.2	3.83	39.3	37.7	4.05	37.7	35.9	4.28	36.0	34.0	4.50	34.0	32.2	4.77
	62	50.2	27.4	4.46	47.8	26.4	4.64	45.4	25.5	4.86	42.5	24.6	5.09	40.1	24.0	5.31
1802	72	46.6	35.6	4.19	44.1	35.0	4.37	41.7	34.0	4.59	39.3	32.8	4.82	36.9	31.9	5.04
	67	43.7	41.6	4.01	42.1	39.8	4.23	39.7	38.0	4.46	38.1	36.2	4.68	35.6	34.0	4.95
	62	43.7	41.6	4.01	42.1	39.8	4.23	39.7	38.0	4.46	38.1	36.2	4.68	35.6	34.0	4.95

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 38.2 SENSIBLE MBTUH 29.1 LATENT MBTUH 9.1

OUTDOOR UNIT PHK048-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1332	72	54.5	26.4	4.91	52.2	25.3	5.17	49.4	24.3	5.38	46.5	23.2	5.64	43.7	22.2	5.90
	67	49.8	32.7	4.60	47.5	31.7	4.80	45.1	30.6	5.07	42.3	29.6	5.33	39.5	29.6	5.59
	62	46.1	38.7	4.28	43.7	37.7	4.54	42.5	36.6	4.80	41.4	35.6	5.07	39.0	34.1	5.27
1567	72	44.2	41.9	4.18	42.3	40.1	4.44	40.4	38.4	4.70	38.1	36.3	5.01	36.2	34.1	5.22
	67	56.9	29.2	5.07	54.1	28.2	5.27	51.2	27.1	5.54	48.4	26.4	5.80	45.1	25.0	6.06
	62	52.2	37.3	4.75	49.8	36.3	4.96	47.0	35.2	5.22	44.2	34.1	5.48	41.4	33.1	5.74
1802	72	48.4	44.7	4.49	46.1	43.3	4.70	43.7	41.5	4.96	41.8	39.4	5.22	39.5	37.3	5.54
	67	47.9	45.4	4.44	45.6	43.6	4.70	43.7	41.5	4.96	41.8	39.4	5.22	39.5	37.3	5.54
	62	58.3	31.7	5.17	55.5	30.6	5.38	52.6	29.6	5.64	49.4	28.5	5.90	46.5	27.8	6.16
2047	72	54.1	41.2	4.86	51.2	40.5	5.07	48.4	39.4	5.33	45.6	38.0	5.59	42.8	37.0	5.85
	67	50.8	48.2	4.65	48.9	46.1	4.91	46.1	44.0	5.17	44.2	41.9	5.43	41.4	39.4	5.74
	62	50.8	48.2	4.65	48.9	46.1	4.91	46.1	44.0	5.17	44.2	41.9	5.43	41.4	39.4	5.74

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 44.4 SENSIBLE MBTUH 33.7 LATENT MBTUH 10.7

EXPANDED PERFORMANCE DATA

PHK

OUTDOOR UNIT PHK048-3

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1332	72	54.5	26.4	4.91	52.2	25.3	5.17	49.4	24.3	5.38	46.5	23.2	5.64	43.7	22.2	5.90
	67	49.8	32.7	4.60	47.5	31.7	4.80	45.1	30.6	5.07	42.3	29.6	5.33	39.5	29.6	5.59
	62	46.1	38.7	4.28	43.7	37.7	4.54	42.5	36.6	4.80	41.4	35.6	5.07	39.0	34.1	5.27
	57	44.2	41.9	4.18	42.3	40.1	4.44	40.4	38.4	4.70	38.1	36.3	5.01	36.2	34.1	5.22
1567	72	56.9	29.2	5.07	54.1	28.2	5.27	51.2	27.1	5.54	48.4	26.4	5.80	45.1	25.0	6.06
	67	52.2	37.3	4.75	49.8	36.3	4.96	47.0	35.2	5.22	44.2	34.1	5.48	41.4	33.1	5.74
	62	48.4	44.7	4.49	46.1	43.3	4.70	43.7	41.5	4.96	41.8	39.4	5.22	39.5	37.3	5.54
	57	47.9	45.4	4.44	45.6	43.6	4.70	43.7	41.5	4.96	41.8	39.4	5.22	39.5	37.3	5.54
1802	72	58.3	31.7	5.17	55.5	30.6	5.38	52.6	29.6	5.64	49.4	28.5	5.90	46.5	27.8	6.16
	67	54.1	41.2	4.86	51.2	40.5	5.07	48.4	39.4	5.33	45.6	38.0	5.59	42.8	37.0	5.85
	62	50.8	48.2	4.65	48.9	46.1	4.91	46.1	44.0	5.17	44.2	41.9	5.43	41.4	39.4	5.74
	57	50.8	48.2	4.65	48.9	46.1	4.91	46.1	44.0	5.17	44.2	41.9	5.43	41.4	39.4	5.74

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH44.4SENSIBLE MBTUH33.7LATENT MBTUH10.7

OUTDOOR UNIT PHK060-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1558	72	63.8	31.8	5.74	61.1	30.5	6.05	57.8	29.3	6.29	54.5	28.0	6.60	51.2	26.7	6.91
	67	58.3	39.4	5.38	55.6	38.2	5.62	52.8	36.9	5.93	49.5	35.6	6.23	46.2	35.6	6.54
	62	53.9	46.6	5.01	51.2	45.4	5.32	49.8	44.1	5.62	48.4	42.8	5.93	45.7	41.1	6.17
	57	51.7	50.5	4.89	49.5	48.3	5.19	47.3	46.2	5.50	44.6	43.7	5.87	42.4	41.1	6.11
1833	72	66.6	35.2	5.93	63.3	33.9	6.17	60.0	32.6	6.48	56.7	31.8	6.78	52.8	30.1	7.09
	67	61.1	44.9	5.56	58.3	43.7	5.81	55.0	42.4	6.11	51.7	41.1	6.42	48.4	39.9	6.72
	62	56.7	53.8	5.26	53.9	52.2	5.50	51.2	50.0	5.81	49.0	47.5	6.11	46.2	44.9	6.48
	57	56.1	54.7	5.19	53.4	52.6	5.50	51.2	50.0	5.81	49.0	47.5	6.11	46.2	44.9	6.48
2108	72	68.2	38.2	6.05	64.9	36.9	6.29	61.6	35.6	6.60	57.8	34.3	6.91	54.5	33.5	7.21
	67	63.3	49.6	5.68	60.0	48.8	5.93	56.7	47.5	6.23	53.4	45.8	6.54	50.1	44.5	6.84
	62	59.4	58.1	5.44	57.2	55.5	5.74	53.9	53.0	6.05	51.7	50.5	6.36	48.4	47.5	6.72
	57	59.4	58.1	5.44	57.2	55.5	5.74	53.9	53.0	6.05	51.7	50.5	6.36	48.4	47.5	6.72

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH51.9SENSIBLE MBTUH40.8LATENT MBTUH11.1

OUTDOOR UNIT PHK060-3

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1558	72	63.8	31.8	5.74	61.1	30.5	6.05	57.8	29.3	6.29	54.5	28.0	6.60	51.2	26.7	6.91
	67	58.3	39.4	5.38	55.6	38.2	5.62	52.8	36.9	5.93	49.5	35.6	6.23	46.2	35.6	6.54
	62	53.9	46.6	5.01	51.2	45.4	5.32	49.8	44.1	5.62	48.4	42.8	5.93	45.7	41.1	6.17
	57	51.7	50.5	4.89	49.5	48.3	5.19	47.3	46.2	5.50	44.6	43.7	5.87	42.4	41.1	6.11
1833	72	66.6	35.2	5.93	63.3	33.9	6.17	60.0	32.6	6.48	56.7	31.8	6.78	52.8	30.1	7.09
	67	61.1	44.9	5.56	58.3	43.7	5.81	55.0	42.4	6.11	51.7	41.1	6.42	48.4	39.9	6.72
	62	56.7	53.8	5.26	53.9	52.2	5.50	51.2	50.0	5.81	49.0	47.5	6.11	46.2	44.9	6.48
	57	56.1	54.7	5.19	53.4	52.6	5.50	51.2	50.0	5.81	49.0	47.5	6.11	46.2	44.9	6.48
2108	72	68.2	38.2	6.05	64.9	36.9	6.29	61.6	35.6	6.60	57.8	34.3	6.91	54.5	33.5	7.21
	67	63.3	49.6	5.68	60.0	48.8	5.93	56.7	47.5	6.23	53.4	45.8	6.54	50.1	44.5	6.84
	62	59.4	58.1	5.44	57.2	55.5	5.74	53.9	53.0	6.05	51.7	50.5	6.36	48.4	47.5	6.72
	57	59.4	58.1	5.44	57.2	55.5	5.74	53.9	53.0	6.05	51.7	50.5	6.36	48.4	47.5	6.72

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.
For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH51.9SENSIBLE MBTUH40.8LATENT MBTUH11.1

EXPANDED PERFORMANCE DATA

PHK-1F

Heating Performance @ 70 °F Inside Temperature

PHK024-1F

OUTSIDE F	HEAT BTUH	KW	COP
62	32,900	2.86	3.37
57	30,000	2.74	3.21
52	26,600	2.61	2.99
47	23,800	2.49	2.8
42	20,300	2.4	2.48
37	17,500	2.3	2.23
32	15,300	2.2	2.05
27	13,600	2.09	1.94
22	12,500	1.97	1.91
17	12,000	1.85	1.9
12	11,300	1.79	1.85
7	10,700	1.77	1.77
2	10,000	1.72	1.7
-3	9,500	1.67	1.67

PHK030-1F

OUTSIDE F	HEAT BTUH	KW	COP
62	37,900	3.08	3.61
57	34,500	2.95	3.43
52	31,000	2.81	3.23
47	27,400	2.68	3
42	23,900	2.55	2.75
37	20,700	2.43	2.5
32	18,000	2.34	2.26
27	16,000	2.27	2.06
22	14,800	2.26	1.93
17	14,600	2.25	1.9
12	13,700	2.21	1.82
7	13,000	2.16	1.77
2	12,100	2.09	1.7
-3	11,500	2.05	1.65

PHK036-1F/3F

OUTSIDE F	HEAT BTUH	KW	COP
62	47,500	3.86	3.61
57	43,000	3.66	3.45
52	38,600	3.49	3.24
47	34,400	3.36	3
42	30,500	3.26	2.74
37	27,000	3.18	2.49
32	24,100	3.11	2.27
27	21,900	3.05	2.1
22	20,500	3	2.01
17	20,000	2.93	2
12	18,800	2.87	1.92
7	17,900	2.81	1.86
2	16,600	2.73	1.79
-3	15,800	2.67	1.74

PHK042-1F

OUTSIDE F	HEAT BTUH	KW	COP
62	55,300	4.21	3.85
57	49,800	3.93	3.71
52	44,700	3.76	3.48
47	40,000	3.66	3.2
42	35,500	3.6	2.9
37	31,300	3.51	2.61
32	27,100	3.38	2.35
27	23,000	3.15	2.14
22	18,900	2.79	1.98
17	14,600	2.25	1.9
12	13,700	2.21	1.82
7	13,000	2.16	1.77
2	12,100	2.09	1.7
-3	11,500	2.05	1.65

PHK048-1F/3F

OUTSIDE F	HEAT BTUH	KW	COP
62	76,000	5.3	4.21
57	68,900	4.99	4.05
52	61,800	4.76	3.81
47	55,000	4.61	3.5
42	48,700	4.56	3.13
37	43,000	4.52	2.79
32	38,300	4.5	2.49
27	34,700	4.49	2.27
22	32,600	4.48	2.13
17	32,000	4.47	2.1
12	30,100	4.38	2.02
7	28,600	4.29	1.95
2	26,600	4.15	1.88
-3	25,300	4.06	1.82

PHK060-1F/3F

OUTSIDE F	HEAT BTUH	KW	COP
62	76,000	5.3	4.2
57	69,200	5.07	4
52	61,500	4.84	3.72
47	55,000	4.61	3.5
42	47,300	4.56	3.04
37	41,200	4.52	2.67
32	36,600	4.5	2.39
27	33,500	4.49	2.19
22	32,700	4.48	2.12
17	32,000	4.47	2.1
12	30,100	4.34	2.03
7	28,600	4.27	1.96
2	26,600	4.15	1.88
-3	25,300	4.05	1.83

PHKJ

EXPANDED PERFORMANCE DATA

PHKJ

OUTDOOR UNIT PHKJ048-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1332	72	54.5	26.4	4.02	52.2	25.3	4.23	49.4	24.3	4.40	46.5	23.2	4.61	43.7	22.2	4.83
	67	49.8	32.7	3.76	47.5	31.7	3.93	45.1	30.6	4.14	42.3	29.6	4.36	39.5	29.6	4.57
	62	46.1	38.7	3.50	43.7	37.7	3.72	42.5	36.6	3.93	41.4	35.6	4.14	39.0	34.1	4.32
	57	44.2	41.9	3.42	42.3	40.1	3.63	40.4	38.4	3.85	38.1	36.3	4.10	36.2	34.1	4.27
1567	72	56.9	29.2	4.14	54.1	28.2	4.32	51.2	27.1	4.53	48.4	26.4	4.74	45.1	25.0	4.96
	67	52.2	37.3	3.89	49.8	36.3	4.06	47.0	35.2	4.27	44.2	34.1	4.49	41.4	33.1	4.70
	62	48.4	44.7	3.67	46.1	43.3	3.85	43.7	41.5	4.06	41.8	39.4	4.27	39.5	37.3	4.53
	57	47.9	45.4	3.63	45.6	43.6	3.85	43.7	41.5	4.06	41.8	39.4	4.27	39.5	37.3	4.53
1802	72	58.3	31.7	4.23	55.5	30.6	4.40	52.6	29.6	4.61	49.4	28.5	4.83	46.5	27.8	5.04
	67	54.1	41.2	3.97	51.2	40.5	4.14	48.4	39.4	4.36	45.6	38.0	4.57	42.8	37.0	4.79
	62	50.8	48.2	3.80	48.9	46.1	4.02	46.1	44.0	4.23	44.2	41.9	4.44	41.4	39.4	4.70
	57	50.8	48.2	3.80	48.9	46.1	4.02	46.1	44.0	4.23	44.2	41.9	4.44	41.4	39.4	4.70

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 44.4 SENSIBLE MBTUH 33.7 LATENT MBTUH 10.7

OUTDOOR UNIT PHKJ060-1

INDOOR AIR		CONDENSER AIR TEMPERATURE														
		75F			85F			95F			105F			115F		
SCFM	WB	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH	TOTAL MBTUH	SENS MBTUH	WATTS KWH
1490	72	61.0	29.7	4.94	58.4	28.5	5.21	55.2	27.3	5.42	52.1	26.1	5.68	48.9	24.9	5.94
	67	55.8	36.8	4.63	53.1	35.6	4.84	50.5	34.5	5.10	47.3	33.3	5.37	44.2	33.3	5.63
	62	51.5	43.6	4.31	48.9	42.4	4.58	47.6	41.2	4.84	46.3	40.0	5.10	43.7	38.4	5.31
	57	49.4	47.1	4.21	47.3	45.1	4.47	45.2	43.2	4.73	42.6	40.8	5.05	40.5	38.4	5.26
1753	72	63.6	32.9	5.10	60.5	31.7	5.31	57.3	30.5	5.58	54.2	29.7	5.84	50.5	28.1	6.10
	67	58.4	42.0	4.79	55.8	40.8	5.00	52.6	39.6	5.26	49.4	38.4	5.52	46.3	37.2	5.79
	62	54.2	50.3	4.52	51.5	48.7	4.73	48.9	46.7	5.00	46.8	44.4	5.26	44.2	42.0	5.58
	57	53.7	51.1	4.47	51.0	49.1	4.73	48.9	46.7	5.00	46.8	44.4	5.26	44.2	42.0	5.58
2016	72	65.2	35.6	5.21	62.1	34.5	5.42	58.9	33.3	5.68	55.2	32.1	5.94	52.1	31.3	6.21
	67	60.5	46.3	4.89	57.3	45.5	5.10	54.2	44.4	5.37	51.0	42.8	5.63	47.9	41.6	5.89
	62	56.8	54.3	4.68	54.7	51.9	4.94	51.5	49.5	5.21	49.4	47.1	5.47	46.3	44.4	5.79
	57	56.8	54.3	4.68	54.7	51.9	4.94	51.5	49.5	5.21	49.4	47.1	5.47	46.3	44.4	5.79

Sensible heat capacities shown are based on 80F DB entering air at the evaporator coil.

For sensible heat capacities at other than 80F DB, deduct 84 BTUH per 100 CFM of evaporator coil air for each degree below 80F, or add 84 BTUH per 100 CFM of evaporator coil air per degree above 80F.

CAPACITIES AT 95F OUTDOOR., 75F DB AND 63F WB INDOOR

TOTAL MBTUH 49.7 SENSIBLE MBTUH 37.9 LATENT MBTUH 11.7

BLOWER PERFORMANCE DATA

PGB

MODEL #	PGB024 050/075-1A							
VOLTAGE	208		230		208		230	
MOTOR SPEED	LOW		LOW		HIGH		HIGH	
E.S.P.	CFM	WATTS	CFM	WATTS	CFM	WATTS	CFM	WATTS
.10	715	250	825	295	845	300	970	340
.20	700	245	810	285	825	295	925	330
.30	685	240	795	280	810	285	905	320
.40	665	230	760	265	775	270	870	310
.50	640	220	720	250	740	260	815	290
.60	590	200	675	230	690	240	755	270

MODEL #	PGB030 050/075-1A							
VOLTAGE	208		230		208		230	
MOTOR SPEED	LOW		LOW		HIGH		HIGH	
E.S.P.	CFM	WATTS	CFM	WATTS	CFM	WATTS	CFM	WATTS
.10	1000	300	1060	325	1120	360	1140	385
.20	960	295	1030	315	1080	355	1090	375
.30	905	290	970	300	1020	340	1035	360
.40	870	280	940	290	975	330	990	350
.50	830	265	880	285	925	320	935	340
.60	785	250	810	270	865	305	990	330

MODEL #	PGB030100-1A & PGB036 050/075/100-X							
VOLTAGE	208		230		208		230	
MOTOR SPEED	LOW		LOW		HIGH		HIGH	
E.S.P.	CFM	WATTS	CFM	WATTS	CFM	WATTS	CFM	WATTS
.10	1115	450	1265	480	1400	490	1465	520
.20	1100	425	1235	460	1245	470	1330	500
.30	1070	410	1200	450	1205	450	1285	480
.40	1040	375	1150	395	1150	410	1235	450
.50	995	360	1095	380	1100	395	1175	425
.60	960	340	1025	360	1050	370	1100	400

MODEL #	PGB042 075/100/125-X							
VOLTAGE	208		230		208		230	
MOTOR SPEED	LOW		LOW		HIGH		HIGH	
E.S.P.	CFM	WATTS	CFM	WATTS	CFM	WATTS	CFM	WATTS
.10	930	400	1120	475	1300	580	1555	650
.20	905	390	1100	465	1290	550	1515	630
.30	895	385	1075	445	1275	530	1455	600
.40	865	375	1060	435	1235	510	1395	570
.50	840	360	1030	425	1180	490	1320	550
.60	815	355	970	405	1110	465	1245	550
.70	790	340	920	385	1060	440	1200	520
.80	765	315	875	365	1020	415	1160	490

BLOWER PERFORMANCE DATA

PGB

MODEL #	PGB048 075/100/125/150-X							
VOLTAGE	208		230		208		230	
MOTOR SPEED	LOW		LOW		HIGH		HIGH	
E.S.P.	CFM	WATTS	CFM	WATTS	CFM	WATTS	CFM	WATTS
.10	1400	650	1680	730	1720	745	1970	840
.20	1385	610	1645	710	1685	730	1905	790
.30	1355	585	1605	670	1645	695	1820	750
.40	1345	570	1540	635	1580	660	1725	710
.50	1295	530	1470	605	1515	625	1630	670
.60	1245	505	1410	570	1430	595	1540	635
.70	1200	480	1360	540	1390	565	1490	600
.80	1160	455	1310	510	1350	535	1440	570

MODEL #	PGB060 100/125/150-X							
VOLTAGE	208		230		208		230	
MOTOR SPEED	LOW		LOW		HIGH		HIGH	
E.S.P.	CFM	WATTS	CFM	WATTS	CFM	WATTS	CFM	WATTS
.10	1610	815	1870	940	2025	1040	2285	1170
.20	1585	780	1830	915	2005	1020	2265	1150
.30	1570	775	1805	890	1955	990	2195	1090
.40	1545	760	1770	870	1925	960	2130	1060
.50	1505	730	1740	840	1870	940	2035	1000
.60	1450	715	1670	810	1805	895	1965	965
.70	1400	700	1610	780	1750	855	1900	930
.80	1350	680	1560	750	1700	815	1840	895

WET COIL PRESSURE DROP			
MODEL	IN. W.C. (H ₂ O)	MODEL	IN. W.C. (H ₂ O)
PGB024	.09	PGB042	.09 - .12
PGB030	.10 - .12	PGB048	.13
PGB036	.12 - .15	PGB060	.15

NOTE: 1) ALL BLOWER DATA IS DRY COIL WITHOUT FILTER, ADD .08 FOR FILTER

2) WET COIL PRESSURE DROP RANGE FOR COOLING TONNAGE IN TWO DIFFERENT CABINETS, LARGER PRESSURE DROP CORRESPONDS TO THE SMALLER CABINET.

EX: (SMALL CABINET) PGB030075-1 - .12" W.C., (MEDIUM CABINET) PGB030100-1 - .10" W.C.

BLOWER PERFORMANCE DATA

PGJ

PGJ024 - 030 (XXX)-1

		COOLING CFM	GAS HEATING CFM
PGJ030050 (075) -1A	A	1000	850
PGJ030050 (075) -1A	B	1000	850
PGJ024030 (075) -1A	C	800	775
PGJ024030 (075) -1A	D	800	775

PGJ036 - 048 (XXX)-1

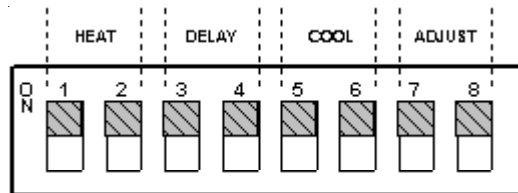
		COOLING CFM	GAS HEATING CFM
	A	1850	1700
PGJ048075 (100) -1A	B	1500	1450
PGJ042075 (100) -1A	C	1400	1150
	D	1200	1150

"FAN ONLY" = CFM of select mode X 30%

"HUMIDISAT" = CFM of selected mode X 75

"ADJUST" C = Decreases selected speed by 15%

"ADJUST" B = Increases selected speed by 10%



	HEAT		DELAY		COOL		ADJUST	
A	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
B	ON	OFF	ON	OFF	ON	OFF	ON	OFF
C	OFF	ON	OFF	ON	OFF	ON	OFF	ON
D	ON	ON	ON	ON	ON	ON	ON	ON
	1	2	3	4	5	6	7	8
DIP SWITCH NUMBER								

F= Factory Setting

NOTE - The ECM-2 Motor Speed Taps are located on the blower scroll in the return air compartment of the equipment. The design CFM is factory set. If additional adjustments are required for each particular application, adjustments can be made at the variable speed terminal block taps as shown above.

BLOWER PERFORMANCE DATA

PCK***-1

MODEL	SPEED		VOLTS	E.S.P. (in. of H ₂ O)									
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
PCK024-1	LOW	230	CFM	11000	1080	1055	1020	975	950	900	855	-	-
			WATTS	400	390	380	370	355	330	305	285	-	-
		208	CFM	1060	1040	1005	950	920	890	845	795	-	-
			WATTS	375	365	335	330	320	305	285	260	-	-
	HIGH	230	CFM	1250	240	1200	1150	1070	1035	995	945	890	835
			WATTS	470	465	450	435	420	400	370	345	320	290
		208	CFM	1225	1220	1175	1125	1045	1010	960	900	835	805
			WATTS	440	435	420	410	395	375	1070	320	295	265
PCK030-1	LOW	230	CFM	1300	1270	1235	1225	1165	1125	335	1015	-	-
			WATTS	465	440	420	410	380	360	1025	320	-	-
		208	CFM	1245	1215	1180	1170	1115	1080	315	975	-	-
			WATTS	440	425	395	385	355	335	1200	300	-	-
	HIGH	230	CFM	1495	1445	1425	1400	1325	1265	430	1145	1085	-
			WATTS	545	525	520	510	480	460	1185	410	385	-
		208	CFM	1460	1415	1395	1370	1300	1245	405	1125	1065	-
			WATTS	505	490	475	465	450	430	1070	385	360	-
PCK036-X	LOW	230	CFM	1300	1270	1235	1225	1165	1125	335	1015	-	-
			WATTS	465	440	420	410	380	360	1025	320	-	-
		208	CFM	1245	1215	1180	1170	1115	1080	315	975	-	-
			WATTS	440	425	395	385	355	335	1200	300	-	-
	HIGH	230	CFM	1495	1445	1425	1400	1325	1265	430	1145	1085	-
			WATTS	545	525	520	510	480	460	1185	410	385	-
		208	CFM	1460	1415	1395	1370	1300	1245	405	1125	1065	-
			WATTS	505	490	475	465	450	430	-	385	360	-
PCK042X	LOW	230	CFM	1390	1375	1365	1355	1330	1280	-	-	-	-
			WATTS	460	440	425	420	410	380	-	-	-	-
		208	CFM	1320	1310	1300	1285	1260	-	-	-	-	-
			WATTS	430	415	400	395	385	-	1315	-	-	-
	HIGH	230	CFM	1725	1630	1590	1560	1520	1400	410	-	-	-
			WATTS	550	520	510	500	480	430	1250	-	-	-
		208	CFM	1640	1550	1515	1485	1445	1330	380	-	-	-
			WATTS	525	495	485	475	455	410	-	-	-	-
PCK048-X	LOW	230	CFM	1760	1730	1685	1635	1580	1490	-	-	-	-
			WATTS	725	690	670	640	600	565	-	-	-	-
		208	CFM	1640	1610	1600	1580	1490	-	-	-	-	-
			WATTS	700	665	650	625	565	-	1595	-	-	-
	HIGH	230	CFM	2010	1990	1960	1880	1795	1695	635	-	-	-
			WATTS	870	840	810	765	710	670	1520	-	-	-
		208	CFM	1910	1985	1865	1790	1710	1615	605	-	-	-
			WATTS	825	790	770	730	680	640	-	-	-	-
PCK060-X	LOW	230	CFM	2160	2125	2085	2025	1970	-	-	-	-	-
			WATTS	910	865	830	800	765	-	-	-	-	-
		208	CFM	2055	2010	1985	1890	1870	-	-	-	-	-
			WATTS	820	780	755	740	730	-	-	-	-	-
	HIGH	230	CFM	2540	2470	2310	2280	2220	2095	-	-	-	-
			WATTS	115	1070	1020	985	945	895	-	-	-	-
		208	CFM	2425	2350	2200	2150	2120	1995	-	-	-	-
			WATTS	1055	1020	985	935	905	855	-	-	-	-

NOTES:

1. Data shown is dry coil. Wet coil pressure drop is approximately 0.1" H₂O for two row indoor coil; 0.2" H₂O for four row indoor coil.
2. Data shown does not include filter pressure drop, approximately 0.08" H₂O.
3. ALL MODELS SHOULD RUN NO LESS THAN 350 CFM/TON, USE HIGHER SPEED TAP OR NEXT SIZE LARGER BLOWER ASM. SEE REPAIR PARTS LIST.

BLOWER PERFORMANCE DATA

PCK***-1F

Model	Speed	Volts		E.S.P (In. of H2O)									
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
PCK024-1F	LOW	230	CFM WATTS	1,100 400	1,080 390	1,055 380	1,020 370	975 355	950 330	900 305	855 285	--	--
		208	CFM WATTS	1,060 375	1,040 365	1,005 335	950 330	920 320	890 305	845 285	795 260	--	--
	HIGH	230	CFM WATTS	1,250 470	1,240 465	1,200 450	1,150 435	1,070 420	1,035 400	995 370	945 345	890 320	835 290
		208	CFM WATTS	1,225 440	1,220 435	1,175 420	1,125 410	1,045 395	1,010 375	960 345	900 320	835 295	805 265
PCK030-1F	LOW	230	CFM WATTS	1,150 320	1,120 310	1,075 300	1,005 290	955 275	870 255	770 240	--	--	--
		208	CFM WATTS	1,110 355	1,080 285	1,055 255	945 250	900 240	8,100 230	--	--	--	--
	MED	230	CFM WATTS	1,275 385	1,265 380	1,210 360	1,135 350	1,070 335	985 310	855 290	--	--	--
		208	CFM WATTS	1,250 355	1,245 340	1,185 335	1,110 330	1,045 300	9,602 285	820 265	--	--	--
	HIGH	230	CFM WATTS	1,345 435	1,335 430	1,275 415	1,210 400	1,135 390	1,035 375	925 355	785 330	--	--
		208	CFM WATTS	1,310 405	1,315 400	1,250 385	1,175 375	1,110 365	1,010 350	890 330	740 305	--	--
PCK036-1F PCK036-3F	LOW	230	CFM WATTS	1,100 315	1,070 305	1,025 295	965 285	905 270	820 250	720 235	--	--	--
		208	CFM WATTS	1,060 350	1,030 280	1,005 250	895 245	850 235	760 225	--	--	--	--
	MED	230	CFM WATTS	1,225 380	1,215 375	1,160 355	1,085 345	1,020 330	935 305	805 285	--	--	--
		208	CFM WATTS	1,200 350	1,195 335	1,135 330	1,060 325	995 295	910 280	770 260	--	--	--
	HIGH	230	CFM WATTS	1,295 430	1,285 425	1,225 410	1,150 395	1,085 385	985 370	875 350	735 325	--	--
		208	CFM WATTS	1,260 400	1,265 395	1,200 380	1,125 370	1,060 360	960 345	840 325	690 300	--	--
PCK042-1F	LOW	230	CFM WATTS	1,390 460	1,375 440	1,365 425	1,355 420	1,330 410	1,280 380	--	--	--	--
		208	CFM WATTS	1,320 430	1,310 415	1,300 400	1,285 395	1,260 385	--	--	--	--	--
	HIGH	230	CFM WATTS	1,725 550	1,630 520	1,590 510	1,560 500	1,520 480	1,400 430	1,315 410	--	--	--
		208	CFM WATTS	1,640 525	1,550 495	1,515 485	1,485 475	1,445 455	1,330 410	1,250 380	--	--	--
PCK048-1F PCK048-3F	LOW	230	CFM WATTS	1,760 725	1,730 690	1,685 670	1,635 640	1,580 600	1,490 565	--	--	--	--
		208	CFM WATTS	1,640 700	1,610 665	1,600 650	1,580 625	1,490 565	--	--	--	--	--
	HIGH	230	CFM WATTS	2,010 870	1,990 840	1,960 810	1,880 765	1,795 710	1,695 670	1,595 635	--	--	--
		208	CFM WATTS	1,910 825	1,895 790	1,865 770	1,790 730	1,710 680	1,615 640	1,520 605	--	--	--
PCK060-1F PCK060-3F PCK060-4F	LOW	230	CFM WATTS	2,160 910	2,125 865	2,085 830	2,025 800	1,970 765	--	--	--	--	--
		208	CFM WATTS	2,055 820	2,010 780	1,985 755	1,890 740	1,870 730	--	--	--	--	--
	HIGH	230	CFM WATTS	2,540 1,115	2,470 1,070	2,310 1,020	2,280 985	2,220 945	2,095 895	--	--	--	--
		208	CFM WATTS	2,425 1,055	2,350 1,020	2,200 985	2,150 935	2,120 905	1,995 855	--	--	--	--

NOTES:

1. Data shown is dry coil. Wet coil pressure drop is approx.

0.1" H2O, for 2 row indoor coil; 0.2" H2O, for 3 row indoor coil; and 0.3" H2O, for 4 row indoor coil.

2. Data shown does not include filter pressure drop, approx. 0.08" H2O.

3. ALL MODELS SHOULD RUN NO LESS THAN 350 CFM / TON, USE HIGHER SPEED TAP OR NEXT SIZE LARGER BLOWER ASM., SEE REPAIR PARTS LIST.

BLOWER PERFORMANCE DATA

PCKJ

MODEL	SPEED	VOLTS		E.S.P (In. of H ₂ O)									
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
PCKJ024-1A	LOW	230	CFM	1100	1080	1055	1020	975	950	900	855	-	-
			WATTS	400	390	380	370	355	330	305	285	-	-
	HIGH	208	CFM	1060	1040	1005	950	920	890	845	795	-	-
			WATTS	375	365	335	330	320	305	285	260	-	-
		230	CFM	1250	1240	1200	1150	1070	1035	995	945	890	835
			WATTS	470	465	450	435	420	400	370	345	320	290
PCKJ030-1	LOW	208	CFM	1225	1220	1175	1125	1045	1010	960	900	835	805
			WATTS	440	435	420	410	395	375	345	320	295	265
	HIGH	230	CFM	1300	1270	1235	1225	1165	1125	1070	1015	-	-
			WATTS	465	440	420	410	380	360	335	320	-	-
		208	CFM	1245	1215	1180	1170	1115	1080	1025	975	-	-
			WATTS	440	425	395	385	355	335	315	300	-	-
PCKJ036-1A	LOW	230	CFM	1495	1445	1425	1400	1325	1265	1200	1145	1085	-
			WATTS	545	525	520	510	480	460	430	410	385	-
	HIGH	208	CFM	1460	1415	1395	1370	1300	1245	1185	1125	1065	-
			WATTS	505	490	475	465	450	430	405	385	360	-
		230	CFM	1455	1415	1350	1290	1225	1165	1090	1045	-	-
			WATTS	480	470	460	440	420	380	355	320	-	-
PCKJ042-1D	LOW	208	CFM	1380	1345	1285	1225	1160	1090	1045	975	-	-
			WATTS	450	445	435	415	395	355	315	300	-	-
	HIGH	230	CFM	1725	1630	1590	1560	1520	1400	1315	1245	1185	-
			WATTS	550	520	510	500	480	430	410	390	375	-
		208	CFM	1640	1550	1515	1485	1445	1330	1250	1125	1065	-
			WATTS	525	495	485	475	455	410	380	385	360	-
PCKJ048-1	LOW	230	CFM	1455	1415	1350	1290	1225	-	-	-	-	-
			WATTS	480	470	460	440	420	-	-	-	-	-
	HIGH	208	CFM	1380	1345	1285	1225	-	-	-	-	-	-
			WATTS	450	445	435	415	-	-	-	-	-	-
		230	CFM	1725	1630	1590	1560	1520	1400	1315	-	-	-
			WATTS	550	520	510	500	480	430	410	-	-	-
PCKJ060-1	LOW	208	CFM	1640	1550	1515	1485	1445	1330	1250	-	-	-
			WATTS	525	495	485	475	455	410	380	-	-	-
	HIGH	230	CFM	1730	1685	1635	1580	1490	-	-	-	-	-
			WATTS	690	670	640	600	565	-	-	-	-	-
		208	CFM	1610	1600	1580	1490	-	-	-	-	-	-
			WATTS	665	650	625	565	-	-	-	-	-	-
PCKJ060-1	LOW	230	CFM	1990	1960	1880	1795	1695	1595	-	-	-	-
			WATTS	840	810	765	710	670	635	-	-	-	-
	HIGH	208	CFM	1895	1865	1790	1710	1615	1520	-	-	-	-
			WATTS	790	770	730	680	640	605	-	-	-	-
		230	CFM	2160	2125	2085	2025	1970	-	-	-	-	-
			WATTS	910	865	830	800	765	-	-	-	-	-
PCKJ060-1	LOW	208	CFM	2055	2010	1985	1890	1870	-	-	-	-	-
			WATTS	820	780	755	740	730	-	-	-	-	-
	HIGH	230	CFM	2540	2470	2310	2280	2220	2095	-	-	-	-
			WATTS	1115	1070	1020	985	945	895	-	-	-	-
		208	CFM	2425	2350	2200	2150	2120	1995	-	-	-	-
			WATTS	1055	1020	985	935	905	855	-	-	-	-

NOTES:

- (1) Data shown is dry coil. Wet coil pressure drop is approx. 0.1" H₂O, for 2 row indoor coil; 0.2" H₂O, for 3 row indoor coil; and 0.3" H₂O, for 4 row indoor coil.
- (2) Data shown does not include filter pressure drop, approx. 0.08" H₂O.
- (3) ALL MODELS SHOULD RUN NO LESS THAN 350 CFM / TON, USE HIGHER SPEED TAP OR NEXT SIZE LARGER BLOWER ASM., SEE REPAIR PARTS LIST.

