

**PA13NA  
PA13PA**

**13 SEER Split–System Air Conditioner  
With R–410A Refrigerant  
Single & Three Phase  
1–1/2 To 5 Tons**

## Product Data



### FEATURES AND BENEFITS

#### AVAILABLE SIZES:

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

#### CERTIFICATION:

All models are listed with UL, (U.S. and Canada), AHRI, and CEC.

#### ELECTRICAL RANGE:

Units offered in single phase 208/230v are 018-060, and three phase 208/230v in 036, 048 and 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 hot condenser air up and away from adjacent patio areas and foliage. The base pan is designed for easy removal of water, dirt, and leaves.

#### 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.

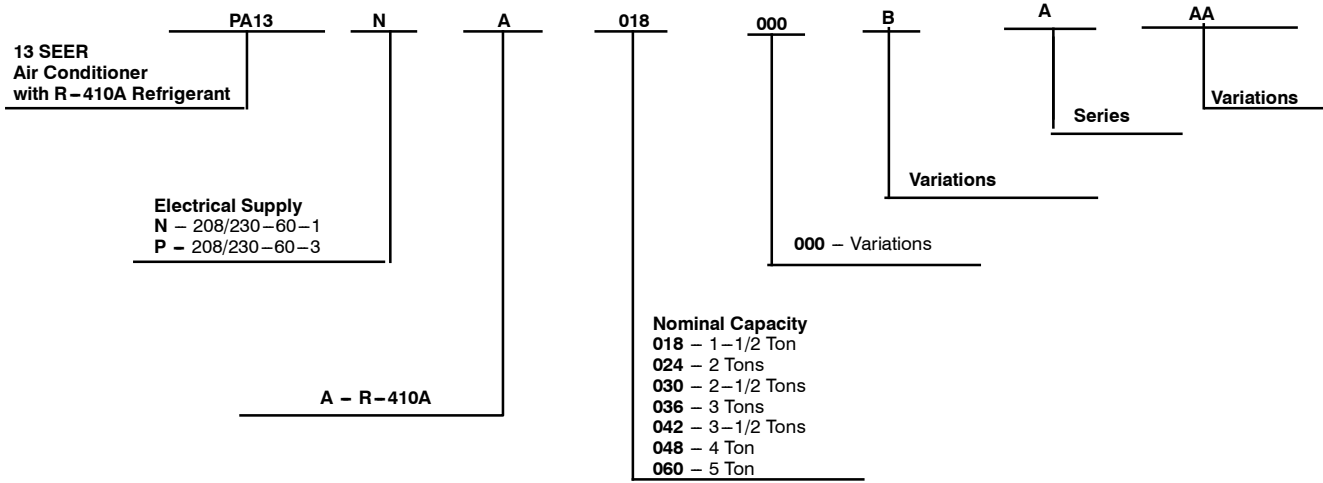
#### SERVICE VALVES:

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



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Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to [www.ahridirectory.org](http://www.ahridirectory.org).



ISO 9001  
 QMS-SAI Global



This product has been designed and manufactured to meet Energy Star® criteria for energy efficiency when matched with appropriate coil components. However, proper refrigerant charge and proper air flow are critical to achieve rated capacity and efficiency. Installation of this product should follow all manufacturing refrigerant charging and air flow instructions. **Failure to confirm proper charge and air flow may reduce energy efficiency and shorten equipment life.**

# SPECIFICATIONS

UNIT SIZE SERIES	018		024		030		036		042		048		060	
	B		B		B		E	B	B	E	D	E	E	B
<b>ELECTRICAL</b>														
Unit Volts—Hertz—Phase	208/230—60—1													
Operating Voltage Range*	187—253													
Compressor—Rated Load Amps	9.0	13.5	12.8	14.1	9.0	17.9	18.8	18.8	17.9	18.8	13.1	18.8	18.8	13.1
Locked Rotor Amps	48.0	58.3	64.0	70.0	71.0	112.0	96.0	96.0	112.0	83.1	83.1	96.0	125.0	110.0
Condenser Fan Motor— Full Load Amps	0.5	0.8	0.8	1.4	1.4	1.1	1.4	1.4	1.1	1.4	1.4	1.4	1.4	1.4
Min Unit Ampacity for Wire Sizing	11.7	17.6	16.8	19.0	17.7	23.5	24.9	24.9	23.5	17.8	17.8	24.9	29.0	21.4
Min Wire Size (60°/75° Copper) AWG**	14	14	14	14	14	12	12	12	12	12	12	12	10	12
Max Wire Length (60°/75°) ft. (m)†	66 / 62	44 / 42	46 / 44	41 / 39	70 / 67	52 / 50	50 / 48	50 / 48	52 / 50	81 / 76	81 / 76	69 / 66	69 / 66	66 / 63
Max Branch Circuit Fuse Size†	20	25	25	30	20	40	40	40	40	30	30	50	50	30
<b>COMPRESSOR AND REFRIGERANT</b>														
Type	Scroll													
Temperature and Current Protection	Internal Line Break													
R—410A Refrigerant— Amount Lb. (kg) @ 15 ft. (4.6 m)	3.15 (1.43)		3.15 (1.43)		3.63 (1.65)		4.67 (2.12)		6.07 (2.75)		7.00 (3.18)		8.80 (3.99)	
Refrigerant Tubes (In. OD)	3/4 and 3/8													
†† Rated Vapor and Maximum Liquid	7/8 and 3/8													
<b>CONDENSER COIL AND FAN</b>														
Coil Face Area (Sq Ft)	8.4	8.4	9.8	12.60	12.60	17.3	19.29	19.29	17.3	19.29	15.14	19.29	15.14	15.14
Fan Motor—HP, Type, and RPM	1/12	PSC and 1100	1/10	PSC and 1100	PSC and 1100	1/5	PSC and 1100	PSC and 1100	1/5	PSC and 1100	1/4	PSC and 1100	PSC and 1100	1/4
Volts—Hertz—Phase	208/230—60—1													
Condenser Airflow (CFM)	1700	2000	2000	2500	2500	3000	3400	3400	3000	3400	3400	3400	3400	3400
<b>OPTIONAL EQUIPMENT</b>														
Cycle Protector	KSACY0101AAA													
Start Assist—PTC Type	KAACS0201PTC		N/A		N/A		N/A		KAACS0201PTC		N/A		KAACS0201PTC	
Start Assist—Capacitor/Relay Type	KSAHS1501AAA		N/A		N/A		N/A		KSAHS1501AAA		N/A		KSAHS1501AAA	
MotorMaster® Control	KSALA0601AAA													
Ball Bearing Fan Motor (RCD)	HC34GE239		HC40GR232		HC38GE219		HC40GE226		HC38GE219		HC40GE226		HC40GE226	
Low—Pressure Switch	KAALP0401PUR													
High—Pressure Switch	KAAHI0501PUR													
Compressor Sound Hood	KSASH1801COP													
Time—Delay Relay	KAATD0101TDR													
Low—Ambient Pressure Switch Kit	KSALA0301410													
Winter Start Control	KAAWS0101AAA													
Evaporator Freeze Thermostat	KAAF0101AAA													
Compressor Crankcase Heater	KAAACH1401AAA													
Liquid Line Solenoid Valve††	KAALS0201LLS													
TXV (Hard Shutoff)††	KSATX0201PUR		KSATX0301PUR		KSATX0301PUR		KSATX0301PUR		KSATX0401PUR		KSATX0401PUR		KSATX0501PUR	
Liquid Line Filter Drier	KH43LG073													

