

PH13NR

SPLIT SYSTEM HEAT PUMP

1 AND 3 PHASE

1-1/2 TO 5 TONS (018 – 060)

Product Data



WARRANTY:

10 year limited warranty for parts and compressor on products registered within 90 days to original residential homeowner. Products not registered, installed commercially, or installed in multi-family applications carry the following warranty:

Single Phase - Limited 5-year compressor / 5-year parts

Three Phase - Limited 5-year compressor / 1-year parts

FEATURES AND BENEFITS

AVAILABLE SIZES:

Nominal sizes are available from 018 through 060 to meet the needs of residential and light commercial applications.

PERFORMANCE:

All models are verified for efficiency and capacity by ARI.

ELECTRICAL RANGE:

All units are offered in 208/230-1, single phase, with 208/230-3 three phase offered in models 048 - 060.

FAN MOTOR:

The totally enclosed fan motor provides greater reliability under adverse conditions and dependable performance for many years. The permanent split capacitor type motor was designed for optimum efficiency. The motor was then qualified under extreme conditions to help ensure a long, reliable life.

CABINET:

A weather protective cabinet of prepainted steel is protected underneath by a galvanized coating and treated with a layer of zinc phosphate for a finish that will last for many years. All screws on cabinet exterior are coated for a long-lasting, rust-resistant, quality appearance.

UNIT DESIGN:

The copper tube, enhanced sine wave, aluminum fin coil is designed for optimum heat transfer. Vertical air discharge carries sound and condenser air up and away from adjacent patio areas and foliage. The base pan is designed for easy removal of water, dirt, and leaves.

DEFROST CONTROL BOARD:

Incorporates defrost relay, defrost timer, and low voltage terminations. The defrost control is a time/temperature initiation/termination control which includes three field-selectable time periods of 30, 60 and 90 minutes.

COMPRESSOR:

Each compressor is protected with internal temperature- and current-sensitive overloads. An internal pressure relief valve provides high pressure protection to the refrigerant system. For improved serviceability, all models are equipped with a compressor terminal plug.

SERVICE VALVES:

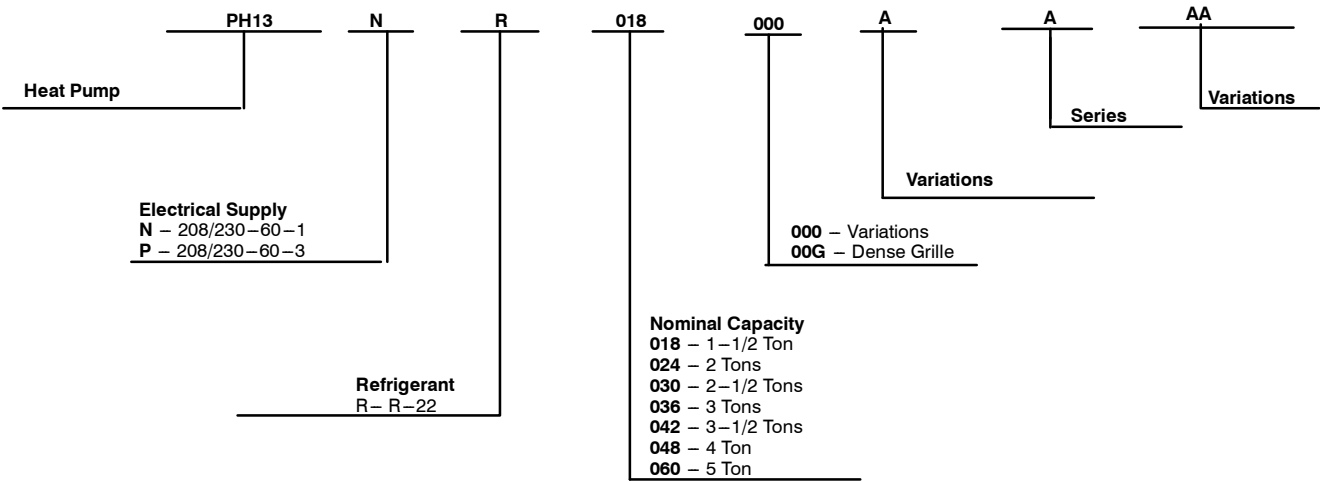
Both service valves are brass, front seating type with sweat connections. Valves are externally located so refrigerant tube connections can be made quickly and easily. Each valve has a service port for ease of checking operating refrigerant pressures.

SERVICEABILITY:

One access panel provides access to electrical controls. Removal of top gives access to fan motor, compressor, and condenser coil.

PRODUCT NUMBER NOMENCLATURE

PH13



SPECIFICATIONS

UNIT SIZE—SERIES	018—H	024—H	030—H	036—H
ELECTRICAL				
Unit Volts—Phase—Hertz	208/230—1—60			
Operating Voltage Range	187—253			
Unit Ampacity for Wire Sizing (MCA)	11.7	14.4	17.6	21.1
Min Wire Size (60°C/75°C Copper) (AWG)*	14	12	10	10
Maximum Length (60°C/75°C) (Ft)†	66/61	84/79	111/106	91/86
Max Branch Circuit Fuse Size (Amps)‡	20	20	30	30
Compressor Rated Load Amps	9.0	10.9	13.5	16.0
Locked Rotor Amps	41.0	54.0	72.5	88.0
Fan Motor HP and RPM	1/12 & 1100	1/10 & 1100	1/10 & 1100	1/5 & 1100
Full Load Amps	0.5	0.8	0.8	
COMPRESSOR AND REFRIGERANT				
Compressor Type	Scroll			
Refrigerant Charge lb (kg)	5.35 (2.43)	4.68 (2.12)	5.29 (2.40)	6.50 (2.95)
Refrigerant Tubes (In. OD)	3/4	3/4	3/4	7/8
Vapor and Liquid (Up to 80 Ft)	3/8	3/8	3/8	
OUTDOOR COIL AND FAN				
Coil Face Area (Sq Ft)	9.80	12.60	15.14	17.30
Rated Airflow (CFM)	1700	2000	2600	3100
OPTIONAL EQUIPMENT				
Time—Delay Relay	KAATD0101TDR			
Outdoor Thermostat	KHAOT0301FST			
Secondary Outdoor Thermostat	KHAOT0201SEC			
Cycle Protector	KSACY0101AAA			
Crankcase Heater	KAACH1401AAA		KAACH1201AAA	
Compressor Start Assist—Capacitor/Relay	KSAHS1501AAA			
Sound Hood	KSASH1801COP			KSASH0601COP
TXV Kits (Hard Shutoff)	KSATX0601HSO			
Low Pressure Switch	Standard			
High—Pressure Switch	Standard			
Low—Ambient Pressure Switch††	KSALA0201R22			
MotorMaster® Low—Ambient Controller††	KSALA0601AAA			
Ball Bearing Fan Motor	HC32GE234	HC34GE239	HC34GE240	HC38GE219
Liquid Line Filter Drier (RCD)	KH43LZ072			
Evaporator Freeze Thermostat**	KAAFT0101AAA			
Isolation Relay**	KHAIR0101AAA			
Liquid Solenoid Valve	KHALS0401LLS			
Interface Control	KHAIC0101AAA			
Service Alarm	KHASA0101AAA			
Start Assist PTC	KAACS0201PTC			
Corrosion Filter	KAACF1001MED			KAACF1101LRG
Thermostat, Manual Changeover, Non—Programmable, °F/°C, 2—Stage Heat, 1—Stage Cool	TSTATPPBHP01—B			
Thermostat, Auto Changeover, 7—Day Programmable, °F/°C, 1—Stage Heat, 1—Stage Cool	TSTATPPSHP01			
Outdoor Sensor (For Programmable Thermostat)	TSTATXXSEN01—B			
Backplate for Non—Programmable Thermostat	TSTATXXBBP01			
Backplate for Programmable Thermostat	TSTATXXBP01			

See notes on page 4

SPECIFICATIONS (CONT.)

UNIT SIZE—SERIES	042—H	048—H	060—H
ELECTRICAL			
Unit Volts—Phase—Hertz	208/230—1—60	208/230—1—60	208/230—1—60
Operating Voltage Range	187—253		
Unit Ampacity for Wire Sizing (MCA)	23.8	27.3	32.7
Min Wire Size (60°C/75°C Copper) (AWG)*	8	8	12
Maximum Length (60°C/75°C) (Ft)†	130/123	111/106	94/90
Max Branch Circuit Fuse Size (Amps)‡	40	40	50
Compressor Rated Load Amps	17.9	20.7	25.0
Locked Rotor Amps	104.0	137.0	148.0
Fan Motor HP and RPM	1/4 & 1100	1/4 & 1100	1/4 & 1100
Full Load Amps	1.4	1.4	1.4
COMPRESSOR AND REFRIGERANT			
Compressor Manufacturer	Scroll		
Refrigerant Charge lb (kg)	7.50 (3.40)	9.13 (4.14)	13.03 (5.91)
Refrigerant Tubes (In. OD) Vapor and Liquid (Up to 80 Ft)	7/8 3/8	1—1/8 3/8	1—1/8
OUTDOOR COIL AND FAN			
Coil Face Area (Sq Ft)	23.79	15.14	23.79
Rated Airflow (CFM)	3400	3400	3400
OPTIONAL EQUIPMENT			
Time—Delay Relay	KAATD0101TDR		
Outdoor Thermostat	KHAOT0301FST		
Secondary Outdoor Thermostat	KHAOT0201SEC		
Cycle Protector	KSACY0101AAA		
Crankcase Heater	KAACH1201AAA		
Compressor Start Assist— Capacitor/Relay	KSAHS1501AAA		KSAHS1601AAA
Sound Hood	KSASH0601COP	KSASH2101COP	
TXV Kits (Hard Shutoff)	KSATX0601HSO	KSATX0701HSO	KSATX1001HSO
Low—Pressure Switch	Standard		
High—Pressure Switch	Standard		
Low—Ambient Pressure Switch††	KSALA0201R22		
MotorMaster® Low—Ambient Controller‡‡	KSALA0601AAA		
Ball Bearing Fan Motor	HC40GE226		
Liquid Line Filter Drier (RCD)	KH43LZ072		
Evaporator Freeze Thermostat**	KAAFT0101AAA		
Isolation Relay**	KHAIR0101AAA		
Liquid Solenoid Valve	KHALS0401LLS		
Interface Control	KHAIC0101AAA		
Service Alarm	KHASA0101AAA		
Start Assist PTC	KAACS0201PTC		
Corrosion Filter	KAACF1101LRG		
Thermostat, Manual Changeover, Non—Programmable, °F/°C, 2—Stage Heat, 1—Stage Cool	TSTATPPBHP01—B		
Thermostat, Auto Changeover, 7—Day Programmable, °F/°C, 1—Stage Heat, 1—Stage Cool	TSTATPPSHP01		
Outdoor Sensor (For Programmable Thermostat)	TSTATXXSEN01—B		
Backplate for Non—Programmable Thermostat	TSTATXXBBP01		
Backplate for Programmable Thermostat	TSTATXXBP01		

N/A — Not applicable in this application.