BLOWER PERFORMANCE DATA

PHK***-1

MODEL	SPEED	VOLTS		E.S.P (In. of H ₂ O)									
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
PHK024-1	LOW	230	CFM	1100	1080	1055	1020	975	950	900	855	-	-
			WATTS	400	390	380	370	355	330	305	285	-	-
	HIGH	208	CFM	1060	1040	1005	950	920	890	845	795	-	-
			WATTS	375	365	335	330	320	305	285	260	-	-
PHK030-1	LOW	230	CFM	1250	1240	1200	1150	1070	1035	995	945	890	835
			WATTS	470	465	450	435	420	400	370	345	320	290
	HIGH	208	CFM	1225	1220	1175	1125	1045	1010	960	900	835	805
			WATTS	440	435	420	410	395	375	345	320	295	265
PHK036-1	LOW	230	CFM	1300	1270	1235	1225	1165	1125	1070	1015	-	-
			WATTS	465	440	420	410	380	360	335	320	-	-
	HIGH	208	CFM	1245	1215	1180	1170	1115	1080	1025	975	-	-
			WATTS	440	425	395	385	355	335	315	300	-	-
PHK036-X	LOW	230	CFM	1455	1415	1350	1290	1225	1165	1090	1045	-	-
			WATTS	480	470	460	440	420	380	355	320	-	-
	HIGH	208	CFM	1380	1345	1285	1225	1160	1090	1045	975	-	-
			WATTS	450	445	435	415	395	355	315	300	-	-
PHK042-1	LOW	230	CFM	1455	1415	1350	1290	1225	-	-	-	-	-
			WATTS	480	470	460	440	420	-	-	-	-	-
	HIGH	208	CFM	1380	1345	1285	1225	-	-	-	-	-	-
			WATTS	450	445	435	415	-	-	-	-	-	-
PHK048-X	LOW	230	CFM	1730	1685	1635	1580	1490	-	-	-	-	-
			WATTS	690	670	640	600	565	-	-	-	-	-
	HIGH	208	CFM	1610	1600	1580	1490	-	-	-	-	-	-
			WATTS	665	650	625	565	-	-	-	-	-	-
PHK060-X	LOW	230	CFM	1990	1960	1880	1795	1695	1595	-	-	-	-
			WATTS	840	810	765	710	670	635	-	-	-	-
	HIGH	208	CFM	1895	1865	1790	1710	1615	1520	-	-	-	-
			WATTS	790	770	730	680	640	605	-	-	-	-
PHK060-X	LOW	230	CFM	2160	2125	2085	2025	1970	-	-	-	-	-
			WATTS	910	865	830	800	765	-	-	-	-	-
	HIGH	208	CFM	2055	2010	1985	1890	1870	-	-	-	-	-
			WATTS	820	780	755	740	730	-	-	-	-	-
PHK060-X	LOW	230	CFM	2540	2470	2310	2280	2220	2095	-	-	-	-
			WATTS	1115	1070	1020	985	945	895	-	-	-	-
	HIGH	208	CFM	2425	2350	2200	2150	2120	1995	-	-	-	-
			WATTS	1055	1020	985	935	905	855	-	-	-	-

NOTES:

(1) Data shown is dry coil. Wet coil pressure drop is approx. 0.1" H₂O for 2 row indoor coil; 0.2" H₂O for 3 row indoor coil; and 0.3" H₂O for 4 row indoor coil.

(2) Data shown does not include filter pressure drop, approx. 0.08" H₂O.

(3) ALL MODELS SHOULD RUN NO LESS THAN 350 CFM / TON, USE HIGHER SPEED TAP OR NEXT SIZE LARGER BLOWER ASM., SEE REPAIR PARTS LIST.

BLOWER PERFORMANCE DATA

PHK***-1F

Model	Speed	Volts		E.S.P (In. of H2O)									
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
PHK024-1F	LOW	230	CFM	690	675								
			WATTS	165	155	--	--	--	--	--	--	--	--
		208	CFM	665	650								
			WATTS	145	135	--	--	--	--	--	--	--	--
	MED	230	CFM	925	880	835	815	755					
			WATTS	235	205	195	190	185	--	--	--	--	--
		208	CFM	900	900	860	840	785	755				
			WATTS	225	230	220	210	200	190	--	--	--	--
	HIGH	230	CFM	1,185	1,175	1,135	1,085	1,005	970	930	880		
			WATTS	365	355	340	325	310	290	260	235	--	--
PHK030-1F	LOW	230	CFM	1,150	1,120	1,075	1,005	955	870	770			
			WATTS	320	310	300	290	275	255	240	--	--	--
		208	CFM	1,110	1,080	1,055	945	900	8,100				
			WATTS	355	285	255	250	240	230	--	--	--	--
	MED	230	CFM	1,275	1,265	1,210	1,135	1,070	985	855			
			WATTS	385	380	360	350	335	310	290	--	--	--
		208	CFM	1,250	1,245	1,185	1,110	1,045	960	820			
			WATTS	355	340	335	330	300	2,285	265	--	--	--
	HIGH	230	CFM	1,345	1,335	1,275	1,210	1,135	1,035	925	785		
			WATTS	435	430	415	400	390	375	355	330	--	--
PHK036-1F PHK036-3F	LOW	230	CFM	1,455	1,415	1,350	1,290	1,225	1,165	1,090	1,045		
			WATTS	480	470	460	440	420	380	355	320	--	--
		208	CFM	1,380	1,345	1,285	1,225	1,160	1,090	1,045	975		
			WATTS	450	445	435	415	395	355	315	300	--	--
	HIGH	230	CFM	1,725	1,630	1,590	1,560	1,520	1,400	1,315	1,245	1,185	
			WATTS	550	520	510	500	480	430	410	390	375	--
PHK042-1F	LOW	230	CFM	1,455	1,415	1,350	1,290	1,225					
			WATTS	480	470	460	440	420	--	--	--	--	--
		208	CFM	1,380	1,345	1,285	1,225						
			WATTS	450	445	435	415	--	--	--	--	--	--
	HIGH	230	CFM	1,725	1,630	1,590	1,560	1,520	1,400	1,315			
			WATTS	550	520	510	500	480	430	410	--	--	--
PHK048-1F PHK048-3F	LOW	230	CFM	1,640	1,550	1,515	1,485	1,445	1,330	1,250	1,125	1,065	
			WATTS	525	495	485	475	455	410	380	385	360	--
		208	CFM	1,730	1,685	1,635	1,580	1,490					
			WATTS	690	670	640	600	565	--	--	--	--	--
	HIGH	230	CFM	1,610	1,600	1,580	1,490						
			WATTS	665	650	625	565	--	--	--	--	--	--
PHK060-1F PHK060-3F	LOW	230	CFM	1,990	1,960	1,880	1,795	1,695	1,595				
			WATTS	840	810	765	710	670	635	--	--	--	--
		208	CFM	1,895	1,865	1,790	1,710	1,615	1,520				
			WATTS	790	770	730	680	640	605	--	--	--	--
	HIGH	230	CFM	2,160	2,125	2,085	2,025	1,970					
			WATTS	910	865	830	800	765	--	--	--	--	--
PHK060-1F PHK060-3F	LOW	230	CFM	2,055	2,010	1,985	1,890	1,870					
			WATTS	820	780	755	740	730	--	--	--	--	--
	HIGH	230	CFM	2,540	2,470	2,310	2,280	2,220	2,095				
			WATTS	1115	1070	1020	985	945	895	--	--	--	--
PHK060-1F PHK060-3F	LOW	230	CFM	2,425	2,350	2,200	2,150	2,120	1,995				
			WATTS	1,055	1,020	985	935	905	855	--	--	--	--

NOTES:

1. Data shown is dry coil. Wet coil pressure drop is approximately 0.1" H2O for 2-row indoor coil; 0.2" H2O for 3-row indoor coil; and 0.3" H2O for 4-row indoor coil.
2. Data shown does not include filter pressure drop, approximately 0.08" H2O.
3. ALL MODELS SHOULD RUN NO LESS THAN 350 CFM / TON, USE HIGHER SPEED TAP OR NEXT SIZE LARGER BLOWER ASM. SEE REPAIR PARTS LIST.

BLOWER PERFORMANCE DATA

PHKJ

MODEL	SPEED	VOLTS		E.S.P. (In. of H ₂ O)									
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
PHKJ024-1A	LOW	230	CFM	1100	1080	1055	1020	975	950	900	855	-	-
			WATTS	400	390	380	370	355	330	305	285	-	-
		208	CFM	1060	1040	1005	950	920	890	845	795	-	-
			WATTS	375	365	335	330	320	305	285	260	-	-
	HIGH	230	CFM	1250	1240	1200	1150	1070	1035	995	945	890	8.5
			WATTS	470	465	450	435	420	400	370	345	320	290
		208	CFM	1225	1220	1175	1125	1045	1010	960	900	835	805
			WATTS	440	435	420	410	395	375	345	320	295	265
PHKJ030-1	LOW	230	CFM	1300	1270	1235	1225	1165	1125	1070	1015	-	-
			WATTS	465	440	420	410	380	360	335	320	-	-
		208	CFM	1245	1215	1180	1170	1115	1080	1025	975	-	-
			WATTS	440	425	395	385	355	335	315	300	-	-
	HIGH	230	CFM	1495	1445	1425	1400	1325	1265	1200	1145	1085	-
			WATTS	545	525	520	510	480	460	430	410	385	-
		208	CFM	1460	1415	1395	1370	1300	1245	1185	1125	1065	-
			WATTS	505	490	475	465	450	430	405	385	360	-
PHKJ036-1A	LOW	230	CFM	1455	1415	1350	1290	1225	1165	1090	1045	-	-
			WATTS	480	470	460	440	420	380	355	320	-	-
		208	CFM	1380	1345	1285	1225	1160	1090	1045	975	-	-
			WATTS	450	445	435	415	395	355	315	300	-	-
	HIGH	230	CFM	1725	1630	1590	1560	1520	1400	1315	1245	1185	-
			WATTS	550	520	510	500	480	430	410	390	375	-
		208	CFM	1640	1550	1515	1485	1445	1330	1250	1125	1065	-
			WATTS	525	495	485	475	455	410	380	385	360	-
PHKJ042-1	LOW	230	CFM	1455	1415	1350	1290	1225	-	-	-	-	-
			WATTS	480	470	460	440	420	-	-	-	-	-
		208	CFM	1380	1345	1285	1225	-	-	-	-	-	-
			WATTS	450	445	435	415	-	-	-	-	-	-
	HIGH	230	CFM	1725	1630	1590	1560	1520	1400	1315	-	-	-
			WATTS	550	520	510	500	480	430	410	-	-	-
		208	CFM	1640	1550	1515	1485	1445	1330	1250	-	-	-
			WATTS	525	495	485	475	455	410	380	-	-	-
PHKJ048-1A	LOW	230	CFM	1730	1685	1635	1580	1490	-	-	-	-	-
			WATTS	690	670	640	600	565	-	-	-	-	-
		208	CFM	1610	1600	1580	1490	-	-	-	-	-	-
			WATTS	665	650	625	565	-	-	-	-	-	-
	HIGH	230	CFM	1990	1960	1880	1795	1695	1595	-	-	-	-
			WATTS	840	810	765	710	670	635	-	-	-	-
		208	CFM	1895	1865	1790	1710	1615	1520	-	-	-	-
			WATTS	790	770	730	680	640	605	-	-	-	-
PHKJ060-1A	LOW	230	CFM	2160	2125	2085	2025	1970	-	-	-	-	-
			WATTS	910	865	830	800	765	-	-	-	-	-
		208	CFM	2055	2010	1985	1890	1870	-	-	-	-	-
			WATTS	820	780	755	740	730	-	-	-	-	-
	HIGH	230	CFM	2540	2470	2310	2280	2220	2095	-	-	-	-
			WATTS	1115	1070	1020	985	945	895	-	-	-	-
		208	CFM	2425	2350	2200	2150	2120	1995	-	-	-	-
			WATTS	1055	1020	985	935	905	855	-	-	-	-

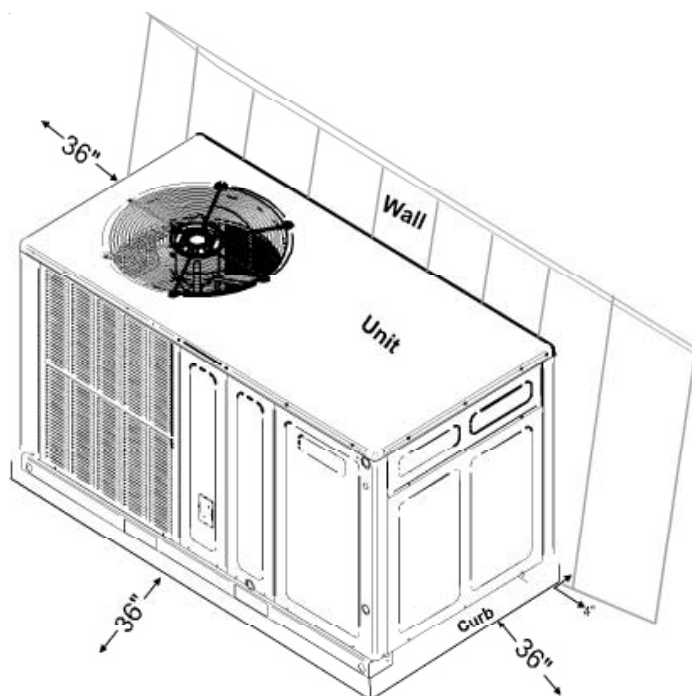
NOTES:

(1) Data shown is dry coil. Wet coil pressure drop is approx. 0.1" H₂O for 2 row indoor coil; 0.2" H₂O for 3 row indoor coil; and 0.3" H₂O for 4 row indoor coil.

(2) Data shown does not include filter pressure drop, approx. 0.08" H₂O.

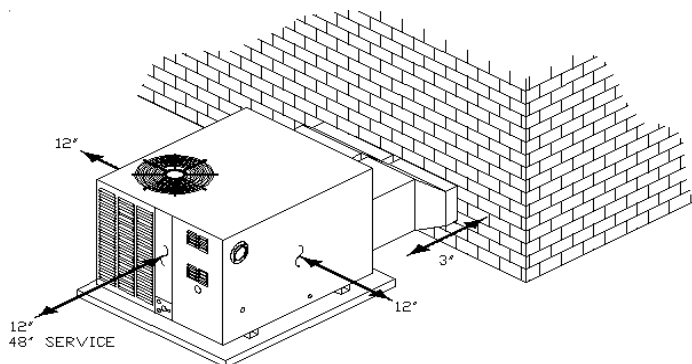
PRODUCT DESIGN

In installations where the unit is installed above ground level and not serviceable from the ground (Example: Roof Top installations) the installer must provide a service platform for the service person with rails or guards in accordance with local codes or ordinances or in their absence with the latest edition of the National Fuel Gas Code ANSI Z223.1.



PCK, PCKJ, PHK, PHKJ

NOTE: Roof overhang should be no more than 36".



PGB, PGJ

Minimum clearances are required to avoid air recirculation and keep the unit operating at peak efficiency. A minimum 12 inch clearance is required to the condenser coil.

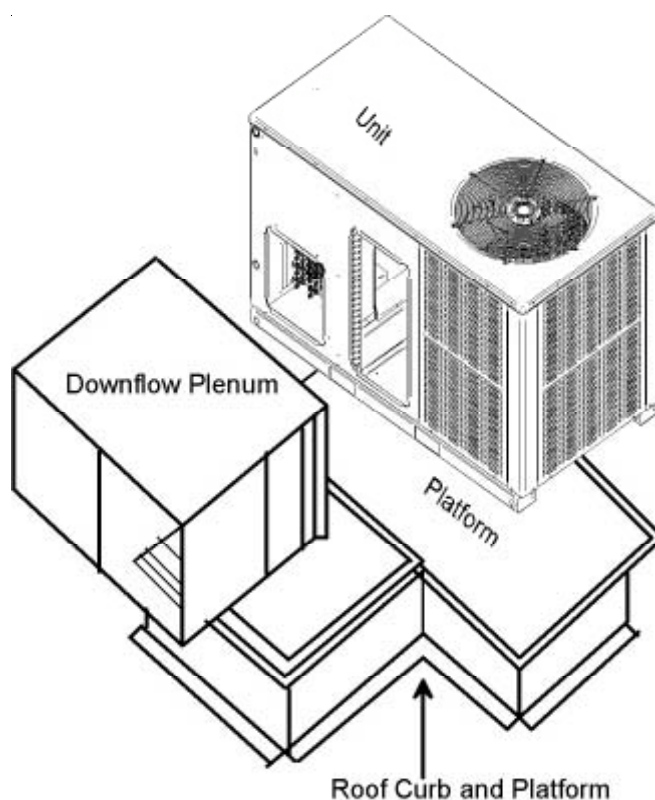
WARNING

TO PREVENT POSSIBLE DAMAGE, THE UNIT SHOULD REMAIN IN AN UPRIGHT POSITION DURING ALL RIGGING AND MOVING OPERATIONS. TO FACILITATE LIFTING AND MOVING IF A CRANE IS USED, PLACE THE UNIT IN AN ADEQUATE CABLE SLIDE.

IMPORTANT NOTE: IF USING BOTTOM DISCHARGE WITH ROOF CURB, DUCTWORK SHOULD BE ATTACHED TO THE CURB PRIOR TO INSTALLING THE UNIT.

Refer to Roof curb Installation Instructions for proper curb installation. Curbing must be installed in compliance with the National Roofing Contractors Association Manual.

Lower unit carefully onto roof mounting curb. While rigging unit, center of gravity will cause condenser end to be lower than supply air end.



NOTE: Units can also use roof curb (and platform for leveling, and downflow plenum where necessary) for downflow discharge.

PRODUCT DESIGN

Goodman Package Units are designed for outdoor installations only in either residential or light commercial applications.

The connecting ductwork (Supply and Return) can be connected for either horizontal or down discharge airflow. In the down discharge applications a matching Roof Curb is recommended.

A return air filter must be installed behind the return air grille(s) or provision must be made for a filter in an accessible location within the return air duct. The minimum filter area should not be less than those sizes listed in the Specification Section. Under no circumstances should the unit be operated without return air filters.

A 3/4"-14 NPT tube is provided for removal of condensate water from the indoor coil. In order to provide proper condensate flow, a drain trap must be installed. (Do not reduce the drain line size).

Refrigerant flow control is achieved by use of restrictor orifices or thermostatic expansion valves (TXV)

The single phase units use permanent split capacitors (PSC) design compressors. Starting components are therefore not required. A low MFD run capacitor assists the compressor to start and remains in the circuit during operation.

The outdoor fan motors are single phase capacitor type motors. Indoor blower motors are either PSC type or ECM type motors.

Air for condensing (cooling) is drawn through the outdoor coil by a propeller fan, and is discharged vertically out the top of the unit. The outdoor coil is designed for .0 static. No additional restriction (ductwork) shall be applied.

Conditioned air is drawn through the filter(s), field installed, across the evaporator coil and back into the conditioned space by the indoor blower.

Some Goodman package units use the Compliant Scroll compressor, instead of traditional reciprocating compressor.

A scroll is an involute spiral which, when matched with a mating scroll form as shown, generates a series of crescent shaped gas pockets between the two members.

During compression, one scroll remains stationary (fixed scroll) while the other form (orbiting scroll) is allowed to orbit (but not rotate) around the first form.



As this motion occurs, the pockets between the two forms are slowly pushed to the center of the two scrolls while simultaneously being reduced in volume. When the pocket reaches the center of the scroll form, the gas, which is now at a high pressure, is discharged out of a port located at the center.

During compression, several pockets are being compressed simultaneously, resulting in a very smooth process. Both the suction process (outer portion of the scroll members) and the discharge process (inner portion) are continuous.

Some design characteristics of the Compliant Scroll compressor are:

- Compliant Scroll compressors are more tolerant of liquid refrigerant.

NOTE: Even though the compressor section of a Scroll compressor is more tolerant of liquid refrigerant, continued floodback or flooded start conditions may wash oil from the bearing surfaces causing premature bearing failure.

- Compliant Scroll compressors use white oil which is compatible with 3GS. 3GS oil may be used if additional oil is required.
- Compliant scroll compressors perform "quiet" shutdowns that allow the compressor to restart immediately without the need for a time delay. This compressor will restart even if the system has not equalized.

NOTE: Operating pressures and amp draws may differ from standard reciprocating compressors. This information can be found in the unit's Technical Information Manual.

ELECTRICAL WIRING

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

WARNING

TO AVOID PERSONAL INJURY OR DEATH DUE TO ELECTRIC SHOCK, WIRING TO THE UNIT MUST BE PROPERLY POLARIZED AND GROUNDED.

PRODUCT DESIGN



WARNING

TO AVOID PERSONAL INJURY OR DEATH DUE TO ELECTRICAL SHOCK, DISCONNECT ELECTRICAL POWER BEFORE CHANGING ANY ELECTRICAL WIRING.



WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

The units are designed for operation at the hertz and voltages as shown on the rating plate. All internal wiring is complete. Ensure the power supply to the compressor contactor is brought to the unit as shown on the supplied unit wiring diagram. The 24V wiring must be connected between the unit control panel and the room thermostat.

LINE VOLTAGE WIRING

Power supply to the unit must be N.E.C. Class 1, and must comply with all applicable codes. The furnace must be electrically grounded in accordance with the local codes or, in their absence, with the latest edition of the National Electrical Code, ANSI/NFPA No. 70, or in Canada, Canadian Electrical Code, C22.1, Part 1. A fused disconnect must be provided and sized in accordance with the unit minimum circuit ampacity.

The best protection for the wiring is the smallest fuse or breaker which will hold the equipment on line during normal operation without nuisance trips. Such a device will provide maximum circuit protection.

DO NOT EXCEED THE MAXIMUM OVERCURRENT DEVICE SIZE SHOWN ON THE UNIT DATA PLATE.

All line voltage connections must be made through weather proof fittings. All exterior power supply and ground wiring must be in approved weather proof conduit. Low voltage wiring from the unit control panel to the thermostat requires coded cable. Unit knock out sizes are shown in the specification tables.

On 208/230 volt models, the unit transformer is connected for 230V operation. If the unit is to operate on 208V, reconnect the transformer primary lead and the induced draft blower leads as shown on the unit wiring diagram.



WARNING

TO AVOID THE RISK OF PROPERTY DAMAGE, PERSONAL INJURY OR FIRE, USE ONLY COPPER CONDUCTORS.

IF IT IS NECESSARY FOR THE INSTALLER TO SUPPLY ADDITIONAL LINE VOLTAGE WIRING TO THE INSIDE OF THE PACKAGE UNIT, THE WIRING MUST COMPLY WITH ALL LOCAL CODES. THIS WIRING MUST HAVE A MINIMUM TEMPERATURE RATING OF 105°C. AND MUST BE ROUTED AWAY FROM THE BURNER COMPARTMENT. ALL LINE VOLTAGE SPLICES MUST BE MADE INSIDE THE UNIT'S JUNCTION BOX.

GAS SUPPLY AND PIPING

Package Gas Units



CAUTION

THIS PACKAGE GAS UNIT IS FACTORY SET TO OPERATE ON NATURAL GAS AT THE ALTITUDES SHOWN ON THE RATING PLATE. IF OPERATION ON PROPANE IS REQUIRED, OBTAIN AND INSTALL THE PROPER CONVERSION KIT(S) BEFORE OPERATING THIS UNIT. FAILURE TO DO SO MAY RESULT IN UNSATISFACTORY OPERATION AND OR EQUIPMENT DAMAGE.

The rating plate is stamped with the model number, type of gas, and gas input rating. Make sure the furnace is equipped to operate on the type of gas available.

Inlet Gas Pressure	
Natural	Min. 5.0" W.C., Max. 10.0" W.C.
Propane	Min. 11.0" W.C., Max. 13.0" W.C.

Inlet Gas Pressure Must Not Exceed the Maximum Value Shown in the table Above.

The minimum supply pressure must not be varied downward because this could lead to unreliable ignition. In addition, gas input to the burners must not exceed the rated input shown on the rating plate. Overfiring of the unit could result in premature heat exchanger failure.

GAS PIPING



CAUTION

TO AVOID POSSIBLE UNSATISFACTORY OPERATION OR EQUIPMENT DAMAGE DUE TO UNDERFIRING OF EQUIPMENT, DO NOT UNDERSIZE THE NATURAL GAS /PROPANE PIPING FROM THE METER/TANK TO THE UNIT. WHEN SIZING A TRUNK LINE PER THE TABLES, INCLUDE ALL APPLIANCES ON THAT LINE THAT COULD BE OPERATED SIMULTANEOUSLY.

PRODUCT DESIGN

The gas pipe supplying the unit must be properly sized based on the cubic feet per hour of gas flow required, specific gravity of the gas and length of the run. The gas line installation must comply with local codes, or in the absence of local codes, with the latest edition of the National Fuel Gas Code ANSI Z223.1.

NATURAL GAS CAPACITY OF PIPE IN CUBIC FEET OF GAS PER HOUR (CFH)

LENGTH OF PIPE IN FEET	NOMINAL BLACK PIPE SIZE				
	1/2"	3/4"	1"	1 1/4"	1 1/2"
10	132	278	520	1050	1600
20	92	190	350	730	1100
30	73	152	285	590	980
40	63	130	245	500	760
50	56	115	215	440	670
60	50	105	195	400	610
70	46	96	180	370	560
80	43	90	170	350	530
90	40	84	160	320	490
100	38	79	150	305	460

$$CFH = \frac{BTUH \text{ FURNACE INPUT}}{\text{CALORIFIC VALUE OF GAS}}$$

CONNECTING THE GAS PIPING - NATURAL GAS

When connecting the gas piping to the unit, the following rules apply:

1. Use black iron or steel pipe and fittings for the building piping.
2. Use pipe joint compound on male threads only. Pipe joint compound must be resistant to the action of the fuel used.
3. Use ground joint unions.
4. Install a drip leg to trap dirt and moisture before it can enter the gas valve. The drip leg must be a minimum of three inches long.
5. Use two pipe wrenches when making connection to the gas valve to keep it from turning. If you are using a vise or open-end wrench to hold the valve while installing piping, do not tighten excessively, as this may damage the valve. (Torque: 375 in-lb maximum.) Do not cross-thread during installation as this may damage the valve.
6. Install a manual shut off valve. This shut off valve should be conveniently located within six (6) feet of the unit, and between the meter and unit.
7. Tighten all joints securely.
8. The unit shall be connected to the building piping by one of the following.
 - a. Rigid metallic pipe and fittings.
 - b. Semirigid metallic tubing and metallic fittings. Aluminum alloy tubing shall not be used in exterior locations.
 - c. Listed gas appliance connectors used in accordance with the terms of their listing that are completely in the same room as the equipment.

NOTE: The connector or tubing shall be installed so as to be protected against physical and thermal damage.

NOTE: The unit gas supply entrance is factory sealed with plugs. Keep plugs in place until gas supply is ready to be installed. Once ready, replace the plugs with the supplied grommets and install gas supply line.

CHECKING THE GAS PIPING

CAUTION

TO AVOID THE POSSIBILITY OF PROPERTY DAMAGE, PERSONAL INJURY OR FIRE, THE FOLLOWING INSTRUCTIONS MUST BE PERFORMED REGARDING GAS CONNECTIONS AND PRESSURE TESTING.

THE UNIT AND ITS GAS CONNECTIONS MUST BE LEAK TESTED BEFORE PLACING IN OPERATION. BECAUSE OF THE DANGER OF EXPLOSION OR FIRE, NEVER USE A MATCH OR OPEN FLAME TO TEST FOR LEAKS. NEVER EXCEED SPECIFIED PRESSURE FOR TESTING. HIGHER PRESSURE MAY DAMAGE THE GAS VALVE AND CAUSE OVERFIRING WHICH MAY RESULT IN HEAT EXCHANGER FAILURE.

This unit and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.48 kPa).

This unit must be isolated from the gas supply system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (3.48 kPa).

TANKS AND PIPING - PROPANE UNITS

WARNING

PERSONAL INJURY HAZARD

IRON OXIDE (RUST) CAN REDUCE THE LEVEL OF ODORANT IN PROPANE GAS. A GAS DETECTING DEVICE IS THE ONLY RELIABLE METHOD TO DETECT A PROPANE GAS LEAK. CONTACT YOUR LOCAL PROPANE SUPPLIER ABOUT INSTALLING A GAS DETECTING WARNING DEVICE TO ALERT YOU IN THE EVENT THAT A GAS LEAK SHOULD DEVELOP.

FAILURE TO DETECT A PROPANE GAS LEAK COULD RESULT IN AN EXPLOSION OR FIRE WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR DEATH.

All propane gas equipment must conform to the safety standards of the National Board of Fire Underwriters (See NBFU Manual 58) or Natural Standards of Canada B149.2, Installation Code for Propane Gas Burning Appliances and Equipment.

For satisfactory operation, propane gas pressure must be 10 inch W.C. at the unit manifold with all gas appliances in operation. Maintaining proper gas pressure depends on three main factors.

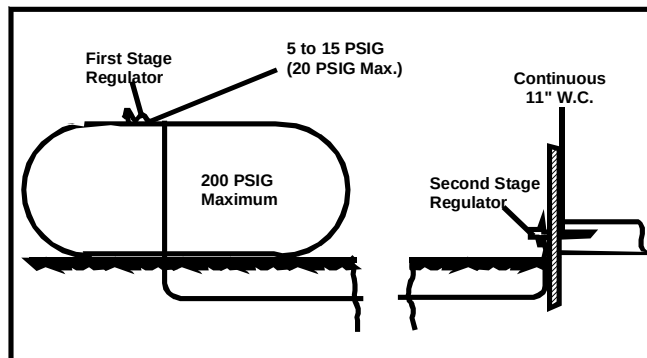
PRODUCT DESIGN

1. Vaporization rate, which depends on (a) temperature of the liquid, and (b) "wetted surface" area of the container or containers.
2. Proper pressure regulation. (Two-stage regulation is recommended from the standpoint of both cost and efficiency.)
3. Pressure drop in lines between regulators, and between second stage regulator and the appliance. Pipe size required will depend on length of pipe run and total load of all appliances.

Complete information regarding tank sizing for vaporization, recommended regulator settings, and pipe sizing is available from most regulator manufacturers and propane gas suppliers.

Propane is an excellent solvent, and special pipe dope must be used when assembling piping for this gas as it will quickly dissolve white lead or most standard commercial compounds. Shellac base compounds resistant to the actions of liquefied petroleum gases such as Gasolac®, Stalactic®, Clyde's or John Crane are satisfactory.

TYPICAL PROPANE PIPING



WARNING

IF YOUR PROPANE GAS UNIT IS INSTALLED IN AN EXCAVATED AREA OR A CONFINED SPACE, WE STRONGLY RECOMMEND THAT YOU CONTACT YOUR PROPANE SUPPLIER ABOUT INSTALLING A WARNING DEVICE THAT WOULD ALERT YOU TO A GAS LEAK.

PROPANE GAS IS HEAVIER THAN AIR AND ANY LEAKING GAS CAN SETTLE IN ANY LOW AREAS OR CONFINED SPACES.

PROPANE GAS ODORANT MAY FADE, MAKING THE GAS UNDETECTABLE EXCEPT WITH A WARNING DEVICE.

AN UNDETECTED GAS LEAK WOULD CREATE A DANGER OF EXPLOSION OR FIRE. IF YOU SUSPECT THE PRESENCE OF GAS, FOLLOW THE INSTRUCTIONS ON PAGE 9. FAILURE TO DO SO COULD RESULT IN SERIOUS PERSONAL INJURY OR DEATH.

PROPANE TANK SIZING (MINIMUM)

MAXIMUM GAS NEEDED TO VAPORIZE*	TANK SIZE REQUIRED IF LOWEST OUTDOOR TEMPERATURE (AVG. FOR 24 HOURS) REACHES						
	32°F	20°F	10°F	0°F	-10°F	-20°F	-30°F
125K BTU/HR (50 CFH)	115 GAL	115 GAL	115 GAL	250 GAL	250 GAL	400 GAL	600 GAL
250K BTU/HR (100 CFH)	250 GAL	250 GAL	250 GAL	400 GAL	500 GAL	1000 GAL	1500 GAL
375K BTU/HR (150 CFH)	300 GAL	400 GAL	500 GAL	500 GAL	1000 GAL	1500 GAL	2500 GAL
500K BTU/HR (200 CFH)	400 GAL	500 GAL	750 GAL	1000 GAL	1500 GAL	2000 GAL	3500 GAL
750K BTU/HR (300 CFH)	750 GAL	1000 GAL	1500 GAL	2000 GAL	2500 GAL	4000 GAL	5000 GAL

* AVERAGE RATE/HOUR WITHDRAWAL IN 8 HOUR PERIOD

PROPANE GAS PIPING CHARTS

Sizing Between First and Second Stage Regulator
Maximum Propane Capacities listed are based on 1 PSIG Pressure Drop at 10 PSIG Setting. Capacities in 1,000 BTU/HR

PIPE OR TUBING LENGTH, FEET	TUBING SIZE, O.D., TYPE L					NOMINAL PIPE SIZE, SCHEDULE 40	
	3/8"	1/2"	5/8"	3/4"	7/8"	1 1/2"	3/4"
30	309	700	1,303	2,205	3,394	1,843	3,854
40	265	599	1,115	1,887	2,904	1,577	3,298
50	235	531	988	1,672	2,574	1,398	2,923
60	213	481	896	1,515	2,332	1,267	2,649
70	196	446	824	1,394	2,146	1,165	2,437
80	182	412	767	1,297	1,996	1,084	2,267
90	171	386	719	1,217	1,873	1,017	2,127
100	161	365	679	1,149	1,769	961	2,009
150	130	293	546	923	1,421	772	1,613
200	111	251	467	790	1,216	660	1,381
250	90	222	414	700	1,078	585	1,224
300	89	201	378	634	976	530	1,109
350	82	185	345	584	898	488	1,020
400	76	172	321	543	836	454	949

To convert to Capacities at 15 PSIG Settings -- Multiply by 1.130
To convert to Capacities at 5 PSIG Settings -- Multiply by 0.879

Sizing Between Single or Second Stage Regulator and Appliance*
Maximum Propane Capacities Listed are Based on 1/2" W.C. Pressure Drop at 11" W.C. Setting. Capacities in 1,000 BTU/HR

PIPE OR TUBING LENGTH, FEET	TUBING SIZE, O.D., TYPE L					NOMINAL PIPE SIZE, SCHEDULE 40				
	3/8"	1/2"	5/8"	3/4"	7/8"	1 1/2"	3/4"	1"	1-1/4"	1-1/2"
10	49	110	206	348	539	291	608	1,146	2,353	3,525
20	34	76	141	239	368	200	418	788	1,617	2,423
30	27	61	114	192	296	161	336	632	1,299	1,946
40	23	52	97	164	253	137	284	541	1,111	1,665
50	20	46	86	146	224	122	255	480	985	1,476
60	19	42	78	132	203	110	231	436	892	1,337
80	16	36	67	113	174	94	198	372	764	1,144
100	14	32	59	100	154	84	175	330	677	1,014
125	12	28	52	89	137	74	155	292	600	899
150	11	26	48	80	124	67	141	265	544	815
200	10	22	41	69	106	58	120	227	465	697
250	9	19	36	61	94	51	107	201	412	618
300	8	18	33	55	85	46	97	182	374	560
350	7	16	30	51	78	43	89	167	344	515
400	7	15	28	47	73	40	83	156	320	479

*DATA IN ACCORDANCE WITH NFPA PAMPHLET NO. 54

SYSTEM OPERATION

COOLING

The refrigerant used in the system is R-22. It is clear and colorless and the chemical formula is CHClF_2 . The boiling point, at atmospheric pressure is -41.4°F .