N/A – Not applicable in this application.

\* Permissible limits of the voltage range at which unit will operate satisfactorily. Operation outside these limits may result in unit failure.

† Time—delay fuse or circuit breaker.

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

\*\* If wire is applied at ambient greater than 30° C, consult Table 310—16 of the NEC (NFPA 70). The ampacity of nonmetallic—sheathed cable (NM), trade name ROMEX, shall be that of 60° C conductors, per the NEC (NFPA 70) Article 336—26.

†† Do not use hard shutoff TXV with liquid solenoid valve.

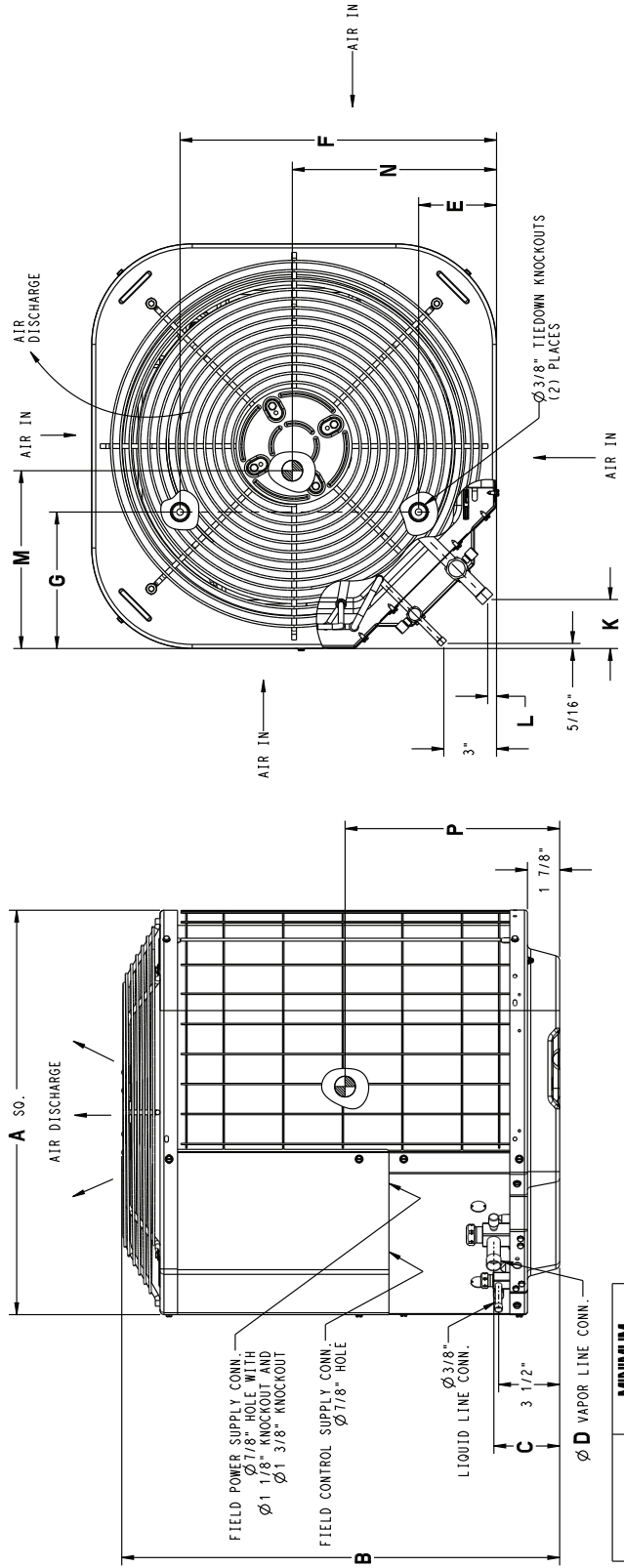
‡‡ Units are rated with 25 ft (7.6 m) of lineset length. See Vapor Line Sizing and Cooling Capacity Loss table when using other sizes and lengths of lineset.