* The ampacity of non—metallic (NM) sheathed cable shall be that of 60°C (140°F) conductors per NEC 1999, Article 336—26. If wire used is other than specified in chart, refer to applicable tables available in 1999 NEC. Copper wire must be used from disconnect to unit.

† Length shown is as measured 1 way along the wire path between the unit and the service panel for a voltage drop not to exceed 2%.

‡ Units may use fuses or circuit breakers (U.S. only).

** Consult low—ambient control Installation Instructions for application.

†† Isolation relay required.

‡‡ Required accessories include fan motor with ball bearings, crankcase heater, compressor start assist, evaporator freeze stat, isolation relay, hard shut—off TXV or liquid line solenoid valve.

DIMENSIONS

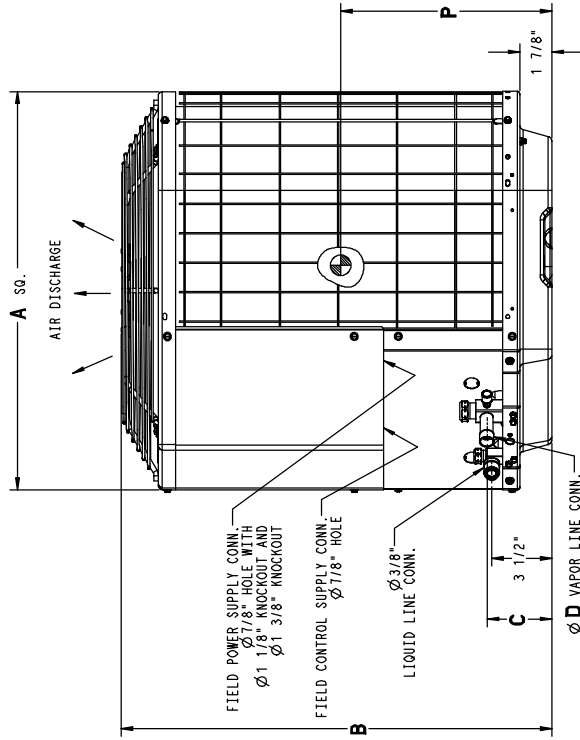
UNIT	SERIES	ELECTRICAL CHARACTERISTICS		A	B	C	D	E	F	G	H	J	K	L	M	N	P	OPERATING WEIGHT	SHIPPING WEIGHT	SHIPPING DIMENSIONS (L x W x H)	
PHI3NR018	H	X	O	O	23 1/8"	28 7/16"	3 3/4"	4 7/16"	18 1/16"	7 13/16"	1 1/8"	3 13/16"	2 13/16"	1/2"	11 1/2"	10 1/2"	12 1/2"	114#	127#	24 1/8" X 24 1/8" X 30 5/8"	
PHI3NR024	H	X	O	O	23 1/8"	35 3/16"	3 3/4"	4 7/16"	18 1/16"	7 13/16"	1 1/8"	3 13/16"	2 13/16"	1/2"	11 1/2"	10 1/2"	14 1/2"	120#	137#	24 1/8" X 24 1/8" X 37 7/16"	
PHI3NR030	H	X	O	O	31 3/16"	28 7/16"	3 3/4"	3/4"	6 9/16"	9 1/16"	1 1/8"	3 13/16"	2 13/16"	1/2"	15"	15"	12"	153#	177#	32 3/16" X 32 3/16" X 30 5/8"	
PHI3NR036	H	X	O	O	31 3/16"	31 13/16"	3 7/8"	7/8"	6 9/16"	24 11/16"	9 1/8"	3 13/16"	2 15/16"	5/8"	15"	15"	11 1/2"	168#	192#	32 3/16" X 32 3/16" X 34"	
PHI3NR042	H	X	O	O	31 3/16"	38 5/8"	3 7/8"	7/8"	6 9/16"	24 11/16"	9 1/8"	3 13/16"	2 15/16"	5/8"	15"	15"	15 1/2"	188#	213#	32 3/16" X 32 3/16" X 40 13/16"	
PHI3NR048	H	X	O	O	31 3/16"	28 7/16"	3 7/8"	7/8"	6 9/16"	24 11/16"	9 1/8"	3 13/16"	2 15/16"	5/8"	15"	15"	12"	200#	223#	32 3/16" X 32 3/16" X 30 5/8"	
PHI3PR048	H	O	X	O	31 3/16"	28 7/16"	3 7/8"	7/8"	6 9/16"	24 11/16"	9 1/8"	3 13/16"	2 15/16"	5/8"	15"	15"	12"	200#	223#	32 3/16" X 32 3/16" X 30 5/8"	
PHI3NR060	H	X	O	O	31 3/16"	42"	3 7/8"	7/8"	6 9/16"	24 11/16"	9 1/8"	3 13/16"	2 15/16"	5/8"	15"	15"	16"	260#	285#	32 3/16" X 32 3/16" X 44 1/4"	
PHI3PR060	H	O	X	O	31 3/16"	42"	3 7/8"	7/8"	6 9/16"	24 11/16"	9 1/8"	3 13/16"	2 15/16"	5/8"	15"	15"	16"	260#	285#	32 3/16" X 32 3/16" X 44 1/4"	

208-230-160	230-160	208/230-3-60	460-3-60
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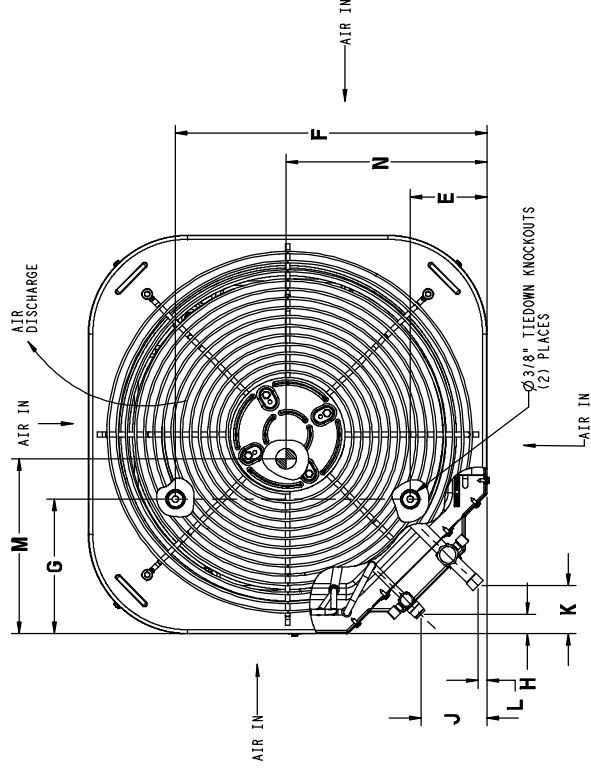
X = YES
O = NO

NOTES:

1. ALLOW 30" CLEARANCE TO SERVICE SIDE OF UNIT.
48" ABOVE UNIT, 6" ON ONE SIDE, 27" ON REMAINING SIDE, AND 24" BETWEEN UNITS FOR PROPER AIRFLOW.
2. MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 55°F, MAX. 125°F.
3. SERIES DESIGNATION IS THE 14TH POSITION OF THE UNIT MODEL NUMBER.
4. CENTER OF GRAVITY 



UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18, 24	23 1/2" X 23 1/2"
---	26" X 26"
30, 36, 42, 48, 60	31 1/2" X 31 1/2"
---	35" X 35"



PH13

OPTIONAL EQUIPMENT USAGE GUIDELINE

ACCESSORY	REQUIRED FOR LOW-AMBIENT APPLICATIONS (Below 55°F / 12.8°C)	REQUIRED FOR LONG-LINE APPLICATIONS* (Over 80 ft / 24.38 m)
Ball Bearing Fan Motor	Yes	No
Compressor Crankcase Heater	Yes	Yes
Compressor Start Assist Capacitor and Relay	Yes	Yes
Evaporator Freeze Thermostat	Yes	No
Isolation Relay	Yes	No
Liquid-Line Solenoid Valve or Hard Shutoff TXV	Yes	See Long-Line Application Guideline
MotorMaster® Low-Ambient Controller	Yes	No
Wind Baffle	See Low-Ambient Instructions	No
Support Feet	Recommended	No

* For tubing line sets between 80 and 175 ft (24.38 and 53.34 m), refer to Residential Split Systems Long-Line Application Guideline.

ACCESSORY DESCRIPTION AND USAGE (Listed Alphabetically)

1. Ball-Bearing Fan Motor

A fan motor with ball bearings, which permits speed reduction while maintaining bearing lubrication.

Usage Guideline:

Required on all units when MotorMaster®-Low-Ambient Controller is installed.

2. Compressor Crankcase Heater

An electric resistance heater which mounts to the base of the compressor to keep the lubricant warm during off cycles. Improves compressor lubrication on restart and minimizes the chance of liquid slugging.

Usage Guideline:

Required in low ambient applications.
Required in long line applications.
Suggested in all commercial applications.

3. Compressor Sound Hood

Wraparound sound reducing cover for the compressor. Reduces the sound level by about 2 dBA.

Usage Guideline:

Suggested when unit is installed closer than 15 ft (4.57 m) to quiet areas-bedrooms, etc.
Suggested when unit is installed between two houses less than 10 ft (3.05 m) apart.

4. Compressor Start Assist - Capacitor and Relay

Start capacitor and relay gives a "hard" boost to compressor motor at each start up.

Usage Guideline:

Required for single-phase scroll compressors in the following applications:
Long line
Low ambient
Suggested for all compressors in areas with a history of low voltage problems.