A few of the important principles that make the refrigeration cycle possible are: heat always flows from a warmer to a cooler body, under lower pressure a refrigerant will absorb heat and vaporize at a low temperature, the vapors may be drawn off and condensed at a higher pressure and temperature to be used again.

In the cooling mode, the indoor evaporator coil functions to cool and dehumidify the air conditioned spaces through the evaporative process taking place within the coil tubes.

NOTE: Actual temperatures and pressures are to be obtained from the "Cooling Performance Chart."

High temperature, high pressure vapor leaves the compressor through the discharge line, through the reversing valve on heat pump models, and enters the condenser coil. Air drawn through the condenser coil by the condenser fan causes the refrigerant to condense into a liquid by removing heat from the refrigerant. As the refrigerant is cooled below its condensing temperature it becomes subcooled.

The subcooled high pressure liquid refrigerant now leaves the condenser coil via the liquid line until it reaches the indoor expansion device.

As the refrigerant passes through the expansion device and into the evaporator coil a pressure drop is experienced causing the refrigerant to become a low pressure vapor. Low pressure saturated refrigerant enters the evaporator coil where heat is absorbed from the warm air drawn across the coil by the evaporator blower. As the refrigerant passes through the last tubes of the evaporator coil it becomes superheated, that is, it absorbs more heat than is necessary for the refrigerant to vaporize. Maintaining proper superheat assures that liquid refrigerant is not returning to the compressor which can lead to early compressor failure.

Low pressure superheated vapor leaves the evaporator coil and returns through the suction line, and on heat pump models through the reversing valve, to the compressor where the cycle begins again.

COOLING CYCLE

Cooling/Gas Models

When the contacts of the room thermostat close, R to Y and G in the unit are energized.

This energizes the compressor contactor, the condenser fan motor, and indoor blower motor.

When the thermostat is satisfied, it opens its contacts, breaking the low voltage circuit, causing the compressor contactor to open and indoor fan to stop after the fan off delay.

If the room thermostat fan selector switch should be set to the "on" position then the indoor blower would run continuous rather than cycling with the compressor.

Heat Pump Models

On heat pump units, when the room thermostat set to the cooling mode, 24Vac is supplied to terminal "O" of the defrost board and to the reversing valve. As long as the thermostat is set for cooling, the reversing valve will be in the energized position for cooling. The constant 24Vac at the "O" terminal of the defrost board signals the board that the unit is in cooling.

On a demand for cooling, the room thermostat energizes "Y" and "G". This supplies 24Vac to terminal "Y" of the defrost board, the compressor contactor and the "G" terminal in the unit. The compressor starts in the cooling mode and the indoor blower motor starts.

The contactor closes and turns on the compressor and condenser fan.

When the cooling demand is satisfied, the room thermostat removes the 24Vac from "Y" and "G".

The contactor opens and turns off the compressor and condenser fan. The indoor blower will stop after the fan off delay.

If the room thermostat fan selector switch should be set to the "on" position then the indoor blower would run continuous rather than cycling with the compressor.

HEATING CYCLE

Gas Heat Models

When the contacts of the room thermostat close, the terminals R to W on the control board are energized.

Inshot type gas burners with integral cross lighters are used eliminating the need for adjustable air shutters. The same burner is designed for use on either natural or propane gas fuels.

The induced draft blower draws fuel and combustion air into the burners and heat exchanger for proper combustion. A centrifugal switch is built into the induced draft blower to verify the inducer motor is running before the ignition sequence is initialized. Ignition is provided by 22,000 volt electronic spark. A flame sensor then monitors for the presence of flame and closes the gas valve if flame is lost.

Blower operation is controlled by the ignition control module. The module provides for field adjustment of the blower delay at the end of the heating cycle.

The system may be controlled by most good heating and cooling thermostats with an adjustable heat anticipator. Some night setback thermostats that do not have a common terminal, use a power robbing circuit in the off cycle to maintain the batteries. This type of thermostat may interfere with the operation of the ignition control module and should not be used.

SYSTEM OPERATION

Heat Pump Models

On heat pump units, when the room thermostat is set to the heating mode, the reversing valve is not energized. This is an indication to the defrost board that the unit is in the heating mode. As long as the thermostat is set for heating, the reversing valve will be in the de-energized position for heating except during a defrost cycle.

On a demand for first stage heat with heat pump units, the room thermostat energizes “Y” and “G”. This supplies 24Vac to terminal “Y” of the defrost board, the compressor contactor and the “G” terminal in the unit. The compressor starts in the heating mode and the indoor blower motor starts. When 24Vac is present at terminal “Y” of the defrost board during the heating mode, the board accumulates compressor run time.

When the first stage heat demand “Y” is satisfied, the room thermostat will remove the 24Vac from “Y” and “G”. The compressor turns off and the indoor blower will stop after the fan off delay. The defrost board will store the compressor’s accumulated run time in memory.

DEFROST CYCLE

Heat Pump Models Only

The defrost control board in the heat pump unit will check to see if a defrost is needed every 30, 60 or 90 minutes of compressor run time depending on the user selectable setting on the board by monitoring the state of the defrost thermostat attached to the outdoor coil.

If the temperature of the outdoor coil is low enough to cause the defrost thermostat to be closed when the defrost board checks it, the board will initiate a defrost cycle. When checked, if the defrost thermostat is open, the board resets the compressor run timer to 0 and starts to accumulate compressor run time from this point.

When a defrost cycle is initiated, the contacts of the HVDR relay on the defrost board open and turns off the condenser fan. The contacts of the LVDR relay on the defrost board closes and supplies 24Vac to “O” and

“W2”. The 24Vac at the “O” terminal will energize the reversing valve and 24Vac at terminal “W2” turns on the electric heater(s) in the air handler unit.

When the temperature of the outdoor coil rises high enough to causes the defrost thermostat to open, the defrost cycle will be terminated. If the defrost thermostat is still closed at the end of the programmed 10 minute override time, the defrost board will automatically terminate the defrost cycle.

When the defrost cycle is terminated, the contacts of the HVDR relay will close to start the condenser fan and the contacts of the LVDR relay will open to de-energize the reversing valve and turn off the electric heater(s). The unit will now be back in a normal heating mode with a “Y” demand for heating. The defrost board resets the compressor run timer to 0 and starts accumulating compressor run time from this point. This cycle will repeat itself every 30, 60, or 90 minutes of compressor run time depending on the user selected time as long as the unit is in the heating mode.

The unit will now operate in the heating mode until the “Y” demand for heating is satisfied.

NOTE: When the unit is switched to the cooling mode for summer operation, the compressor accumulated run timer is reset to 0 and won’t accumulate any compressor run time until the unit is switched back to the heating mode during the winter and the compressor is running.

FAN OPERATION

Continuous Fan Mode

Gas Heat Models

When the thermostat calls for continuous fan (G) without a call for heat or cooling, the indoor fan has a 7 second delay on make and energizes the “HEAT” speed. The fan remains energized as long as the call for fan remains without a call for heat or cooling. The fan call “G” has a 60 second delay on break.

If a call for cool (Y) occurs during continuous fan, the blower will switch over to “COOL” speed.

If a call for heat (W) occurs during continuous fan, the blower will remain energized through the heat cycle or until “G” is de-energized.

The continuous fan operation will function while the control is in heat mode lockout.

SYSTEM OPERATION

Heat Pump and Cooling Models

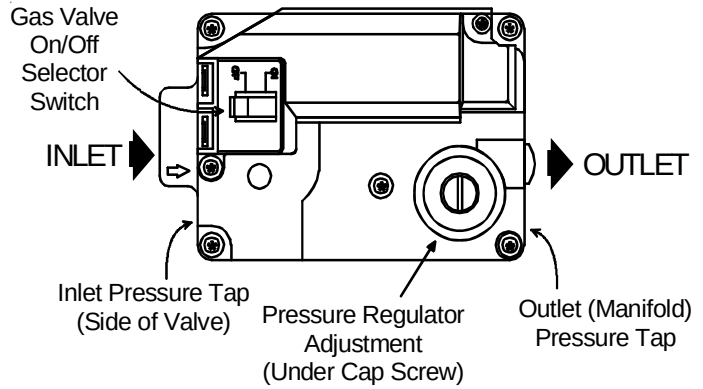
When the thermostat calls for continuous fan (G), the indoor fan will be energized after the fan on delay. The fan will remain energized as long as the call for fan continues from the thermostat.

When the call for fan is ended, the fan will be de-energized after the blower off delay.

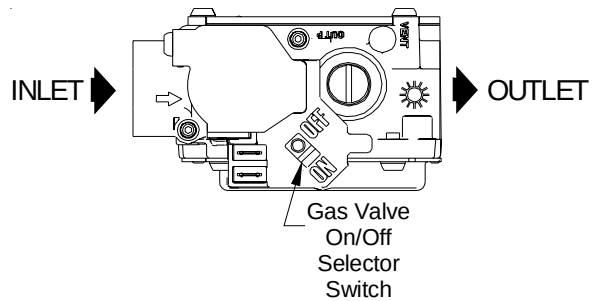
OPERATING INSTRUCTIONS

Gas Heat Models

1. Close the manual gas valve external to the unit.
2. Turn off the electrical power supply to the unit.
3. Set the room thermostat to its lowest possible setting.
4. Remove the heat exchanger door on the side of the unit by removing screws.
5. This unit is equipped with an ignition device which automatically lights the pilot. **DO NOT** try to light burner by any other method.
6. Turn the gas control valve to the OFF position. Do not force. Some Gas valves may have a different off/on style switch.



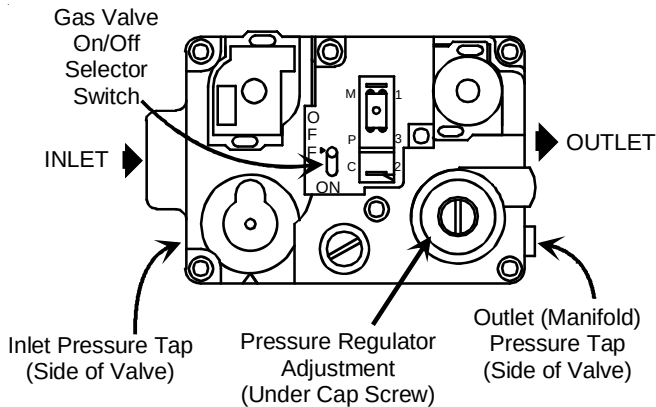
White/Rodgers 36F Valve



White/Rodgers 36G Valve

7. Wait five minutes to clear out any gas.
8. Smell for gas, including near the ground. This is important because some types of gas are heavier than air. If you have waited five minutes and you do smell gas, immediately follow the lighting instructions of this manual. If having waited for five minutes and no gas is smell is noted, turn the gas control valve to the ON position.
9. Replace the heat exchanger door on the side of the unit.
10. Open the manual gas valve external to the unit.
11. Turn on the electrical power supply to the unit.
12. Set the thermostat to desired setting.

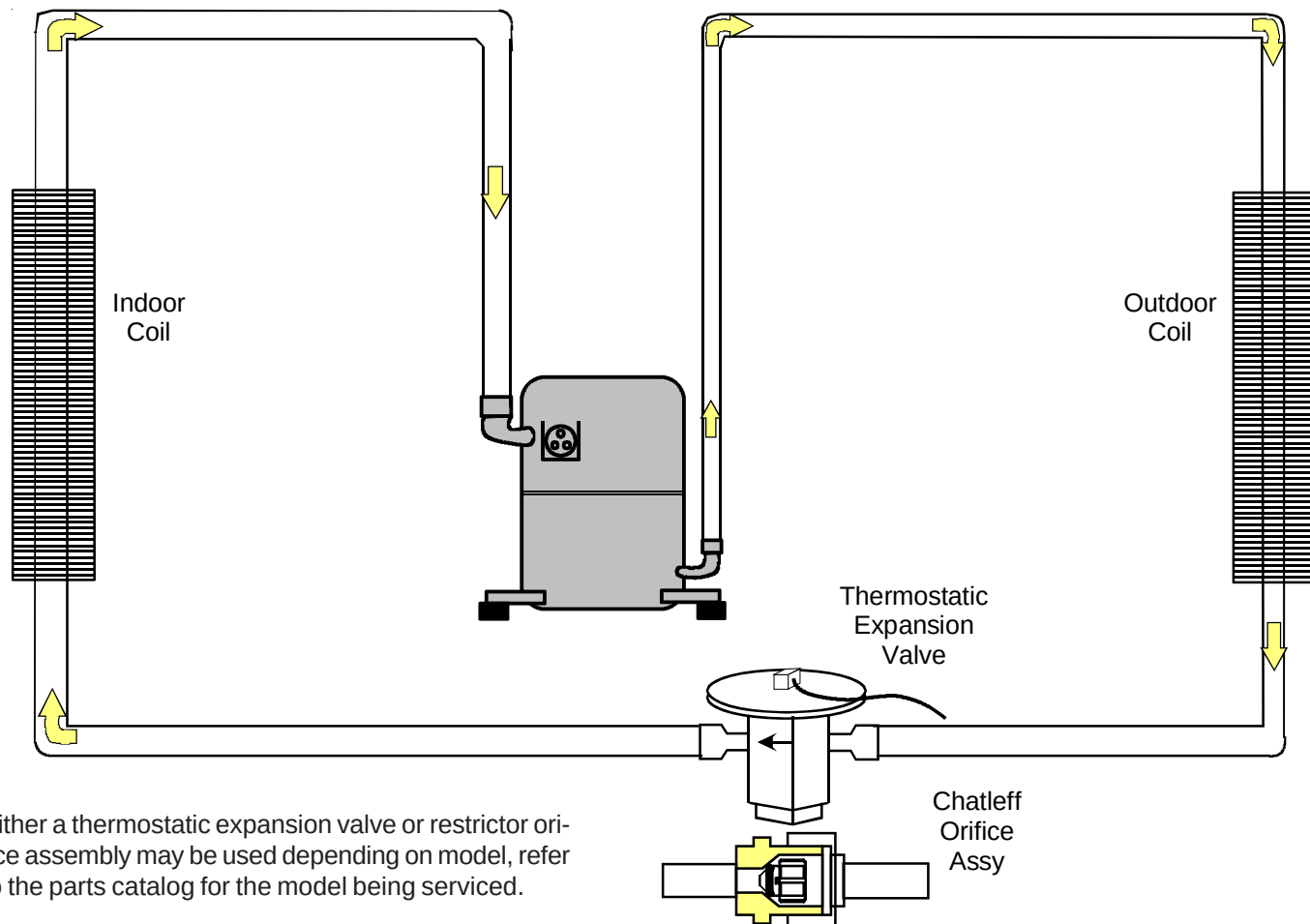
NOTE: There is approximate 20 second delay between thermostat energizing and burner firing.



White/Rodgers 36E Valve

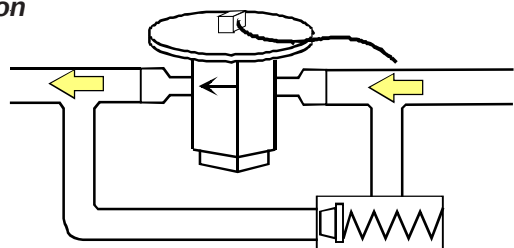
SYSTEM OPERATION

Typical Package Cooling or Package Gas

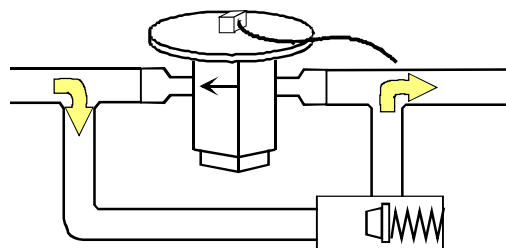


Either a thermostatic expansion valve or restrictor orifice assembly may be used depending on model, refer to the parts catalog for the model being serviced.

Expansion Valve/Check Valve Assy in Cooling Operation

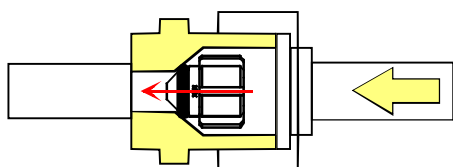


Expansion Valve/Check Valve Assy in Heating Operation



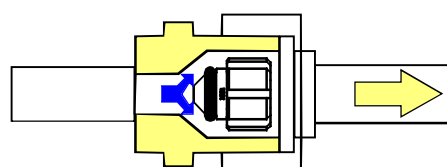
If the expansion valve is an internally checked expansion valve, it does not require an external check valve as shown above. However, the principle of operation is the same.

Restrictor Orifice Assy in Cooling Operation



In the cooling mode the orifice is pushed into its seat forcing refrigerant to flow through the metered hole in the center of the orifice.

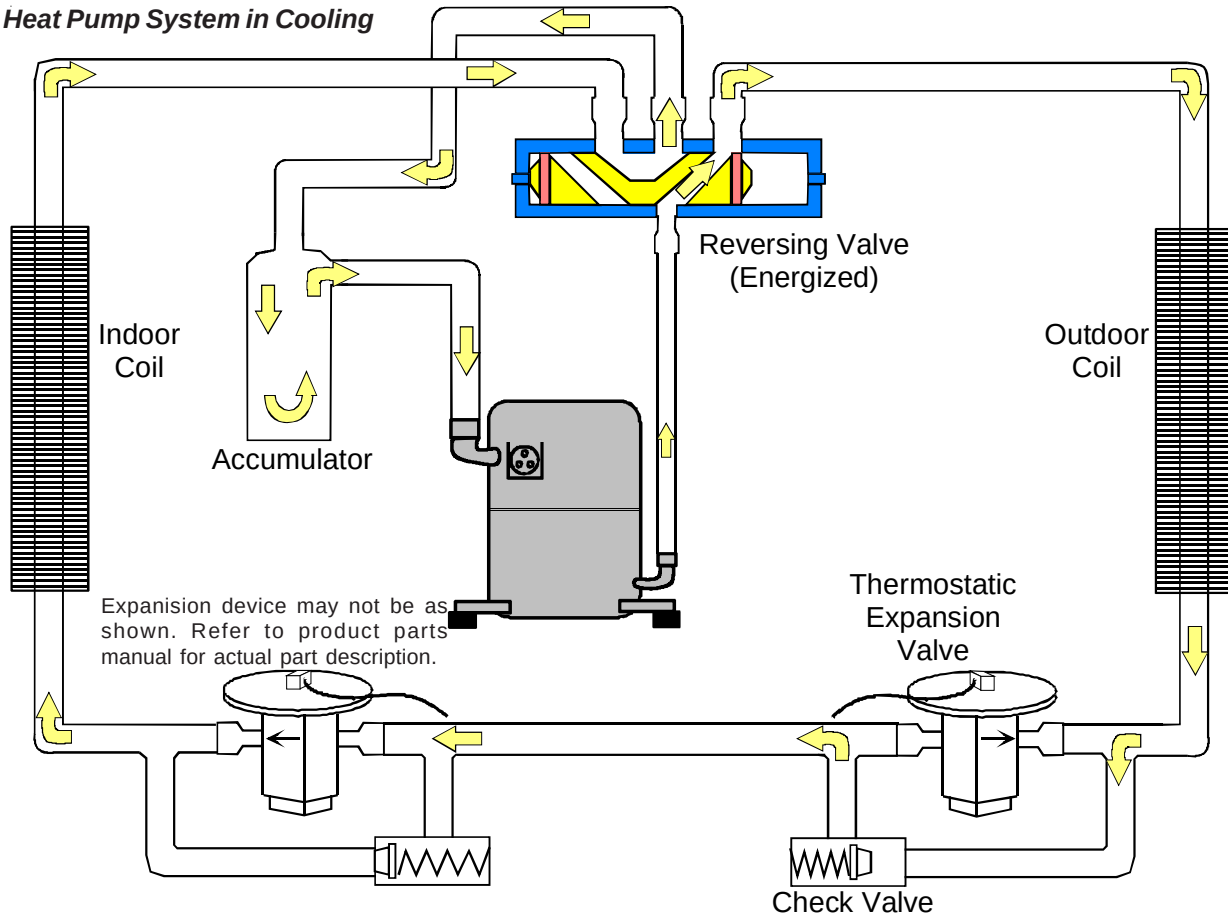
Restrictor Orifice Assy in Heating Operation



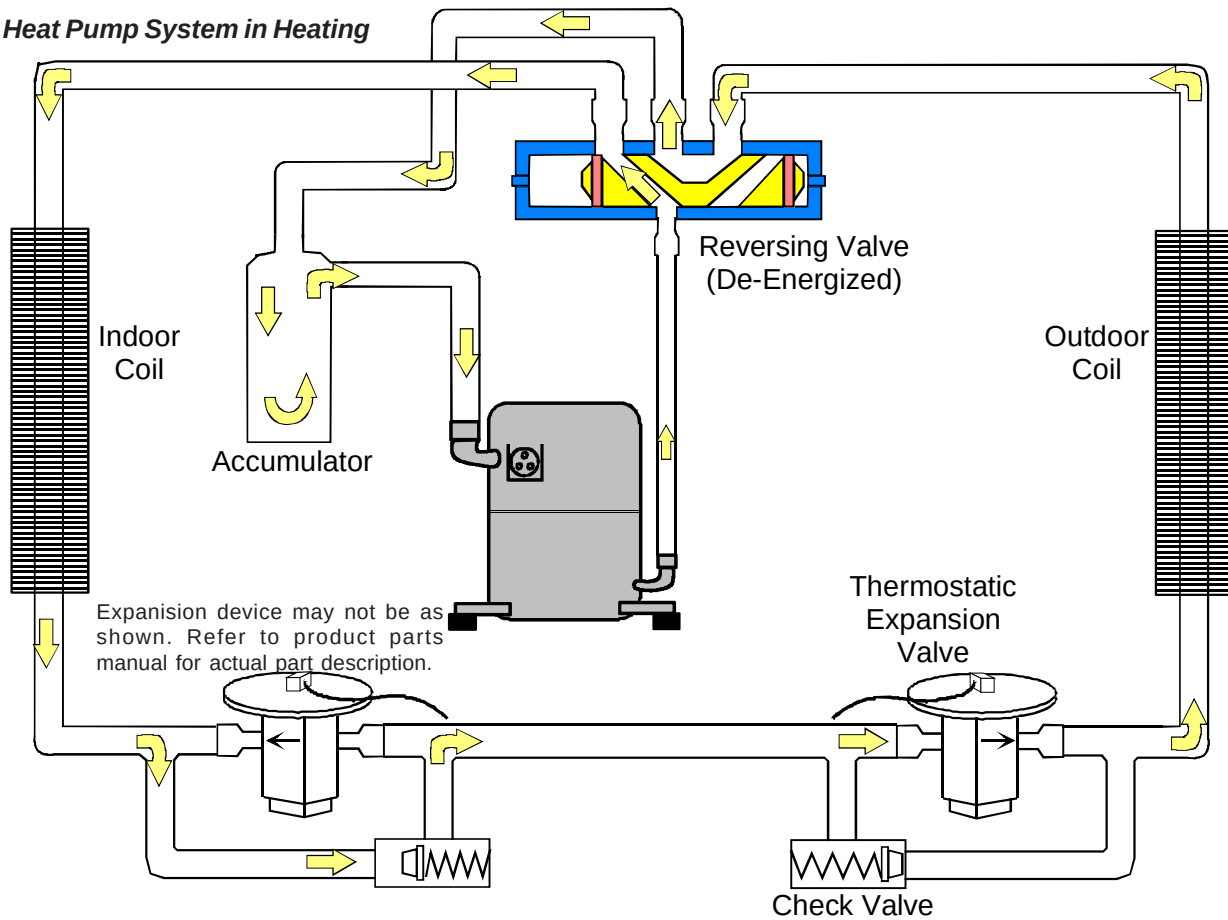
In the heating mode the orifice moves back off its seat allowing refrigerant to flow unmetered around the outside of the orifice.

SYSTEM OPERATION

Typical Heat Pump System in Cooling



Typical Heat Pump System in Heating



SCHEDULED MAINTENANCE

Package gas units requires regularly scheduled maintenance to preserve high performance standards, prolong the service life of the equipment, and lessen the chances of costly failure.

In many instances the owner may be able to perform some of the maintenance; however, the advantage of a service contract, which places all maintenance in the hands of a trained serviceman, should be pointed out to the owner.

**WARNING**

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

ONCE A MONTH

1. Inspect the return filters of the evaporator unit and clean or change if necessary. **NOTE:** Depending on operation conditions, it may be necessary to clean the filters more often. If permanent type filters are used, they should be washed with warm water, dried and sprayed with an adhesive according to manufacturers recommendations.
2. When operating on the cooling cycle, inspect the condensate line piping from the evaporator coil. Make sure the piping is clear for proper condensate flow.

ONCE A YEAR

Qualified Service Personnel Only

1. Clean the indoor and outdoor coils.
2. Clean the casing of the outdoor unit inside and out .
3. Motors are permanently lubricated and do not require oiling. TO AVOID PREMATURE MOTOR FAILURE, DO NOT OIL.
4. Manually rotate the outdoor fan and indoor blower to be sure they run freely.
5. Inspect the control panel wiring, compressor connections, and all other component wiring to be sure all connections are tight. Inspect wire insulation to be certain that it is good.
6. Check the contacts of the compressor contactor. If they are burned or pitted, replace the contactor.
7. Using a halide or electronic leak detector, check all piping and etc. for refrigerant leaks.
8. For gas units, check the combustion chamber (Heat Exchanger) for soot, scale, etc. Inspect all burners for lint and proper positioning.
9. Start the system, using the proper instrumentation check gas inlet and manifold pressures, burner flame and microamp signal. Adjust if necessary.

10. Start the system and run both a Cooling & Heating Performance Test. If the results of the test are not satisfactory, see the "Service Problem Analysis" Guide of the possible cause.

TEST EQUIPMENT

Proper test equipment for accurate diagnosis is as essential as regular hand tools.

The following is a must for every service technician and service shop:

1. Thermocouple type temperature meter - measure dry bulb temperature.
2. Sling psychrometer- measure relative humidity and wet bulb temperature.
3. Amprobe - measure amperage and voltage.
4. Refrigeration Test Cord - check compressors, motors, and continuity testing.
5. Volt-Ohm Meter - testing continuity, capacitors, and motor windings.
6. Accurate Leak Detector - testing for refrigerant leaks.
7. High Vacuum Pump - evacuation.
8. Electric Vacuum Gauge, Manifold Gauges and high vacuum hoses - to measure and obtain proper vacuum.
9. Accurate Charging Cylinder or Electronic Scale - measure proper refrigerant charge.
10. Inclined Manometer - measure static pressure and pressure drop across coils.

Other recording type instruments can be essential in solving abnormal problems, however, in many instances they may be rented from local sources.

Proper equipment promotes faster, more efficient service, and accurate repairs with less call backs.

COOLING & HEATING PERFORMANCE TEST

Package Gas Units

Before attempting to diagnose an operating fault, run a Cooling and/or Heating performance test and apply the results to the Service Problem Analysis Guide.

To conduct a heating performance test, the BTU input to the unit must be calculated.

After the heating cycle has been in operation for at least fifteen minutes and with all other gas appliances turned off, the gas meter should be clocked.

To find the BTU input, multiply the number of cubic feet of gas consumed per hour by the heating value of the gas being used. (The calorific value of the gas being used is found by contacting your local utility.)

SCHEDULED MAINTENANCE

Example:

It takes forty (40) seconds on the gas meter for the hand on the cubic foot dial to make one complete revolution, with all appliances off, except the furnace. Using a gas rate chart, observe the forty (40) seconds, locate and read across to the one (1) cubic foot dial column. There you will find the number 90, which shows that ninety (90) cubic feet of gas will be consumed in one (1) hour.

Let's assume the local gas utility has stated that the calorific value of the gas is 1025 BTU.

Multiplying the ninety (90) cubic feet by 1025 BTU gives us an input of 92,250 BTUH.

Checking the BTU input on the rating plate of the unit being tested.

EXAMPLE: PGJ030075-1B

INPUT: 69,000 BTU/HR

OUTPUT CAP: 56,600 BTU/HR

Should the figure you calculated not fall within five (5) percent of the nameplate rating of the unit, adjust the gas valve pressure regulator or resize orifices. **In no case should the input exceed that shown on the rating plate.**



CAUTION

ALWAYS CONNECT A MANOMETER TO THE 1/8" PIPE TAP AT THE GAS VALVE BEFORE ADJUSTING THE PRESSURE REGULATOR. IN NO CASE SHOULD THE FINAL MANIFOLD PRESSURE VARY MORE THAN PLUS OR MINUS .3 INCHES WATER COLUMN FROM 3.5 INCHES WATER COLUMN FOR NATURAL GAS OR 10 INCHES WATER COLUMN FOR PROPANE GAS.

To adjust the pressure regulator on the gas valve, turn down (clockwise) to increase pressure and input, and out (counter-clockwise) to decrease pressure and input.

Since normally propane gas is not installed with a gas meter, clocking will be virtually impossible. The gas orifices used with propane are calculated for 2500 BTU gas and with proper inlet pressures and correct piping size, full capacity will be obtained.

With propane gas, no unit gas valve regulator is used; however, the second stage supply line pressure regulator should be adjusted to give 11" water column with all other gas consuming appliances running.

The dissipation of the heat transferred to the heat exchanger is now controlled by the amount of air circulated over its surface.

The amount (CFM) of air circulated is governed by the external static pressure in inches of water column of duct work, cooling coil, registers and etc., applied externally to the unit versus the motor speed tap.

A properly operating unit must have the BTU input and CFM of air, within the limits shown to prevent short cycling of the equipment. As the external static pressure goes up, the temperature rise will also increase. Consult the proper tables for temperature rise limitation.

COOLING PERFORMANCE TEST

All data based upon listed indoor dry bulb temperature. .00 inches external static pressure on coil of outdoor section. Indoor air cubic feet per minute (CFM) as listed in the Performance Data Sheets:

If conditions vary from this, results will change as follows:

1. As indoor dry bulb temperatures increase, a slight increase will occur in indoor air temperature drop (ΔT). Low and high side pressures and power will not change.
2. As indoor CFM decreases, a slight increase will occur in indoor temperature drop (ΔT). A slight decrease will occur in low and high side pressures and power.

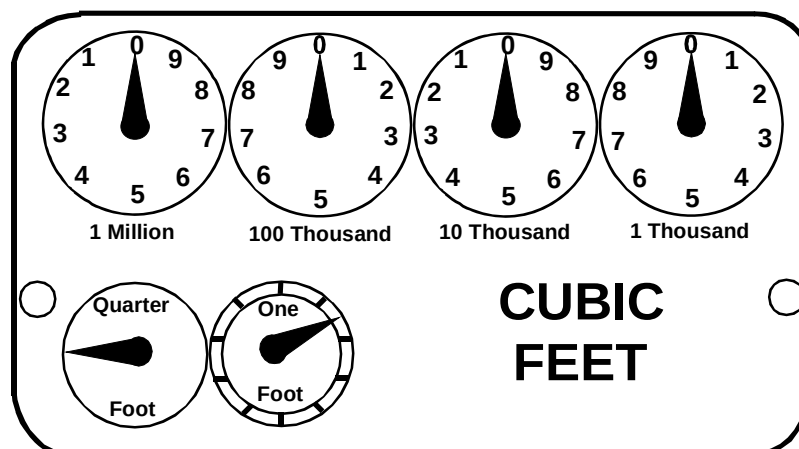
A properly operating unit should be within plus or minus **3 degrees** of the typical (ΔT) value shown.

A properly operating unit should be within plus or minus **7 PSIG** of the **head pressure** shown.

A properly operating unit should be within plus or minus **3 PSIG** of the **suction pressure** shown.

A properly operating unit should be within plus or minus **3 Amps** of the typical value shown.