**DIMENSIONS - ENGLISH**

UNIT	SERIES	ELECTRICAL CHARACTERISTICS	A	B	C	D	E	F	G	K	L	M	N	P	OPERATING WEIGHT (LBS)	SHIPPING WEIGHT (LBS)	SHIPPING DIMENSIONS (L x W x H)
PA13NA018	B	X 0 0 0	23 1/8"	24 13/16"	3 3/4"	3/4"	4 7/16"	18 1/16"	7 13/16"	2 13/16"	1/2"	12"	11 3/4"	11 7/8"	104	120	24 1/8" X 24 1/8" X 27 3/16"
PA13NA024	B	X 0 0 0	23 1/8"	24 13/16"	3 3/4"	3/4"	4 7/16"	18 1/16"	7 13/16"	2 13/16"	1/2"	12"	11 3/4"	11 7/8"	107	123	24 1/8" X 24 1/8" X 27 3/16"
PA13NA030	B	X 0 0 0	23 1/8"	28 7/16"	3 3/4"	3/4"	4 7/16"	18 1/16"	7 13/16"	2 13/16"	1/2"	12"	11 3/4"	12 1/2"	110	126	24 1/8" X 24 1/8" X 30 5/8"
PA13NA036	E	X 0 0 0	23 1/8"	35 3/16"	3 7/8"	7/8"	4 7/16"	18 1/16"	7 13/16"	2 13/16"	1/2"	12"	11 3/4"	13 3/4"	128	142	24 1/8" X 24 1/8" X 37 7/16"
PA13NA042	B	X 0 0 0	31 3/16"	31 13/16"	3 7/8"	7/8"	6 9/16"	24 11/16"	9 1/8"	2 15/16"	5/8"	16"	15 1/2"	13 3/4"	164	178	32 3/16" X 32 3/16" X 34"
PA13NA048	E	X 0 0 0	31 3/16"	35 3/16"	3 7/8"	7/8"	6 9/16"	24 11/16"	9 1/8"	2 15/16"	5/8"	16"	15 1/2"	15 1/2"	174	187	32 3/16" X 32 3/16" X 37 7/16"
PA13NA060	E	X 0 0 0	31 3/16"	28 7/16"	3 7/8"	7/8"	6 9/16"	24 11/16"	9 1/8"	2 15/16"	5/8"	16"	15 1/2"	12 3/4"	195	210	32 3/16" X 32 3/16" X 30 5/8"
PA13PA036	B	O 0 X 0	23 1/8"	35 3/16"	3 7/8"	7/8"	4 7/16"	18 1/16"	7 13/16"	2 13/16"	1/2"	12"	11 3/4"	13 3/4"	128	142	24 1/8" X 24 1/8" X 37 7/16"
PA13PA048	D	O 0 X 0	31 3/16"	35 3/16"	3 7/8"	7/8"	6 9/16"	24 11/16"	9 1/8"	2 15/16"	5/8"	16"	15 1/2"	15 1/2"	174	187	32 3/16" X 32 3/16" X 37 7/16"
PA13PA060	B	O 0 X 0	31 3/16"	28 7/16"	3 7/8"	7/8"	6 9/16"	24 11/16"	9 1/8"	2 15/16"	5/8"	16"	15 1/2"	12 3/4"	195	210	32 3/16" X 32 3/16" X 30 5/8"

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



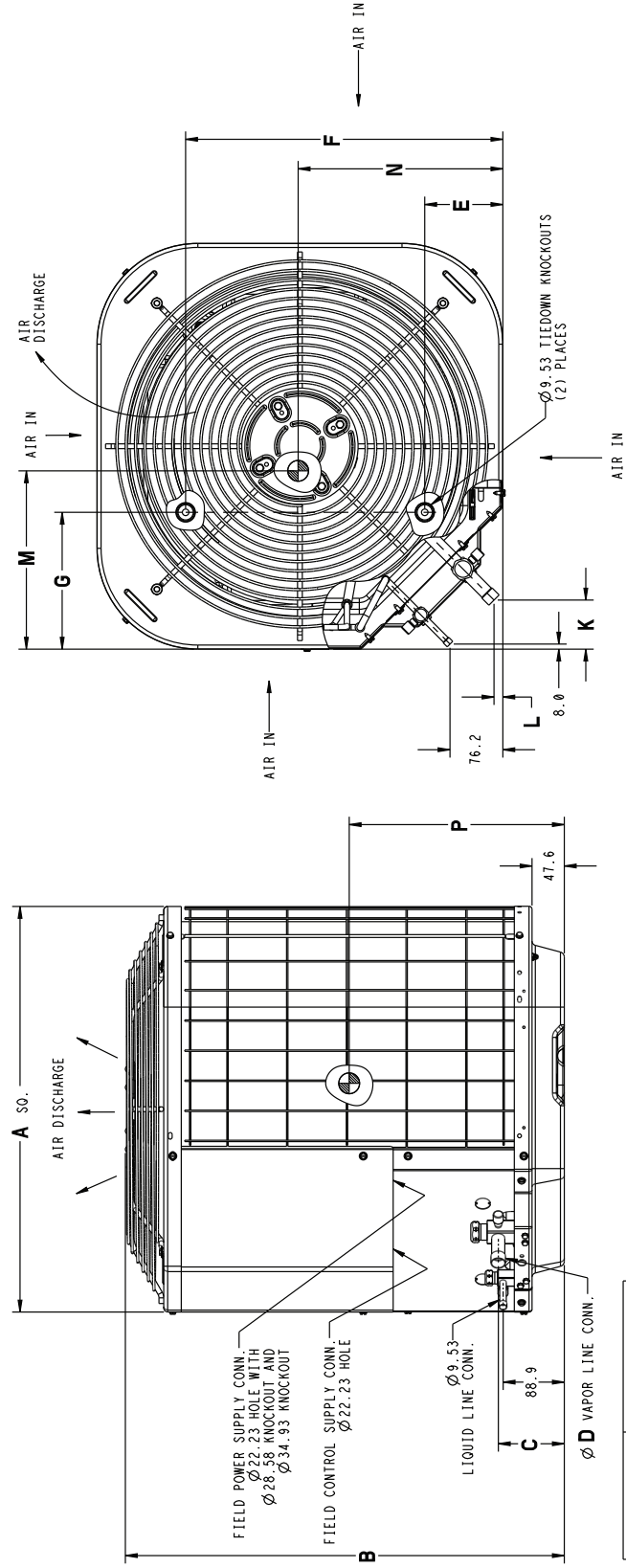
UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18, 24, 30, 36	23 1/2" X 23 1/2"
...	26" X 26"
42, 48, 60	31 1/2" X 31 1/2"
...	35" X 35"