5. Compressor Start Assist - PTC Type

Solid-state electrical device which gives a "soft" boost to the single-phase compressor motor at each start up.

Usage Guideline:

Suggested when compressor power supply is marginal
Suggested in reciprocating single-phase compressor applications with rapid pressure balance (RPB) expansion valve on indoor coil.

6. Cycle Protector

Solid-state timing device which prevents compressor rapid recycling. Control provides an approximate 5-minute delay after power to the compressor has been interrupted for any reason, including normal room thermostat cycling.

Usage Guideline:

Installations in areas where power interruptions are frequent.
Where user is likely to play with the room thermostat.
All commercial installations.
Installations where interconnecting tube length exceeds 80 ft (24.38 m).
High-rise applications.

7. Evaporator Freeze Thermostat

An SPST temperature-actuated switch that stops unit operation when evaporator reaches freeze-up conditions.

Usage Guideline:

Required when low ambient kit has been added.

8. High-Pressure Switch

Auto reset SPST switch activated by refrigerant pressure on high side of refrigerant circuit. Cycles compressor off if refrigerant pressure rises to 426 ± 10 psig and resets at 320 ± 20 psig. Provides protection against compressor damage due to loss of outdoor airflow.

Usage Guideline:

Suggested in installations exposed to "very dirty" outdoor air.
Suggested in installations where condenser inlet air temperature exceeds 125°F (51.7°C).

9. Isolation Relay

An SPDT relay which switches the low-ambient controller out of the outdoor fan motor circuit when the heat pump switches to heating mode.

Usage Guideline:

Required in all heat pumps where low-ambient kit has been added.

10. Liquid-Line Solenoid Valve (LLS)

This device serves two purposes. It is an electrically operated shutoff valve which stops and starts refrigerant liquid flow in response to compressor operation. It maintains a column of refrigerant liquid ready for action at next compressor operation cycle. It also provides system protection against off-Hycle refrigerant migration.

Usage Guideline:

Required in air conditioner long line applications with a piston indoor metering device to prevent off cycle refrigerant migration. A hard shutoff TXV can be used instead of LLS in single flow air conditioner applications. See Long Line Application Guideline.

ACCESSORY DESCRIPTION AND USAGE (Listed Alphabetically)(Cont.)

11. Low-Ambient Pressure Switch

A long life pressure switch which is mounted to outdoor unit service valve. It is designed to cycle the outdoor fan motor in order to maintain head pressure within normal operating limits (approximately 100 psig to 225 psig). The control will maintain working head pressure at low-ambient temperatures down to 0°F / -17.8°C when properly installed.

Usage Guideline:

A Low-Ambient Pressure Switch or MotorMaster®-Low-Ambient Controller must be used when cooling operation is used at outdoor temperatures below 55°F / 12.8°C.

12. MotorMaster®-Low-Ambient Controller

A fan speed control device activated by a temperature sensor, designed to control condenser fan motor speed in response to the saturated, condensing temperature during operation in cooling mode only. For outdoor temperatures down to -20°F (±11.0°C), it maintains condensing temperature at 100°F ± 10°F (37.8°C ± 5.5°C).

Usage Guideline:

A MotorMaster®-Low-Ambient Controller or Low-Ambient Pressure Switch must be used when cooling operation is used at outdoor temperatures below 55°F / 12.8°C.

Suggested for all commercial applications.

13. Outdoor Air Temperature Sensor

Designed for use with Payne Thermostats listed in this publication. The device enables the thermostat to display the outdoor temperature. This device also is required to enable special thermostat features such as auxiliary heat lock out.

Usage Guideline:

Suggested for all Payne thermostats listed in this publication.

14. Thermostatic Expansion Valve (TXV) Single-Flow

A modulating flow-Hontrol valve which meters refrigerant liquid flow rate into the evaporator in response to the superheat of the refrigerant gas leaving the evaporator. Kit includes valve, adapter tubes, and external equalizer tube. Both hard shutoff and RPB valves are available.

Usage Guideline:

Required to achieve ARI ratings in certain equipment combinations. Refer to combination ratings.

Hard shut off TXV or LLS required in air conditioner long line applications.

Required for use on all zoning systems.

15. Time-Delay Relay

An SPST delay relay which briefly continues operation of indoor blower motor to provide additional cooling after the compressor cycles off.

NOTE: Most indoor unit controls include this feature. For those that do not, use the guideline below.

Usage Guideline:

For improved efficiency ratings for certain combinations of indoor and outdoor units. Refer to ARI Unitary Directory.

16. Winter Start Control

An SPST delay relay which bypasses the Low-Pressure Switch for approximately 3 minutes to permit start-up for cooling operation under low load conditions.

Usage Guideline:

All air conditioners to which Low-Pressure Switch and Low-Ambient Controller have been added

A-WEIGHTED SOUND POWER

UNIT SIZE – SERIES	Standard Rating (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018–H	76	52.5	57.0	64.5	65.5	60.5	57.5	53.5
024–H	76	57.5	59.5	68.0	69.0	66.0	63.5	60.5
030–H	76	55.0	62.0	68.5	71.0	67.5	69.0	58.5
036–H	77	55.5	66.5	69.5	72.0	70.5	66.0	60.0
042–H	80	60.5	65.5	71.0	72.5	70.0	66.0	62.5
048–H	80	63.0	69.5	74.5	75.0	73.0	68.5	62.0
060–H	80	60.0	68.5	72.0	72.5	71.0	68.5	61.0

Note: Tested in accordance with ARI standard 270.95 (Not listed with ARI)

METERING DEVICE

UNIT SIZE – SERIES	OUTDOOR PISTON	REQUIRED SUBCOOLING °F (°C)	INDOOR METERING DEVICE
018–H	42	21 (11.7)	TXV*
024–H	52	13 (7.2)	
030–H	57	12 (6.7)	
036–H	63	14 (7.8)	
042–H	67	14 (7.8)	
048–H	73	16 (8.9)	
060–H	76	16 (8.9)	

* TXV must be ordered separately when indoor coil is not equipped with a TXV. TXV must be hard-shutoff type.

RECOMMENDED TUBE DIAMETERS

UNIT SIZE	TUBE LENGTH ft. (m)*	LIQUID TUBE DIAMETER (In.)	VAPOR TUBE DIAMETER (In.)
018, 024, 030	0 to 80 (0 to 24.38)	3/8	3/4
036, 042			7/8
048, 060			1–1/8

* For tube set over 80 ft / 24.38 m horizontal and/or 20 ft / 6.10 m vertical differential, consult Residential Split System Long Line Application Guidelines.