SERVICING



GAS RATE -- CUBIC FEET PER HOUR

Seconds for One Revolution	Size of Test Dial					Seconds for One Revolution	Size of Test Dial				
	1/4 cu/ft	1/2 cu/ft	1 cu/ft	2 cu/ft	5 cu/ft		1/4 cu/ft	1/2 cu/ft	1 cu/ft	2 cu/ft	5 cu/ft
10	90	180	360	720	1800	36	25	50	100	200	500
11	82	164	327	655	1636	37	--	--	97	195	486
12	75	150	300	600	1500	38	23	47	95	189	474
13	69	138	277	555	1385	39	--	--	92	185	462
14	64	129	257	514	1286	40	22	45	90	180	450
15	60	120	240	480	1200	41	--	--	--	176	439
16	56	113	225	450	1125	42	21	43	86	172	429
17	53	106	212	424	1059	43	--	--	--	167	419
18	50	100	200	400	1000	44	--	41	82	164	409
19	47	95	189	379	947	45	20	40	80	160	400
20	45	90	180	360	900	46	--	--	78	157	391
21	43	86	171	343	857	47	19	38	76	153	383
22	41	82	164	327	818	48	--	--	75	150	375
23	39	78	157	313	783	49	--	--	--	147	367
24	37	75	150	300	750	50	18	36	72	144	360
25	36	72	144	288	720	51	--	--	--	141	355
26	34	69	138	277	692	52	--	--	69	138	346
27	33	67	133	265	667	53	17	34	--	136	340
28	32	64	129	257	643	54	--	--	67	133	333
29	31	62	124	248	621	55	--	--	--	131	327
30	30	60	120	240	600	56	16	32	64	129	321
31	--	--	116	232	581	57	--	--	--	126	316
32	28	56	113	225	563	58	--	31	62	124	310
33	--	--	109	218	545	59	--	--	--	122	305
34	26	53	106	212	529	60	15	30	60	120	300
35	--	--	103	206	514						

SERVICING

COOLING /HEAT PUMP- SERVICE ANALYSIS GUIDE

Complaint	No Cooling						Unsatisfactory Cooling/Heating						System Operating Pressures				Test Method Remedy	See Service Procedure Ref.				
POSSIBLE CAUSE DOTS IN ANALYSIS GUIDE INDICATE "POSSIBLE CAUSE"	SYMPTOM	System will not start	Compressor will not start - fan runs	Comp. and Cond. Fan will not start	Evaporator fan will not start	Condenser fan will not start	Compressor runs - goes off on overload	Compressor cycles on overload	System runs continuously - little cooling/htg	Too cool and then too warm	Not cool enough on warm days	Certain areas too cool, others too warm	Compressor is noisy	System runs - blows cold air in heating	Unit will not terminate defrost	Unit will not defrost			Low suction pressure	Low head pressure	High suction pressure	High head pressure
Power Failure	●																				Test Voltage	S-1
Blown Fuse	●		●	●																	Inspect Fuse Size & Type	S-1
Unbalanced Power, 3PH		●					●	●													Test Voltage	S-1
Loose Connection	●			●			●														Inspect Connection - Tighten	S-2, S-3
Shorted or Broken Wires	●	●	●	●	●	●															Test Circuits With Ohmmeter	S-2, S-3
Open Fan Overload				●	●																Test Continuity of Overload	S-17A
Faulty Thermostat	●		●	●						●											Test Continuity of Thermostat & Wiring	S-3
Faulty Transformer	●		●																		Check Control Circuit with Voltmeter	S-4
Shorted or Open Capacitor		●		●	●	●	●														Test Capacitor	S-15
Internal Compressor Overload Open		●												◆							Test Continuity of Overload	S-17A
Shorted or Grounded Compressor		●				●															Test Motor Windings	S-17B
Compressor Stuck		●				●	●							◆							Use Test Cord	S-17D
Faulty Compressor Contactor			●		●	●															Test Continuity of Coil & Contacts	S-7, S-8
Faulty Fan Relay				●																	Test Continuity of Coil And Contacts	S-7
Open Control Circuit				●																	Test Control Circuit with Voltmeter	S-4
Low Voltage		●				●	●														Test Voltage	S-1
Faulty Evap. Fan Motor				●													●		◆		Repair or Replace	S-16
Shorted or Grounded Fan Motor					●														●		Test Motor Windings	S-16A,C
Improper Cooling Anticipator							●			●											Check Resistance of Anticipator	S-3B
Shortage of Refrigerant								●	●					◆			●	●			Test For Leaks, Add Refrigerant	S-101,103
Restricted Liquid Line								●	●								●	●		●	Remove Restriction, Replace Restricted Part	S-112
Open Element or Limit on Elec. Heater									◆					◆							Test Heater Element and Controls	S-26, S-27
Dirty Air Filter									●		●	●					●		◆		Inspect Filter-Clean or Replace	
Dirty Indoor Coil									●		●	●					●		◆		Inspect Coil - Clean	
Not enough air across Indoor Coil									●		●	●					●			◆	Check Blower Speed, Duct Static Press, Filter	S-200
Too much air across Indoor Coil																		◆	●		Reduce Blower Speed	S-200
Overcharge of Refrigerant							●	●					●	◆					●	●	Recover Part of Charge	S-113
Dirty Outdoor Coil						●	●										◆			●	Inspect Coil - Clean	
Noncondensibles							●				●				◆					●	Recover Charge, Evacuate, Recharge	S-114
Recirculation of Condensing Air								●			●									●	Remove Obstruction to Air Flow	
Infiltration of Outdoor Air									●		●	●									Check Windows, Doors, Vent Fans, Etc.	
Improperly Located Thermostat						●				●											Relocate Thermostat	
Air Flow Unbalanced										●		●									Readjust Air Volume Dampers	
System Undersized									●		●										Refigure Cooling Load	
Broken Internal Parts													●	◆							Replace Compressor	S-115
Broken Valves									●				●					●	●		Test Compressor Efficiency	S-104
Inefficient Compressor									●					◆				●	●		Test Compressor Efficiency	S-104
Loose Hold-down Bolts													●								Tighten Bolts	
Faulty Reversing Valve						●								◆	◆	◆		◆	◆	◆	Replace Valve or Solenoid	S-21, 122
Faulty Defrost Control					●									◆	◆	◆	◆	◆	◆	◆	Test Control	S-24
Faulty Defrost Thermostat														◆	◆	◆	◆	◆	◆	◆	Test Defrost Thermostat	S-25
Flowrator Not Seating Properly								●										●	●		Check Flowrator & Seat or Replace Flowrator	S-111

● Cooling or Heating Cycle (Heat Pump)

◆ Heating Cycle Only (Heat Pump)

SERVICING

GAS HEATING - SERVICE ANALYSIS GUIDE

Complaint	No Heat				Unsatisfactory Heat						Test Method Remedy	See Service Procedure Reference
POSSIBLE CAUSE DOTS IN ANALYSIS GUIDE INDICATE "POSSIBLE CAUSE"	SYMPTOM	System Will Not Start	Burner Won't Ignite	Burner Ignites-Locks Out	Burner Ignites, Blower Will Not Run	Burner Shuts Off prior to T'Stat being Satisfied	Short Cycles	Long Cycles	Soot and/or Fumes	To Much Heat	Not Enough Heat	
Power Failure	●										Test Voltage	S-1
Blown Fuse	●										Test Voltage	S-1
Loose Connection	●										Check Wiring	S-2, S-3
Shorted or Broken Wires	●										Check Wiring	S-2, S-3
Faulty Evap. Fan Motor				●							Repair or Replace	S-16
Open Fan Overload				●							Test Continuity of Overload	S-17A
Shorted or Open Capacitor				●							Test Capacitor	S-15
No Low Voltage	●										Check Transformer	S-4
Faulty Thermostat	●						●	●		●	Check Thermostat	S-3
Faulty Transformer	●										Check Transformer	S-4
Poor or High Resistance Ground			●								Measure Ground Resistance	S-313
Improper Heat Anticipator Setting							●	●		●	Adjust Heat Anticipator Setting	S-3
Improper Thermostat Location							●	●		●	Relocate Thermostat	
Faulty Limit or Roll Out Switch		●			●						Test Control	S-300-302
Faulty Flame Sensor			●								Test Flame Sensor	S-314
Faulty Ignition Control	●	●	●	●							Test Control	S-313
Gas Valve or Gas Supply Shut Off		●									Turn Valves to On Position	S-304
Faulty Induced Draft Blower	●	●							●		Test Blower	S-303
Dirty Flame Sensor, Low uA			●								Clean Flame Sensor	S-314
Flame Sensor not in Flame, Low uA			●								Test/Adjust Position of Flame Sensor	S-314
Faulty Gas Valve		●							●	●	Replace Gas Valve	S-304
Open Auxillary Limit		●			●						Check Airflow	S-200, 201
Improper Air Flow or Distribution					●					●	Check Duct Static	S-200
Locking out on Main Limit			●		●					●	Check Limit, Gas Press., & Temp. Rise	S-300,307, S-200,201
Delayed Ignition									●		Test for Delayed Ignition	S-308
Flashback									●		Test for Flashback	S-309
Orifice Size									●	●	Check Orifices	S-306
Gas Pressure		●							●	●	Check Gas Pressure	S-307
Cracked Heat Exchanger									●		Check Burner Flames	S-302
Stuck Gas Valve		●							●	●	Replace Gas Valve	S-304
Furnace Undersized										●	Replace with Proper Size Furnace	
Faulty Pressure Switch		●	●		●						Test Pressure Switch	S-310
Blocked or Restricted Flue									●		Check Flue/Draw down Pressure	S-310
Open Roll Out Switch		●	●								Test Control	S-302
Bouncing On Pressure Switch			●								Test Negative Pressure, Flue Blockage	S-310

SERVICING

S-1 CHECKING VOLTAGE

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR
INSTALLING. MULTIPLE POWER SOURCES MAY BE
PRESENT. FAILURE TO DO SO MAY CAUSE
PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

1. Remove doors, control panel cover, etc. from unit being tested.

With power ON:

WARNING

LINE VOLTAGE NOW PRESENT.

2. Using a voltmeter, measure the voltage across terminals L1 and L2 of the contactor for single phase units, and L3, for 3 phase units.
3. No reading - indicates open wiring, open fuse(s) no power or etc. from unit to fused disconnect service. Repair as needed.
4. With ample voltage at line voltage connectors, energize the unit.
5. Measure the voltage with the unit starting and operating, and determine the unit Locked Rotor Voltage.

Locked Rotor Voltage is the actual voltage available at the compressor during starting, locked rotor, or a stalled condition. Measured voltage should be above minimum listed in chart below.

To measure Locked Rotor Voltage attach a voltmeter to the run "R" and common "C" terminals of the compressor, or to the T₁ and T₂ terminals of the contactor. Start the unit and allow the compressor to run for several seconds, then shut down the unit. Immediately attempt to restart the unit while measuring the Locked Rotor Voltage.

6. Should read within the voltage tabulation as shown. If the voltage falls below the minimum voltage, check the line wire size. Long runs of undersized wire can cause low voltage. If wire size is adequate, notify the local power company in regards to either low or high voltage.

Unit Supply Voltage		
Voltage	Min.	Max.
460	437	506
208/230	198	253

Three phase units require a balanced 3 phase power supply to operate. If the percentage of voltage imbalance exceeds 3% the unit must not be operated until the voltage condition is corrected.

$$\% \text{ Voltage Imbalance} = \frac{\text{Max. Voltage Deviation From Average Voltage}}{\text{Average Voltage}} \times 100$$

To find the percentage of imbalance, measure the incoming power supply as in the following example:

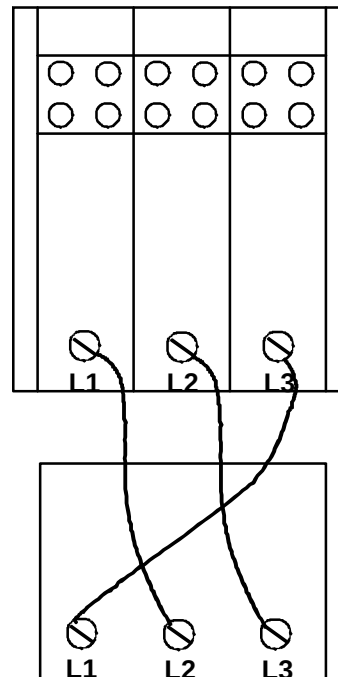
$$\begin{aligned} \text{L1 - L2} &= 240\text{V} \\ \text{L1 - L3} &= 232\text{V} \\ \text{L2 - L3} &= 238\text{V} \\ \text{Total} &= 710\text{V} \end{aligned} \quad \text{Avg. V} = \frac{710}{3} = 236.7$$

$$\begin{aligned} \text{To find Max. deviation:} \quad 240 - 236.7 &= +3.3 \\ 232 - 236.7 &= -4.7 \\ 238 - 236.7 &= +1.3 \end{aligned}$$

Max deviation was 4.7V

$$\% \text{ Voltage Imbalance} = \frac{4.7}{236.7} = 1.99\%$$

If the percentage of imbalance had exceeded 3%, it must be determined if the imbalance is in the incoming power supply or the equipment. To do this rotate the legs of the incoming power and retest voltage as shown below.



$$\begin{aligned} \text{L1 - L2} &= 240\text{V} \\ \text{L1 - L3} &= 227\text{V} \\ \text{L2 - L3} &= 238\text{V} \end{aligned}$$

Rotate all 3 incoming legs as shown.

$$\begin{aligned} \text{L1 - L2} &= 227\text{V} \\ \text{L1 - L3} &= 238\text{V} \\ \text{L2 - L3} &= 240\text{V} \end{aligned}$$

By the voltage readings we see that the imbalance rotated or traveled with the switching of the incoming legs. Therefore the power lies within the incoming power supply.

If the imbalance had not changed then the problem would lie within the equipment. Check for current leakage, shorted motors, etc.

SERVICING

S-2 CHECKING WIRING



WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

1. Check wiring visually for signs of overheating, damaged insulation and loose connections.
2. Use an ohmmeter to check continuity of any suspected open wires.
3. If any wires must be replaced, replace with comparable gauge and insulation thickness.

S-3 CHECKING THERMOSTAT, WIRING, AND ANTICIPATOR

S-3A THERMOSTAT AND WIRING



WARNING

LINE VOLTAGE NOW PRESENT.

With power ON and thermostat calling for cooling.

1. Use a voltmeter to check for 24 volts at thermostat wires C and Y.
2. No voltage indicates trouble in the thermostat, wiring or external transformer source.
3. Check the continuity of the thermostat and wiring. Repair or replace as necessary.

Indoor Blower Motor

With power ON:



WARNING

LINE VOLTAGE NOW PRESENT.

1. Set fan selector switch at thermostat to "ON" position.
2. With voltmeter, check for 24 volts at wires C and G.
3. No voltage, indicates the trouble is in the thermostat or wiring.
4. Check the continuity of the thermostat and wiring. Repair or replace as necessary.

S-3B COOLING ANTICIPATOR

The cooling anticipator is a small heater (resistor) in the thermostat. During the "off" cycle it heats the bimetal element helping the thermostat call for the next cooling cycle. This prevents the room temperature from rising too high before the

system is restarted. A properly sized anticipator should maintain room temperature within 1 1/2 to 2 degree range.

The anticipator is supplied in the thermostat and is not to be replaced. If the anticipator should fail for any reason, the thermostat must be changed.

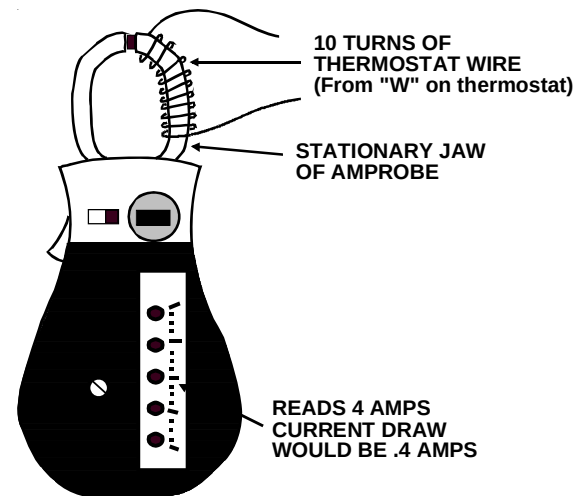
S-3C HEATING ANTICIPATOR

The heating anticipator is a wire-wound adjustable heater, which is energized during the "ON" cycle to help prevent overheating of the conditioned space.

The anticipator is a part of the thermostat and if it should fail for any reason, the thermostat must be replaced. See the following for recommended heater anticipator setting.

To determine the proper setting, use an amp meter to measure the amperage on the "W" wire going to the thermostat.

Use an amprobe as shown below. Wrap 10 turns of thermostat wire around the stationary jaw of the amprobe and divide the reading by 10.



Checking Heat Anticipator Amp Draw

S-4 CHECKING TRANSFORMER AND CONTROL CIRCUIT

A step-down transformer (208/240 volt primary to 24 volt secondary) is provided with each package unit. This allows ample capacity for use with resistance heaters.



WARNING

DISCONNECT ELECTRICAL POWER SUPPLY.

1. Remove control panel cover or etc. to gain access to transformer.

SERVICING

With power ON:

WARNING

LINE VOLTAGE NOW PRESENT.

2. Using a voltmeter, check voltage across secondary voltage side of transformer (R to C).
3. No voltage indicates faulty transformer, bad wiring, or bad splices.
4. Check transformer primary voltage at incoming line voltage connections and/or splices.
5. If proper line voltage is available at primary voltage side of transformer and wiring and splices are good, transformer is inoperative. Replace.

S-7 CHECKING CONTACTOR AND/OR RELAYS

The compressor contactor and other relay holding coils are wired into the low or line voltage circuits. When the control circuit is energized the coil pulls in the normally open contacts or opens the normally closed contacts. When the coil is de-energized, springs return the contacts to their normal position.

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

1. Remove the leads from the holding coil.
 2. Using an ohmmeter, test across the coil terminals.
- If the coil does not test continuous, replace the relay or contactor.

S-8 CHECKING CONTACTOR CONTACTS

SINGLE PHASE

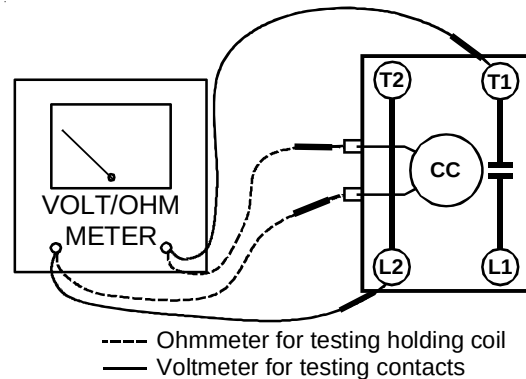
WARNING

DISCONNECT ELECTRICAL POWER SUPPLY.

1. Disconnect the wire leads from the terminal (T) side of the contactor.
2. With power ON, energize the contactor.

WARNING

LINE VOLTAGE NOW PRESENT.



TESTING COMPRESSOR CONTACTOR (Single Phase)

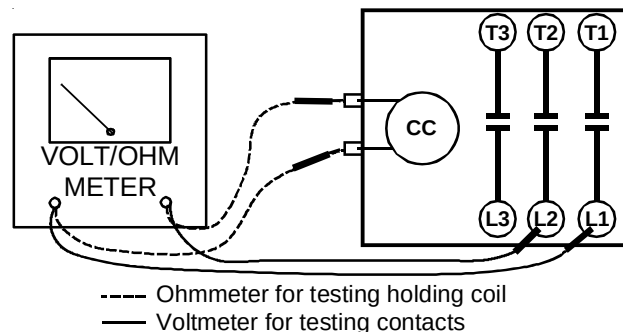
3. Using a voltmeter, test across terminals.
 - A. L1 - L2 - No voltage. Check breaker or fuses on main power supply.
 - B. L2 - T1 - No voltage indicates CC1 contacts open.

If a no voltage reading is obtained - replace the contactor.

THREE PHASE

Using a voltmeter, test across terminals.

- A. L1-L2, L1-L3, and L2-L3 - If voltage is present, proceed to B. If voltage is not present, check breaker or fuses on main power supply..
- B. T1-T2, T1-T3, and T2-T3 - If voltage readings are not the same as in "A", replace contactor.



TESTING COMPRESSOR CONTACTOR (ThreePhase)

S-9 CHECKING FAN RELAY CONTACTS

The fan relays are incorporated into the control board. See section S-313 for checking control board.

SERVICING

S-15 CHECKING CAPACITOR

CAPACITOR, RUN

A run capacitor is wired across the auxiliary and main windings of a single phase permanent split capacitor motor. The capacitor's primary function is to reduce the line current while greatly improving the torque characteristics of a motor. This is accomplished by using the 90° phase relationship between the capacitor current and voltage in conjunction with the motor windings so that the motor will give two phase operation when connected to a single phase circuit. The capacitor also reduces the line current to the motor by improving the power factor.

CAPACITOR, START

SCROLL COMPRESSOR MODELS

Hard start components are not required on Scroll compressor equipped units due to a non-replaceable check valve located in the discharge line of the compressor. However hard start kits are available and may improve low voltage starting characteristics.

This check valve closes off high side pressure to the compressor after shut down allowing equalization through the scroll flanks. Equalization requires only about one or two seconds during which time the compressor may turn backwards.

MODELS EQUIPPED WITH A HARD START DEVICE

A start capacitor is wired in parallel with the run capacitor to increase the starting torque. The start capacitor is of the electrolytic type, rather than metallized polypropylene as used in the run capacitor.

A switching device must be wired in series with the capacitor to remove it from the electrical circuit after the compressor starts to run. Not removing the start capacitor will overheat the capacitor and burn out the compressor windings.

These capacitors have a 15,000 ohm, 2 watt resistor wired across its terminals. The object of the resistor is to discharge the capacitor under certain operating conditions, rather than having it discharge across the closing of the contacts within the switching device such as the Start Relay, and to reduce the chance of shock to the servicer. See the Servicing Section for specific information concerning capacitors.

RELAY, START

A potential or voltage type relay is used to take the start capacitor out of the circuit once the motor comes up to speed. This type of relay is position sensitive. The normally closed contacts are wired in series with the start capacitor and the relay holding coil is wired parallel with the start winding. As the motor starts and comes up to speed, the increase in voltage across the start winding will energize the start relay holding coil and open the contacts to the start capacitor.

Two quick ways to test a capacitor are a resistance and a capacitance check.

S-15A RESISTANCE CHECK

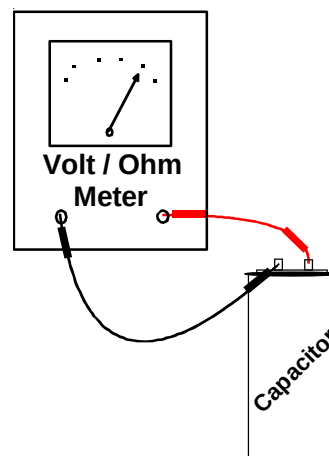
WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

1. Discharge capacitor and remove wire leads.

WARNING

DISCHARGE CAPACITOR THROUGH A 20 TO 30 OHM RESISTOR BEFORE HANDLING.



TESTING CAPACITOR RESISTANCE

2. Set an ohmmeter on its highest ohm scale and connect the leads to the capacitor -
 - A. Good Condition - indicator swings to zero and slowly returns to infinity. (Start capacitor will bleed resistor will not return to infinity. It will still read the resistance of the resistor).
 - B. Shorted - indicator swings to zero and stops there - replace.
 - C. Open - no reading - replace. (Start capacitor would read resistor resistance).

SERVICING

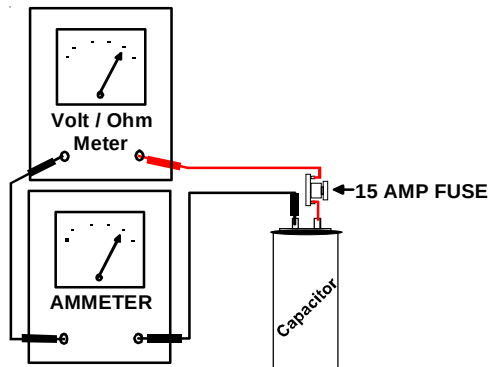
S-15B CAPACITANCE CHECK

Using a hookup as shown below, take the amperage and voltage readings and use them in the formula:



Capacitance (MFD) = $\frac{2650 \times \text{Amperage}}{\text{Voltage}}$

Voltage

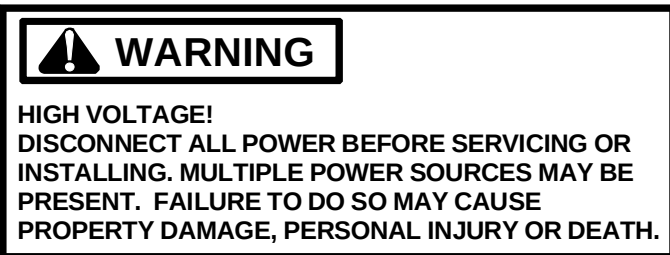


TESTING CAPACITANCE

S-16 CHECKING MOTORS

S-16A CHECKING FAN AND BLOWER MOTOR WINDINGS (PSC MOTORS)

The auto reset fan motor overload is designed to protect the motor against high temperature and high amperage conditions by breaking the common circuit within the motor, similar to the compressor internal overload. However, heat generated within the motor is faster to dissipate than the compressor, allow at least 45 minutes for the overload to reset, then retest.



1. Remove the motor leads from its respective connection points and capacitor (if applicable).
2. Check the continuity between each of the motor leads.
3. Touch one probe of the ohmmeter to the motor frame (ground) and the other probe in turn to each lead.

If the windings do not test continuous or a reading is obtained from lead to ground, replace the motor.

S-16B CHECKING FAN AND BLOWER MOTOR (ECM MOTORS)

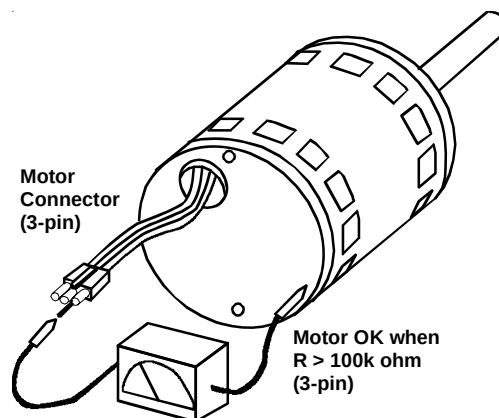
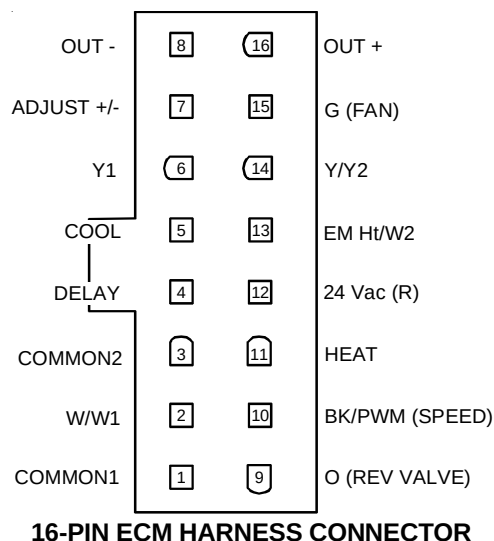
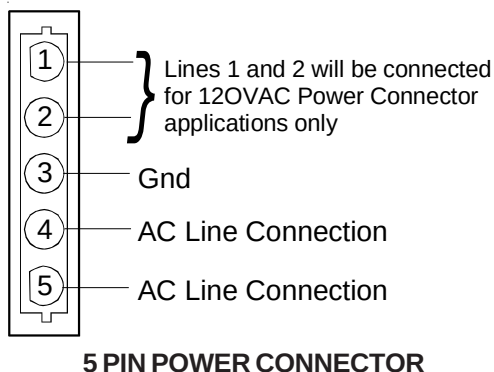
An ECM is an *Electronically Commutated Motor* which offers many significant advantages over PSC motors. The ECM has near zero rotor loss, synchronous machine operation, variable speed, low noise, and programmable air flow. Because of the sophisticated electronics within the ECM motor, some technicians are intimidated by the ECM motor; however, these fears are unfounded. GE offers two ECM motor testers, and with a VOM meter, one can easily perform basic troubleshooting on ECM motors. An ECM motor requires power (line voltage) and a signal (24 volts) to operate. The ECM motor stator contains permanent magnet. As a result, the shaft feels "rough" when turned by hand. This is a characteristic of the motor, not an indication of defective bearings.



1. Disconnect the 5-pin connector from the motor.
2. Using a volt meter, check for line voltage at terminals #4 & #5 at the power connector. If no voltage is present:
3. Check the unit for incoming power. See section S-1.
4. Check the control board, See section S-313.
5. If line voltage is present, reinsert the 5-pin connector and remove the 16-pin connector.
6. Check for signal (24 volts) at the transformer.
7. Check for signal (24 volts) from the thermostat to pin # 15, "G" terminal, at the 16-pin connector.
8. Using an ohmmeter, check for continuity from the #1 & #3 (common pins) to the transformer neutral or "C" thermostat terminal. If you do not have continuity, the motor may function erratically. Trace the common circuits, locate and repair the open neutral.
9. Set the thermostat to "Fan-On". Using a voltmeter check for 24 volts between pin # 15 (G) and common.
10. Disconnect power to compressor. Set thermostat to call for cooling. Using a voltmeter check for 24 volts at pin # 6 and/or #14.
11. Set the thermostat to a call for heating. Using a voltmeter, check for 24 volts at pin #2 and/or #11.

If you do not read voltage and continuity as described, the problem is in the control or interface board, but not the motor. If you register voltage as described, the ECM power head is defective and must be replaced.

SERVICING



WINDING TEST

S-17 CHECKING COMPRESSOR WINDINGS

WARNING

HERMETIC COMPRESSOR ELECTRICAL TERMINAL VENTING CAN BE DANGEROUS. WHEN INSULATING MATERIAL WHICH SUPPORTS A HERMETIC COMPRESSOR ELECTRICAL TERMINAL SUDDENLY DISINTEGRATES DUE TO PHYSICAL ABUSE OR AS A RESULT OF AN ELECTRICAL SHORTAGE BETWEEN THE TERMINAL AND THE COMPRESSOR HOUSING, THE TERMINAL MAY BE EXPELLED, VENTING THE VAPOROUS AND LIQUID CONTENTS OF THE COMPRESSOR HOUSING AND SYSTEM.

S-16C CHECKING ECM MOTOR WINDINGS

WARNING

DISCONNECT ELECTRICAL POWER SUPPLY.

1. Disconnect the 5-pin and the 16-pin connectors from the ECM power head.
2. Remove the 2 screws securing the ECM power head and separate it from the motor.
3. Disconnect the 3-pin motor connector from the power head and lay it aside.
4. Using an ohmmeter, check the motor windings for continuity to ground (pins to motor shell). If the ohmmeter indicates continuity to ground, the motor is defective and must be replaced.
5. Using an ohmmeter, check the windings for continuity (pin to pin). If no continuity is indicated, the thermal limit (over load) device may be open. Allow motor to cool and retest.

If the compressor terminal PROTECTIVE COVER and gasket (if required) is not properly in place and secured, there is a remote possibility if a terminal vents, that the vaporous and liquid discharge can be ignited, spouting flames several feet, causing potentially severe or fatal injury to anyone in its path.

This discharge can be ignited external to the compressor if the terminal cover is not properly in place and if the discharge impinges on a sufficient heat source.

Ignition of the discharge can also occur at the venting terminal or inside the compressor, if there is sufficient contaminant air present in the system and an electrical arc occurs as the terminal vents.

Ignition cannot occur at the venting terminal without the presence of contaminant air, and cannot occur externally from the venting terminal without the presence of an external ignition source.

Therefore, proper evacuation of a hermetic system is essential at the time of manufacture and during servicing.

Troubleshooting Chart for ECM Variable Speed Air Circulator Blower Motors				
Symptom	Fault Description(s)	Possible Causes	Corrective Action	Cautions and Notes
- M otor rocks slightly when starting.	- This is normal start-up for variable speed motor.	----	----	----
- M otor won't start.	- No movement.	- M anual disconnect switch off or door switch open. - Blown fuse or circuit breaker. - 24 Vac wires miswired. - Unseated pins in wiring harness connectors. - Bad motor/control module. - M oisture present in motor or control module.	- Check 230 Vac power at motor. - Check low voltage (24 Vac R to C) at motor. - Check low voltage connections (G, Y, W, R, C) at motor. - Check for unseated pins in connectors on motor harness. - Test with a temporary jumper between R - G. - Check m	- Turn power OFF prior to repair. Wait 5 minutes after disconnecting power before opening motor. - Handle electronic motor/control with care.
	- M otor rocks, but won't start.	- Loose motor mount. - Blower wheel not tight on motor shaft. - Bad motor/control module.	- Check for loose motor mount. - M ake sure blower wheel is tight on shaft. - Perform motor/control replacement check, ECM motors only.	- Turn power OFF prior to repair. Wait 5 minutes after disconnecting power before opening motor. - Handle electronic motor/control with care.
- M otor oscillates up & down while being tested off of blower.	- It is normal for motor to oscillate with no load on shaft.	----	----	----
- M otor starts, but runs erratically.	- Varies up and down or intermittent.	- Variation in 230 Vac to motor. - Unseated pins in wiring harness connectors. - Erratic CFM command from "BK" terminal. - Improper thermostat connection or setting. - M oisture present in motor/control module.	- Check line voltage for variation or "sag". - Check low voltage connections (G, Y, W, R, C) at motor, unseated pins in motor harness connectors. - Check-out system controls - Thermostat. - Perform M oisture Check.*	- Turn power OFF prior to repair.
	- "Hunts" or "puffs" at high CFM (speed).	- Incorrect or dirty filter(s). - Incorrect supply or return ductwork. - Incorrect blower speed setting.	- Does removing panel or filter reduce "puffing"? - Check/replace filter. - Check/correct duct restrictions. - Adjust to correct blower speed setting.	- Turn power OFF prior to repair.
	- Stays at low CFM despite system call for cool or heat CFM .	- 24 Vac wires miswired or loose. - "R" missing/not connected at motor. - Fan is delay mode.	- Check low voltage (Thermostat) wires and connections. - Verify fan is not in delay mode - wait until delay complete. - Perform motor/control replacement check, ECM motors only.	- Turn power OFF prior to repair. Wait 5 minutes after disconnecting power before opening motor. - Handle electronic motor/control with care.
	- Stays at high CFM .	- "R" missing/not connected at motor. - Fan is delay mode.	- Is fan in delay mode? - wait until delay time complete. - Perform motor/control replacement check, ECM motors only.	- Turn power OFF prior to repair. Wait 5 minutes after disconnecting power before opening motor. - Handle electronic motor/control with care.
	- Blower won't shut off.	- Current leakage from controls into G, Y, or W.	- Check for Triac switched t'stat or solid state relay.	- Turn power OFF prior to repair.
- Excessive noise.	- Air noise.	- High static creating high blower speed. - Incorrect supply or return ductwork. - Incorrect or dirty filter(s). - Incorrect blower speed setting.	- Check/replace filter. - Check/correct duct restrictions. - Adjust to correct blower speed setting.	- Turn power OFF prior to repair.
	- Noisy blower or cabinet.	- Loose blower housing, panels, etc. - High static creating high blower speed. - Air leaks in ductwork, cabinets, or panels.	- Check for loose blower housing, panels, etc. - Check for air whistling thru seams in ducts, cabinets or panels. - Check for cabinet/duct deformation.	- Turn power OFF prior to repair.
	- "Hunts" or "puffs" at high CFM (speed).	- High static creating high blower speed. - Incorrect or dirty filter(s). - Incorrect supply or return ductwork. - Incorrect blower speed setting.	- Does removing panel or filter reduce "puffing"? - Check/replace filter. - Check/correct duct restrictions. - Adjust to correct blower speed setting.	- Turn power OFF prior to repair.
- Evidence of M oisture.	- M otor failure or malfunction has occurred and moisture is present.	- M oisture in motor/control module.	- Replace motor and perform M oisture Check.*	- Turn power OFF prior to repair. Wait 5 minutes after disconnecting power before opening motor. - Handle electronic motor/control with care.

***M oisture Check**

- Connectors are oriented "down" (or as recommended by equipment manufacturer).
- Is condensate drain plugged?
- Check for undercharged condition.

- Arrange harnesses with "drip loop" under motor.
- Check for low airflow (too much latent capacity).
- Check and plug leaks in return ducts, cabinet.

Note: You must use the correct replacement control/motor module since they are factory programmed for specific operating modes. Even though they look alike, different modules may have completely different functionality. The ECM variable speed motors are c

Important Note: Using the wrong motor/control module voids all product warranties and may produce unexpected results.