# DIMENSIONS - SI

UNIT	SERIES	ELECTRICAL CHARACTERISTICS	A	B	C	D	E	F	G	K	L	M	N	P	OPERATING WEIGHT (Kgs)	SHIPPING WEIGHT (Kgs)	SHIPPING DIMENSIONS (L x W x H)
PA13NA018	B	X 0 0 0	587.4	630.2	95.2	19.0	112.7	458.8	198.4	71.4	12.7	304.8	298.4	301.6	47.2	54.4	612.8 X 612.8 X 690.6
PA13NA024	B	X 0 0 0	587.4	630.2	95.2	19.0	112.7	458.8	198.4	71.4	12.7	304.8	298.4	301.6	48.5	55.8	612.8 X 612.8 X 690.6
PA13NA030	B	X 0 0 0	587.4	722.3	95.2	19.0	112.7	458.8	198.4	71.4	12.7	304.8	298.4	317.5	49.9	57.2	612.8 X 612.8 X 777.9
PA13NA036	E	X 0 0 0	587.4	893.8	98.4	22.2	112.7	458.8	198.4	71.4	12.7	304.8	298.4	349.2	58.2	64.5	612.8 X 612.8 X 950.9
PA13NA042	B	X 0 0 0	792.2	888.0	98.4	22.2	166.7	627.1	231.8	74.6	15.9	406.4	393.7	349.2	74.4	80.9	817.6 X 817.6 X 863.6
PA13NA048	E	X 0 0 0	792.2	893.8	98.4	22.2	166.7	627.1	231.8	74.6	15.9	406.4	393.7	393.7	79.1	85.0	817.6 X 817.6 X 950.9
PA13NA060	E	X 0 0 0	792.2	722.3	98.4	22.2	166.7	627.1	231.8	74.6	15.9	406.4	393.7	323.8	88.6	95.5	817.6 X 817.6 X 777.9
PA13PA036	B	0 0 X 0	587.4	893.8	98.4	22.2	112.7	458.8	198.4	71.4	12.7	304.8	298.4	349.2	58.2	64.5	612.8 X 612.8 X 950.9
PA13PA048	D	0 0 X 0	792.2	893.8	98.4	22.2	166.7	627.1	231.8	74.6	15.9	406.4	393.7	393.7	79.1	85.0	817.6 X 817.6 X 950.9
PA13PA060	B	0 0 X 0	792.2	722.3	98.4	22.2	166.7	627.1	231.8	74.6	15.9	406.4	393.7	323.8	88.6	95.5	817.6 X 817.6 X 777.9

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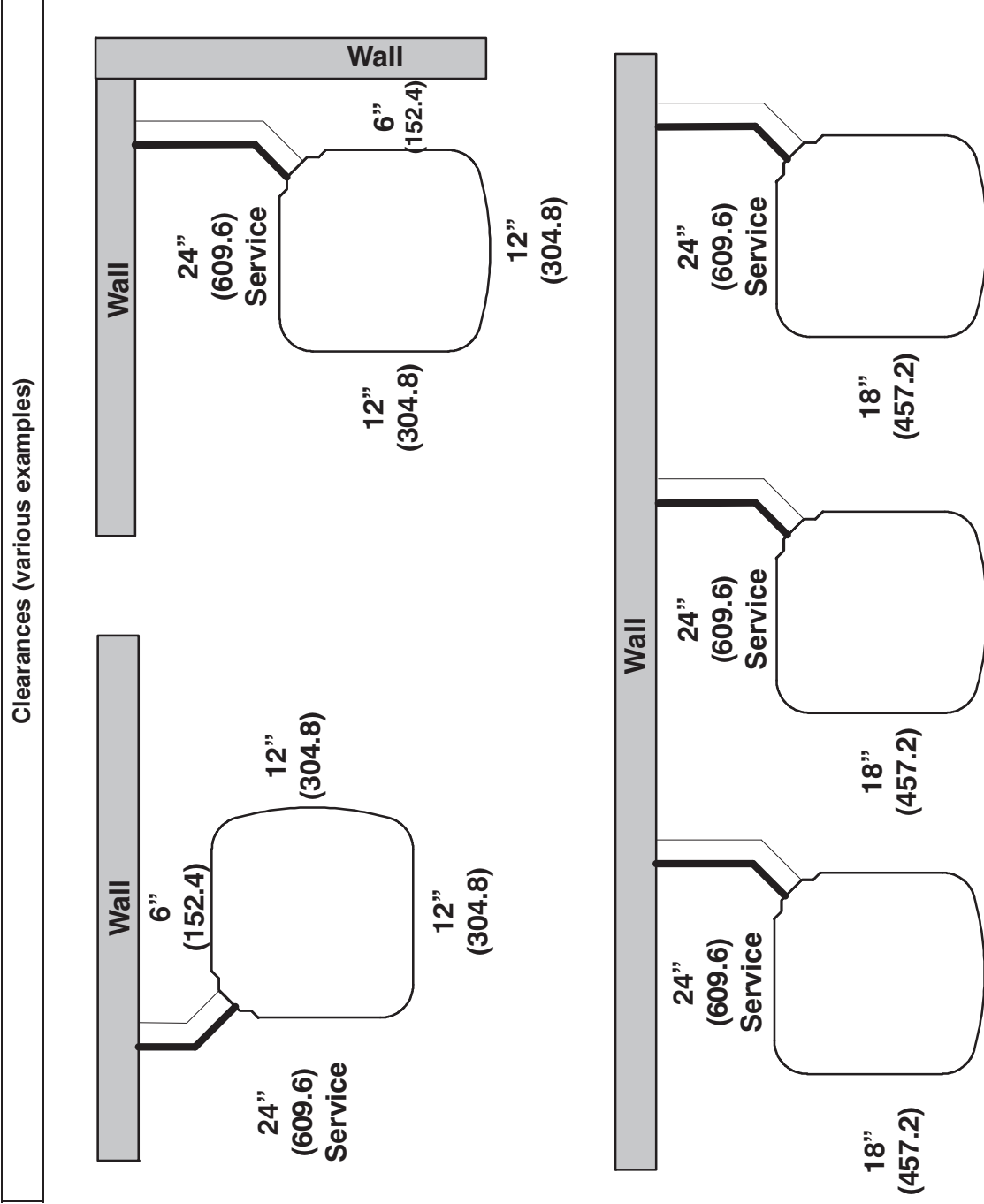
X = YES  
O = NO



UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18.24, 30.36	596.9 X 596.9
...	660.4 X 660.4
42.48, 60	800.1 X 800.1
...	889.0 X 889.0

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# CLEARANCES



**Note:** Numbers in ( ) = mm

**IMPORTANT:** When installing multiple units in an alcove, roof well, or partially enclosed area, ensure there is adequate ventilation to prevent re-circulation of discharge air.