COMBINATION RATINGS

UNIT SIZE – SERIES	INDOOR MODEL	ARI STANDARD RATINGS									FURNACE MODEL
		COOLING				HEATING					
		CAPACITY	FACTORY ENHANCE	SEER	EER	HIGH TEMP		LOW TEMP		HSPF	
STANDARD	E CAPACITY			E COP		H CAPACITY	H COP				
018–H	*PF1MNC019	17,600	TDR&TXV	13.00	11.00	16,400	3.68	9,700	2.38	7.7	
	CNRH*2417A**	17,600	TDR&TXV	13.00	11.00	15,500	3.72	9,600	2.42	7.7	PG8*EA024045
	CNRV*2414A**	17,600	TDR&TXV	13.00	11.00	15,500	3.72	9,600	2.42	7.7	PG8*EA024045
024–H	*PF1MNC025	23,000	TDR&TXV	13.00	11.00	22,400	3.56	13,600	2.38	7.7	
	CAR**2414A**	22,800	TDR&TXV	13.00	11.00	22,400	3.56	13,500	2.38	7.7	PG8*EA024045
	CNRH*2417A**	22,800	TDR&TXV	13.00	11.00	22,400	3.56	13,500	2.38	7.7	PG8*EA024045
	CNRV*2414A**	22,800	TDR&TXV	13.00	11.00	22,400	3.56	13,500	2.38	7.7	PG8*EA024045
	CSRH*2412A**	23,000	TDR&TXV	13.00	11.00	22,400	3.56	13,500	2.38	7.7	PG8*EA024045
030–H	*PF1MNC031	29,000	TDR&TXV	13.00	11.00	27,400	3.48	17,500	2.40	7.7	
	PF1MNC037	29,200	TDR&TXV	13.00	11.00	26,600	3.36	17,700	2.38	7.7	
	CAR**3017A**	28,800	TDR&TXV	13.00	11.00	26,600	3.42	17,400	2.38	7.7	PG8*EA048070
	CAR**3617A**	29,000	TDR&TXV	13.00	11.00	26,600	3.42	17,500	2.40	7.7	PG8*EA048070
	CAR**3621A**	29,000	TDR&TXV	13.00	11.00	26,600	3.46	17,400	2.44	7.7	PG8*EA048090
	CNRH*3017A**	28,800	TDR&TXV	13.00	11.00	26,600	3.40	17,500	2.38	7.7	PG8*EA048070
	CNRH*3017A**	28,800	TDR&TXV	13.00	11.00	26,600	3.44	17,400	2.40	7.7	PG8*EA048090
	CNRH*3617A**	28,800	TDR&TXV	13.00	11.00	26,600	3.42	17,400	2.38	7.7	PG8*EA048070
	CNRH*3617A**	29,000	TDR&TXV	13.00	11.00	26,600	3.44	17,400	2.40	7.7	PG8*EA048090
	CNRV*3017A**	28,800	TDR&TXV	13.00	11.00	26,600	3.40	17,500	2.38	7.7	PG8*EA048070
	CNRV*3617A**	28,800	TDR&TXV	13.00	11.00	26,600	3.42	17,400	2.38	7.7	PG8*EA048070
	CNRV*3621A**	29,000	TDR&TXV	13.00	11.00	26,600	3.44	17,300	2.40	7.7	PG8*EA048090
	CSRH*3012A**	29,000	TDR&TXV	13.00	11.00	26,600	3.40	17,500	2.38	7.7	PG8*EA048070
	CSRH*3012A**	29,000	TDR&TXV	13.00	11.00	26,600	3.42	17,400	2.40	7.7	PG8*EA048090
036–H	*PF1MNC037	34,000	TDR&TXV	13.00	10.80	33,600	3.46	20,600	2.34	7.7	
	CAR**3621A**	34,000	TDR&TXV	13.00	10.80	33,000	3.50	20,200	2.36	7.7	PG8*EA048090
	CAR**3621A**	34,000	TDR&TXV	13.00	10.80	33,000	3.52	20,200	2.38	7.7	PG8*EA060110
	CAR**4221A**	34,000	TDR&TXV	13.00	10.80	33,000	3.52	20,200	2.38	7.7	PG8*EA048090
	CAR**4221A**	34,000	TDR&TXV	13.00	10.80	33,000	3.54	20,200	2.38	7.7	PG8*EA060110
	CNRH*3617A**	33,800	TDR&TXV	13.00	10.80	33,000	3.46	20,200	2.34	7.7	PG8*EA048090
	CNRH*3617A**	33,800	TDR&TXV	13.00	10.80	33,000	3.48	20,200	2.34	7.7	PG8*EA060110
	CNRH*4221A**	34,000	TDR&TXV	13.00	10.80	33,000	3.52	20,200	2.36	7.7	PG8*EA048090
	CNRH*4221A**	34,000	TDR&TXV	13.00	10.80	33,000	3.54	20,200	2.38	7.7	PG8*EA060110
	CNRV*3621A**	33,800	TDR&TXV	13.00	10.80	33,000	3.48	20,200	2.34	7.7	PG8*EA048090
	CNRV*3621A**	33,800	TDR&TXV	13.00	10.80	33,000	3.48	20,200	2.34	7.7	PG8*EA060110
	CNRV*4221A**	34,000	TDR&TXV	13.00	10.80	33,000	3.52	20,200	2.36	7.7	PG8*EA048090
	CNRV*4221A**	34,000	TDR&TXV	13.00	10.80	33,000	3.54	20,200	2.38	7.7	PG8*EA060110
	CSRH*3612A**	34,000	TDR&TXV	13.00	10.80	33,000	3.46	20,400	2.34	7.7	PG8*EA048070
	CSRH*3612A**	34,000	TDR&TXV	13.00	10.80	33,000	3.54	20,200	2.40	7.7	PG8*EA048090
	CSRH*3612A**	34,000	TDR&TXV	13.00	10.80	33,000	3.56	20,200	2.40	7.7	PG8*EA060110
	042–H	*PF1MNC043	40,000	TDR&TXV	13.00	11.00	40,000	3.60	25,600	2.52	7.8
PF1MNC049		40,500	TDR&TXV	13.00	11.00	38,000	3.60	25,400	2.58	7.8	
CAR**4221A**		39,000	TDR&TXV	13.00	11.00	40,000	3.60	25,000	2.50	7.8	PG8*EA048090
CAR**4221A**		39,000	TDR&TXV	13.00	11.00	40,000	3.62	25,000	2.52	7.8	PG8*EA060110
CAR**4224A**		39,000	TDR&TXV	13.00	11.00	40,000	3.62	25,000	2.52	7.8	PG8*EA060135
CAR**4821A**		40,000	TDR&TXV	13.00	11.00	39,000	3.60	25,000	2.54	7.8	PG8*EA048090
CAR**4821A**		40,000	TDR&TXV	13.00	11.00	39,000	3.62	25,000	2.56	7.8	PG8*EA060110
CAR**4824A**		40,000	TDR&TXV	13.00	11.00	39,000	3.62	25,000	2.56	7.8	PG8*EA060135
CNRH*4221A**		39,000	TDR&TXV	13.00	11.00	40,000	3.58	25,000	2.50	7.8	PG8*EA048090
CNRH*4221A**		39,000	TDR&TXV	13.00	11.00	40,000	3.60	25,000	2.52	7.8	PG8*EA060110
CNRH*4221A**		39,000	TDR&TXV	13.00	11.00	40,000	3.58	25,000	2.50	7.8	PG8*EA060135
CNRH*4821A**		40,000	TDR&TXV	13.00	11.00	39,000	3.66	25,200	2.56	7.8	PG8*EA048090
CNRH*4821A**		40,000	TDR&TXV	13.00	11.00	39,000	3.70	25,000	2.58	7.8	PG8*EA060110
CNRH*4821A**		40,000	TDR&TXV	13.00	11.00	39,000	3.68	25,000	2.56	7.8	PG8*EA060135
CNRV*4221A**		39,000	TDR&TXV	13.00	11.00	40,000	3.58	25,000	2.50	7.8	PG8*EA048090
CNRV*4221A**		39,000	TDR&TXV	13.00	11.00	40,000	3.60	25,000	2.52	7.8	PG8*EA060110
CNRV*4821A**		40,000	TDR&TXV	13.00	11.00	39,000	3.66	25,200	2.56	7.8	PG8*EA048090
CNRV*4821A**		40,000	TDR&TXV	13.00	11.00	39,000	3.70	25,000	2.58	7.8	PG8*EA060110
CNRV*4824A**		40,000	TDR&TXV	13.00	11.00	39,000	3.68	25,000	2.56	7.8	PG8*EA060135
CSRH*4212A**		39,000	TDR&TXV	13.00	11.00	39,000	3.66	25,000	2.54	7.8	PG8*EA048090
CSRH*4212A**		39,000	TDR&TXV	13.00	11.00	39,000	3.68	25,000	2.56	7.8	PG8*EA060110
CSRH*4212A**		39,000	TDR&TXV	13.00	11.00	39,000	3.66	25,000	2.54	7.8	PG8*EA060135
CSRH*4812A**		40,000	TDR&TXV	13.00	11.00	39,000	3.66	25,200	2.56	7.8	PG8*EA048090
CSRH*4812A**		40,000	TDR&TXV	13.00	11.00	39,000	3.68	25,000	2.56	7.8	PG8*EA060110
CSRH*4812A**		40,000	TDR&TXV	13.00	11.00	39,000	3.66	25,200	2.56	7.8	PG8*EA060135
048–H	*PF1MNC049	46,000	TDR&TXV	13.00	11.00	45,000	3.52	28,800	2.52	7.8	
	CAR**4821A**	46,000	TDR&TXV	13.00	11.00	45,000	3.46	28,800	2.50	7.8	PG8*EA060110
	CNRH*4821A**	46,000	TDR&TXV	13.00	11.00	45,000	3.48	28,800	2.50	7.8	PG8*EA060110
	CNRH*4821A**	46,000	TDR&TXV	13.00	11.00	45,000	3.48	28,800	2.48	7.8	PG8*EA060135
	CNRV*4821A**	46,000	TDR&TXV	13.00	11.00	45,000	3.48	28,800	2.50	7.8	PG8*EA060110
	CNRV*4824A**	46,000	TDR&TXV	13.00	11.00	45,000	3.48	28,800	2.48	7.8	PG8*EA060135
	CSRH*4812A**	46,000	TDR&TXV	13.00	11.00	45,000	3.50	28,800	2.50	7.8	PG8*EA060110
060–H	CSRH*4812A**	46,000	TDR&TXV	13.00	11.00	45,000	3.48	28,800	2.48	7.8	PG8*EA060135
	*PF1MNC061	55,000	TDR&TXV	13.00	11.00	55,000	3.58	34,800	2.50	8.0	

* Outdoor section/indoor section combination tested in accordance with DOE test procedures for heat pumps. Ratings for other combinations are determined under DOE computer simulation procedures.

† Ratings are net values reflecting the effects of circulating fan heat. Supplemental electric heat is not included. Ratings are based on:

Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor entering air temperature and 95°F (35°C) db air entering outdoor unit.

High–Temperature Heating Standard: 70°F (21°C) db indoor entering air temperature and 47°C (8°C) db 43°F (6°C) wb air entering outdoor unit.

Low–Temperature Heating Standard: 70°F (21°C) db indoor entering air temperature and 17°F (–8°C) db, 15°F (–9°C) wb air entering outdoor unit.

COP – Coefficient of Performance

EER – Energy Efficiency Ratio

HSPF – Heating Seasonal Performance Factor

TDR – Time–Delay Relay

TXV – Thermostatic Expansion Valve

SEER – Seasonal Energy Efficiency Ratio

DETAILED COOLING CAPACITIES#

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)													
CFM	EWB ° F (° C)	85 (29.4)		95 (35)		105 (40.6)		115 (46.1)		125 (51.7)					
		Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total	Sens†	Total Sys. KW**		
PH13NR018(G) –H Outdoor Section With PF1MNC019 Indoor Section															
525	57 (13.9)	16.10	16.10	1.38	15.55	15.55	14.97	14.97	1.77	14.36	14.36	1.99	13.72	13.72	2.24
	62 (16.7)	16.44	15.33	1.38	15.77	14.99	15.08	14.62	1.77	14.36	14.36	1.99	13.72	13.72	2.24
	67 (19.4)	18.02	12.87	1.40	17.28	12.56	16.51	12.24	1.58	15.71	15.71	2.01	14.87	11.56	2.25
	72 (22.2)	19.83	10.37	1.42	19.05	10.08	18.23	9.77	1.81	17.38	17.38	2.03	16.48	9.12	2.28
600	57 (13.9)	16.74	16.74	1.40	16.16	16.16	15.55	15.55	1.79	14.91	14.91	2.01	14.23	14.23	2.26
	62 (16.7)	16.85	16.38	1.40	16.16	16.16	15.55	15.55	1.79	14.91	14.91	2.01	14.23	14.23	2.26
	67 (19.4)	18.36	13.71	1.42	17.60	13.40	16.81	13.07	1.80	15.98	15.98	2.03	15.12	12.38	2.27
	72 (22.2)	20.20	10.89	1.43	19.40	10.60	18.55	10.28	1.82	17.67	17.67	2.05	16.74	9.63	2.30
675	57 (13.9)	17.28	17.28	1.42	16.67	16.67	16.04	16.04	1.81	15.37	15.37	2.03	14.66	14.66	2.28
	62 (16.7)	17.27	17.27	1.42	16.67	16.67	16.03	16.03	1.81	15.37	15.37	2.03	14.66	14.66	2.28
	67 (19.4)	18.63	14.51	1.43	17.85	14.20	17.04	13.86	1.82	16.19	16.19	2.04	13.15	13.15	2.29
	72 (22.2)	20.49	11.39	1.45	19.66	11.09	18.79	10.77	1.84	17.89	17.89	2.07	16.93	10.11	2.31
COOLING INDOOR MODEL		CAPACITY				POWER				FURNACE MODEL					
*PF1MNC019		1.00				1.00				PG8**EA024045					
CNRH*2417A**		1.00				1.00				PG8**EA024045					
CNRV*2414A**		1.00				1.00				PG8**EA024045					