SERVICING

ECM VARIABLE SPEED CIRCULATOR BLOWER MOTORS	
DO	DON'T
- Check-out motor, controls, wiring, and connections before replacing motor.	- Automatically assume the motor is bad.
- Orient connectors down to prevent water infiltration. - Install "drip loops".	- Locate connectors above 7 and 4 o'clock positions.
- Use authorized motor and control model #'s for replacement.	- Replace one motor or control model # with another (unless an authorized replacement).
- Keep static pressure to a minimum: - Recommend high efficiency, low static filters. - Recommend keeping filters clean. - Design ductwork for min. static, max comfort. - Look for and recommend ductwork improvement, where necessary, in replacement.	- Use high pressure drop filters - some have 1/2" H2O drop! - Use restricted returns.
- Size the equipment wisely.	- Oversize system then compensate with low airflow.
- Check orientation before inserting motor connectors.	- Plug in power connector backwards. - Force plugs.

SERVICING

To reduce the possibility of external ignition, all open flame, electrical power, and other heat sources should be extinguished or turned off prior to servicing a system.

If the following test indicates shorted, grounded or open windings, see procedure S-115 for the next steps to be taken.

S-17A RESISTANCE TEST

Each compressor is equipped with an internal overload.

The line break internal overload senses both motor amperage and winding temperature. High motor temperature or amperage heats the disc causing it to open, breaking the common circuit within the compressor on single phase units. The three phase internal overload will open all three legs.

Heat generated within the compressor shell, usually due to recycling of the motor, high amperage or insufficient gas to cool the motor, is slow to dissipate, allow at least three to four hours for it to cool and reset, then retest.



WARNING

DISCONNECT ELECTRICAL POWER SUPPLY.

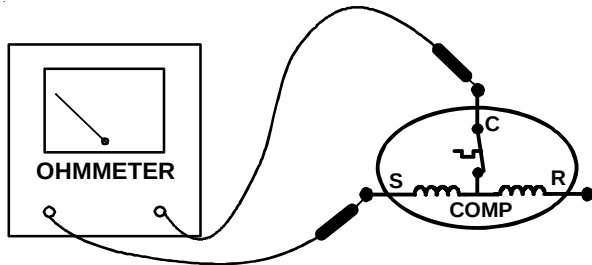
1. Remove the leads from the compressor terminals.



WARNING

SEE WARNINGS S-17, PAGE 87, BEFORE REMOVING COMPRESSOR TERMINAL COVER.

2. Using an ohmmeter, test continuity between terminals S-R, C-R, and C-S, on single phase units or terminals T1, T2 and T3, on 3 phase units.



TESTING COMPRESSOR WINDINGS

If either winding does not test continuous, replace the compressor.

NOTE: If an open compressor is indicated allow ample time for the internal overload to reset before replacing compressor.

S-17B GROUND TEST

If fuse, circuit breaker, ground fault protective device, etc., has tripped, this is a strong indication that an electrical problem exists and must be found and corrected. The circuit protective device rating must be checked and its maximum rating should coincide with that marked on the equipment nameplate.

With the terminal protective cover in place, it is acceptable to replace the fuse or reset the circuit breaker ONE TIME ONLY to see if it was just a nuisance opening. If it opens again, DO NOT continue to reset.

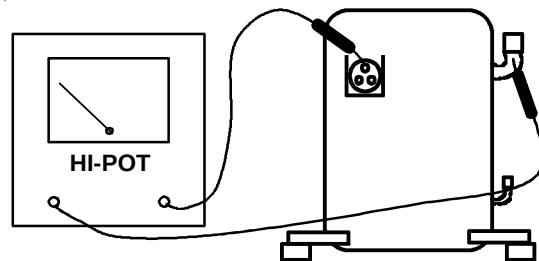
Disconnect all power to unit, making sure that all power legs are open.

1. DO NOT remove protective terminal cover. Disconnect the three leads going to the compressor terminals at the nearest point to the compressor.



WARNING

DAMAGE CAN OCCUR TO THE GLASS EMBEDDED TERMINALS AT THIS POINT IF THE LEADS ARE NOT PROPERLY REMOVED, WHICH CAN RESULT IN THE TERMINAL VENTING AND HOT OIL DISCHARGING.



COMPRESSOR GROUND TEST

2. Identify the leads and using a Megger, Hi-Potential Ground Tester, or other suitable instrument which puts out a voltage between 300 and 1500 volts, check for a ground separately between each of the three leads and ground (such as an unpainted tube on the compressor). Do not use a low voltage output instrument such as a volt-ohmmeter.
3. If a ground is indicated, then carefully remove the compressor terminal protective cover and inspect for loose leads or insulation breaks in the lead wires.
4. If no visual problems indicated, carefully remove the leads at the compressor terminals.
Carefully retest for ground, directly between compressor terminals and ground.
5. If ground is indicated, replace the compressor.

S-17D OPERATION TEST

If the voltage, capacitor, overload and motor winding test fail to show the cause for failure:



WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

SERVICING

1. Remove unit wiring from disconnect switch and wire a test cord to the disconnect switch.

NOTE: The wire size of the test cord must equal the line wire size and the fuse must be of the proper size and type.

2. With the protective terminal cover in place, use the three leads to the compressor terminals that were disconnected at the nearest point to the compressor and connect the common, start and run clips to the respective leads.
3. Connect good capacitors of the right MFD and voltage rating into the circuit.
4. With power ON, close the switch.



WARNING

LINE VOLTAGE NOW PRESENT.

- A. If the compressor starts and continues to run, the cause for failure is somewhere else in the system.
- B. If the compressor fails to start - replace.

S-18 TESTING CRANKCASE HEATER

The crankcase heater must be energized a minimum of four (4) hours before the condensing unit is operated.

Crankcase heaters are used to prevent migration or accumulation of refrigerant in the compressor crankcase during the off cycles and prevents liquid slugging or oil pumping on start up. Scroll Compressors are not equipped with a crankcase heaters.

A crankcase heater will not prevent compressor damage due to a floodback or over charge condition.



WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

1. Disconnect the heater lead wires.
2. Using an ohmmeter, check heater continuity - should test continuous, if not, replace.

S-20 CHECKING DEFROST RELAY CONTACTS

With power OFF:



WARNING

DISCONNECT ELECTRICAL POWER SUPPLY.

1. Remove the wire leads from the defrost relay contact terminals.

2. Using an ohmmeter, test continuity between terminals. Defrost contacts should read closed. If not as above, replace relay.



WARNING

LINE VOLTAGE NOW PRESENT.

3. Energize the relay by applying 24 volts to the relay coil.
4. With power on, retest with ohmmeter, readings should be opposite that read in step 2, (N.O. contacts should be closed, N.C. contacts should be open). If not as above, replace the relay.

S-21 CHECKING REVERSING VALVE AND SOLENOID

Occasionally the reversing valve may stick in the heating or cooling position or in the mid-position.

When stuck in the mid-position, part of the discharge gas from the compressor is directed back to the suction side, resulting in excessively high suction pressure. An increase in the suction line temperature through the reversing valve can also be measured. Check operation of the valve by starting the system and switching the operation from COOLING to HEATING and back again.

If the valve fails to change its position, test for 24 VAC at the valve coil terminals, while the system is in the COOLING or DEFROST cycle.

If no voltage is registered at the coil terminals, check for 24V at "O" on the low voltage terminal board.

If voltage is registered at the coil, tap the valve body lightly on the end while switching the system from HEATING to COOLING, etc. If this fails to cause the valve to switch positions, remove the coil connector cap and test the continuity of the reversing valve solenoid coil. If the coil does not test continuous - replace it.

If the valve is inoperative - replace it.

S-24 TESTING DEFROST TIMER BOARD

To check the defrost timer board for proper sequencing, proceed as follows: With power ON; unit running.



WARNING

LINE VOLTAGE NOW PRESENT.

TIME TEMPERATURE DEFROST CONTROL

Testing Defrost Initiation

1. Jumper defrost control (thermostat) by placing jumper wire from (R) wire of low voltage terminal board, to (DFT) terminal of defrost timer board.

SERVICING

2. Using a VOM, measure voltage between (DFT) terminal and (COM) terminal of defrost timer board - should read 24 VAC.
3. With VOM connected to the C and O terminals, meter should read 0 VAC. With the unit in operation, short or jumper the two TEST pins on board. (Test Terminals Jumped - Count time speeds up - 90 minutes = approximately 21 seconds).
4. Watch VOM - meter should read 24 VAC when the board goes into defrost.
5. If not as above, replace control.

Testing Defrost Termination

With unit still running and defrost initiated:

1. Remove jumper from defrost control (thermostat) installed in Step 1 above.
2. Remove wire from terminal (DFT) on defrost control board.
3. Unit should terminate defrost and resume normal heating operation.
4. If not as above, replace control.

S-25 TESTING DEFROST CONTROL

1. Install a thermocouple type temperature test lead on the tube adjacent to the defrost control (thermostat). Insulate the lead point of contact.
2. Check the temperature at which the control closes its contacts.
3. Raise the temperature of the control until opens
4. If not as above, replace control.

S-26 CHECKING HEATER LIMIT CONTROL(S)

(OPTIONAL ELECTRIC HEATERS)

Each individual heater element is protected with an automatic reset limit control connected in series with each element to prevent overheating of components in case of low airflow. This limit control will open its circuit at approximately 150°F. to 160°F and close at approximately 110°F.

WARNING

DISCONNECT ELECTRICAL POWER SUPPLY.

1. Remove the wiring from the control terminals.
2. Using an ohmmeter test for continuity across the normally closed contacts. No reading indicates the control is open - replace if necessary. Make sure the limits are cool before testing.

IF FOUND OPEN - REPLACE - DO NOT WIRE AROUND.

S-27 CHECKING HEATER ELEMENTS

Optional electric heaters may be added, in the quantities shown in the spec sheet for each model unit, to provide electric resistance heating. Under no condition shall more heaters than the quantity shown be installed.



WARNING

HIGH VOLTAGE!

DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

1. Disassemble and remove the heating element(s).
2. Visually inspect the heater assembly for any breaks in the wire or broken insulators.
3. Using an ohmmeter, test the element for continuity - no reading indicates the element is open. Replace as necessary.

S-100 REFRIGERATION REPAIR PRACTICE



DANGER

ALWAYS REMOVE THE REFRIGERANT CHARGE IN A PROPER MANNER BEFORE APPLYING HEAT TO THE SYSTEM.

When repairing the refrigeration system:

1. Never open a system that is under vacuum. Air and moisture will be drawn in.
2. Plug or cap all openings.
3. Remove all burrs and clean the brazing surfaces of the tubing with sand cloth or paper. Brazing materials do not flow well on oxidized or oily surfaces.
4. Clean the inside of all new tubing to remove oils and pipe chips.
5. When brazing, sweep the tubing with dry nitrogen to prevent the formation of oxides on the inside surfaces.
6. Complete any repair by replacing the liquid line drier in the system, evacuate and charge.

At any time the system has been open for repair, the factory installed liquid line filter drier **must** be replaced.

BRAZING MATERIALS

Copper to Copper Joints - Sil-Fos used without flux (alloy of 15% silver, 80% copper, and 5% phosphorous). Recommended heat 1400°F.

SERVICING

Copper to Steel Joints - Silver Solder used without a flux (alloy of 30% silver, 38% copper, 32% zinc). Recommended heat - 1200°F.

S-101 LEAK TESTING

Refrigerant leaks are best detected with a halide or electronic leak detector.

However, on outdoor installed systems, provisions must be made to shield the copper element of an halide torch from the sun and wind conditions in order to be able to see the element properly.

NOTE: The flame of the halide detector will glow green in the presence of R-22 refrigerant.

For a system that contains a refrigerant charge and is suspected of having a leak, stop the operation and hold the exploring tube of the detector as close to the tube as possible, check all piping and fittings. If a leak is detected, do not attempt to apply more brazing to the joint. Remove and capture the charge, unbrazed the joint, clean and rebraze.

For a system that has been newly repaired and does not contain a charge, connect a cylinder of refrigerant, through a gauge manifold, to the liquid and suction line dill valves and/or liquid line dill valve and compressor process tube.

NOTE: Refrigerant hoses must be equipped with dill valve depressors or special adaptor used. Open the valve on the cylinder and manifold and allow the pressure to build up within the system. Check for and handle leaks, as described above. After the test has been completed, remove and capture the leak test refrigerant.

S-102 EVACUATION

This is the most important part of the entire service procedure. The life and efficiency of the equipment is dependent upon the thoroughness exercised by the serviceman when evacuating air (non-condensable) and moisture from the system.

Air in a system causes high condensing temperature and pressure, resulting in increased power input and reduced performance.

Moisture chemically reacts with the refrigerant and oil to form corrosive hydrofluoric and hydrochloric acids. These attack motor windings and parts, causing breakdown.

The equipment required to thoroughly evacuate the system is a high vacuum pump, capable of producing a vacuum equivalent to 25 microns absolute and a thermocouple vacuum gauge to give a true reading of the vacuum in the system

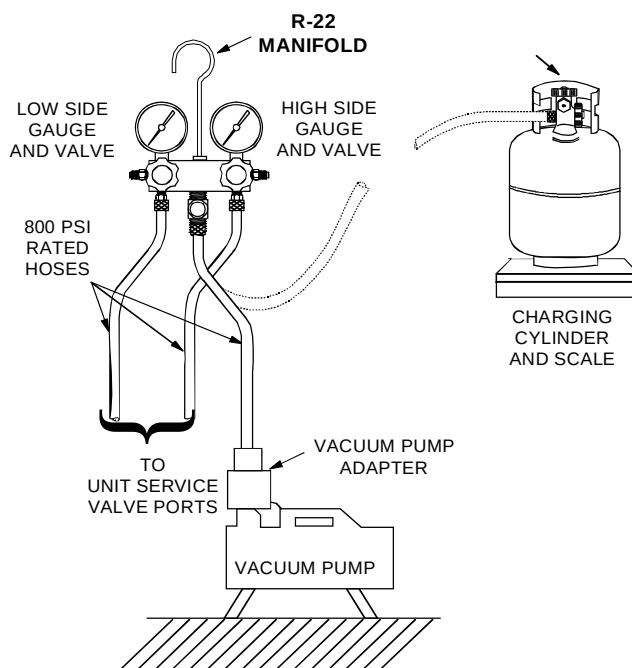
NOTE: Never use the system compressor as a vacuum pump or run when under a high vacuum. Motor damage could occur.

CAUTION

OPERATING THE COMPRESSOR WITH THE SUCTION VALVE CLOSED WILL VOID THE WARRANTY AND CAUSE SERIOUS COMPRESSOR DAMAGE.

WARNING

SCROLL COMPRESSOR. DO NOT FRONT SEAT THE SERVICE VALVE(S) WITH THE COMPRESSOR OPERATING IN AN ATTEMPT TO SAVE REFRIGERANT. WITH THE SUCTION LINE OF THE COMPRESSOR CLOSED OR SEVERELY RESTRICTED, THE SCROLL COMPRESSOR CAN AND WILL DRAW A DEEP VACUUM VERY QUICKLY. THIS VACUUM CAN CAUSE INTERNAL ARCING OF THE FUSITE, RESULTING IN A DAMAGED OR FAILED COMPRESSOR.



1. Connect the vacuum pump, vacuum tight manifold set with high vacuum hoses, thermocouple vacuum gauge and charging cylinder as shown.
2. If the service dill valves are to be used for evacuation, it is recommended that a core remover be used to lift the core for greater efficiency.
3. Start the vacuum pump and open the shut off valve to the high vacuum gauge manifold only. After the compound gauge (low side) has dropped to approximately 29 inches of vacuum, open the valve to the vacuum thermocouple gauge. See that the vacuum pump will blank-off to a maximum of 25 microns. A high vacuum pump can only produce a good vacuum if its oil is non-contaminated.

SERVICING

4. If the vacuum pump is working properly, close the valve to the vacuum thermocouple gauge and open the high and low side valves to the high vacuum manifold set. With the valve on the charging cylinder closed, open the manifold valve to the cylinder.
5. Evacuate the system to at least 29 inches gauge before opening valve to thermocouple vacuum gauge.
6. Continue to evacuate to a minimum of 250 microns. Close valve to vacuum pump and watch rate of rise. If vacuum does not rise above 1500 microns in three to five minutes, system can be considered properly evacuated.
7. If thermocouple vacuum gauge continues to rise and levels off at about 5000 microns, moisture and non-condensables are still present. If gauge continues to rise a leak is present. Repair and re-evacuate.
8. Close valve to thermocouple vacuum gauge and vacuum pump. Shut off pump and prepare to charge.

S-103 CHARGING

Charge the system with the exact amount of refrigerant.

Refer to the specification section or check the unit nameplates for the correct refrigerant charge.

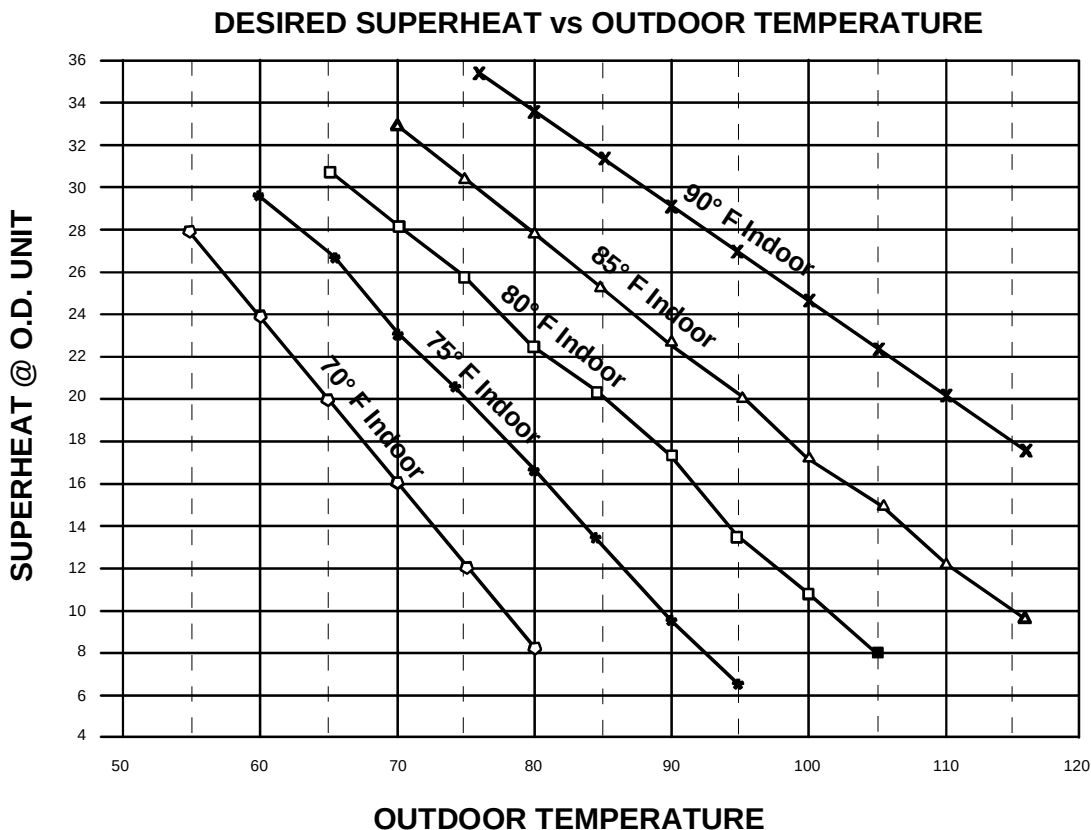
An inaccurately charged system will cause future problems.

1. Using a charging scale, allow liquid refrigerant only to enter the high side.

2. After the system will take all it will take, close the valve on the high side of the charging manifold.
3. Start the system and charge the balance of the refrigerant through the low side. DO NOT charge in a liquid form.
4. With the system still running, close the valve on the charging manifold. At this time, you may still have some liquid refrigerant in the charging manifold and will definitely have liquid in the liquid hose. Reseat the liquid line core. Slowly open the high side manifold valve and transfer the liquid refrigerant from the liquid line hose and charging manifold into the suction service valve port. **CAREFUL:** Watch so that liquid refrigerant does not enter the compressor.
5. With the system still running, reseat the suction valve core, remove hose and reinstall both valve core caps.
6. Check system for leaks.

Units having capillary tubes or flow control restrictors can be checked against the Desired Superheat vs. Outdoor Temperature Chart in this section. See "Checking Subcooling and Superheat" sections in this manual.

If a restriction is located, replace the restricted part, replace drier, evacuate and recharge.



SERVICING

S-104 CHECKING COMPRESSOR EFFICIENCY

The reason for compressor inefficiency is broken or damaged suction and/or discharge valves, or scroll flanks on Scroll compressors, reducing the ability of the compressor to pump refrigerant vapor.

The condition of the valves or scroll flanks is checked in the following manner.

1. Attach gauges to the high and low side of the system.
2. Start the system and run a "Cooling Performance Test.

If the charge is correct and the test shows-

- ⇒ Below normal high side pressure.
- ⇒ Above normal low side pressure.
- ⇒ Low temperature difference across coil.
- ⇒ Low amp draw at compressor.

then the compressor is faulty - replace the compressor.

S-108 SUPERHEAT

The flowrator expansion device is sized and the equipment is factory charged to maintain 8 to 12 degrees superheat of the suction gas. Before checking the superheat, perform all the procedures outlined under Air Flow, Refrigerant Charge. These are the most common causes for evaporator malfunction.

CHECKING SUPERHEAT

Refrigerant gas is considered superheated whenever its temperature is higher than the saturation temperature corresponding to its pressure. The degree of superheat equals the degrees of temperature increase above the saturation temperature at existing pressure. See Temperature - Pressure Chart.

1. Attach an accurate thermometer or preferably a thermocouple type temperature tester to the suction line at a point at least 6" from the compressor.
2. Install a low side pressure gauge on the suction line service valve at the outdoor unit.
3. Record the gauge pressure and the temperature of the line.
4. Convert the suction pressure gauge reading to temperature by finding the gauge reading in Temperature - Pressure Chart and reading to the left, find the temperature in the °F. Column.
5. The difference between the thermometer reading and pressure to temperature conversion is the amount of superheat.

EXAMPLE:

- a. Suction Pressure = 84
- b. Corresponding Temp. °F. = 50
- c. Thermometer on Suction Line = 63°F.

To obtain the degrees temperature of superheat subtract 50.0 from 63.0°F.

The difference is 13° Superheat. The 13° Superheat would fall in the ± range of allowable superheat.

Suction Pressure	Saturated Suction Temperature (°F)
50	26
53	28
55	30
58	32
61	34
63	36
66	38
69	40
72	42
75	44
78	46
81	48
84	50
87	52

TABLE 5

Suction Pressure Temperature (R-22)

S-109 CHECKING SUBCOOLING

Refrigerant liquid is considered subcooled when its temperature is lower than the saturation temperature corresponding to its pressure. The degree of subcooling equals the degrees of temperature decrease below the saturation temperature at the existing pressure.

1. Attach an accurate thermometer or preferably a thermocouple type temperature tester to the liquid line as it leaves the condensing unit.
2. Install a high side pressure gauge on the high side (liquid) service valve at the front of the unit.
3. Record the gauge pressure and the temperature of the line.
4. Convert the liquid line pressure gauge reading to temperature by finding the gauge reading in Temperature - Pressure Chart and reading to the left, find the temperature in the °F. Column.
5. The difference between the thermometer reading and pressure to temperature conversion is the amount of subcooling.

EXAMPLE:

- a. Liquid Line Pressure = 260
- b. Corresponding Temp. °F. = 120°
- c. Thermometer on Liquid line = 109°F.

To obtain the amount of subcooling subtract 109°F from 120°F.

The difference is 11° subcooling. The normal subcooling range is 9° - 13° subcooling for heat pumps units..

SERVICING

Temp. °F.	Gauge Pressure (PSIG) Freon-22	Temp. °F.	Gauge Pressure (PSIG) Freon-22
-40	0.61	60	102.5
-38	1.42	62	106.3
-36	2.27	64	110.2
-34	3.15	65	114.2
-32	4.07	68	118.3
-30	5.02	70	122.5
-28	6.01	72	126.8
-26	7.03	74	131.2
-24	8.09	76	135.7
-22	9.18	78	140.5
-20	10.31	80	145.0
-18	11.48	82	149.5
-16	12.61	84	154.7
-14	13.94	86	159.8
-12	15.24	88	164.9
-10	16.59	90	170.1
-8	17.99	92	175.4
-6	19.44	94	180.9
-4	20.94	96	186.5
-2	22.49	96	192.1
0	24.09	100	197.9
2	25.73	102	203.8
4	27.44	104	209.9
6	29.21	106	216.0
8	31.04	108	222.3
10	32.93	110	228.7
12	34.88	112	235.2
14	36.89	114	241.9
16	38.96	116	248.7
18	41.09	118	255.6
20	43.28	120	262.6
22	45.53	122	269.7
24	47.85	124	276.9
26	50.24	126	284.1
28	52.70	128	291.4
30	55.23	130	298.8
32	57.83	132	306.3
34	60.51	134	314.0
36	63.27	136	321.9
38	66.11	136	329.9
40	69.02	140	338.0
42	71.99	142	346.3
44	75.04	144	355.0
46	78.18	146	364.3
48	81.40	158	374.1
50	84.70	150	384.3
52	88.10	152	392.3
54	91.5	154	401.3
56	95.1	156	411.3
58	98.8	158	421.8
		160	433.3

TEMPERATURE - PRESSURE CHART

S-112 CHECKING RESTRICTED LIQUID LINE

When the system is operating, the liquid line is warm to the touch. If the liquid line is restricted, a definite temperature drop will be noticed at the point of restriction. In severe cases, frost will form at the restriction and extend down the line in the direction of the flow.

Discharge and suction pressures will be low, giving the appearance of an undercharged unit. However, the unit will have normal to high subcooling.

If a restriction is located, replace the restricted part, replace drier, evacuate and recharge.

S-113 REFRIGERANT OVERCHARGE

An overcharge of refrigerant is normally indicated by excessively high head pressure and/or liquid return to the compressor.

Evaporator coils with a **fixed orifice** metering device could allow refrigerant to return to the compressor under extreme overcharge conditions.

If high head pressure is not indicated, an overcharge or a system containing non-condensables could be the problem.

If overcharging is indicated:

1. Start the system.
2. Remove small quantities of gas from the suction line dill valve until the head pressure is reduced to normal.
3. Observe the system while running a cooling performance test, if a shortage of refrigerant is indicated, then the system contains non-condensables. See S-114 Non-Condensables.

S-114 NON-CONDENSABLES

Check for non-condensables.

1. Shut down the system and allow the pressures to equalize for a minimum of 15 minutes.
2. Take a pressure reading.
3. Compare this pressure to the temperature of the coldest coil since this is where most of the refrigerant will be. If the pressure indicates a higher temperature than that of the coil temperature, non-condensables are present.

To remove the non-condensables.

1. Remove the refrigerant charge.
2. Replace and/or install liquid line drier
3. Evacuate and recharge.

SERVICING

S-115 COMPRESSOR BURNOUT

When a compressor burns out, high temperature develops causing the refrigerant, oil and motor insulation to decompose forming acids and sludge.

If a compressor is suspected of being burned-out, attach a refrigerant hose to the liquid line dill valve and properly remove and dispose of the refrigerant.

Now determine if a burn out has actually occurred. Confirm by analyzing an oil sample using a Sporlan Acid Test Kit, AK-3 or its equivalent.

Remove the compressor and obtain an oil sample from the suction stub. If the oil is not acidic, either a burnout has not occurred or the burnout is so mild that a complete cleanup is not necessary.

If acid level is unacceptable the system must be cleaned by using the cleanup drier method.



CAUTION

DO NOT ALLOW THE SLUDGE OR OIL TO CONTACT THE SKIN. SEVERE BURNS MAY RESULT.

Suction Line Drier Clean-up Method

Discard at least twelve (12) inches of the suction line immediately out of the compressor stub due to burned residue and contaminates.

1. Remove unit filter drier.
2. Purge all remaining components with dry nitrogen or carbon dioxide until clean.
3. Install new components including liquid liner drier.
4. Install suction line drier.
5. Braze all joints, leak test, evacuate, and recharge system.
6. Start up the unit and record the pressure drop across the cleanup drier.
7. Continue to run the system for a minimum of twelve (12) hours and recheck the pressure drop across the drier. Pressure drop should not exceed 6 - 8 PSIG.
8. Continue to run the system for several days repeatedly checking pressure drop across the suction line drier. If the pressure drop never exceeds the 6 - 8 PSIG, the drier must be adequate and is trapping the contaminants and it is permissible to leave it in the system.
9. If the pressure drop becomes greater, then it must be replaced and steps 5 through 9 repeated until it does not exceed 6 - 8 PSIG.

NOTE: The cause for burnout **MUST** be determined **and** corrected **BEFORE** the new compressor is started.

S-122 REVERSING VALVE REPLACEMENT



WARNING

HIGH VOLTAGE!

DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

Capture the refrigerant charge from the system.

When brazing a reversing valve into the system, it is of extreme importance that the temperature of the valve does not exceed 250°F. at any time.

Wrap the reversing valve with a large rag saturated with water, being careful not to allow water inside the tubing. "Rewet" the rag and thoroughly cool the valve after each brazing operation of the four joints involved. The wet rag around the reversing valve will eliminate conduction of heat to the valve body when brazing the line connection.

The use of a wet rag sometimes can be a nuisance. There are commercial grades of heat absorbing paste that may be substituted.

After the valve has been installed, leak test, evacuate and recharge.

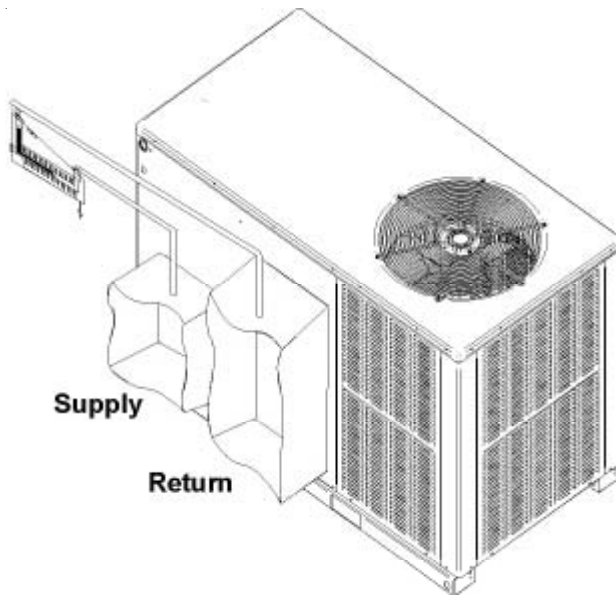
S-200 CHECKING EXTERNAL STATIC PRESSURE

The minimum and maximum allowable duct static pressure is found in the Technical Information Manual.

Too great of an external static pressure will result in insufficient air that can cause icing of the coil, whereas too much air can cause poor humidity control, and condensate to be pulled off the evaporator coil causing condensate leakage. Too much air can cause motor overloading and in many cases this constitutes a poorly designed system. To determine proper air movement, proceed as follows:

1. Using a draft gauge (inclined manometer) measure the static pressure of the return duct at the inlet of the unit, (Negative Pressure).
2. Measure the static pressure of the supply duct, (Positive Pressure).
3. Add the two readings together.

SERVICING



Checking Duct Static

NOTE: Both readings may be taken simultaneously and read directly on the manometer if so desired.

4. Consult proper table for quantity of air.

If the external static pressure exceeds the minimum or maximum allowable statics, check for closed dampers, dirty filters, undersized or poorly laid out ductwork.

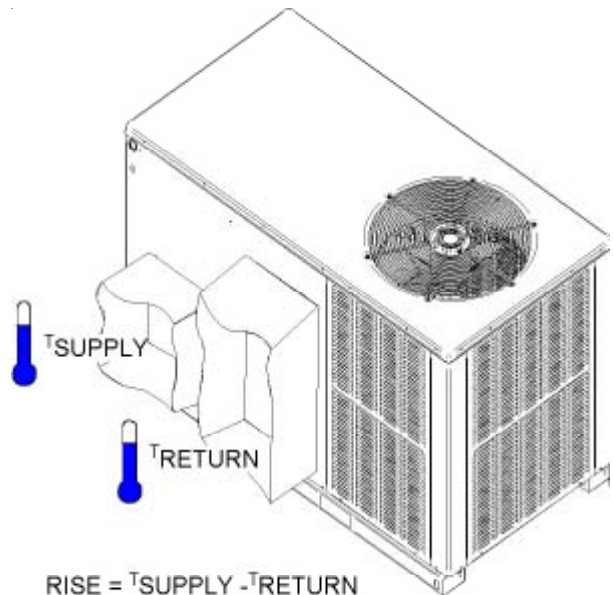
S-201 CHECKING TEMPERATURE RISE

Temperature rise is related to the BTUH output of the unit and the amount of air (CFM) circulated over the heat exchanger.

All units are designed for a given range of temperature increase. This is the temperature of the air leaving the unit minus the temperature of the air entering the unit.

The more air (CFM) being delivered through a given unit the less the rise will be; so the less air (CFM) being delivered, the greater the rise. The temperature rise should be adjusted in accordance to a given unit specifications and its external static pressure.

1. Check that BTUH input to unit does not exceed input rating stamped on rating plate. (Package gas units only)
2. Take entering and leaving air temperatures.
3. Select the proper speed tap for PSC motors or dip switch setting for ECM motors.
4. Take motor amperage draw to determine that the motor is not overloaded during adjustments.

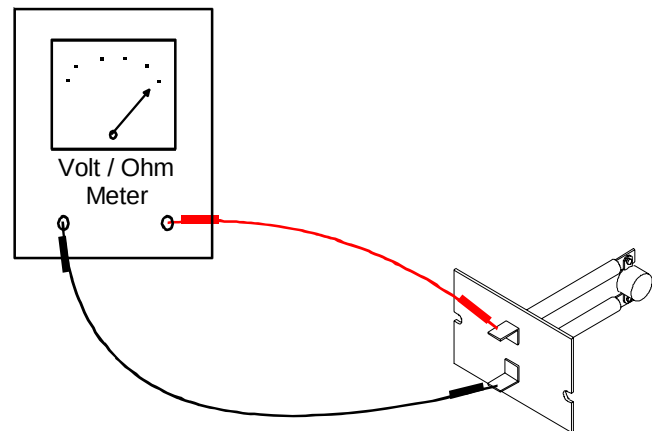


$$\text{RISE} = T_{\text{SUPPLY}} - T_{\text{RETURN}}$$

Checking Temperature Rise

S-300 TESTING PRIMARY LIMIT CONTROL

Goodman package gas units use a snap-disk type primary limit device. Sometimes referred to as "stat on a stick". The limit setting is fixed and must not be readjusted in the field.



TESTING PRIMARY LIMIT CONTROL

Refer to the specification section to determine the proper limit cutout temperature for the model being serviced.

In all instances the limit control is wired in series with the ignition control.

If the temperature within the unit should exceed this setting, the control will open, de-energizing the ignition control which in turn will open the electrical circuit to the gas valve.

The control will automatically reset when the temperature within the combustion chamber is sufficiently lowered.

SERVICING



WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

1. Remove electrical power to unit. Some units may have more than one source of power.
2. Remove the wires from the limit control terminals.
3. Using an ohmmeter, test for continuity across the two terminals.
4. If limit test open allow unit to cool and retest.
5. If still open, replace the control.