## REFRIGERANT CHARGE ADJUSTMENTS

Liquid Line Size	R-410A Charge oz/ft
3/8	0.60 (Factory charge for lineset = 9 oz)
5/16	0.40
1/4	0.27

Units are factory charged for 15 ft (4.6 m) of 3/8" liquid line. The factory charge for 3/8" lineset 9 oz. When using other length or diameter liquid lines, charge adjustments are required per the chart above.

### Charging Formula:

[(Lineset oz/ft x total length) – (factory charge for lineset)] = charge adjustment

**Example 1:** System has 15 ft of line set using existing 1/4" liquid line. What charge adjustment is required?

Formula: (.27 oz/ft x 15ft) – (9 oz) = (-4.95) oz.

Net result is to remove 4.95 oz of refrigerant from the system

**Example 2:** System has 45 ft of existing 5/16" liquid line. What is the charge adjustment?

Formula: (.40 oz/ft. x 45ft) – (9 oz.) = 9 oz.

Net result is to add 9 oz of refrigerant to the system

## LONG LINE APPLICATIONS

An application is considered Long Line, when the refrigerant level in the system requires the use of accessories to maintain acceptable refrigerant management for systems reliability. See Accessory Usage Guideline table for required accessories. Defining a system as long line depends on the liquid line diameter, actual length of the tubing, and vertical separation between the indoor and outdoor units.

For Air Conditioner systems, the chart below shows when an application is considered Long Line.

### AC WITH R-410A REFRIGERANT LONG LINE DESCRIPTION ft (m) Beyond these lengths, long line accessories are required

Liquid Line Size	Units On Same Level	Outdoor Below Indoor	Outdoor Above Indoor
1/4	No accessories needed within allowed lengths	No accessories needed within allowed lengths	175 (53.3)
5/16	120 (36.6)	50 (15.2)	120 (36.6)
3/8	80 (24.4)	35 (10.7)	80 (24.4)

**Note:** See Long Line Guideline for details

## VAPOR LINE SIZING AND COOLING CAPACITY LOSS

Acceptable vapor line diameters provide adequate oil return to the compressor while avoiding excessive capacity loss. The suction line diameters shown in the chart below are acceptable for AC systems with R-410A refrigerant:

Unit Nominal Size (Btuh)	Maximum Liquid Line Diameters (In. OD)	Vapor Line Diameters (In. OD)	Cooling Capacity Loss (%) Total Equivalent Line Length ft. (m)								
			26-50 (7.9-15.2)	51-80 (15.5-24.4)	81-100 (24.7-30.5)	101-125 (30.8-38.1)	126-150 (38.4-45.7)	151-175 (46.0-53.3)	176-200 (53.6-61.0)	201-225 (61.3-68.6)	226-250 (68.9-76.2)
18000 1 Stage AC with R-410A	3/8	1/2	1	2	3	5	6	7	8	9	11
		5/8	0	1	1	1	2	2	2	3	3
		3/4	0	0	0	0	1	1	1	1	1
24000 1 Stage AC with R-410A	3/8	5/8	0	1	2	2	3	3	4	5	5
		3/4	0	0	1	1	1	1	1	2	2
		7/8	0	0	0	0	0	1	1	1	1
30000 1 Stage AC with R-410A	3/8	5/8	1	2	3	3	4	5	6	7	8
		3/4	0	0	1	1	1	2	2	2	3
		7/8	0	0	0	0	1	1	1	1	1
36000 1 Stage AC with R-410A	3/8	5/8	1	2	4	5	6	8	9	10	12
		3/4	0	1	1	2	2	3	3	4	4
		7/8	0	0	0	1	1	1	1	2	2
42000 1 Stage AC with R-410A	3/8	3/4	0	1	2	2	3	4	4	5	6
		7/8	0	0	1	1	1	2	2	2	3
		1 1/8	0	0	0	0	0	0	0	0	0
48000 1 Stage AC with R-410A	3/8	3/4	0	1	2	3	4	5	5	6	7
		7/8	0	0	1	1	2	2	2	3	3
		1 1/8	0	0	0	0	0	0	0	1	1
60000 1 Stage AC with R-410A	3/8	3/4	1	2	4	5	6	7	9	10	11
		7/8	0	1	2	2	3	4	4	5	5
		1 1/8	0	0	0	1	1	1	1	1	1

Applications in this area may be long line and may have height restrictions. See the *Residential Piping and Long Line Guideline*.

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## A-WEIGHTED SOUND POWER (dBA)

UNIT SIZE – SERIES	Standard Rating (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018-B	71	49.5	59.0	63.0	66.5	62.5	58.5	54.0
024-B	73	50.5	61.0	67.0	68.0	65.0	60.0	55.5
030-B	72	52.0	61.5	65.5	66.5	64.5	59.5	54.5
036-E/B	75	57.0	61.5	68.5	70.0	67.0	62.5	54.0
042-B	75	56.0	64.5	69.5	71.0	66.0	64.0	59.0
048-E/D	76	54.0	63.0	69.5	71.5	70.0	66.0	58.5
060-E/B	79	57.5	67.0	72.0	75.0	72.5	68.0	61.0

NOTE: Tested in accordance with AHRI Standard 270–2008 (not listed in AHRI).

## A-WEIGHTED SOUND POWER (dBA) WITH SOUND SHIELD

UNIT SIZE – SERIES	Standard Rating (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018-B	70	53.5	60.0	62.0	65.5	62.0	57.5	52.5
024-B	73	53.0	62.0	67.5	68.0	65.0	60.0	53.5
030-B	71	54.0	61.5	65.5	66.0	63.5	58.5	52.0
036-E/B	74	57.0	61.5	67.5	70.0	66.5	62.5	56.0
042-B	74	55.5	64.0	69.0	69.5	65.5	63.5	57.5
048-E/D	76	55.0	63.0	69.5	71.0	68.5	65.0	58.0
060-E/B	79	57.5	68.0	72.5	74.5	72.5	68.0	60.5

NOTE: Tested in accordance with AHRI Standard 270–2008 (not listed in AHRI).