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)															
CFM	EWB ° F (° C)	85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)			
		Capacity MBtuh		Total Sys. KW**	Capacity MBtuh		Total Sys. KW**	Capacity MBtuh		Total Sys. KW**	Capacity MBtuh		Total Sys. KW**	Capacity MBtuh		Total Sys. KW**	
		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		
PH13NR024(G) – H Outdoor Section With PF1MNC025 Indoor Section																	
700	57 (13.9)	21.08	21.08	1.82	20.38	20.38	19.63	19.63	2.31	18.85	18.85	18.01	18.01	2.90	2.90		
	62 (16.7)	21.53	20.06	1.83	20.67	19.62	19.14	19.14	2.32	18.86	18.86	18.01	18.01	2.90	2.90		
	67 (19.4)	23.55	18.83	1.83	22.62	16.44	16.03	16.03	2.33	20.60	20.60	19.52	19.52	2.92	2.92		
	72 (22.2)	25.88	13.52	1.85	24.89	13.15	12.76	12.76	2.34	22.75	22.75	21.60	21.60	2.94	2.94		
800	57 (13.9)	21.88	21.88	1.85	21.14	21.14	20.36	20.36	2.34	19.53	19.53	18.66	18.66	2.93	2.93		
	62 (16.7)	22.03	21.36	1.85	21.15	21.15	20.35	20.35	2.34	19.53	19.53	18.66	18.66	2.93	2.93		
	67 (19.4)	23.96	17.89	1.86	23.00	17.50	21.99	21.99	2.35	20.93	20.93	19.81	19.81	2.94	2.94		
	72 (22.2)	26.33	14.18	1.87	25.31	13.80	24.24	24.24	2.36	23.11	23.11	21.92	21.92	2.96	2.96		
900	57 (13.9)	22.55	22.55	1.87	21.77	21.77	20.96	20.96	2.36	20.10	20.10	19.19	19.19	2.95	2.95		
	62 (16.7)	22.54	22.54	1.87	21.77	21.77	20.96	20.96	2.36	20.10	20.10	19.19	19.19	2.95	2.95		
	67 (19.4)	24.28	18.90	1.88	23.30	18.50	22.26	22.26	2.37	21.18	21.18	20.04	20.04	2.96	2.96		
	72 (22.2)	26.67	14.80	1.89	25.63	14.41	24.53	24.53	2.39	23.37	23.37	22.15	22.15	2.98	2.98		
		COOLING INDOOR MODEL				CAPACITY				POWER				FURNACE MODEL			
		*PF1MNC025				1.00				1.00							
		CAR**2414A**				0.99				0.99				PG8*EA024045			
		CNRHV*2417A**				0.99				0.99				PG8*EA024045			
		CNRV*2414A**				0.99				0.99				PG8*EA024045			
		CSRH*2412A**				1.00				1.00				PG8*EA024045			

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DETAILED COOLING CAPACITIES# CONTINUED

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)											
CFM	EWB ° F (° C)	85 (29.4)		95 (35)		105 (40.6)		115 (46.1)		125 (51.7)		Total Sys. KW**	Total Sys. KW**
		Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total		
PH13NR030(G) – H Outdoor Section With PF1MNC031 Indoor Section													
875	57 (13.9)	26.44	26.44	2.33	25.58	24.71	2.59	24.71	23.81	22.87	22.87	3.22	3.58
	62 (16.7)	27.11	25.23	2.34	26.06	24.68	2.60	25.01	23.96	22.87	22.87	3.22	3.58
	67 (19.4)	29.71	21.20	2.35	28.51	20.69	2.61	27.33	26.14	24.91	19.18	3.23	3.59
	72 (22.2)	32.70	17.10	2.37	31.37	16.59	2.62	30.08	28.79	27.47	15.11	3.24	3.60
1000	57 (13.9)	27.46	27.46	2.37	26.53	25.61	2.63	25.61	24.67	23.67	23.67	3.25	3.61
	62 (16.7)	27.74	26.89	2.37	26.66	26.26	2.63	25.62	24.66	23.67	23.67	3.25	3.61
	67 (19.4)	30.26	22.52	2.38	29.00	22.00	2.64	27.78	26.55	25.28	20.45	3.26	3.62
	72 (22.2)	33.30	17.91	2.40	31.91	17.39	2.65	30.56	29.22	27.85	15.89	3.27	3.63
1125	57 (13.9)	28.30	28.30	2.40	27.33	26.36	2.66	26.36	25.37	24.34	24.34	3.28	3.64
	62 (16.7)	28.32	28.32	2.40	27.32	27.32	2.66	26.36	25.37	24.34	24.34	3.28	3.64
	67 (19.4)	30.69	23.79	2.41	29.39	23.26	2.67	28.13	26.87	25.57	21.67	3.29	3.65
	72 (22.2)	33.76	18.69	2.43	32.32	18.16	2.68	30.93	29.55	28.14	16.64	3.30	3.66
COOLING INDOOR MODEL													
*PF1MNC031		1.00				POWER				FURNACE MODEL			
PF1MNC037		1.01				1.01							
CAR**3017A**		0.99				0.99				PG8*EA048070			
CAR**3617A**		1.00				1.00				PG8*EA048070			
CNRH*3017A**		0.99				0.99				PG8*EA048070			
CNRH*3617A**		0.99				0.99				PG8*EA048070			
CNRV*3017A**		0.99				0.99				PG8*EA048070			
CNRV*3617A**		0.99				0.99				PG8*EA048070			
CSRH*3012A**		1.00				1.00				PG8*EA048070			
CAR**3621A**		1.00				1.00				PG8*EA048090			
CNRH*3017A**		0.99				0.99				PG8*EA048090			
CNRH*3617A**		1.00				1.00				PG8*EA048090			
CNRV*3621A**		1.00				1.00				PG8*EA048090			
CSRH*3012A**		1.00				1.00				PG8*EA048090			

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DETAILED COOLING CAPACITIES# CONTINUED

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (°C)														
CFM	EWB ° F (°C)	85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity Total	MBtuh Sens†	Total Sys. KW**	Capacity Total	MBtuh Sens†	Total Sys. KW**	Capacity Total	MBtuh Sens†	Total Sys. KW**	Capacity Total	MBtuh Sens†	Total Sys. KW**	Capacity Total	MBtuh Sens†	Total Sys. KW**
PH13NR036(G) – H Outdoor Section With PF1MNC037 Indoor Section																
1050	57 (13.9)	31.17	31.17	2.74	30.13	30.13	3.03	29.04	29.04	3.36	27.90	27.90	3.71	26.69	26.69	4.09
	62 (16.7)	31.87	30.22	2.74	30.62	29.55	3.03	29.33	28.84	3.71	28.00	27.73	3.71	26.69	26.69	4.09
	67 (19.4)	34.84	25.33	2.76	33.46	24.74	3.05	32.02	24.13	3.38	30.51	23.49	3.73	28.94	22.82	4.12
	72 (22.2)	38.25	20.32	2.77	36.78	19.76	3.07	35.24	19.17	3.40	33.64	18.55	3.76	31.95	17.92	4.15
1200	57 (13.9)	32.32	32.32	2.78	31.22	31.22	3.07	30.08	30.08	3.40	28.87	28.87	3.75	27.61	27.61	4.14
	62 (16.7)	32.58	32.16	2.78	31.32	31.08	3.07	30.08	30.08	3.40	28.87	28.87	3.75	27.60	27.60	4.14
	67 (19.4)	35.42	26.90	2.79	34.00	26.30	3.09	32.52	25.67	3.42	30.97	25.02	3.77	29.35	24.34	4.16
	72 (22.2)	38.89	21.28	2.81	37.37	20.70	3.11	35.78	20.11	3.44	34.12	19.49	3.80	32.38	18.84	4.19
1350	57 (13.9)	33.27	33.27	2.82	32.13	32.13	3.12	30.93	30.93	3.44	29.68	29.68	3.80	28.36	28.36	4.18
	62 (16.7)	33.28	33.28	2.82	32.12	32.12	3.12	30.93	30.93	3.44	29.67	29.67	3.80	28.35	28.35	4.18
	67 (19.4)	35.89	28.42	2.83	34.43	27.81	3.13	32.91	27.17	3.46	31.32	26.50	3.81	29.67	25.79	4.20
	72 (22.2)	39.38	22.20	2.85	37.82	21.62	3.15	36.19	21.02	3.48	34.49	20.39	3.84	32.70	19.74	4.23
FURNACE MODEL																
		COOLING INDOOR MODEL					CAPACITY					POWER				
		*PF1MNC037					1.00					1.00				
		CSRH*3612A**					1.00					1.00				
		CAR**3621A**					1.00					1.00				
		CAR**4221A**					1.00					1.00				
		CNRH*3617A**					0.99					0.99				
		CNRH*4221A**					1.00					1.00				
		CNRV*3621A**					0.99					0.99				
		CNRV*4221A**					1.00					1.00				
		CSRH*3612A**					1.00					1.00				
		CAR**3621A**					1.00					1.00				
		CAR**4221A**					1.00					1.00				
		CNRH*3617A**					0.99					0.99				
		CNRH*4221A**					1.00					1.00				
		CNRV*3621A**					0.99					0.99				
		CNRV*4221A**					1.00					1.00				
		CSRH*3612A**					1.00					1.00				