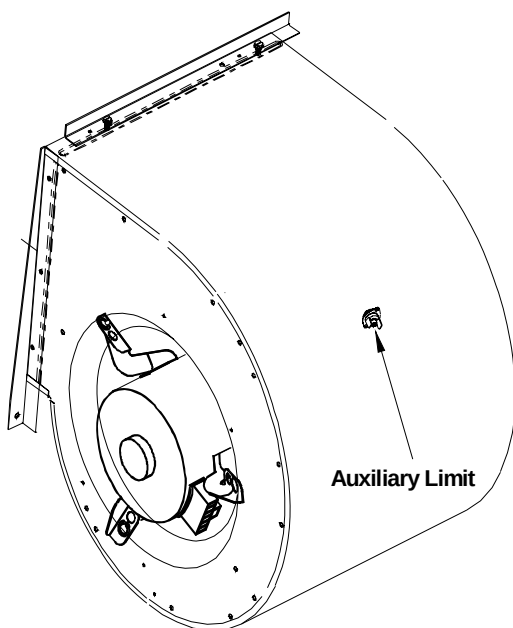
S-301 TESTING AUXILIARY LIMIT

Package Gas Units

The auxiliary limit control is a preset nonadjustable control mounted in the blower compartment area.

It is connected in series with the rollout switch wiring to the gas valve. If its temperature should be exceeded, it will open, interrupting the voltage to the gas valve causing it to open.

An additional limit (primary limit) control is required for safety control of high temperature within the furnace or duct work.



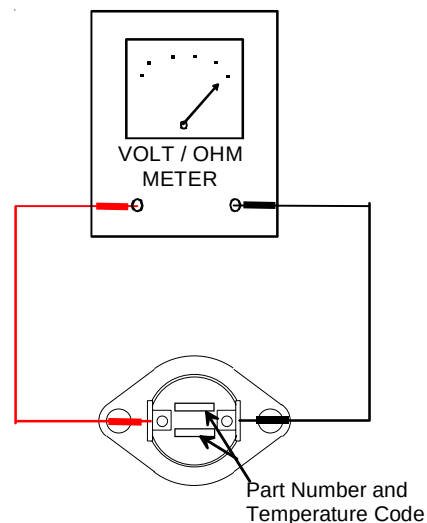
AUXILIARY LIMIT LOCATION



WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

1. Remove the wires from the auxiliary limit control terminals.
2. Using an ohmmeter, test for continuity across the two terminals. No reading indicates the control is open. If the temperature of the control is below 90 degrees F and reads open, replace the control.



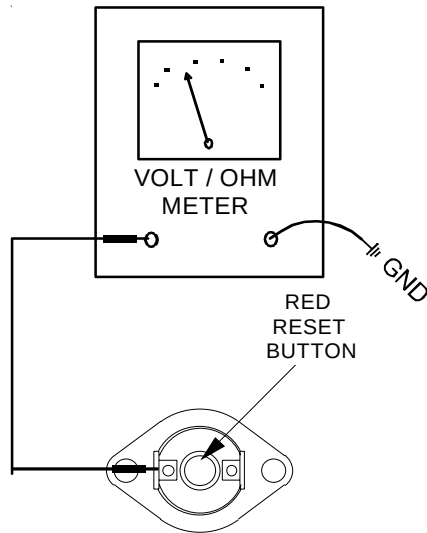
TESTING AUXILIARY LIMIT CONTROL

S-302 CHECKING FLAME ROLLOUT SWITCH

Goodman package gas units are equipped with a temperature-activated manual reset control. This control is mounted to the manifold assembly and is wired in series with the auxiliary limit and gas valve. The control is designed to open should a flame roll out occur. An over firing condition or flame impingement on the heat shield can also cause the control to open.

If the rollout control has opened, the circuit between the ignition control and gas valve will be interrupted and the ignition control module will go into lockout. The servicer should reset the rollout switch by manually pressing the red reset button between the two spade terminals. Reset the ignition control by opening and closing the thermostat circuit. The servicer should look for the ignitor glowing which indicates there is power to the ignition control. The servicer should measure the voltage between each side of the rollout control and ground while the ignition control is try to power the gas valve.

SERVICING



CHECKING FLAME ROLLOUT SWITCH

Limit Switch Operation (Applies to Primary, Auxiliary, and Roll Out Limits) Direct Spark Ignition (DSI) systems.

If a limit switch opens, the indoor blower is energized on heat speed and the induced draft blower is energized. The LED on the control flashes "4" to indicate an open limit switch. The blower and inducer remain on while the limit switch is open. The gas valve is de-energized. Power to the thermostat "R" is removed while the limit switch is open.

When the limit switch is resets, the induced draft motor runs through its post purge and the indoor blower goes through the heat off delay.

If a call for heat exists when the limit switch resets, the control goes through a pre-purge period and then makes an ignition attempt. The indoor blower remains on (for the delay off time) during the re-ignition attempt.

1. If no voltage is measured on either side of control it indicates ignition control or wiring to control problem.
2. If voltage is measured on one side of the control and not the other, it indicates the control is open.
3. If voltage is measured on both sides of the control the wiring to gas valve or valve is at fault.

Servicing procedure with unit not firing.

1. Confirm that the outer door was in place and all screws tightened. (No leaks under the door.)
2. Check to see if any damage was done to the furnace especially the wiring.
3. Confirm that heat exchanger is not obstructed by feeling for discharge air from the flue hood when the combustion blower is running but the unit is not firing.

If the above steps do not suggest the reason the control has tripped the furnace should be fired.

1. Remove the heating compartment door.
2. Turn off the power or open the thermostat circuit.
3. Reset the rollout control.
4. Turn power on and put the unit into a call for heating.



FLAME ROLLOUT COULD OCCUR. KEEP FACE AND HANDS A SAFE DISTANCE FROM BURNER AREA.

5. Look under the heat shield as the unit is running. Flames should be drawn into firing chambers.
 - a. If a burner's flame is not drawn into the chamber, that chamber is restricted.
 - b. If, without the air circulation blower running, all flames are not drawn into the chambers either the collector box, combustion blower, or flue outlet is obstructed.
 - c. If the burner flame is not drawn into the chamber when the air circulation blower is running, then a cracked heat exchanger chamber is present.

S-303 TESTING INDUCER MOTOR



**HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR
INSTALLING. MULTIPLE POWER SOURCES MAY BE
PRESENT. FAILURE TO DO SO MAY CAUSE
PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.**

1. Disconnect the motor wire leads from its connection point at integrated ignition control module.
 2. Using an ohmmeter, test for continuity between each of the motor leads.
 3. Touch one probe of the ohmmeter to the motor frame (ground) and the other probe in turn to each lead.
- If the windings do not test continuous or a reading is obtained to ground, replace the motor.
4. After completing check and/or replacement of induced draft blower motor.
 5. Turn on electrical power and verify proper unit operation.

SERVICING

S-304 TESTING GAS VALVE

Direct Spark Ignition (DSI) Systems

A combination redundant operator type gas valve which provides all manual and automatic control functions required for gas fired heating equipment is used.

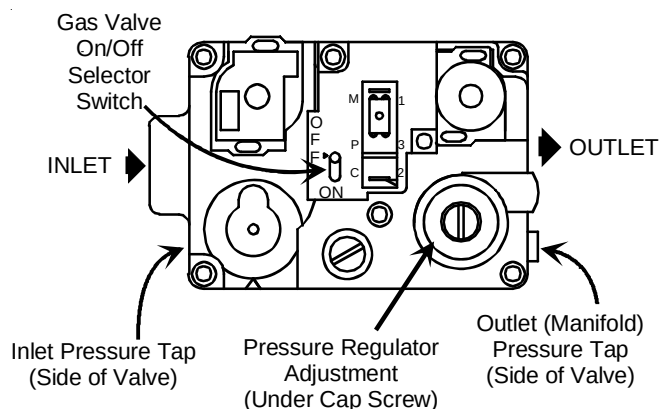
The valve provides control of main burner gas flow, pressure regulation, and 100 percent safety shut-off.



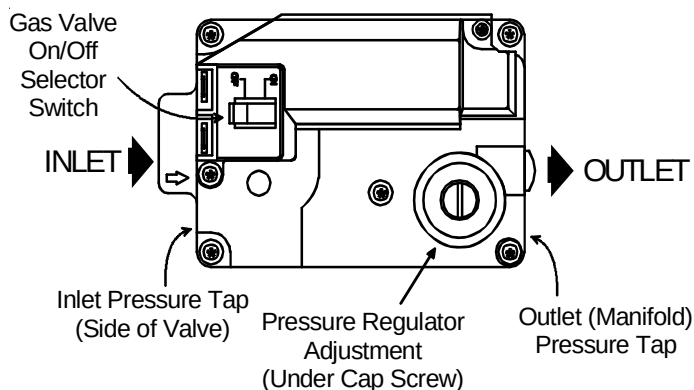
WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

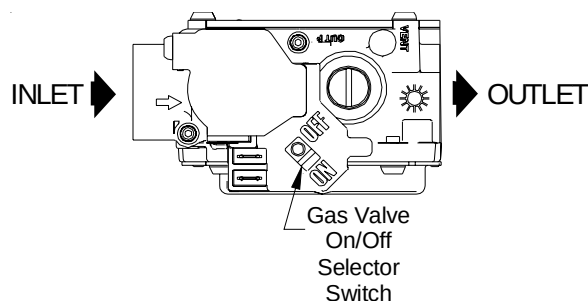
1. Ensure gas valve and main gas supply are on.
2. Using a voltmeter, check for 24 volts to gas valve.
3. If 24 volts are present and no gas flows through the valve, replace valve. If no voltage is present, check the safety controls (S-300, S-301, S-302, and S-312).



White/Rodgers 36E Valve



White/Rodgers 36F Valve

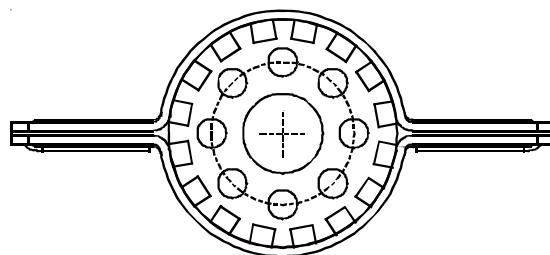


White/Rodgers 36G Valve

S-305 CHECKING MAIN BURNERS

The main burners are used to provide complete combustion of natural gas or liquid propane in a limited space, and transfer this heat of the burning process to the heat exchanger.

Proper ignition, combustion, and extinction are primarily due to burner design, orifice sizing, gas pressure, primary and secondary air, vent and proper seating of burners.



BECKETT BURNER

SERVICING

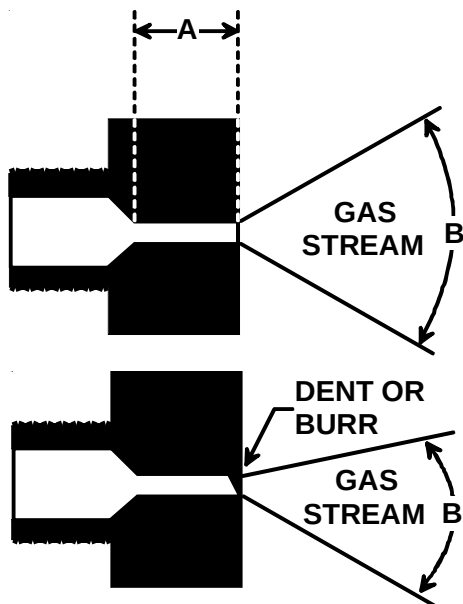
WARNING

DISCONNECT GAS AND ELECTRICAL POWER SUPPLY.

In checking main burners, look for signs of rust, oversized and undersized carry-over ports restricted with foreign material, etc.

S-306 CHECKING ORIFICES

A predetermined fixed gas orifice is used in all of these furnaces. That is an orifice which has a fixed bore and position.



The length of Dimension "A" determines the angle of Gas Stream Defraction, "B".

A dent or burr will cause severe deflection of gas stream.

No resizing should be attempted until all factors are taken into consideration such as inlet manifold gas pressure, alignment, and positioning, specific gravity and BTU content of the gas being consumed.

If resizing is required, a new orifice of the same physical size and angle with proper drill size opening should be installed.

The only time resizing is required is when a reduction in firing rate is required for an increase in altitude.

Orifices should be treated with care in order to prevent damage. They should be removed and installed with a box-end wrench in order to prevent distortion. In no instance should an orifice be peened over and redrilled. This will change the angle or deflection of the vacuum effect or entraining of primary air, which will make it difficult to adjust the flame properly. This same problem can occur if an orifice spud of a different length is substituted.

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

1. Check orifice visually for distortion and/or burrs.
2. Check orifice size with orifice sizing drills.
3. If resizing is required, a new orifice of the same physical size and angle with proper drill size opening should be installed.

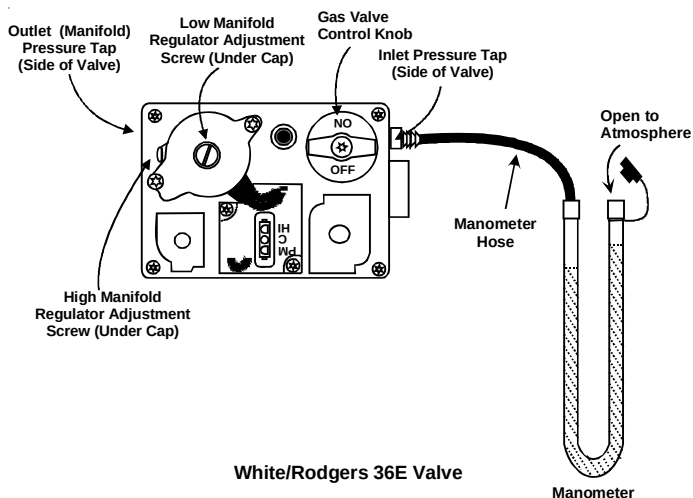
S-307 CHECKING GAS PRESSURE

Gas inlet and manifold pressures should be checked and adjusted in accordance to the type of fuel being consumed.

WARNING

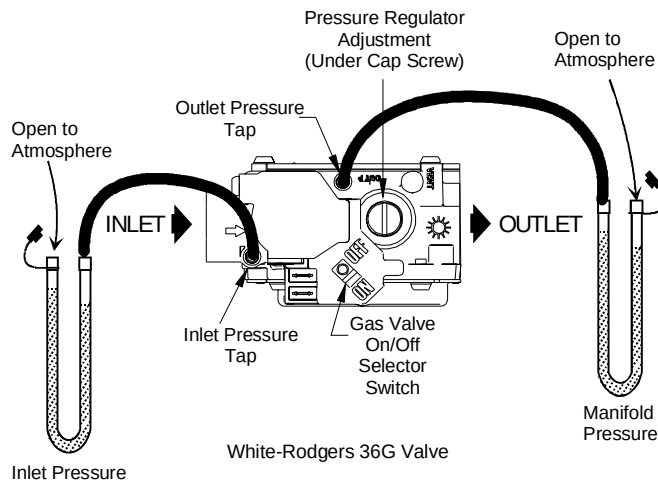
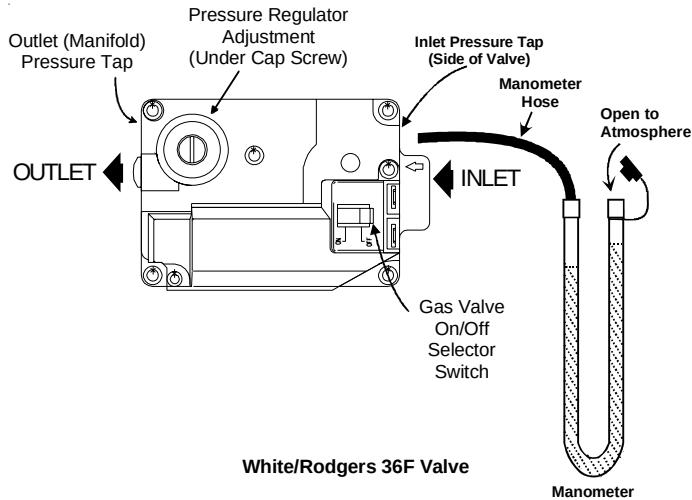
DISCONNECT GAS AND ELECTRICAL POWER SUPPLY.

1. Connect a water manometer or adequate gauge to the inlet pressure fitting of the gas valve.
2. Remove the pressure tap fitting at the manifold if provided or check at the gas valve outlet fitting and connect another manometer or gauge.



White/Rodgers 36E Valve

SERVICING



MEASURING INLET AND MANIFOLD GAS PRESSURE

With Power ON:



WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

- Put furnace into heating cycle and turn on all other gas consuming appliances.

For NATURAL GAS:

- Inlet pressure should be a nominal 7" w.c.
- Manifold pressure should be $3.5 \pm .3$ " w.c.
(Canadian - Sea Level $4.2 \pm .3$ " w.c.)

For PROPANE GAS:

- Inlet pressure should be a nominal 11" w.c.
- Manifold pressure should be a nominal 10" w.c.

If operating pressures differ from above, make necessary pressure regulator adjustments, check piping size, etc., and/or consult with local utility.

S-308 CHECKING FOR DELAYED IGNITION

Delayed ignition is a delay in lighting a combustible mixture of gas and air which has accumulated in the combustion chamber.

When the mixture does ignite, it may explode and/or rollout causing burning in the burner venturi.

If delayed ignition should occur, the following should be checked:

- Improper gas pressure - adjust to proper pressure. (See S-307)
- Improper burner positioning - burners should be in locating slots, level front to rear and left to right.
- Carry over (lighter tube or cross lighter) obstructed - clean.
- Main burner orifice(s) deformed, or out of alignment to burner - replace.

S-309 CHECKING FOR FLASHBACK

Flashback will also cause burning in the burner venturi, but is caused by the burning speed being greater than the gas-air flow velocity coming from a burner port.

Flashback may occur at the moment of ignition, after a burner heats up or when the burner turns off. The latter is known as extinction pop.

Since the end results of flashback and delayed ignition can be the same (burning in the burner venturi) a definite attempt should be made to determine which has occurred.

If flashback should occur, check for the following:

- Improper gas pressure - adjust to proper pressure. See S-307.
- Check burner for proper alignment and/or replace burner.
- Improper orifice size - check orifice for obstruction.

SERVICING

S-311 HIGH ALTITUDE APPLICATION

High Altitude Derating

When package gas units are installed at high altitude, the appropriate High Altitude orifice kit must be installed. This is required due to the natural reduction in the density of both the gas fuel and combustion air as altitude increases. The kit will provide the proper design certified input rate within the specified altitude range. High altitude kits are not approved for use in Canada. For installations above 2,000 feet, use kit HA-02. The HA-02 kit is used for both Natural and LP gas (it contains Natural and LP orifices).

Use LPT-00A liquid propane conversion kit for propane conversions at altitudes below 2000 feet. Natural gas installations below 2000 feet do not require a kit.

S-312 TESTING VENT MOTOR END SWITCH

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

1. With main power disconnected, remove the 2 wires from the end switch on the vent motor.
2. Attach the ohmmeter leads to the 2 wires on the motor end switch. There should be no reading on the meter. If the ohmmeter reads closed, then the switch is stuck closed and the vent motor must be replaced.
3. With the end switch wires removed, turn the main power on and set the thermostat for a call for heat. With the vent motor running, the ohmmeter should read closed. If the meter reads open, replace the motor.

S-313 TESTING IGNITION CONTROL MODULE

NOTE: Failure to earth ground the unit, reversing the neutral and hot wire connection to the line (polarity), or a high resistance connection in the ground or neutral lines may cause the control to lockout due to failure to flame sense.

WARNING

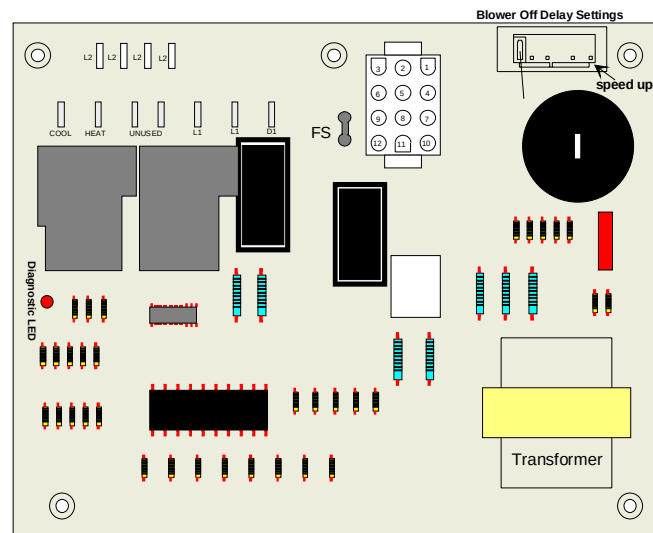
TO AVOID INJURY, ELECTRICAL SHOCK OR DEATH, WIRING TO THE UNIT MUST BE PROPERLY POLARIZED AND GROUNDED. DISCONNECT POWER BEFORE PERFORMING SERVICE.

The ground wire must run from the furnace all the way back to the electrical panel. Proper grounding can be confirmed by disconnecting the electrical power and measuring resistance between the neutral (white) connection and the burner closest to the flame sensor. Resistance should be less than 10 ohms.

DSI (Direct Spark Ignition) Systems

NORMAL SEQUENCE OF OPERATION

1. Thermostat calls for heat by energizing "W". The control checks the end switch for open condition. If the end switch is closed the control will flash code "3" and wait for the end switch to open.
2. The induced draft motor is energized and the control flashes code "2" and waits for the end switch to close. Once the end switch is closed, the LED stops flashing and the control begins timing the 15 second pre-purge.
3. The control energizes the spark igniter and gas valve for 7 seconds. If flame is established, the control goes into a 30 second blower on delay.
4. The indoor blower is energized at the heat speed after a 30 second on delay.
5. The control monitors the safety circuit inputs, flame, and thermostat during operation.
6. When the thermostat is satisfied, the gas valve is de-energized and the induced draft blower remains on for a 29 second post purge. The indoor blower remains on for the selected heat blower off delay (90, 120, or 150 seconds). Indoor blower off timing begins when thermostat call for heat ends.



DSI Control Board

Testing Direct Spark Ignition (DSI) systems

Furnace thermostat calling for heat (15 second prepurge time and 7 second trial for ignition).

1. Check for 230 volts from L1 terminal of control module to L2. No voltage - check wire connections, continuity, etc.
2. Check for 24 volts at "R" to "C" thermostat terminals.

SERVICING

- a. No voltage - check 3 amp automotive type fuse on control board. A blown fuse would indicate a short in the 24 volt circuit (thermostat or limit circuit).
- b. Voltage Present - check limit and rollout (S-301 and S-302). If limit and rollout are closed, then check for 24 VAC at the gas valve terminals.

If there is not 24 VAC at gas valve - replace Control board.

B1809918 Ignition Board Fault Codes		
Status Light	Equipment Status	Check
On	Normal Operation	
Off	No Power or Internal Control Fault	Check Input Power, Check Fuse on Control, Replace Control
1 Blink	Ignition Failure, Open Rollout Switch, or Open Aux. Limit Switch	Check Gas Flow, Check Gas Pressure, Check Gas Valve, Check Flame Sensor, Check Flame Rollout, Check Aux. Limit.
2 Blinks	End Switch Open	Check End Switch
3 Blinks	End Switch Closed	Check End Switch
4 Blinks	Open Main Limit Switch	Main Limit Switch Open
5 Blinks	False Flame Sensed	Sticking Gas Valve
6 Blinks	Compressor Output Delay	3 Minute Compressor Anti-Cycle Timer

NOTE: The flash rate is 0.25 seconds on, 0.25 seconds off, with a 2-second pause between codes.

S-314 CHECKING FLAME SENSOR

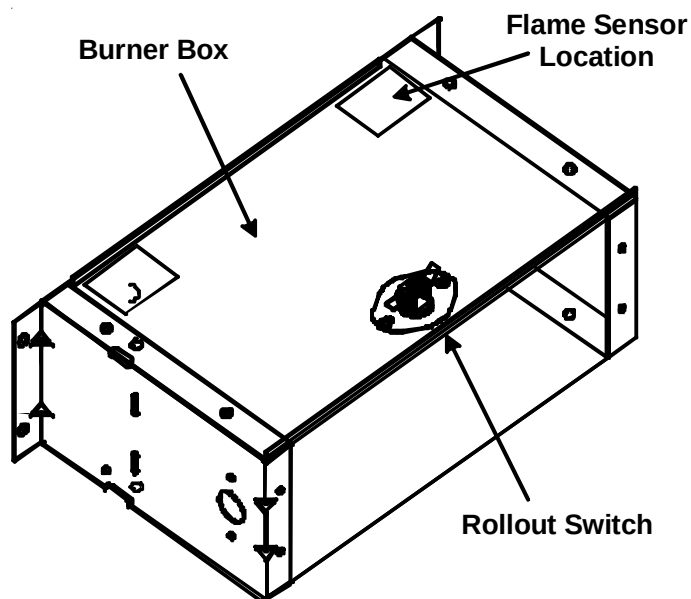
A flame sensing device is used in conjunction with the ignition control module to prove combustion. If a microamp signal is not present the control will de-energize the gas valve and "retry" for ignition or lockout.



WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

1. Disconnect the flame sensor wire from terminal FS of the ignition control module.



2. Connect a microamp meter in series with this wire and terminal FS.
3. Be sure the negative side of the meter is to the wire and the positive of the meter is to terminal FS.
4. Turn on Power.



WARNING

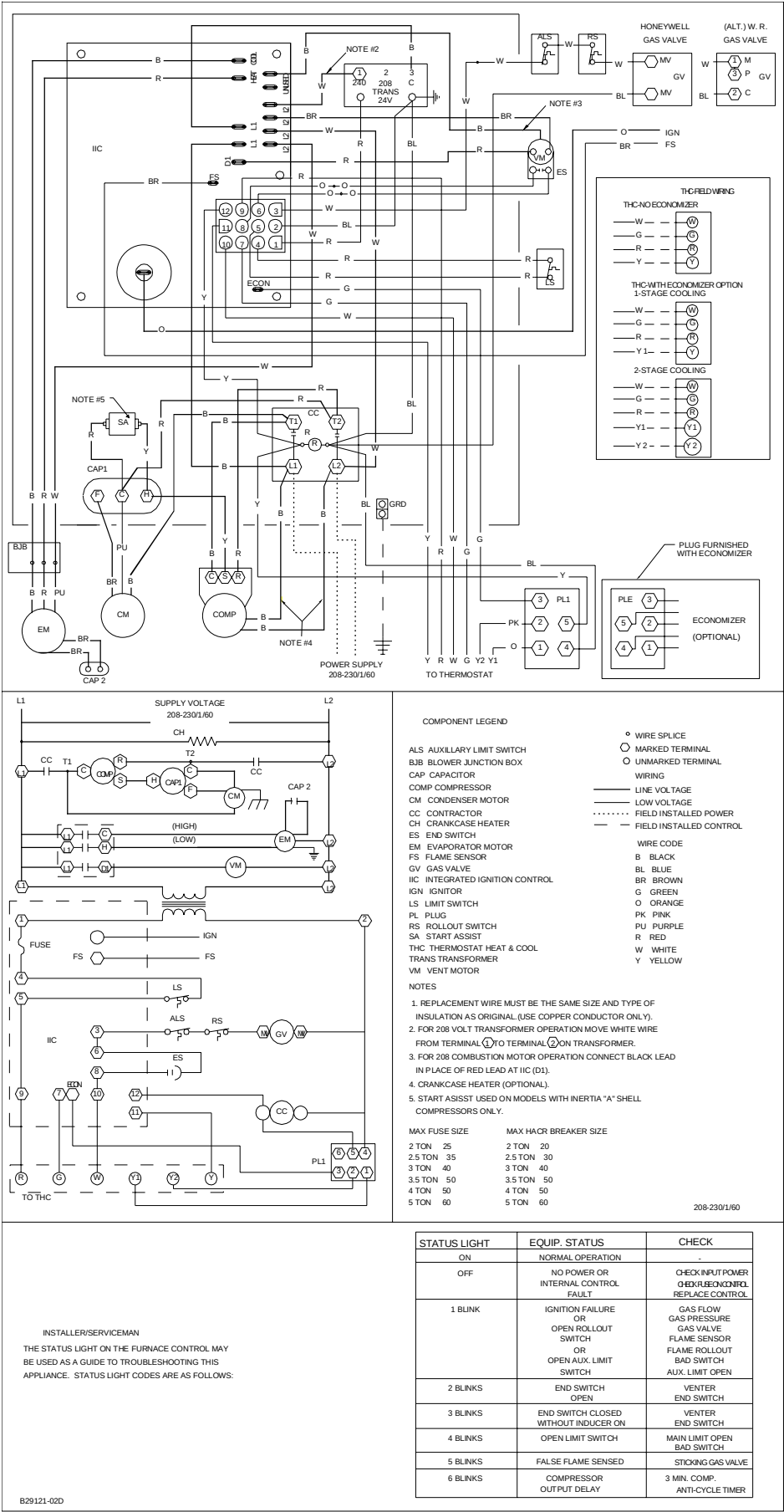
LINE VOLTAGE NOW PRESENT.

5. With Power ON, Place the unit into a heating cycle.
6. As soon as flame is established a microamp reading should be evident once proof of flame (microamp reading) is established, the hot surface ignitor will be de-energized.
7. The nominal microamp reading is 4 microamps.
8. If the microamp current is less than 0.5 microamp the control will lockout and flash a code of 1 flash after attempting to reestablish flame sense.
9. If the microamp reading is less than the minimum specified, check for high resistance wiring connections, the distance (3/16") between the sensor and burner, flame sensor connections, dirty flame sensor or poor grounding.
10. If no reading, check for continuity on all components and if good - replace ignition control module.

NOTE: Contaminated fuel or combustion air can create a nearly invisible coating on the flame sensor. This coating works as an insulator causing a loss in the flame sense signal. If this situation occurs the flame sensor must be cleaned with steel wool. Do not use sand paper, the silicone in sand paper will further contaminate the sensor.

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY,
OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

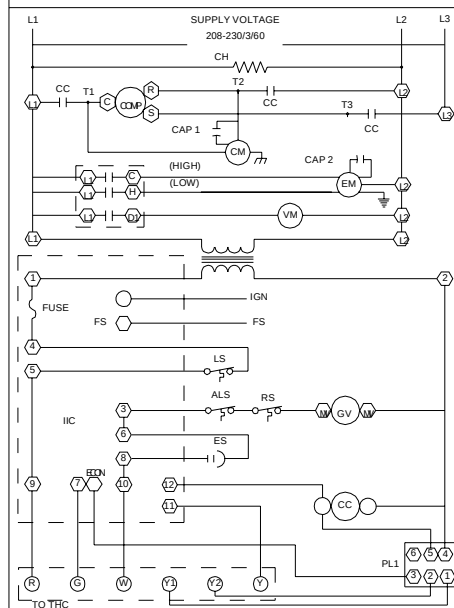
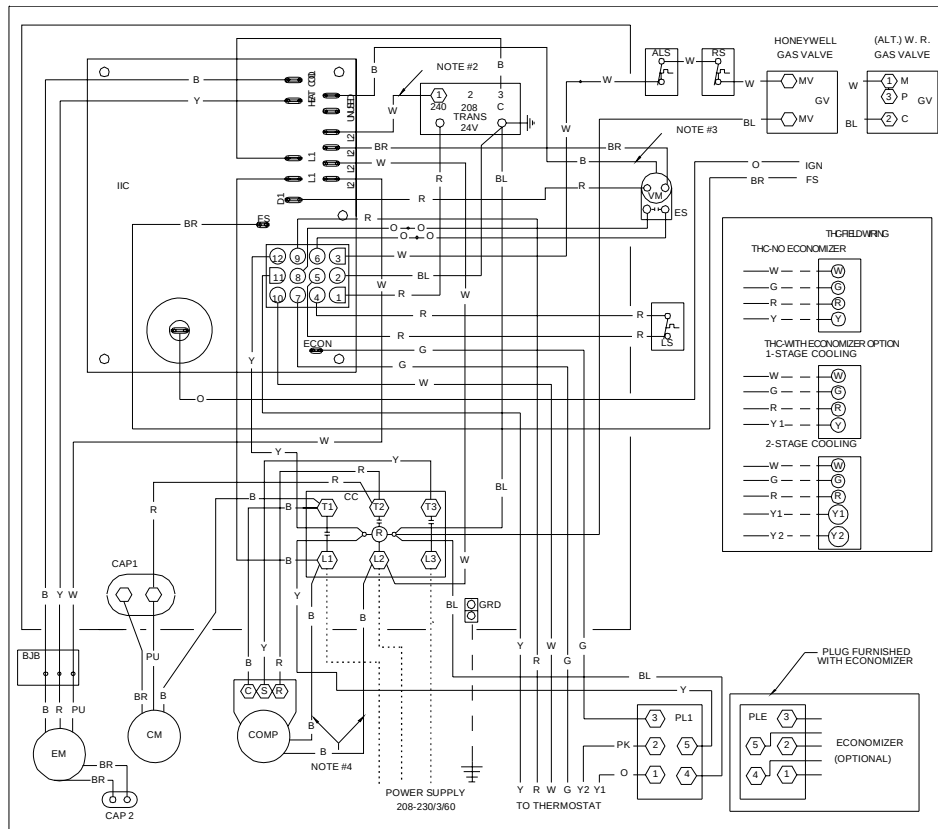


PGB 208-230/1/60

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING



COMPONENT LEGEND

ALS	AUXILIARY LIMIT SWITCH	•	WIRE SPLICE
BJB	BLOWER JUNCTION BOX	○	MARKED TERMINAL
CAP	CAPACITOR	○	UNMARKED TERMINAL
COMP	COMPRESSOR	---	WIRING
CM	CONDENSER MOTOR	---	LINE VOLTAGE
CC	CONTRACTOR	---	LOW VOLTAGE
CH	CRANKCASE HEATER	---	FIELD INSTALLED POWER
ES	END SWITCH	---	FIELD INSTALLED CONTROL
EM	EVAPORATOR MOTOR		
FS	FLAME SENSOR		
GV	GAS VALVE		
IIC	INTEGRATED IGNITION CONTROL		
IGN	IGNITOR		
LS	LIMIT SWITCH		
PL	PLUG		
RS	ROLLOUT SWITCH		
THC	THERMOSTAT HEAT & COOL		
TRANS	TRANSFORMER		
VM	VENT MOTOR		

NOTES

- REPLACEMENT WIRE MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (USE COPPER CONDUCTOR ONLY).
- FOR 208 VOLT TRANSFORMER OPERATION MOVE WHITE WIRE FROM TERMINAL (1) TO TERMINAL (2) ON TRANSFORMER.
- FOR 208 COMBUSTION MOTOR OPERATION CONNECT BLACK LEAD IN PLACE OF RED LEAD AT IIC (D1).
- CRANKCASE HEATER (OPTIONAL).