## METERING DEVICE

UNIT SIZE – SERIES	INDOOR	REQUIRED SUBCOOLING °F (°C)
018-B	TXV*	1Q(5.6)
024-B		1Q(5.6)
030-B		1Q(5.6)
036-E		12(6.7)
036-B		1Q(5.6)
042-B		1Q(5.6)
048-E		15(8.3)
048-D		1Q(5.6)
060-E		15(8.3)
060-B		1Q(5.6)

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



# ACCESSORY USAGE GUIDELINE

ACCESSORY	REQUIRED FOR LOW AMBIENT COOLING APPLICATIONS (Below 55°F / 22.8°C)	REQUIRED FOR LONG LINE APPLICATIONS* (Over 80 Ft./24.4 m)	REQUIRED FOR SEA COAST APPLICATIONS (Within 2 miles/3.2 km)
Ball Bearing Fan Motor	Yes†	No	No
Compressor Start Assist Capacitor and Relay	Yes	Yes	No
Crankcase Heater	Yes	Yes	No
Evaporator Freeze Thermostat	Yes	No	No
Hard Shut–Off TXV	Yes	Yes	Yes
Liquid Line Solenoid Valve	No	See Long–Line Application Guideline	No
Low Ambient Kit (Pressure Switch)	Yes	No	No
Support Feet	Recommended	No	Recommended
Winter Start Control	Yes	No	No

\* For tubing line sets between 80 and 200 ft. (24.4 and 76.2 m) and/or 20 ft. (6.1 m) vertical differential, refer to Residential Split–System Longline Application Guideline.

† Required for Low Ambient Controller (full modulation feature) and MotorMaster® Control only.

## Accessory Description and Usage (Listed Alphabetically)

### 1. 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 reciprocating compressors in the following applications:

- Long line
- Low ambient cooling
- Hard shut off expansion valve on indoor coil
- Liquid line solenoid on indoor coil

Required for single–phase scroll compressors in the following applications:

- Long line
- Low ambient cooling

Suggested for all compressors in areas with a history of low voltage problems.

### 2. Compressor Start Assist — PTC Type

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

Usage Guideline:

Suggested in installations with marginal power supply.

### 3. 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 cooling applications.
- Required in long line applications.

### 4. Cycle Protector

The cycle protector is designed to prevent compressor short cycling. This control provides an approximate 5-minute delay after power to the compressor has been interrupted for any reason, including power outage, protector control trip, thermostat jiggling, or normal cycling.

Suggested in all commercial applications.

### 5. 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.

### 6. Low Ambient Pressure Switch Kit

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).

Suggested for all commercial applications.

### 7. Support Feet

Four stick-on plastic feet that raise the unit 4 in. (101.6 mm) above the mounting pad. This allows sand, dirt, and other debris to be flushed from the unit base, minimizing corrosion.

Usage Guideline:

Suggested in the following applications:

- Coastal installations.
- Windy areas or where debris is normally circulating.
- Rooftop installations.
- For improved sound ratings.

### 8. Thermostatic Expansion Valve (TXV)

A modulating flow-control 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. Hard shut off types are available.

**NOTE:** When using a hard shut off TXV with single phase reciprocating compressors, a Compressor Start Assist Capacitor and Relay is required.

Usage Guideline:

- Required to achieve AHRI 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.

### 9. Winter Start Control

This control is designed to alleviate nuisance opening of the low-pressure switch by bypassing it for the first 3 minutes of operation.

PA13NA / PA13PA

# TESTED AHRI COMBINATION RATINGS\*

NOTE: Ratings contained in this document are subject to change at any time.

For AHRI ratings certificates, please refer to the AHRI directory [www.ahridirectory.org](http://www.ahridirectory.org)

Additional ratings and system combinations can be accessed via the Payne database at:

[http://cactaxcredits.info/payne-ratings/hp\\_ratings\\_srch.php](http://cactaxcredits.info/payne-ratings/hp_ratings_srch.php)

Model Number	Indoor Coil Model Number	Furnace Model Number	Cooling Capacity	EER	SEER
PA13NA018****B	CAP**1814A**+TDR		17,200	10.9	13.0
PA13NA024****B	CAP**2414A**+TDR		23,000	11.0	13.0
PA13NA030****B	CAP**3014A**+TDR		27,200	10.8	13.0
PA13NA036****E	CAP**4821A**+TDR		34,000	11.0	13.0
PA13NA042****B	CAP**4221A**+TDR		39,500	11.0	13.0
PA13NA048****E	CAP**4821A**+TDR		45,500	11.0	13.0
PA13NA060****E	CAP**6024A**+TDR		57,000	11.0	13.0
PA13PA036****B	CAP**4821A**+TDR		34,000	11.0	13.0
PA13PA048****D	CAP**4821A**+TDR		46,000	11.0	13.0
PA13PA060****B	CAP**6024A**+TDR		57,000	11.0	13.0

EER — Energy Efficiency Ratio

SEER — Seasonal Energy Efficiency Ratio

TDR — Time-Delay Relay. In most cases, only 1 method should be used to achieve TDR function. Using more than 1 method in a system may cause degradation in performance. Use either the accessory Time-Delay Relay KAATD0101TDR or a furnace equipped with TDR. Most Payne furnaces are equipped with TDR.

**NOTES:**

1. Ratings are net values reflecting the effects of circulating fan motor heat. Supplemental electric heat is not included.
2. Tested outdoor/indoor combinations have been tested in accordance with DOE test procedures for central air conditioners. Ratings for other combinations are determined under DOE computer simulation procedures.
3. Determine actual CFM values obtainable for your system by referring to fan performance data in fan coil or furnace coil literature.
4. Do not apply with capillary tube coils as performance and reliability are affected.