DETAILED COOLING CAPACITIES# CONTINUED

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)													
CFM	EWB ° F (° C)	85 (29.4)		95 (35)		105 (40.6)		115 (46.1)		125 (51.7)		Total Sys. KW**	Capacity MBtuh		Total Sys. KW**
		Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total		Sens†		
PH13NR042(G) – H Outdoor Section With PF1MNC043 Indoor Section															
1225	57 (13.9)	36.54	36.54	3.22	35.32	35.32	3.55	34.07	34.07	3.92	32.80	32.80	31.48	31.48	4.80
	62 (16.7)	37.41	35.62	3.22	35.93	34.84	3.56	34.43	34.03	3.93	32.93	33.15	31.48	31.48	4.80
	67 (19.4)	40.98	29.85	3.25	39.35	29.14	3.58	37.67	28.42	3.95	35.96	27.69	34.22	26.95	4.83
	72 (22.2)	44.97	23.94	3.28	43.23	23.26	3.61	41.43	22.56	3.99	39.58	21.86	37.69	21.14	4.86
1400	57 (13.9)	37.92	37.92	3.27	36.63	36.63	3.61	35.31	35.31	3.98	33.95	33.95	32.57	32.57	4.86
	62 (16.7)	38.24	37.98	3.28	36.75	36.43	3.61	35.31	35.31	3.98	33.95	33.95	32.56	32.56	4.86
	67 (19.4)	41.70	31.72	3.30	40.00	31.00	3.64	38.26	30.27	4.01	36.49	29.52	34.69	28.76	4.88
	72 (22.2)	45.71	25.07	3.33	43.90	24.37	3.67	42.04	23.67	4.04	40.13	22.96	38.18	22.23	4.92
1575	57 (13.9)	39.07	39.07	3.33	37.72	37.72	3.67	36.33	36.33	4.04	34.91	34.91	33.46	33.46	4.92
	62 (16.7)	39.07	39.07	3.33	37.71	37.71	3.67	36.33	36.33	4.04	34.91	34.91	33.45	33.45	4.92
	67 (19.4)	42.22	33.49	3.35	40.49	32.76	3.69	38.70	32.01	4.06	36.89	31.25	35.05	30.47	4.93
	72 (22.2)	46.25	26.12	3.38	44.40	25.42	3.72	42.49	24.72	4.10	40.53	24.00	38.53	23.27	4.97
COOLING INDOOR MODEL		CAPACITY				POWER				FURNACE MODEL					
*PF1MNC043		1.00				1.00									
PF1MNC049		1.01				1.01									
CAR**4221A**		0.98				0.98				PG8*EA048090					
CAR**4821A**		1.00				1.00				PG8*EA048090					
CNRH*4221A**		0.98				0.98				PG8*EA048090					
CNRH*4821A**		1.00				1.00				PG8*EA048090					
CNRV*4221A**		0.98				0.98				PG8*EA048090					
CNRV*4821A**		1.00				1.00				PG8*EA048090					
CSRH*4212A**		0.98				0.98				PG8*EA048090					
CSRH*4812A**		1.00				1.00				PG8*EA048090					
CAR**4221A**		0.98				0.98				PG8*EA060110					
CAR**4821A**		1.00				1.00				PG8*EA060110					
CNRH*4221A**		0.98				0.98				PG8*EA060110					
CNRH*4821A**		1.00				1.00				PG8*EA060110					
CNRV*4221A**		0.98				0.98				PG8*EA060110					
CNRV*4821A**		1.00				1.00				PG8*EA060110					
CSRH*4212A**		0.98				0.98				PG8*EA060110					
CSRH*4812A**		1.00				1.00				PG8*EA060110					
CAR**4224A**		0.98				0.98				PG8*EA060135					
CAR**4824A**		1.00				1.00				PG8*EA060135					
CNRH*4221A**		0.98				0.98				PG8*EA060135					
CNRH*4821A**		1.00				1.00				PG8*EA060135					
CNRV*4824A**		1.00				1.00				PG8*EA060135					
CSRH*4212A**		0.98				0.98				PG8*EA060135					
CSRH*4812A**		1.00				1.00				PG8*EA060135					

See notes on page 14

DETAILED COOLING CAPACITIES# CONTINUED

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)											
CFM	EWB ° F (° C)	85 (29.4)		95 (35)		105 (40.6)		115 (46.1)		125 (51.7)		Total Sys. KW**	
		Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total	Sens†	Capacity MBtuh Total	Sens†		
PH13NR048(G) – H Outdoor Section With PF1MNC049 Indoor Section													
1400	57 (13.9)	42.41	42.41	3.68	40.99	40.99	39.52	4.54	37.99	37.99	36.40	36.40	5.57
	62 (16.7)	43.73	40.74	3.71	41.98	39.84	40.18	38.91	4.55	38.34	36.48	36.26	5.57
	67 (19.4)	47.93	34.24	3.78	46.00	33.40	44.01	32.54	4.63	41.96	39.83	30.75	5.65
	72 (22.2)	52.67	27.70	3.86	50.60	26.88	48.45	26.04	4.72	46.22	43.90	24.30	5.74
1600	57 (13.9)	44.10	44.10	3.76	42.59	42.59	41.03	41.03	4.62	39.41	37.72	37.72	5.65
	62 (16.7)	44.73	43.57	3.77	42.94	42.58	41.14	40.86	4.62	39.40	37.72	37.72	5.65
	67 (19.4)	48.85	36.39	3.85	46.84	35.54	44.78	34.66	4.70	42.65	40.44	32.84	5.72
	72 (22.2)	53.67	29.02	3.93	51.52	28.19	49.28	27.34	4.79	46.96	44.56	25.57	5.81
1800	57 (13.9)	45.51	45.51	3.84	43.93	43.93	42.29	42.29	4.70	40.59	38.82	38.82	5.73
	62 (16.7)	45.64	45.29	3.84	43.93	43.93	42.29	42.29	4.70	40.59	38.82	38.82	5.73
	67 (19.4)	49.55	38.45	3.91	47.49	37.58	45.36	36.69	4.76	43.17	40.91	34.82	5.78
	72 (22.2)	54.44	30.27	3.99	52.22	29.43	49.91	28.57	4.85	47.52	45.05	26.78	5.88
		COOLING INDOOR MODEL				CAPACITY				POWER			
		*PF1MNC049				1.00				1.00			
		CAR**4821A**				1.00				PG8*EA060110			
		CNRH*4821A**				1.00				PG8*EA060110			
		CNRV*4821A**				1.00				PG8*EA060110			
		CSRH*4812A**				1.00				PG8*EA060110			
		CNRH*4821A**				1.00				PG8*EA060135			
		CNRV*4824A**				1.00				PG8*EA060135			
		CSRH*4812A**				1.00				PG8*EA060135			
										FURNACE MODEL			

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (°C)											
CFM	EWB ° F (°C)	85 (29.4)		95 (35)		105 (40.6)		115 (46.1)		125 (51.7)		Total Sys. KW**	Total Sys. KW**
		Capacity MBtuh Total	Sens†	Capacity MBtuh Total	Sens†	Total Sys. KW**	Capacity MBtuh Total	Sens†	Capacity MBtuh Total	Sens†	Capacity MBtuh Total		
PH13NR060(G) – H Outdoor Section With PF1MNC061 Indoor Section													
1750	57 (13.9)	51.21	51.21	49.49	47.68	47.68	5.38	45.77	45.77	43.74	43.74	6.56	6.56
	62 (16.7)	51.70	50.46	49.68	49.35	47.68	5.38	45.77	45.77	43.74	43.74	6.56	6.56
	67 (19.4)	56.27	41.95	4.44	41.00	4.91	5.43	49.15	38.98	46.54	37.91	6.61	6.61
	72 (22.2)	61.46	33.10	4.49	59.01	4.97	5.49	53.77	30.22	50.95	29.19	6.68	6.68
2000	57 (13.9)	52.99	52.99	4.48	51.17	4.95	5.48	49.25	47.23	45.09	45.09	6.66	6.66
	62 (16.7)	52.99	52.99	4.48	51.16	4.95	5.48	49.25	47.23	45.08	45.08	6.66	6.66
	67 (19.4)	57.06	44.69	4.52	54.72	4.99	5.51	49.72	41.66	47.04	40.56	6.69	6.69
	72 (22.2)	62.26	37.73	4.57	59.73	5.05	5.57	54.33	31.82	51.42	30.77	6.76	6.76
2250	57 (13.9)	54.44	54.44	4.57	52.53	5.04	5.57	48.41	48.41	46.17	46.17	6.76	6.76
	62 (16.7)	54.43	54.43	4.57	52.53	5.04	5.57	48.40	48.40	46.16	46.16	6.76	6.76
	67 (19.4)	57.65	47.30	4.60	55.25	5.07	5.60	50.14	44.19	47.41	43.04	6.78	6.78
	72 (22.2)	62.82	36.27	4.66	60.23	5.13	5.66	54.71	33.35	51.73	32.29	6.84	6.84
		COOLING INDOOR MODEL				CAPACITY				POWER			
		*PF1MNC061				1.00				1.00			
										FURNACE MODEL			

* Tested combination

Detailed cooling capacities are based on indoor and outdoor unit at the same elevation, per ARI Standard 210/240–94, and connected by 25 ft of tubing. If other than 25 ft of tubing is used and/or indoor unit is located above outdoor unit, a slight variation in capacity may occur.

† Total and sensible capacities are net capacities. Blower motor heat has been subtracted.

‡ Sensible capacities shown are based on 80° F (27° C) entering air at the indoor coil. For sensible capacities at other than 80° F (27° C), deduct 835 Btuh (245 kW) per 1000 CFM (480 L/S) of indoor coil air for each degree below 80° F (27° C), or add 835 Btuh (245 kW) per 1000 CFM (480 L/S) of indoor coil air per degree above 80° F (27° C).

When the required data falls between the published data, interpolation may be performed.