MAX FUSE SIZE	MAX HACR BREAKER SIZE
3 TON 25	3 TON 20
4 TON 35	4 TON 30
5 TON 40	5 TON 40

208-230/3/60

INSTALLER/SERVICEMAN
THE STATUS LIGHT ON THE FURNACE CONTROL MAY BE USED AS A GUIDE TO TROUBLESHOOTING THIS APPLIANCE. STATUS LIGHT CODES ARE AS FOLLOWS:

STATUS LIGHT	EQUIP. STATUS	CHECK
ON	NORMAL OPERATION	
OFF	NO POWER OR INTERNAL CONTROL FAULT	CHECK INPUT POWER CHECK REVERSE CONTROL REPLACE CONTROL
1 BLINK	IGNITION FAILURE OR OPEN ROLLOUT SWITCH OR OPEN AUX. LIMIT SWITCH	GAS FLOW GAS PRESSURE GAS VALVE FLAME SENSOR FLAME ROLLOUT BAD SWITCH AUX. LIMIT OPEN
2 BLINKS	END SWITCH OPEN	VENTER END SWITCH
3 BLINKS	END SWITCH CLOSED WITHOUT INDUCER ON	VENTER END SWITCH
4 BLINKS	OPEN LIMIT SWITCH	MAIN LIMIT OPEN BAD SWITCH
5 BLINKS	FALSE FLAME SENSED	STRONG GAS VALVE
6 BLINKS	COMPRESSOR OUTPUT DELAY	3 MIN. COMP. ANTI-CYCLE TIMER

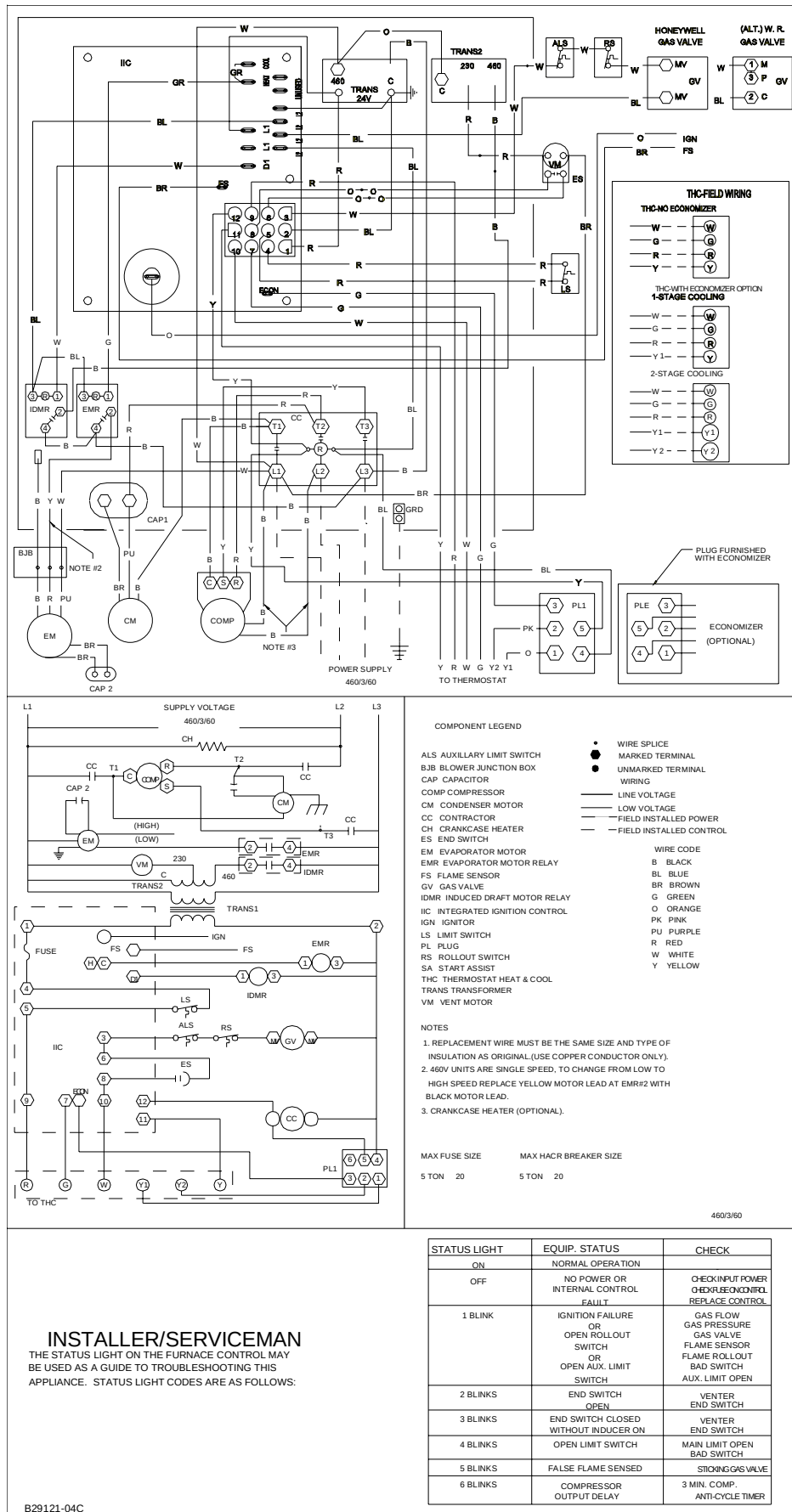
B29120-03C

PGB 208-230/3/60

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING

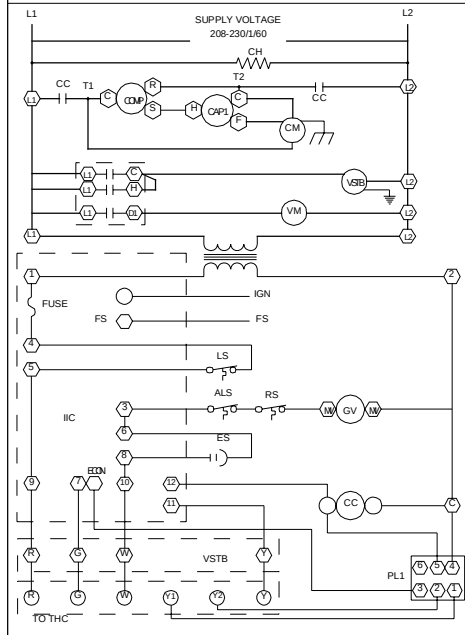
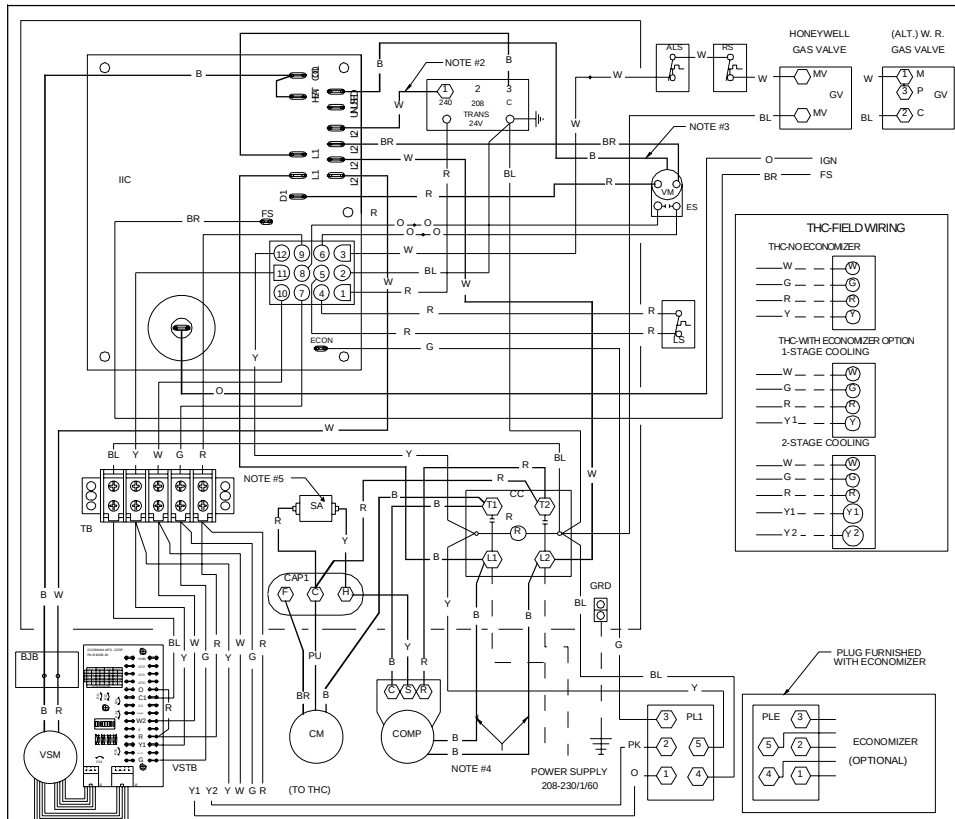


PGB 460/3/60

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING



COMPONENT LEGEND

ALS AUXILIARY LIMIT SWITCH
BJB BLOWER JUNCTION BOX
CAP CAPACITOR
COMP COMPRESSOR
CM CONDENSER MOTOR
CC CONTRACTOR
CH CRANKCASE HEATER
ES END SWITCH
FS FLAME SENSOR
GV GAS VALVE
IIC INTEGRATED IGNITION CONTROL
IGN IGNITOR
LS LIMIT SWITCH
PL PLUG
RS ROLL OUT SWITCH
SA START ASSIST
THC THERMOSTAT HEAT & COOL
TRANS TRANSFORMER
VM VENT MOTOR
VSM VAR. SPEED MOTOR
VSTB VAR. SPEED TERM. BLOCK

WIRING

— LINE VOLTAGE
— LOW VOLTAGE
- - - FIELD INSTALLED POWER
- - - FIELD INSTALLED CONTROL

WIRE CODE

B BLACK
BL BLUE
BR BROWN
G GREEN
O ORANGE
PK PINK
PU PURPLE
R RED
W WHITE
Y YELLOW

NOTES

1. REPLACEMENT WIRE MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (USE COPPER CONDUCTOR ONLY).
2. FOR 208 VOLT TRANSFORMER OPERATION MOVE WHITE WIRE FROM TERMINAL ① TO TERMINAL ② ON TRANSFORMER.
3. FOR 208 COMBUSTION MOTOR OPERATION CONNECT BLACK LEAD IN PLACE OF RED LEAD AT IIC (D1).
4. CRANKCASE HEATER (OPTIONAL).
5. START ASSIST USED ON MODELS WITH INERTIA "A" SHELL COMPRESSORS ONLY.

MAX FUSE SIZE

2 TON 25
2.5 TON 30
3 TON 45
3.5 TON 45
4 TON 50

MAX HACR BREAKER SIZE

2 TON 20
2.5 TON 30
3 TON 40
3.5 TON 40
4 TON 50

208-230/1/60

INSTALLER/SERVICEMAN

THE STATUS LIGHT ON THE FURNACE CONTROL MAY BE USED AS A GUIDE TO TROUBLESHOOTING THIS APPLIANCE. STATUS LIGHT CODES ARE AS FOLLOWS:

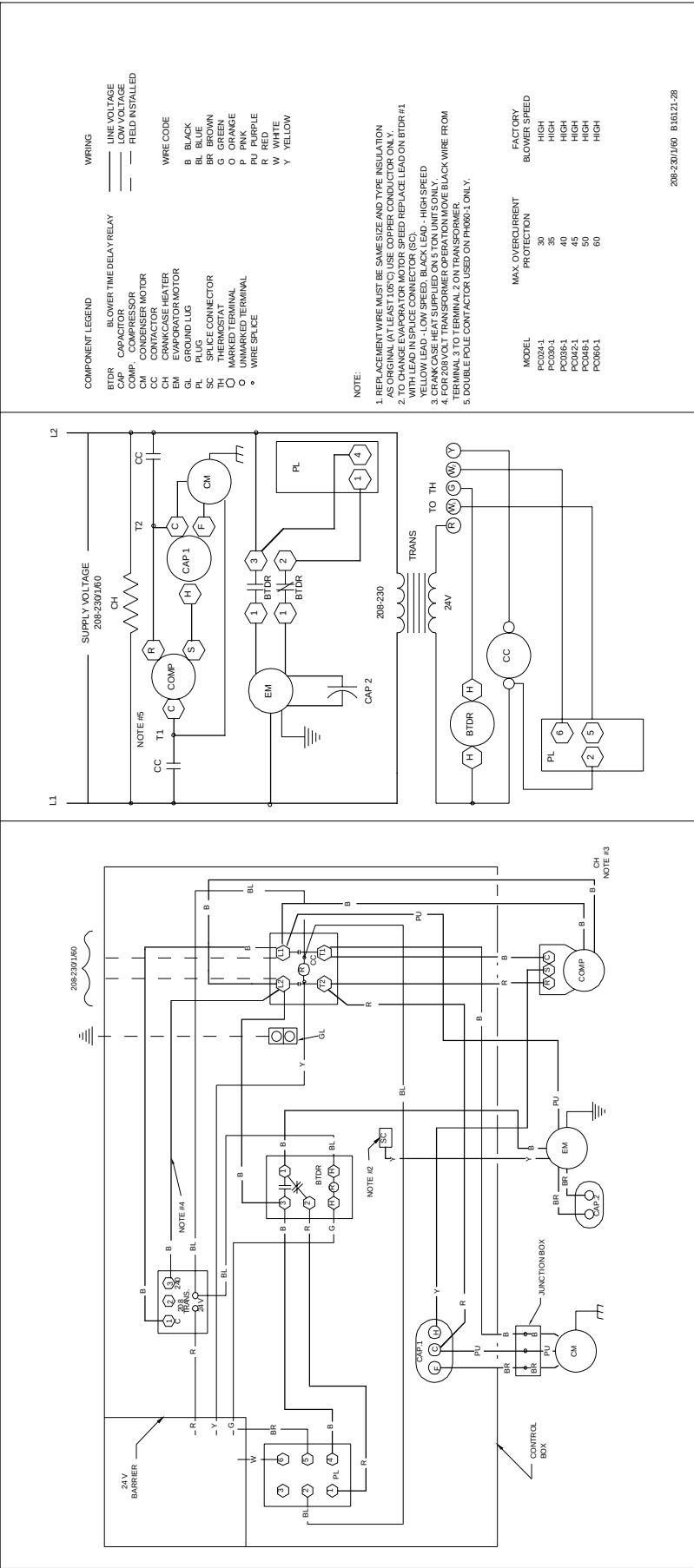
STATUS LIGHT	EQUIP. STATUS	CHECK
ON	NORMAL OPERATION	-
OFF	NO POWER OR INTERNAL CONTROL FAULT	CHECK INPUT POWER CHECK FUSE/CONTROL REPLACE CONTROL
1 BLINK	IGNITION FAILURE OR OPEN ROLL OUT SWITCH OR OPEN AUX. LIMIT SWITCH	GAS FLOW GAS PRESSURE GAS VALVE FLAME SENSOR FLAME ROLL OUT BAD SWITCH AUX. LIMIT OPEN
2 BLINKS	END SWITCH OPEN	VENTER END SWITCH
3 BLINKS	END SWITCH CLOSED WITHOUT INDUCER ON	VENTER END SWITCH
4 BLINKS	OPEN LIMIT SWITCH	MAIN LIMIT OPEN BAD SWITCH
5 BLINKS	FALSE FLAME SENSED	STICKING GAS VALVE
6 BLINKS	COMPRESSOR OUTPUT DELAY	3 MIN. COMP. ANTI-CYCLE TIMER

PGJ 208-230/1/60

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY,
OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

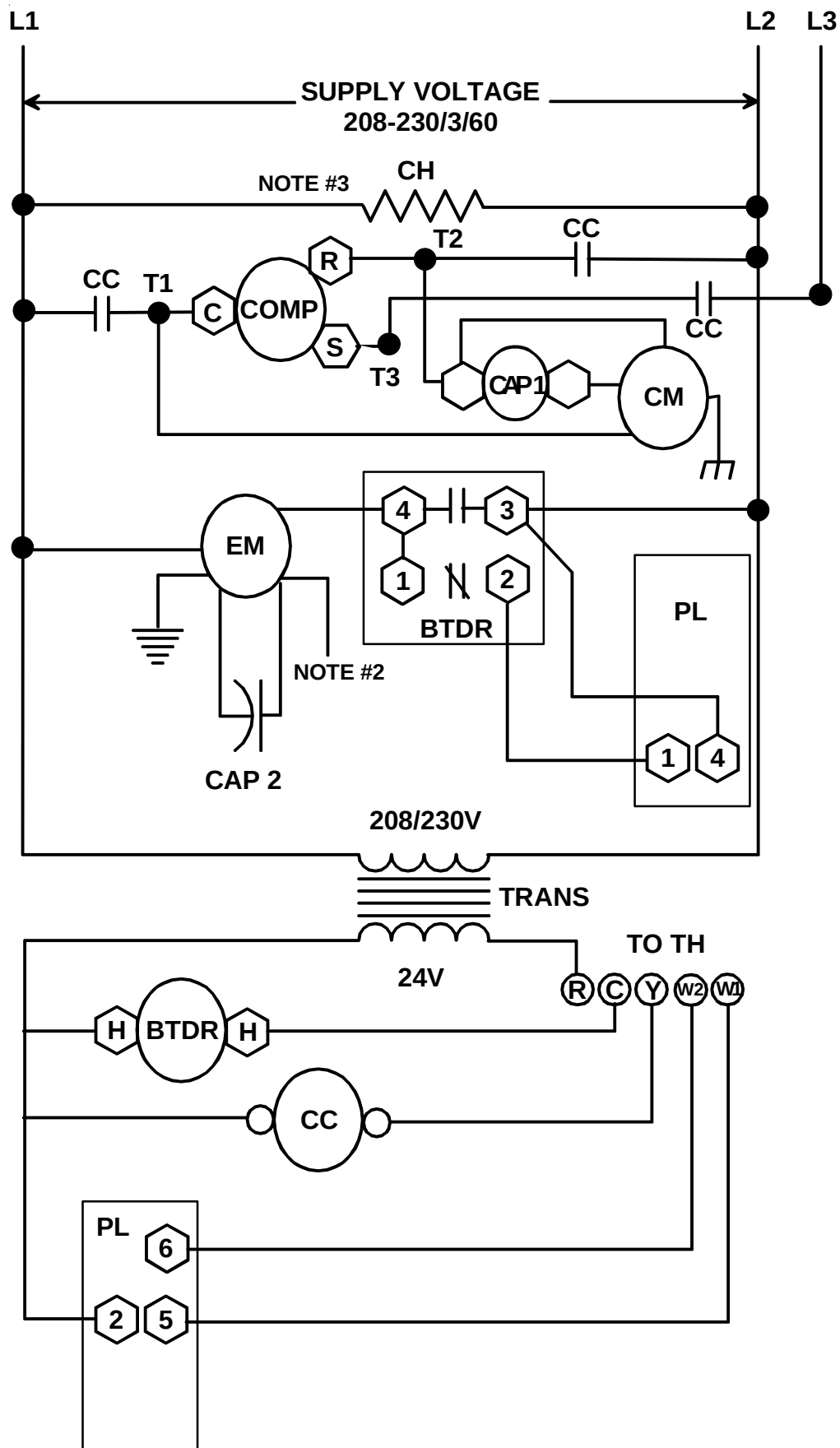


WIRING DIAGRAMS



PC 208-230/1/60

WIRING DIAGRAMS

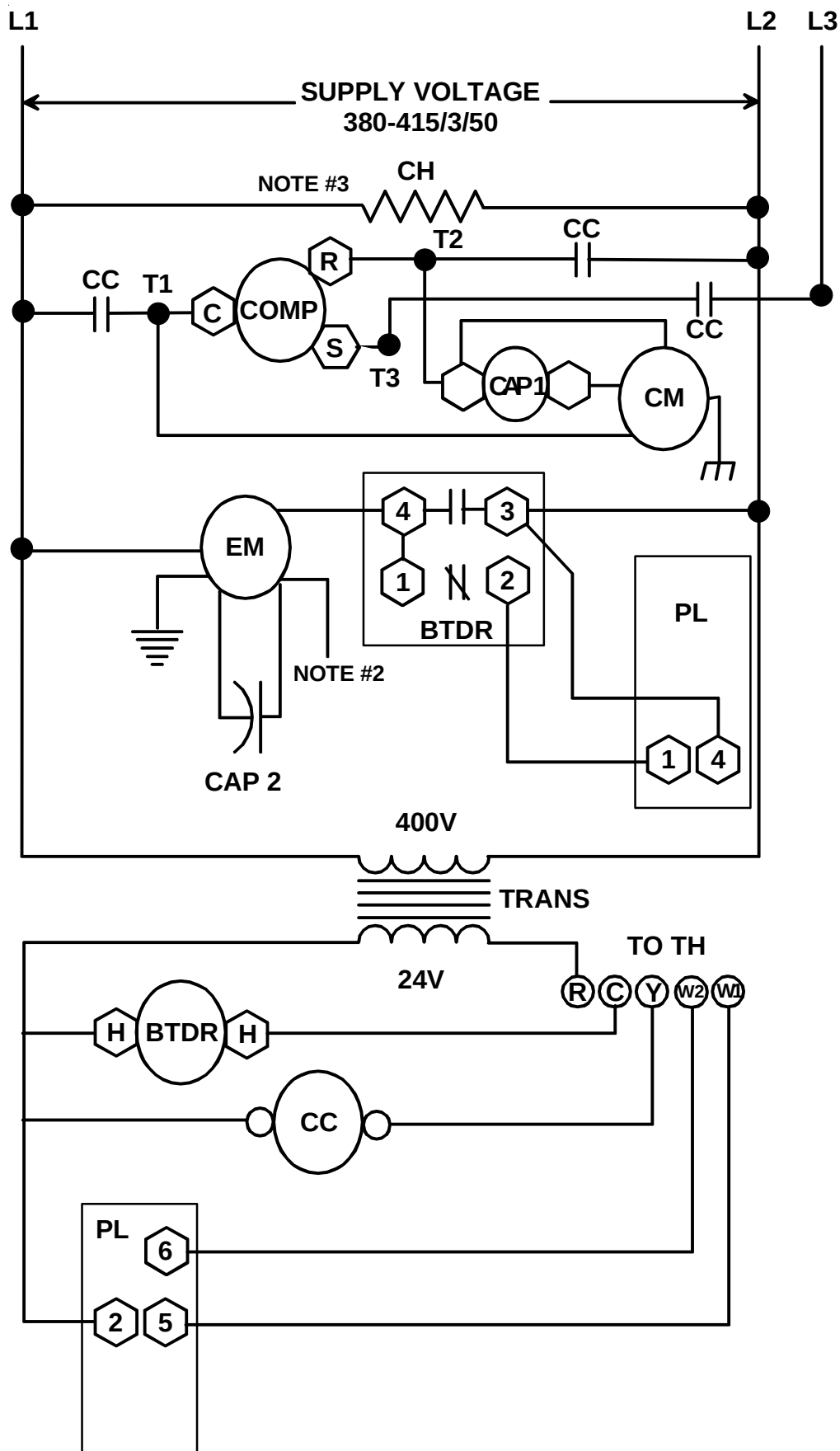


TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY,
OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING

PC 208-230/3/60

WIRING DIAGRAMS



PC 460/3/60

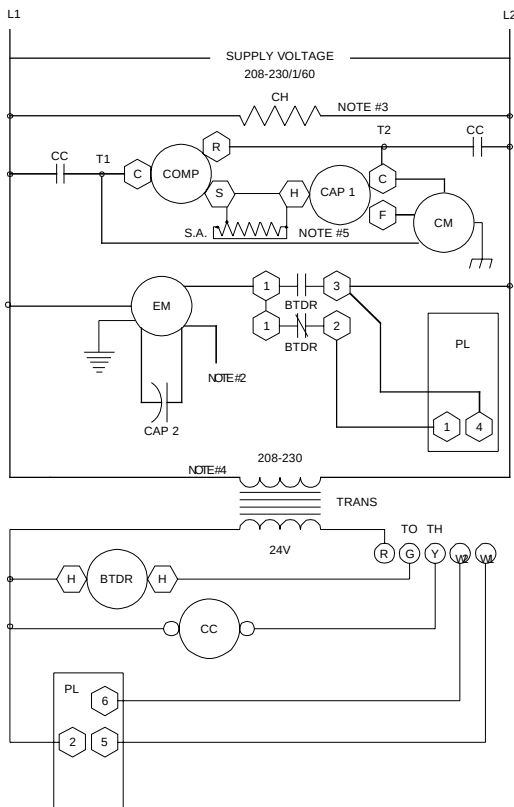
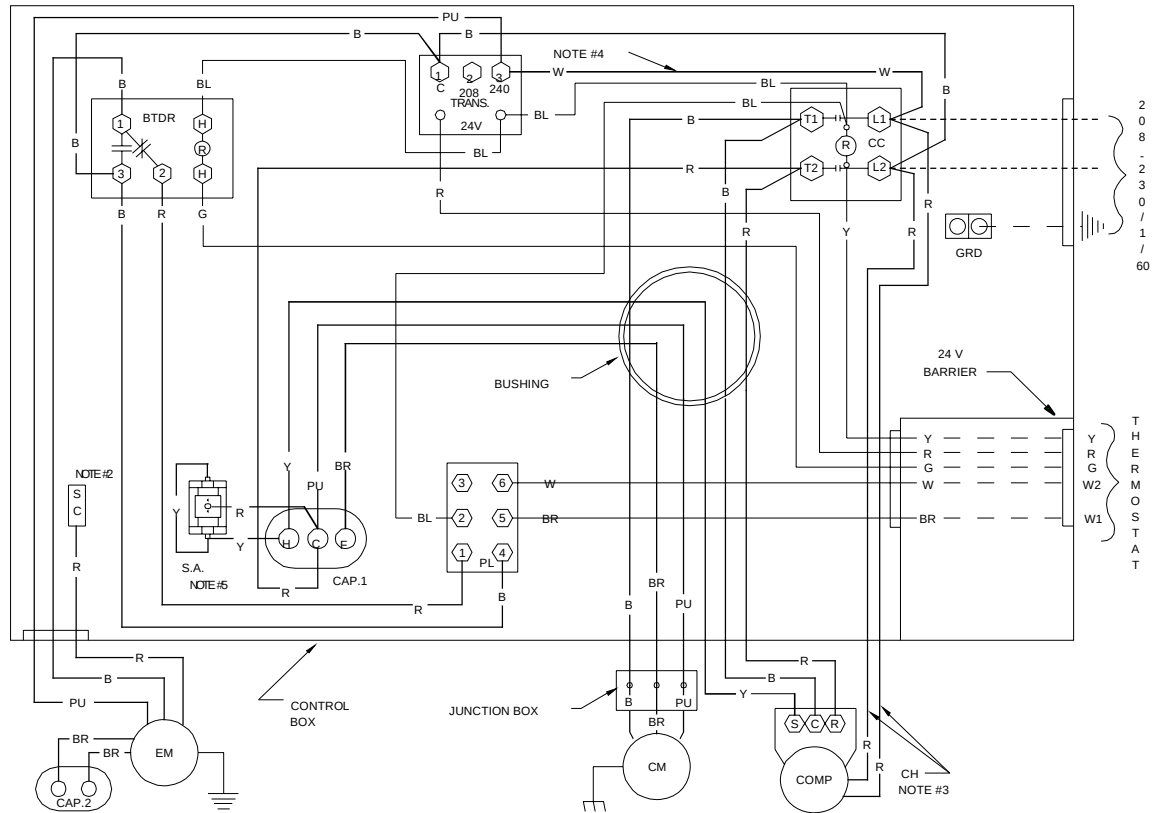
TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING



COMPONENT LEGEND

BTDR BLOWER TIME DELAY RELAY
CAP CAPACITOR
COMP. COMPRESSOR
CM CONDENSER MOTOR
CC CONTACTOR
CH CRANKSPACE HEATER
EM EVAPORATOR MOTOR
GRD GROUND LUG
PL PLUG
SC SPLICE CONNECTOR
SA START ASSIST
TH THERMOSTAT
O MARKED TERMINAL
○ UNMARKED TERMINAL
• WIRE SPLICE

WIRING

— LINE VOLTAGE
— LOW VOLTAGE
— FIELD INSTALLED

WIRE CODE

B BLACK
BL BLUE
BR BROWN
G GREEN
O ORANGE
P PINK
PU PURPLE
R RED
W WHITE
Y YELLOW

NOTE:

1. REPLACEMENT WIRE MUST BE SAME SIZE AND TYPE INSULATION AS ORIGINAL (AT LEAST 105°C) USE COPPER CONDUCTOR ONLY.
2. TO CHANGE EVAPORATOR MOTOR SPEED REPLACE LEAD ON BTDR #1 WITH LEAD IN SPLICE CONNECTOR (SC).
RED LEAD - LOW SPEED, BLACK LEAD - HIGH SPEED
3. CRANKSPACE HEAT NOT SUPPLIED ON ALL UNITS.
4. FOR 208 VOLT TRANSFORMER OPERATION MOVE WHITE & PURPLE WIRE FROM TERMINAL 3 TO TERMINAL 2 ON TRANSFORMER.
5. START ASSIST USED ONLY ON MODELS EQUIPPED WITH INERTIA COMPRESSORS.

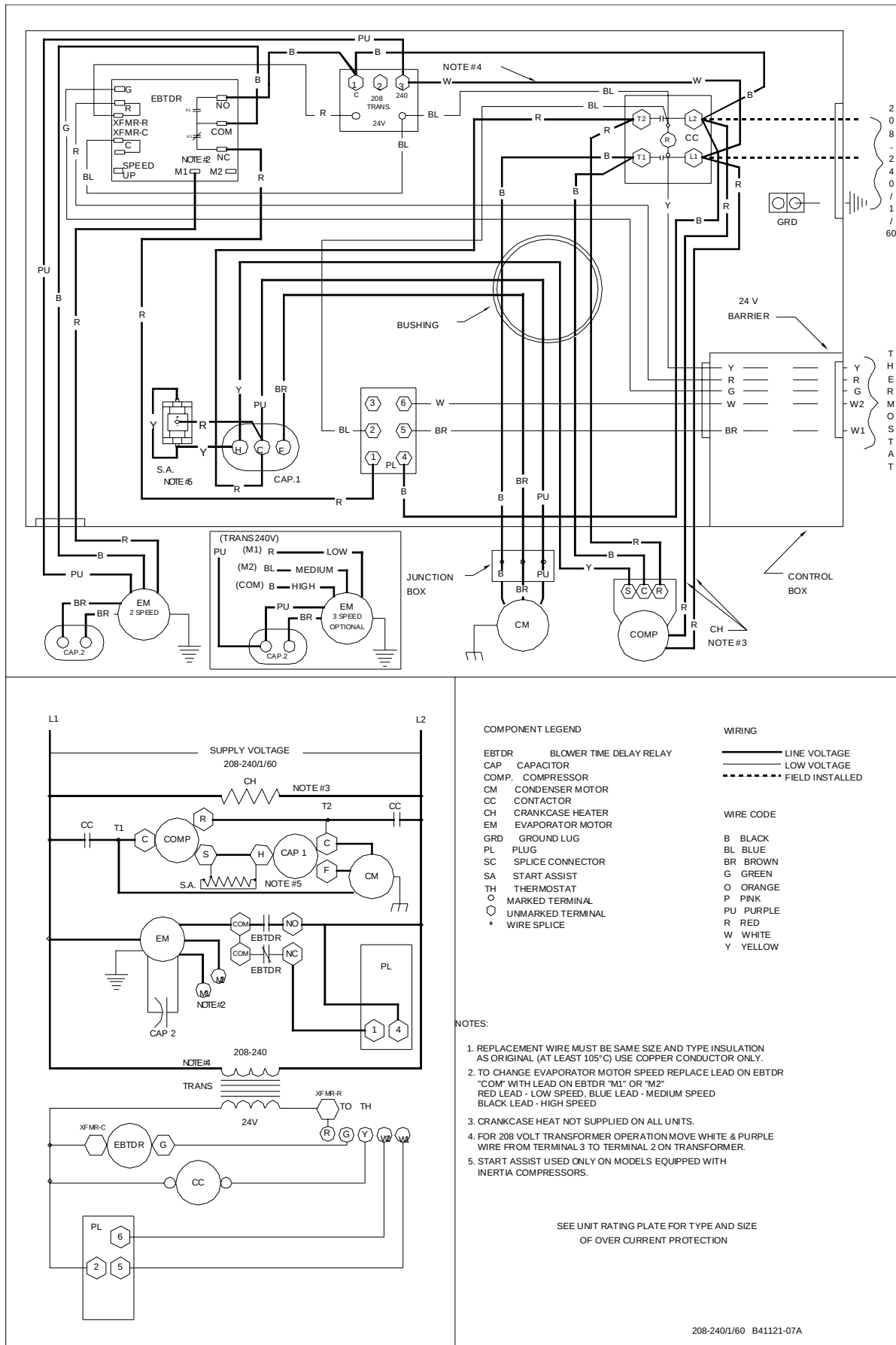
SEE UNIT RATING PLATE FOR TYPE AND SIZE OF OVER CURRENT PROTECTION

208-230/1/60 B41121-00

PCK, PCKJ 208-230/1/60

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

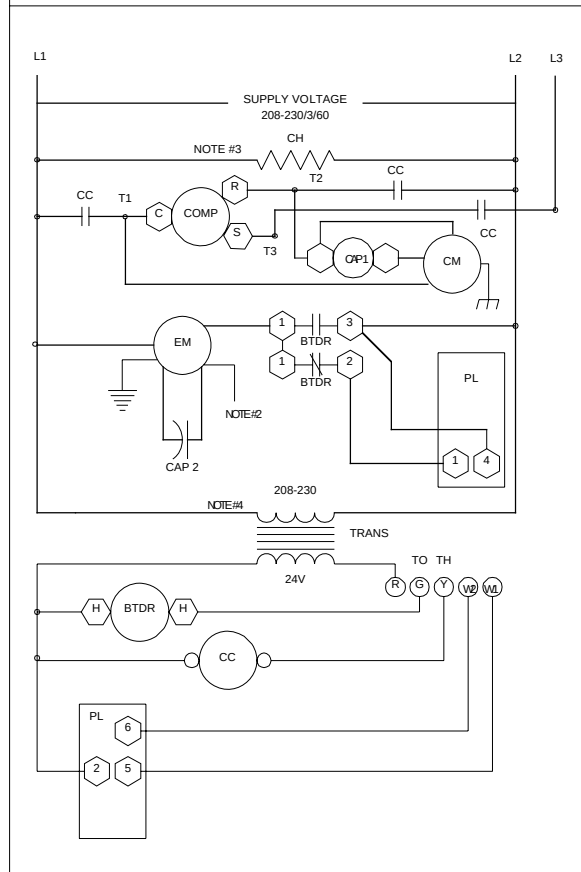
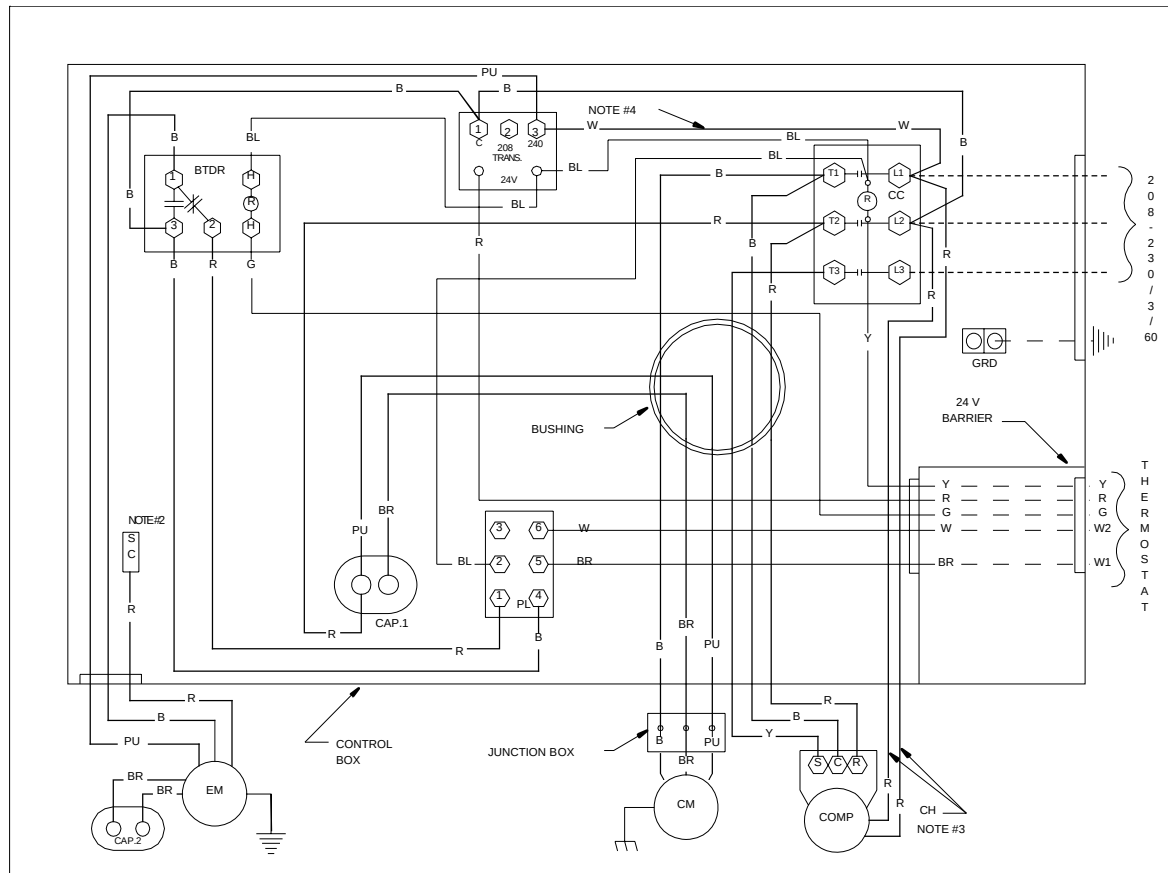


PCK-1F, PCKJ-1F 208-230/1/60

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING



COMPONENT LEGEND

BTDR BLOWER TIME DELAY RELAY
CAP CAPACITOR
COMP. COMPRESSOR
CM CONDENSER MOTOR
CC CONTACTOR
CH CRANKCASE HEATER
EM EVAPORATOR MOTOR
GRD GROUND LUG
PL PLUG
SC SPLICE CONNECTOR
SA START ASSIST
TH THERMOSTAT
O MARKED TERMINAL
O UNMARKED TERMINAL
• WIRE SPLICE

WIRING

— LINE VOLTAGE
— LOW VOLTAGE
- - - FIELD INSTALLED

WIRE CODE

B BLACK
BL BLUE
BR BROWN
G GREEN
O ORANGE
P PINK
PU PURPLE
R RED
W WHITE
Y YELLOW

NOTE:

1. REPLACEMENT WIRE MUST BE SAME SIZE AND TYPE INSULATION AS ORIGINAL (AT LEAST 105°C) USE COPPER CONDUCTOR ONLY.
2. TO CHANGE EVAPORATOR MOTOR SPEED REPLACE LEAD ON BTDR #1 WITH LEAD IN SPLICE CONNECTOR (SC).
RED LEAD - LOW SPEED, BLACK LEAD - HIGH SPEED
3. CRANKCASE HEAT NOT SUPPLIED ON ALL UNITS.
4. FOR 208 VOLT TRANSFORMER OPERATION MOVE WHITE & PURPLE WIRE FROM TERMINAL 3 TO TERMINAL 2 ON TRANSFORMER.