PA13NA / PA13PA

# DETAILED COOLING CAPACITIES#

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)									
CFM	EWB °F (°C)	75 (23.9)		85 (29.4)		95 (35)		105 (40.6)		115 (46.1)	
		Capacity Mbrtuh	Total Sys-tem KW**	Capacity Mbrtuh	Total Sys-tem KW**	Capacity Mbrtuh	Total Sys-tem KW**	Capacity Mbrtuh	Total Sys-tem KW**	Capacity Mbrtuh	Total Sys-tem KW**
		Total	Sens†	Total	Sens†	Total	Sens†	Total	Sens†	Total	Sens†
		PA13NA018(G)-B Outdoor Section With CAP**1814A** Indoor Section									
525	72 (22.2)	20.35	10.09	19.43	9.75	18.46	9.40	17.51	9.07	16.49	8.72
	67 (19.4)	18.72	12.43	17.86	12.08	16.95	11.72	16.04	11.37	15.07	11.00
	62 (16.7)	17.21	14.74	16.41	14.38	15.59	14.00	14.75	13.61	13.92	13.92
	57 (13.9)	16.70	16.70	16.05	16.05	15.37	15.37	14.67	14.67	13.92	13.92
600	72 (22.2)	20.73	10.59	19.69	10.22	18.69	9.87	17.72	9.54	16.67	9.18
	67 (19.4)	19.03	13.21	18.14	12.86	17.20	12.50	16.27	12.15	15.27	11.77
	62 (16.7)	17.59	15.82	16.78	15.44	15.95	15.95	15.23	15.23	14.44	14.44
	57 (13.9)	17.38	17.38	16.69	16.69	15.97	15.97	15.23	15.23	14.44	14.44
675	72 (22.2)	21.01	11.06	19.88	10.67	18.85	10.32	17.86	9.98	16.79	9.82
	67 (19.4)	19.25	13.95	18.34	13.61	17.38	13.24	16.43	12.88	15.41	12.50
	62 (16.7)	17.94	17.79	17.20	17.20	16.44	16.44	15.67	15.67	14.84	14.84
	57 (13.9)	17.92	17.92	17.20	17.20	16.44	16.44	15.67	15.67	14.84	14.84

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
*CAP**1814A**	1.00	1.00	
CAP**2414A**	1.00	0.99	
CAP**2417A**	1.00	1.00	
CAP**3619A**	1.02	1.01	
CNP F*2418A**	1.00	0.99	
CNP H*2417A**	1.00	0.99	
CNP V*1814A**	1.00	1.00	
CNP V*1917A**	1.05	1.04	
CNP V*2414A**	1.00	1.00	
CNP V*2417A**	1.00	0.99	
CSP H*2412A**	1.00	0.99	
FB4CNF018	1.03	0.94	
FB4CNF024	1.03	0.94	
FB4CNF030	1.06	1.04	
FF1ENP018	1.00	1.00	
FF1ENP019	1.00	0.91	
FF1ENP024	1.00	1.00	
FF1ENP025	1.00	0.89	
FF1ENP031	1.03	0.98	
FF1ENP037	1.03	0.98	
PF4MNA018	1.00	1.00	
PF4MNA019	1.00	0.91	
PF4MNA024	1.00	1.00	
PF4MNA025	1.00	1.00	
PF4MNB019	1.02	0.93	
PF4MNB025	1.02	0.93	
PF4MNB031	1.02	0.93	
CAP**1814A**	1.00	0.91	PG8*EA024045
CAP**2414A**	1.00	0.91	PG8*EA024045
CNP H*2417A**	1.00	0.91	PG8*EA024045
CNP V*1814A**	1.00	0.91	PG8*EA024045
CNP V*2414A**	1.00	0.91	PG8*EA024045
CSP H*2412A**	1.00	0.91	PG8*EA024045
CAP**1814A**	1.01	0.94	PG95XA*30040A***
CAP**2414A**	1.03	0.94	PG95XA*30040A***
CNP V*2417A**	1.03	0.94	PG95XA*30040A***
CNP V*1814A**	1.02	0.94	PG95XA*30040A***

See notes on pg. 20



# DETAILED COOLING CAPACITIES# (CONT.)

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)												Total Sys-tem kW**		Capacity MBtuHt		Total Sys-tem kW**		Capacity MBtuHt		Total Sys-tem kW**		Capacity MBtuHt	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)														
CFM	EWB ° F (° C)	Capacity MBtuHt		Total Sys-tem kW**	Capacity MBtuHt		Total Sys-tem kW**	Capacity MBtuHt		Total Sys-tem kW**	Capacity MBtuHt		Total Sys-tem kW**	Capacity MBtuHt		Total Sys-tem kW**									
		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†							
875	72 (22.2)	31.88	16.54	1.97	30.55	16.06	2.21	29.17	15.57	2.48	27.73	15.07	2.77	26.14	14.51	3.10									
	67 (19.4)	29.45	20.69	1.97	28.21	20.19	2.21	26.90	19.68	2.47	25.54	19.15	2.77	24.04	18.57	3.09									
	62 (16.7)	27.29	24.80	1.96	26.15	24.27	2.20	24.96	23.68	2.47	23.83	23.83	2.76	22.65	22.65	3.09									
	57 (13.9)	26.90	26.90	1.96	25.94	25.94	2.20	24.91	24.91	2.47	23.83	23.83	2.76	22.65	22.65	3.09									
1000	72 (22.2)	32.25	17.34	2.02	30.87	16.96	2.26	29.45	16.36	2.53	27.98	15.96	2.82	26.34	15.30	3.14									
	67 (19.4)	29.82	22.01	2.01	28.55	21.52	2.25	27.20	21.00	2.52	25.81	20.47	2.81	24.28	19.86	3.14									
	62 (16.7)	27.85	27.82	2.01	26.81	26.81	2.25	25.72	25.72	2.51	24.59	24.59	2.81	23.35	23.35	3.14									
	57 (13.9)	27.82	27.82	2.01	26.81	26.81	2.25	25.73	25.73	2.51	24.60	24.60	2.81	23.35	23.35	3.14									
1125	72 (22.2)	32.50	18.10	2.07	31.08	17.61	2.31	29.63	17.12	2.57	28.13	16.61	2.87	26.46	16.05	3.19									
	67 (19.4)	30.08	23.28	2.06	28.78	22.78	2.30	27.41	22.26	2.57	26.00	21.72	2.86	24.45	21.12	3.19									
	62 (16.7)	28.55	28.55	2.06	27.50	27.50	2.30	26.36	26.36	2.56	25.19	25.19	2.86	23.89	23.89	3.18									
	57 (13.9)	28.55	28.55	2.06	27.50	27.50	2.30	26.37	26.37	2.56	25.19	25.19	2.86	23.89	23.89	3.18									