** Unit kW is total of indoor and outdoor unit kilowatts.

HEAT PUMP HEATING PERFORMANCE

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																															
		-3 (-19.4)				7 (-13.9)				17 (-8.3)				27 (-2.8)				37 (2.8)				47 (8.3)				57 (13.9)				67 (19.4)			
		Capacity MBtuh		Total Sys. KWh	Capacity MBtuh		Total Sys. KWh	Capacity MBtuh		Total Sys. KWh	Capacity MBtuh		Total Sys. KWh	Capacity MBtuh		Total Sys. KWh	Capacity MBtuh		Total Sys. KWh	Capacity MBtuh		Total Sys. KWh	Capacity MBtuh		Total Sys. KWh	Capacity MBtuh		Total Sys. KWh					
EDB °F (°C)	CFM	Total	Integ*	Total	Integ*	Total	Integ*	Total	Integ*	Total	Integ*	Total	Integ*	Total	Integ*	Total	Integ*	Total	Integ*	Total	Integ*	Total	Integ*	Total	Integ*	Total	Integ*						
65 (18.3)	525	6.59	6.07	0.95	8.43	7.75	1.00	10.53	9.60	1.07	12.88	11.44	1.14	15.24	13.87	1.22	16.74	16.74	1.28	17.47	17.47	1.31	17.23	17.23	1.29	1.29							
	600	6.68	6.15	0.95	8.54	7.84	1.00	10.66	9.72	1.05	13.04	11.58	1.13	15.05	13.70	1.19	16.23	16.23	1.23	16.09	16.09	1.22	15.63	15.63	1.21	1.21							
	675	6.76	6.22	0.95	8.63	7.93	1.00	10.77	9.82	1.05	13.16	11.69	1.12	14.83	13.50	1.16	15.43	15.43	1.19	15.04	15.04	1.17	14.37	14.37	1.15	1.15							
70 (21.1)	525	6.40	5.88	1.00	8.23	7.56	1.06	10.31	9.42	1.13	12.66	11.24	1.21	15.17	13.81	1.30	16.87	16.87	1.36	18.11	18.11	1.41	18.08	18.08	1.41	1.41							
	600	6.49	5.97	1.00	8.33	7.66	1.05	10.44	9.52	1.11	12.81	11.38	1.19	15.14	13.78	1.26	16.50	16.50	1.31	16.93	16.93	1.33	16.68	16.68	1.32	1.32							
	675	6.56	6.04	1.00	8.43	7.74	1.05	10.55	9.62	1.11	12.94	11.49	1.18	14.97	13.63	1.24	16.09	16.09	1.28	15.92	15.92	1.27	15.46	15.46	1.26	1.26							
75 (23.9)	525	6.20	5.71	1.05	8.06	7.41	1.12	10.10	9.21	1.19	12.42	11.03	1.27	14.99	13.65	1.38	16.95	16.95	1.45	18.48	18.48	1.51	18.79	18.79	1.52	1.52							
	600	6.27	5.77	1.05	8.14	7.48	1.11	10.22	9.32	1.18	12.58	11.17	1.25	15.08	13.72	1.34	16.66	16.66	1.40	17.53	17.53	1.43	17.32	17.32	1.42	1.42							
	675	6.35	5.84	1.06	8.23	7.56	1.11	10.33	9.41	1.17	12.71	11.28	1.24	15.06	13.71	1.32	16.36	16.36	1.36	16.63	16.63	1.37	16.44	16.44	1.36	1.36							
		HEATING INDOOR MODEL								CAPACITY								POWER								FURNACE MODEL							
		*PF1MNC019								1.00								1.00															
		CNRH*2417A**								0.95								0.94								PG8*EA024045							
		CNRV*2414A**								0.95								0.94								PG8*EA024045							

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		-3 (-19.4)				7 (-13.9)				17 (-8.3)				27 (-2.8)				37 (2.8)				47 (8.3)				57 (13.9)				67 (19.4)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		Capacity MBtuh		Total Sys. Kw†	Capacity MBtuh		Total Sys. Kw†	Capacity MBtuh		Total Sys. Kw†	Capacity MBtuh		Total Sys. Kw†	Capacity MBtuh		Total Sys. Kw†	Capacity MBtuh		Total Sys. Kw†	Capacity MBtuh		Total Sys. Kw†	Capacity MBtuh		Total Sys. Kw†	Capacity MBtuh		Total Sys. Kw†																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
EDB °F (°C)	CFM	Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total	Integ*		Total

See notes on pg. 19

HEAT PUMP HEATING PERFORMANCE

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES * F (°C)																											
EDB F (°C)	CFM	-3 (-19.4)		7 (-13.9)		17 (-8.3)		27 (-2.8)		37 (2.8)		47 (8.3)		57 (13.9)		67 (19.4)													
		Capacity MBtuh	Total Sys. KWh	Capacity MBtuh	Total Sys. KWh	Capacity MBtuh	Total Sys. KWh	Capacity MBtuh	Total Sys. KWh	Capacity MBtuh	Total Sys. KWh	Capacity MBtuh	Total Sys. KWh	Capacity MBtuh	Total Sys. KWh	Capacity MBtuh	Total Sys. KWh												
PH13NRC030(G)-H Outdoor Section With PF1MNC031 Indoor Section																													
65 (18.3)	875	11.40	10.49	1.80	14.23	13.08	1.88	17.28	15.75	1.95	20.65	18.34	2.05	24.37	22.18	2.17	27.60	27.60	2.24	30.57	30.57	2.34	33.42	33.42	2.44				
	1000	11.55	10.63	1.81	14.40	13.23	1.88	17.46	15.92	1.94	20.86	18.53	2.03	24.54	22.33	2.13	27.32	27.32	2.19	29.97	29.97	2.27	31.45	31.45	2.31				
	1125	11.69	10.75	1.82	14.55	13.37	1.88	17.63	16.08	1.94	21.04	18.69	2.03	24.52	22.32	2.10	26.99	26.99	2.16	29.33	29.33	2.22	29.52	29.52	2.23				
70 (21.1)	875	11.17	10.28	1.88	13.96	12.83	1.96	17.03	15.52	2.05	20.37	18.09	2.15	24.09	21.92	2.27	27.63	27.63	2.36	30.65	30.65	2.47	33.63	33.63	2.57				
	1000	11.31	10.41	1.89	14.13	12.98	1.96	17.21	15.69	2.04	20.58	18.28	2.13	24.33	22.24	2.24	27.40	27.40	2.31	30.17	30.17	2.39	32.43	32.43	2.47				
	1125	11.43	10.52	1.90	14.28	13.12	1.97	17.37	15.84	2.03	20.77	18.45	2.12	24.48	22.28	2.21	27.16	27.16	2.27	29.65	29.65	2.35	30.65	30.65	2.37				
75 (23.9)	875	10.92	10.05	1.97	13.69	12.58	2.05	16.76	15.28	2.14	20.09	17.84	2.24	23.76	21.62	2.38	27.56	27.56	2.49	30.69	30.69	2.60	33.78	33.78	2.72				
	1000	11.07	10.19	1.98	13.85	12.73	2.05	16.95	15.45	2.13	20.30	18.03	2.22	24.01	21.85	2.34	27.44	27.44	2.43	30.30	30.30	2.52	33.01	33.01	2.61				
	1125	11.20	10.30	1.99	14.00	12.86	2.05	17.11	15.60	2.13	20.49	18.20	2.21	24.25	22.07	2.33	27.25	27.25	2.39	29.87	29.87	2.47	31.61	31.61	2.52				
HEATING INDOOR MODEL																		CAPACITY						POWER					
*PF1MNC031																		1.00						1.00					
PF1MNC037																		0.97						1.00					
CAR**3017A**																		0.97						PG8**EA048070					
CNRH**3017A**																		0.97						PG8**EA048070					
CNRH*3617A**																		0.97						PG8**EA048070					
CNRV*3017A**																		0.97						PG8**EA048070					
CNRV*3617A**																		0.97						PG8**EA048070					
CSRH*3012A**																		0.97						PG8**EA048070					
CAR**3621A**																		0.97						PG8**EA048090					
CNRH*3017A**																		0.97						PG8**EA048090					
CNRH*3617A**																		0.97						PG8**EA048090					
CNRV*3621A**																		0.97						PG8**EA048090					
CSRH*3012A**																		0.97						PG8**EA048090					

See notes on pg. 19

HEAT PUMP HEATING PERFORMANCE CONTINUED

INDOOR AIR			OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)												FURNACE MODEL			
EDB °F (°C)	CFM	-3 (-19.4)		7 (-13.9)		17 (-8.3)		27 (-2.8)		37 (2.8)		47 (8.3)		57 (13.9)		67 (19.4)		
		Capacity MBtuh	Total Sys. Kw†	Capacity MBtuh	Total Sys. Kw†	Capacity MBtuh	Total Sys. Kw†	Capacity MBtuh	Total Sys. Kw†	Capacity MBtuh	Total Sys. Kw†	Capacity MBtuh	Total Sys. Kw†	Capacity MBtuh	Total Sys. Kw†	Capacity MBtuh	Total Sys. Kw†	
PH13NFC036(G)-H Outdoor Section With PF1MNC037 Indoor Section																		
65 (18.3)	1050	14.43	13.28	2.22	17.90	16.45	2.31	21.61	19.71	2.41	25.70	22.82	2.53	30.24	27.52	2.67	33.90	
	1200	14.64	13.47	2.23	18.12	16.65	2.32	21.85	19.92	2.40	25.98	23.07	2.52	30.29	27.57	2.62	33.55	
	1350	14.82	13.64	2.25	18.31	16.83	2.33	22.06	20.11	2.41	26.22	23.29	2.51	30.21	27.49	2.60	33.16	
70 (21.1)	1050	14.05	12.93	2.31	17.56	16.14	2.41	21.30	19.42	2.52	25.33	22.50	2.64	29.83	27.14	2.80	33.82	
	1200	14.26	13.12	2.32	17.78	16.34	2.42	21.54	19.64	2.51	25.62	22.75	2.63	30.15	27.44	2.76	33.60	
	1350	14.45	13.30	2.34	17.98	16.53	2.43	21.75	19.83	2.51	25.87	22.97	2.62	30.23	27.51	2.73	33.32	
75 (23.9)	1050	13.64	12.54	2.40	17.19	15.80	2.52	20.97	19.12	2.63	24.98	22.19	2.76	29.43	26.78	2.92	33.74	
	1200	13.85	12.74	2.41	17.42	16.01	2.52	21.21	19.34	2.63	25.25	22.43	2.74	29.78	27.10	2.89	33.58	
	1350	14.05	12.92	2.43	17.63	16.20	2.53	21.43	19.54	2.63	25.50	22.64	2.74	30.04	27.34	2.86	33.38	
HEATING INDOOR MODEL																		
*PF1MNC037																		
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CNRH*4																		