SEE UNIT RATING PLATE FOR TYPE AND SIZE OF OVER CURRENT PROTECTION

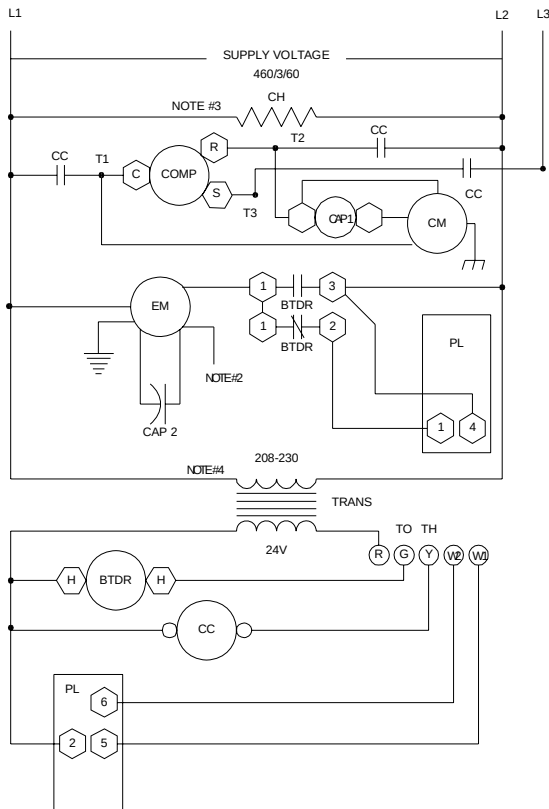
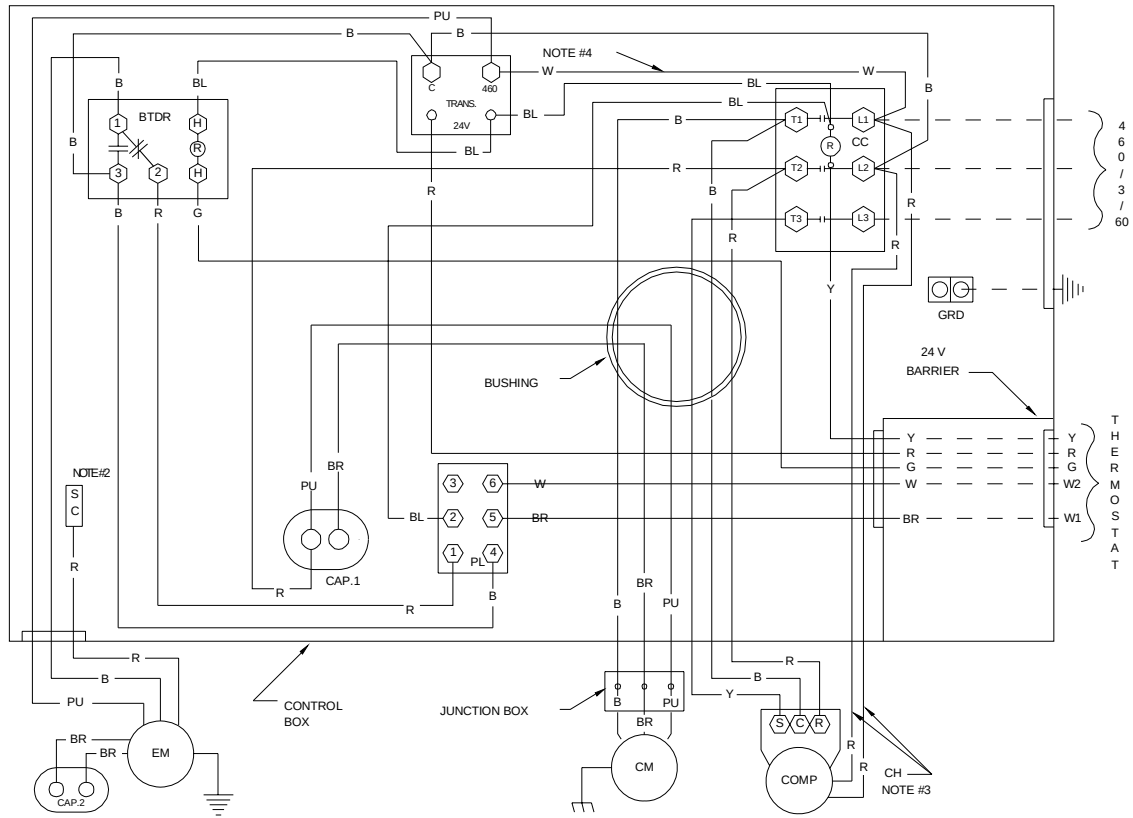
208-230/3/60 B41121-01

PCK 208-230/3/60

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY,
OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING



COMPONENT LEGEND

BTDR BLOWER TIME DELAY RELAY
CAP CAPACITOR
COMP. COMPRESSOR
CM CONDENSER MOTOR
CC CONTACTOR
CH CRANKCASE HEATER
EM EVAPORATOR MOTOR
GRD GROUND LUG
PL PLUG
SC SPLICE CONNECTOR
SA START ASSIST
TH THERMOSTAT
O MARKED TERMINAL
O UNMARKED TERMINAL
o WIRE SPLICE

WIRING

— LINE VOLTAGE
— LOW VOLTAGE
- - - FIELD INSTALLED

WIRE CODE

B BLACK
BL BLUE
BR BROWN
G GREEN
O ORANGE
P PINK
PU PURPLE
R RED
W WHITE
Y YELLOW

NOTE:

1. REPLACEMENT WIRE MUST BE SAME SIZE AND TYPE INSULATION AS ORIGINAL (AT LEAST 105°C) USE COPPER CONDUCTOR ONLY.
2. TO CHANGE EVAPORATOR MOTOR SPEED REPLACE LEAD ON BTDR #1 WITH LEAD IN SPLICE CONNECTOR (SC).
RED LEAD - LOW SPEED, BLACK LEAD - HIGH SPEED
3. CRANKCASE HEAT NOT SUPPLIED ON ALL UNITS.

SEE UNIT RATING PLATE FOR TYPE AND SIZE
OF OVER CURRENT PROTECTION

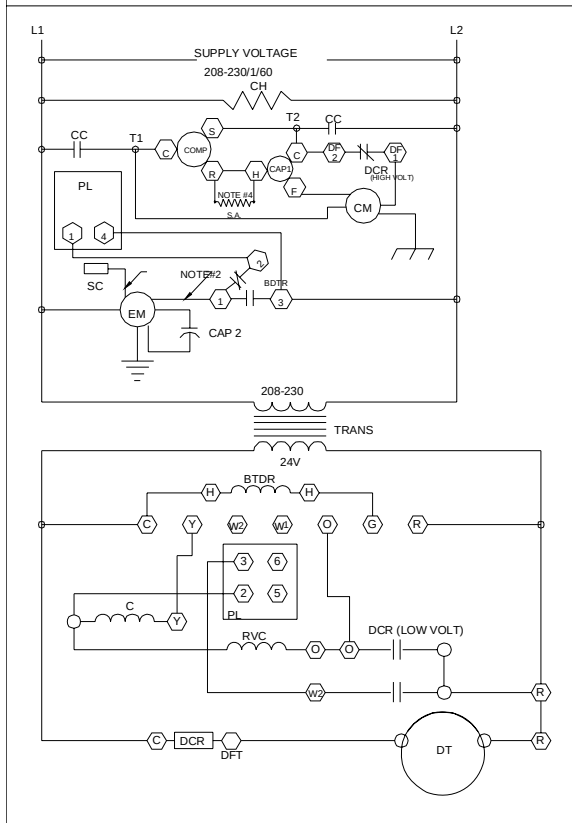
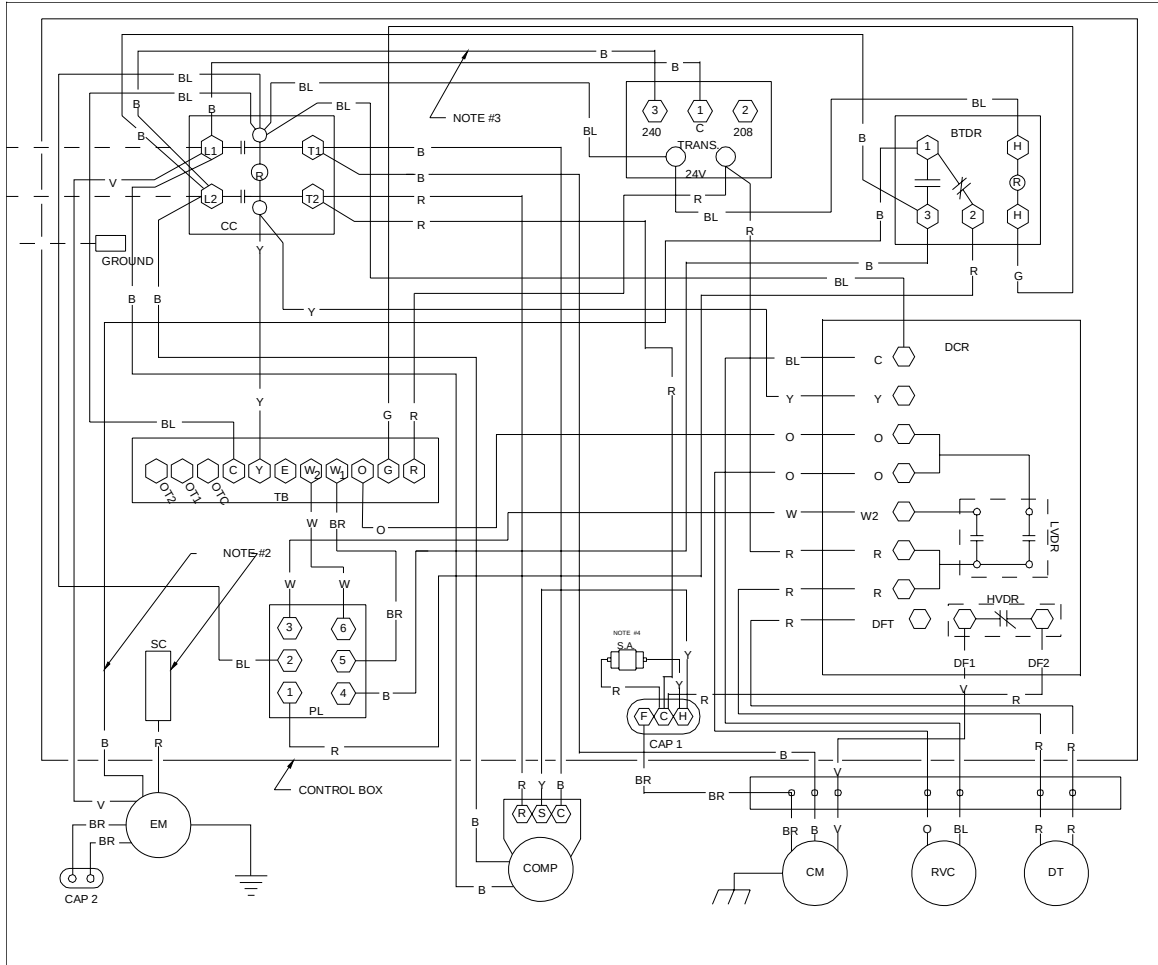
460/3/60 B41121-02

PCK 460/3/60

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING



COMPONENT LEGEND

BTDR BLOWER TIME DELAY RELAY	○ WIRE SPICE
CAP CAPACITOR	⊗ MARKED TERMINAL
COMP COMPRESSOR	○ UNMARKED TERMINAL
CM CONDENSER MOTOR	— WIRING
CC CONTACTOR	— LINE VOLTAGE
CH CRANKCASE HEATER	— LOW VOLTAGE
CLT COMP. LOCKOUT TIMER	— FIELD INSTALLED POWER
DT DEFROST THERMOSTAT	— FIELD INSTALLED CONTROL
EM EVAPORATOR MOTOR	
DCR DEFROST CONTROL WIRELAY	
JB JUNCTION BOX	
PL PLUG	
SC SPLICE CONNECTOR	
TB TERMINAL BLOCK	
RVC REVERSING VALVE COIL	
S.A. START ASSIST	
LVDH LOW VOLTAGE DEFROST RELAY	
HVDR HIGH VOLTAGE DEFROST RELAY	

WIRE CODE
B BLACK
BL BLUE
BR BROWN
G GREEN
O ORANGE
PK PINK
R RED
W WHITE
Y YELLOW
V VIOLET

NOTES

1. REPLACEMENT WIRE MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (AT LEAST 105°) USE COPPER CONDUCTOR ONLY.
2. TO CHANGE EVAPORATOR MOTOR SPEED REPLACE LEAD ON BTDR #1 WITH LEAD IN SPLICE CONNECTOR (SC) RED LEAD-LOW SPEED, BLACK LEAD-HIGH SPEED
3. FOR 208 VOLT TRANSFORMER OPERATION MOVE BLACK WIRE FROM TERMINAL 3 TO TERMINAL 2 ON TRANSFORMER.
4. START ASSIST USED ONLY ON MODELS EQUIPPED WITH INERTIA COMPRESSORS

SEE UNIT RATING PLATE FOR TYPE AND SIZE OF OVER CURRENT PROTECTION.

208-230/1/60

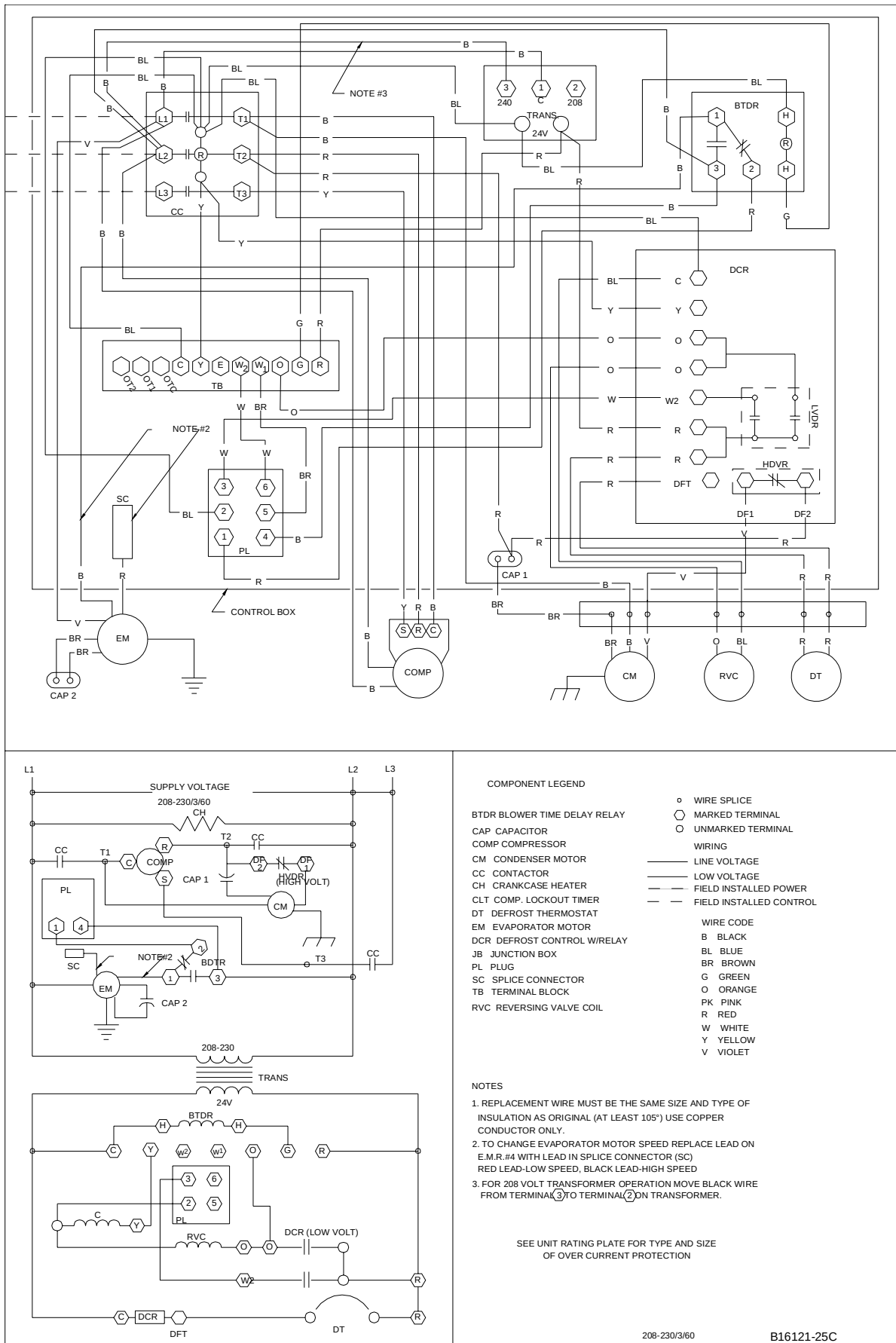
B16120-33D

PH 208-230/1/60

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING

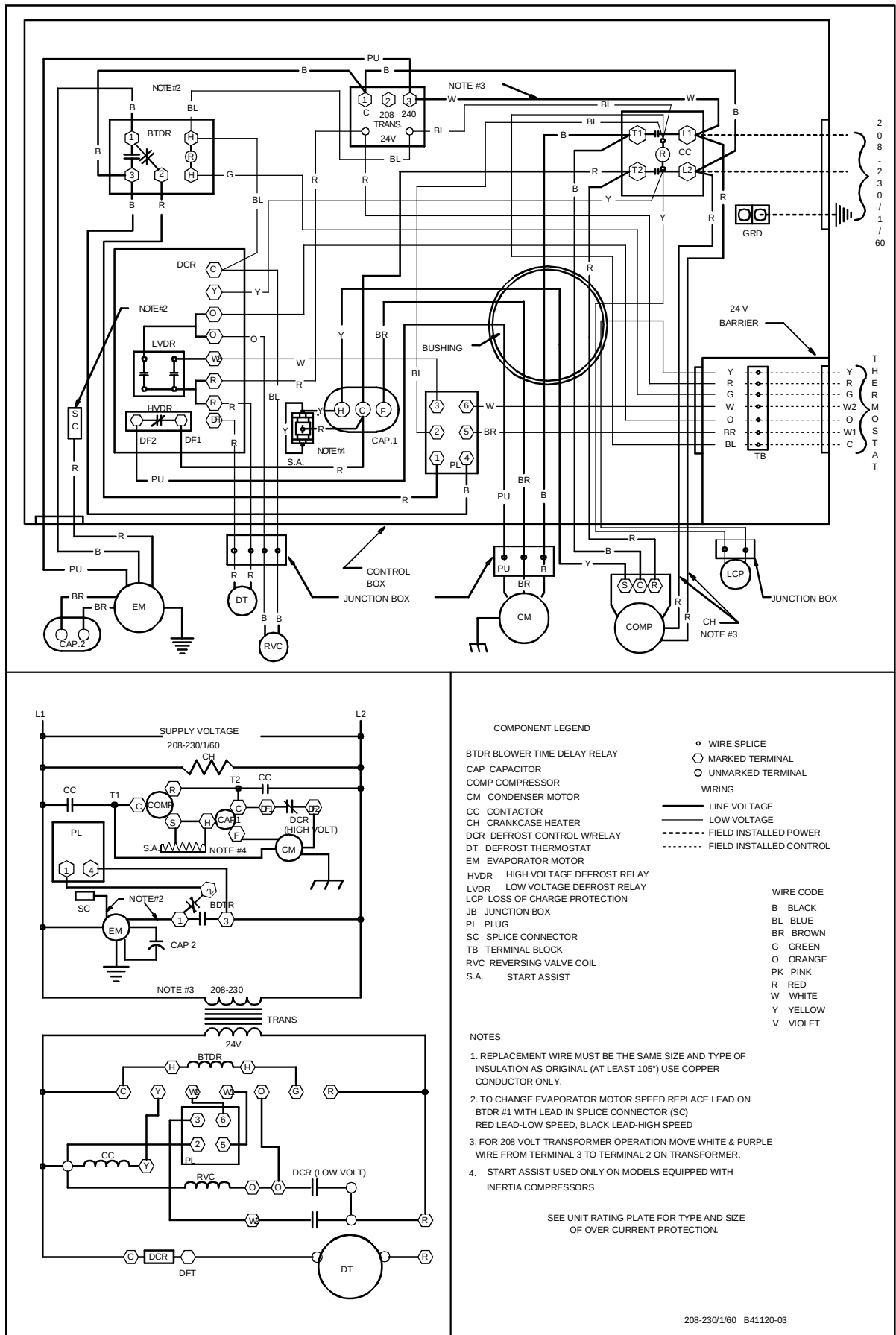


PH 208-230/3/60

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING

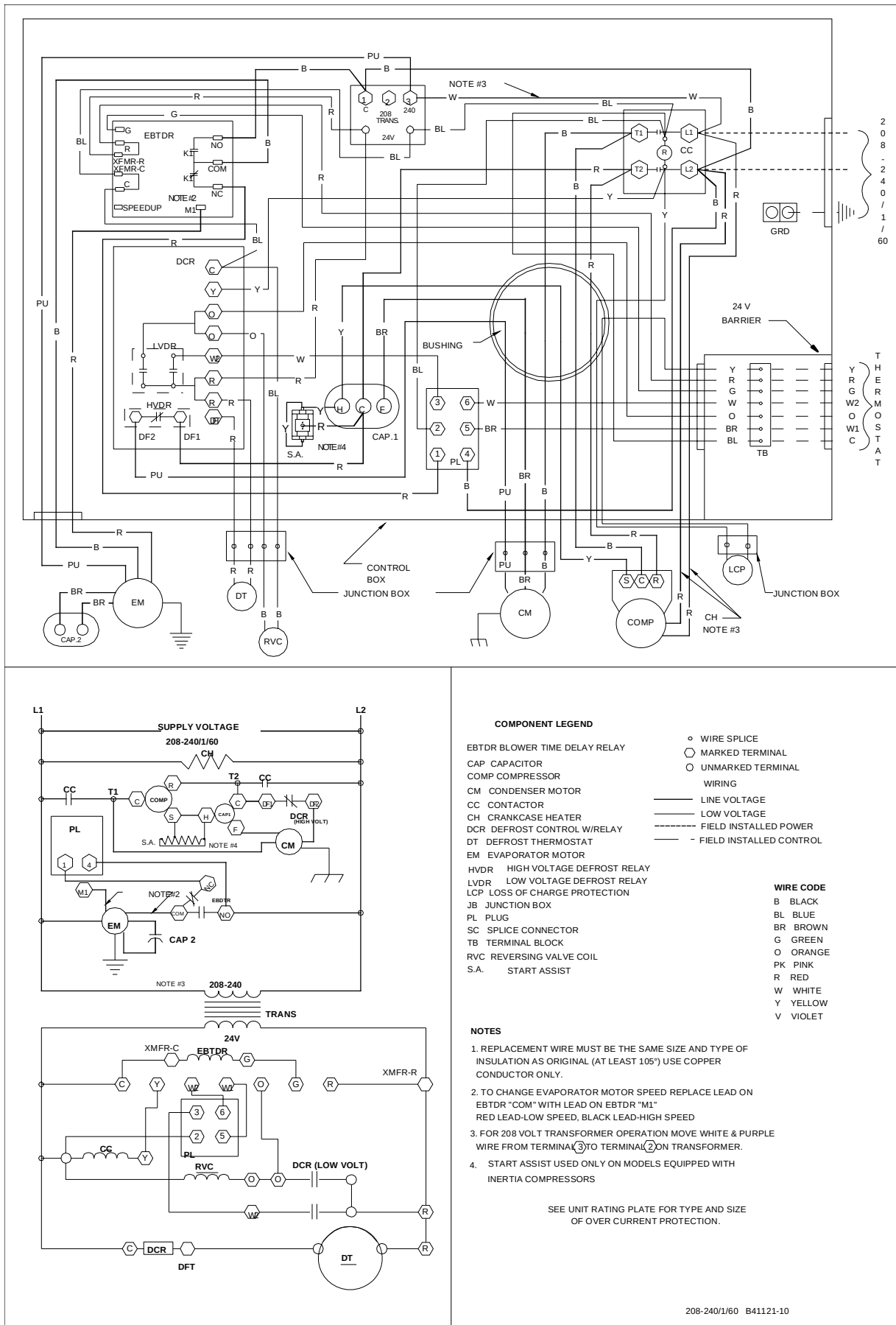


PHK 208-230/1/60 with BTDR

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING

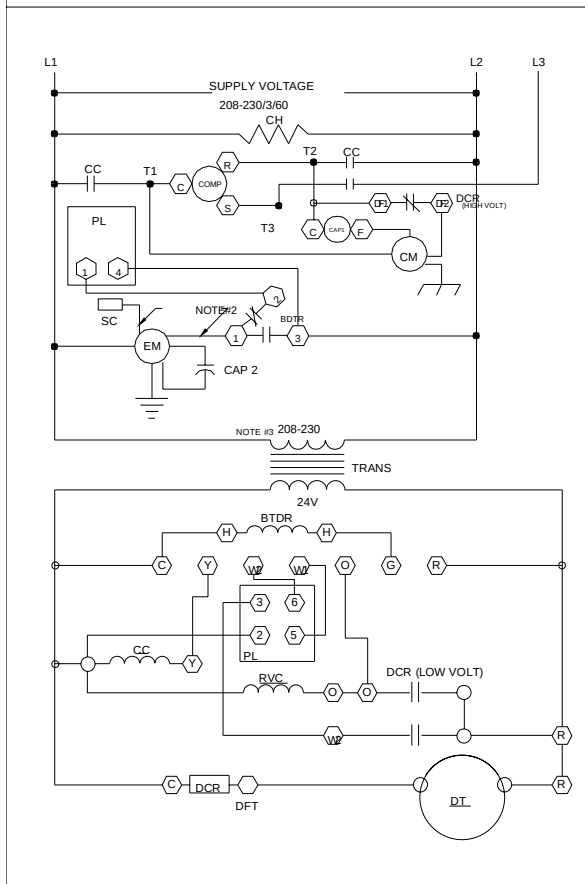
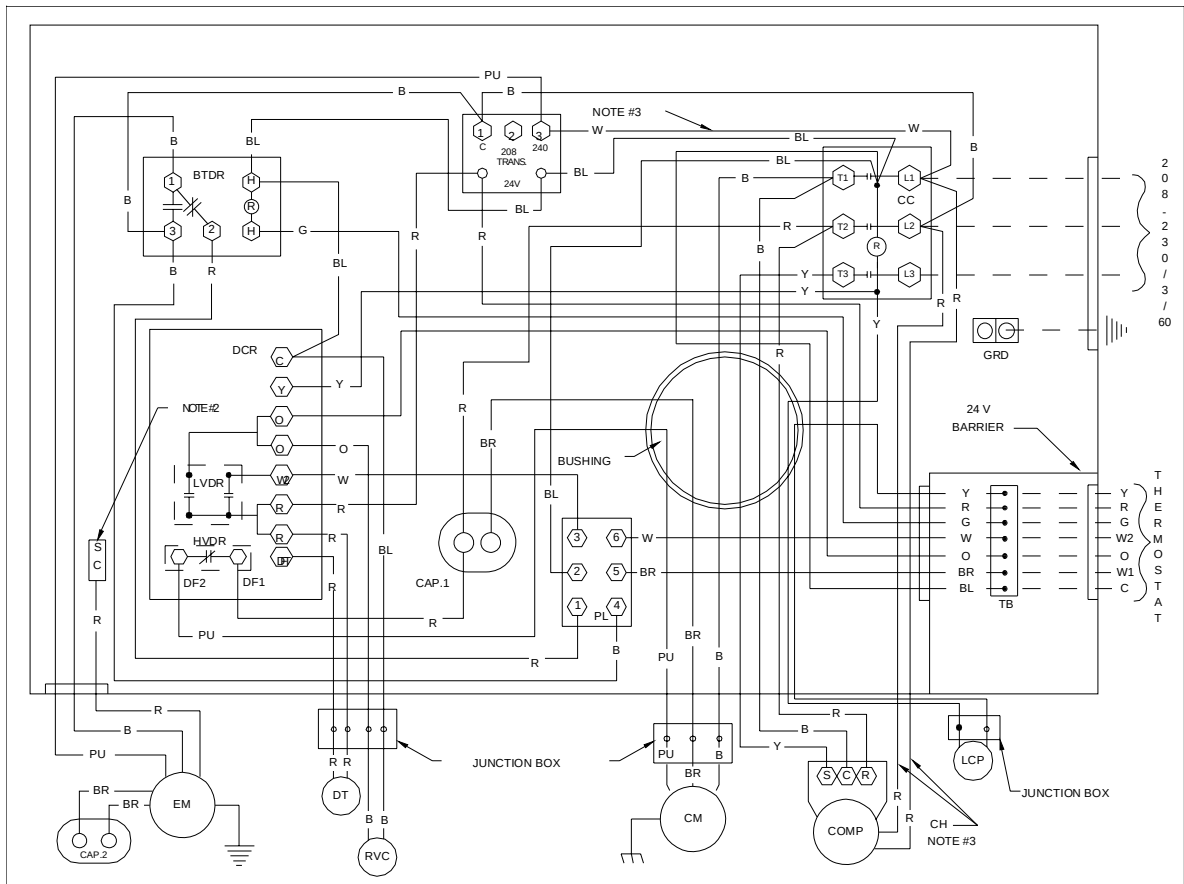


PHK, PHKJ 208-230/1/60 with EBTDR

WIRING DIAGRAMS

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING



COMPONENT LEGEND	
BTDR BLOWER TIME DELAY RELAY	○ WIRE SPICE
CAP CAPACITOR	○ MARKED TERMINAL
COMP COMPRESSOR	○ UNMARKED TERMINAL
CM CONDENSER MOTOR	WIRING
CC CONTACTOR	— LINE VOLTAGE
CH CRANKCASE HEATER	— LOW VOLTAGE
DCR DEFROST CONTROL W/RELAY	— FIELD INSTALLED POWER
DT DEFROST THERMOSTAT	— FIELD INSTALLED CONTROL
EM EVAPORATOR MOTOR	
HVDR HIGH VOLTAGE DEFROST RELAY	
LVDR LOW VOLTAGE DEFROST RELAY	
LCP LOSS OF CHARGE PROTECTION	
JB JUNCTION BOX	
PL PLUG	
SC SPLICE CONNECTOR	
TB TERMINAL BLOCK	
RVC REVERSING VALVE COIL	
S.A. START ASSIST	

NOTES

- REPLACEMENT WIRE MUST BE THE SAME SIZE AND TYPE OF INSULATION AS ORIGINAL (AT LEAST 105°) USE COPPER CONDUCTOR ONLY.
- TO CHANGE EVAPORATOR MOTOR SPEED REPLACE LEAD ON BTDR #1 WITH LEAD IN SPLICE CONNECTOR (SC) RED LEAD-LOW SPEED, BLACK LEAD-HIGH SPEED
- FOR 208 VOLT TRANSFORMER OPERATION MOVE WHITE & PURPLE WIRE FROM TERMINAL(3) TO TERMINAL(2) ON TRANSFORMER.

SEE UNIT RATING PLATE FOR TYPE AND SIZE OF OVER CURRENT PROTECTION.

208-230/3/60 B41121-04

PHK 208-230/3/60

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.



NOTE: RECOMMEND MULTI-STAGE T'STAT

Wiring is subject to change, always refer to the wiring diagram on the unit for the most up-to-date wiring.