See notes on pg. 19

HEAT PUMP HEATING PERFORMANCE CONTINUED

INDOOR AIR			OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																														
EDB °F (°C)	CFM	-3 (-19.4)		7 (-13.9)		17 (-8.3)		27 (-2.8)		37 (2.8)		47 (8.3)		57 (13.9)		67 (19.4)																	
		Capacity MBtuh Total	Sys. KW†	Capacity MBtuh Total	Sys. KW†	Capacity MBtuh Total	Sys. KW†	Capacity MBtuh Total	Sys. KW†	Capacity MBtuh Total	Sys. KW†	Capacity MBtuh Total	Sys. KW†	Capacity MBtuh Total	Sys. KW†	Capacity MBtuh Total	Sys. KW†																
PH13NRC042(G)-H Outdoor Section With PF1MNC043 Indoor Section																																	
65 (18.3)	1225	17.53	16.13	2.56	21.57	19.82	2.66	25.94	23.65	2.77	30.84	27.39	2.91	36.11	32.86	3.05	40.46	40.46	3.17	44.73	44.73	3.30	47.92	47.92	3.39								
	1400	17.78	16.35	2.58	21.83	20.06	2.67	26.23	23.91	2.77	31.19	27.70	2.90	36.04	32.79	3.01	39.90	39.90	3.10	43.57	43.57	3.20	44.19	44.19	3.21								
	1575	18.00	16.56	2.61	22.06	20.27	2.69	26.49	24.16	2.78	31.49	27.97	2.90	35.83	32.61	2.99	39.27	39.27	3.07	40.85	40.85	3.11	41.07	41.07	3.10								
70 (21.1)	1225	17.16	15.79	2.66	21.25	19.53	2.78	25.63	23.37	2.90	30.45	27.05	3.04	35.84	32.62	3.20	40.40	40.40	3.32	44.81	44.81	3.46	48.92	48.92	3.60								
	1400	17.41	16.02	2.68	21.51	19.77	2.79	25.91	23.62	2.89	30.79	27.35	3.02	35.93	32.70	3.15	40.00	40.00	3.26	43.90	43.90	3.37	45.48	45.48	3.41								
	1575	17.63	16.22	2.71	21.74	19.98	2.81	26.16	23.85	2.90	31.09	27.61	3.03	35.84	32.62	3.13	39.51	39.51	3.22	42.17	42.17	3.29	42.71	42.71	3.29								
75 (23.9)	1225	16.75	15.41	2.77	20.92	19.23	2.90	25.33	23.09	3.03	30.07	26.71	3.17	35.44	32.25	3.35	40.28	40.28	3.48	44.81	44.81	3.63	49.14	49.14	3.79								
	1400	17.01	15.65	2.79	21.18	19.46	2.91	25.60	23.34	3.02	30.41	27.01	3.16	35.75	32.53	3.30	40.01	40.01	3.41	44.07	44.07	3.54	46.58	46.58	3.61								
	1575	17.24	15.86	2.82	21.41	19.68	2.93	25.85	23.57	3.03	30.70	27.27	3.15	35.81	32.58	3.27	39.64	39.64	3.37	43.20	43.20	3.47	43.97	43.97	3.48								
HEATING INDOOR MODEL																			FURNACE MODEL														
*PF1MNC043																			1.00														
PF1MNC049																			0.95					0.95									
CAR**4221A**																			1.00					1.00					PG8*EA048090				
CAR**4821A**																			0.98					0.97					PG8*EA048090				
CNRH*4221A**																			1.00					1.00					PG8*EA048090				
CNRH*4821A**																			0.98					0.95					PG8*EA048090				
CNRV*4221A**																			1.00					1.00					PG8*EA048090				
CNRV*4821A**																			0.98					0.95					PG8*EA048090				
CSRH*4212A**																			0.98					0.96					PG8*EA048090				
CSRH*4812A**																			0.98					0.96					PG8*EA048090				
CAR**4221A**																			1.00					0.99					PG8*EA060110				
CAR**4821A**																			0.98					0.97					PG8*EA060110				
CNRH*4221A**																			1.00					1.00					PG8*EA060110				
CNRH*4821A**																			0.98					0.95					PG8*EA060110				
CNRV*4221A**																			1.00					1.00					PG8*EA060110				
CNRV*4821A**																			0.98					0.95					PG8*EA060110				
CSRH*4212A**																			0.98					0.95					PG8*EA060110				
CSRH*4812A**																			0.98					0.95					PG8*EA060110				
CAR**4224A**																			1.00					0.99					PG8*EA060135				
CAR**4824A**																			0.98					0.97					PG8*EA060135				
CNRH*4221A**																			1.00					1.00					PG8*EA060135				
CNRH*4821A**																			0.98					0.95					PG8*EA060135				
CNRV*4824A**																			0.98					0.95					PG8*EA060135				
CSRH*4212A**																			0.98					0.96					PG8*EA060135				
CSRH*4812A**																			0.98					0.96					PG8*EA060135				

See notes on pg. 19

HEAT PUMP HEATING PERFORMANCE CONTINUED

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES * F (°C)														
		-3 (-19.4)			7 (-13.9)			17 (-8.3)			27 (-2.8)			37 (2.8)		
		Capacity MBtuh	Total Sys. Kw†	Integ*	Capacity MBtuh	Total Sys. Kw†	Integ*	Capacity MBtuh	Total Sys. Kw†	Integ*	Capacity MBtuh	Total Sys. Kw†	Integ*	Capacity MBtuh	Total Sys. Kw†	Integ*
EDB *F (°C)	CFM															
65 (18.3)	1400	19.78	18.19	2.78	24.28	22.31	2.91	29.16	26.58	3.05	34.55	30.89	3.23	40.08	36.48	3.38
	1600	20.02	18.42	2.79	24.54	22.55	2.91	29.43	26.84	3.04	34.90	31.00	3.20	39.87	36.28	3.32
	1800	20.24	18.62	2.81	24.77	22.76	2.92	29.69	27.07	3.04	35.14	31.21	3.17	39.66	36.09	3.29
70 (21.1)	1400	19.40	17.84	2.92	23.93	21.99	3.06	28.83	26.29	3.21	34.18	30.68	3.40	39.91	36.32	3.56
	1600	19.65	18.07	2.93	24.20	22.24	3.06	29.13	26.56	3.20	34.51	30.65	3.37	39.88	36.29	3.50
	1800	19.87	18.28	2.95	24.45	22.46	3.07	29.38	26.79	3.20	34.81	30.92	3.35	39.75	36.17	3.47
75 (23.9)	1400	19.00	17.48	3.07	23.59	21.66	3.22	28.51	25.99	3.38	33.81	30.03	3.57	39.67	36.10	3.76
	1600	19.25	17.71	3.08	23.86	21.92	3.22	28.80	26.26	3.36	34.12	30.31	3.54	39.75	36.17	3.69
	1800	19.48	17.92	3.10	24.10	22.14	3.22	29.04	26.48	3.36	34.44	30.58	3.53	39.71	36.14	3.65
		HEATING INDOOR MODEL									CAPACITY			POWER		
											1.00			1.00		
											1.00			1.02		
											1.00			PG8*EA060110		
											1.00			PG8*EA060110		
											1.00			PG8*EA060110		
											1.00			PG8*EA060135		
											1.00			PG8*EA060135		
											1.00			PG8*EA060135		

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES * F (°C)														
		-3 (-19.4)			7 (-13.9)			17 (-8.3)			27 (-2.8)			37 (2.8)		
		Capacity MBtuh	Total Sys. Kw†	Integ*	Capacity MBtuh	Total Sys. Kw†	Integ*	Capacity MBtuh	Total Sys. Kw†	Integ*	Capacity MBtuh	Total Sys. Kw†	Integ*	Capacity MBtuh	Total Sys. Kw†	Integ*
EDB *F (°C)	CFM															
65 (18.3)	1750	25.07	23.06	3.64	30.45	27.98	3.77	36.25	33.05	3.92	42.92	38.12	4.11	49.71	45.24	4.24
	2000	25.41	23.38	3.67	30.81	28.31	3.80	36.65	33.42	3.93	43.39	38.53	4.09	49.44	44.99	4.21
	2250	25.74	23.68	3.72	31.14	28.62	3.83	37.02	33.75	3.96	43.69	38.80	4.08	47.79	43.49	4.17
70 (21.1)	1750	24.57	22.61	3.79	30.04	27.60	3.95	35.86	32.69	4.11	42.40	37.66	4.30	49.56	45.10	4.45
	2000	24.94	22.94	3.83	30.41	27.95	3.97	36.24	33.04	4.11	42.91	38.11	4.30	49.48	45.03	4.42
	2250	25.28	23.25	3.88	30.75	28.26	4.01	36.61	33.38	4.14	43.32	38.47	4.30	49.35	44.91	4.41
75 (23.9)	1750	24.07	22.14	3.95	29.62	27.22	4.13	35.48	32.35	4.30	41.85	37.17	4.49	49.25	44.82	4.68
	2000	24.44	22.49	3.99	30.00	27.57	4.15	35.86	32.70	4.31	42.38	37.64	4.49	49.38	44.94	4.64
	2250	24.78	22.80	4.04	30.35	27.89	4.18	36.22	33.02	4.33	42.84	38.04	4.51	49.31	44.87	4.63
		HEATING INDOOR MODEL									CAPACITY			POWER		
											1.00			1.00		
											1.00			PG8*EA060135		

See notes on pg. 19

NOTE: When the required data fall between the published data, interpolation may be performed. Extrapolation is not an acceptable practice.

* The Btuh heating capacity values shown are net "integrated" values from which the defrost effect has been subtracted. The Btuh heating from supplement heaters should be added to those values to obtain total system capacity.

† The kW values include the compressor, outdoor fan motor, and indoor blower motor. The kW from supplement heaters should be added to these values to obtain total system kilowatts.

EDB = Entering Dry Bulb

SYSTEM DESIGN

1. Intended for outdoor installation with free air inlet and outlet. Outdoor fan external static pressure available is less than 0.01-in. wc.
2. Minimum outdoor operating air temperature without low-ambient operation accessory is 55°F (12.8°C).
3. Maximum outdoor operating air temperature is 115°F (46.1°C).
4. For reliable operation, unit should be level in all horizontal planes.
5. Maximum elevation of indoor coil above or below base of outdoor unit is: indoor coil above = 80 ft (24.38 m), indoor coil below = 200 ft (60.96).
6. For interconnecting refrigerant tube lengths greater than 80 ft (24.38 m) horizontal or 20 ft (6.10 m) vertical differential, consult Residential Split System Long-Line Application Guideline available from equipment distributor.
7. Crankcase heater required when interconnecting refrigerant tube length exceeds 80 ft (24.38 m).
8. If any refrigerant tubing is buried, provide a minimum 6 in (152.4 mm). vertical rise to the valve connections at the unit. Refrigerant tubing lengths up to 36 in (914.4 mm). may be buried without further consideration.
9. Use only copper wire for electric connection at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.