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL	COOLING INDOOR MODEL		CAPACITY	POWER	FURNACE MODEL	
				CAPACITY	POWER			FURNACE MODEL	POWER
*CAP**3014A**	1.00	1.00		CNPH*3117A**	1.01	0.95	PG8*EA048070	0.95	PG95XA*42060B***
CAP**3017A**	1.00	1.00		CNPH*3617A**	1.00	0.94	PG8*EA048070	0.94	PG95XA*42060B***
CAP**3614A**	1.00	1.00		CNPV*3717A**	1.02	0.92	PG8*EA048070	0.92	PG95XA*48080B***
CAP**3617A**	1.00	1.00		CSPH*3012A**	1.00	0.94	PG8*EA048070	0.94	PG95XA*48080B***
CAP**3619A**	1.01	1.01		CSPH*3612A**	1.00	0.94	PG8*EA048070	0.94	PG95XA*48080B***
CAP**3621A**	1.00	1.00		CAP**3621A**	1.00	0.90	PG8*EA048090	0.90	PG95XA*48080B***
CNPV**3017A**	1.00	1.00		CNPH*3017A**	1.00	0.94	PG8*EA048090	0.94	PG95XA*48080B***
CNPH**3017A**	1.00	1.00		CNPH*3117A**	1.01	0.91	PG8*EA048090	0.91	PG95XA*48080B***
CNPH**3117A**	1.01	1.00		CNPH*3617A**	1.00	0.94	PG8*EA048090	0.94	PG95XA*48080B***
CNPH**3617A**	1.00	1.00		CNPV**3621A**	1.00	0.94	PG8*EA048090	0.94	PG95XA*48080B***
CNPV**3014A**	1.00	1.00		CSPH*3012A**	1.00	0.94	PG8*EA048090	0.94	PG95XA*48080B***
CNPV**3017A**	1.00	1.00		CSPH*3612A**	1.00	0.90	PG8*EA048090	0.90	PG95XA*48080B***
CNPV**3117A**	1.01	1.00		CAP**3014A**	0.99	1.05	PG95XA*30040A***	1.05	PG95XA*48080B***
CNPV**3617A**	1.00	1.00		CAP**3017A**	1.00	1.05	PG95XA*30040A***	1.05	PG95XA*48080B***
CNPV**3621A**	1.00	1.00		CAP**3614A**	1.00	1.05	PG95XA*30040A***	1.05	PG95XA*48080B***
CNPV**3717A**	1.02	1.00		CAP**3617A**	1.00	1.05	PG95XA*30040A***	1.05	PG95XA*48080B***
CSPH*3012A**	1.00	1.00		CNPH*3017A**	1.00	1.05	PG95XA*30040A***	1.05	PG95XA*48080B***
CSPH*3612A**	1.00	1.00		CNPH*3117A**	1.02	1.06	PG95XA*30040A***	1.06	PG95XA*48080B***
FB4CNF030	1.01	0.95		CNPH*3617A**	1.00	1.05	PG95XA*30040A***	1.05	PG95XA*48080B***
FB4CNF036	1.01	0.95		CNPV**3014A**	0.99	1.04	PG95XA*30040A***	1.04	PG95XA*48080B***
FB4CNF042	1.00	1.00		CNPV**3017A**	1.00	1.05	PG95XA*30040A***	1.05	PG95XA*48080B***
FF1ENP030	1.00	1.00		CNPV**3117A**	1.02	1.05	PG95XA*30040A***	1.05	PG95XA*48080B***
FF1ENP031	1.00	0.94		CNPV**3617A**	1.00	1.05	PG95XA*30040A***	1.05	PG95XA*48080B***
FF1ENP036	1.00	0.98		CNPV**3717A**	1.03	1.04	PG95XA*30040A***	1.04	PG95XA*48080B***
FF1ENP037	1.00	0.94		CSPH**3012A**	1.00	1.06	PG95XA*30040A***	1.06	PG95XA*48080B***
PF4MNA030	1.00	1.00		CSPH**3612A**	1.02	1.06	PG95XA*30040A***	1.06	PG95XA*48080B***
PF4MNA031	1.00	0.94		CAP**3017A**	1.01	0.95	PG95XA*42060B***	0.95	PG95XA*48080B***
PF4MNA036	1.00	1.00		CAP**3617A**	1.01	0.95	PG95XA*42060B***	0.95	PG95XA*48080B***
PF4MNA037	1.00	0.98		CAP**3619A**	1.01	0.95	PG95XA*42060B***	0.95	PG95XA*48080B***
PF4MNB031	1.01	0.95		CAP**3621A**	1.01	0.93	PG95XA*42060B***	0.93	PG95XA*48080B***
PF4MNB037	1.02	0.92		CNPH**3017A**	1.01	0.95	PG95XA*42060B***	0.95	PG95XA*48080B***
PF4MNB043	1.02	1.00		CNPH**3117A**	1.04	0.95	PG95XA*42060B***	0.95	PG95XA*48080B***
CAP**3017A**	1.00	0.94	PG8*EA048070	CNPH**3617A**	1.01	0.95	PG95XA*42060B***	0.95	PG95XA*48080B***
CAP**3617A**	1.00	0.94	PG8*EA048070	CNPV**3017A**	1.01	0.95	PG95XA*42060B***	0.95	PG95XA*48080B***
CNPV**3017A**	1.00	0.94	PG8*EA048070	CNPV**3117A**	1.04	0.95	PG95XA*42060B***	0.95	PG95XA*48080B***
CNPV**3117A**	1.01	0.95	PG8*EA048070	CNPV**3617A**	1.01	0.95	PG95XA*42060B***	0.95	PG95XA*48080B***
CNPV**3617A**	1.00	0.94	PG8*EA048070	CNPV**3717A**	1.01	0.95	PG95XA*42060B***	0.95	PG95XA*48080B***
CNPV**3017A**	1.00	0.94	PG8*EA048070						

**DETAILED COOLING CAPACITIES# (CONT.)**

PA13NA030(G) – B Outdoor Section With CAP\*\*3014A\*\* Indoor Section

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
CSPH*3612A**	1.00	0.90	PG9MXA048080
CAP**3017A**	1.00	0.94	PG9MXA048080
CAP**3617A**	1.00	0.94	PG9MXA048080
CNPV*3017A**	1.00	0.94	PG9MXA048080
CNPV*3117A**	1.01	0.91	PG9MXA048080
CNPV*3617A**	1.00	0.94	PG9MXA048080
CNPV*3017A**	1.01	0.91	PG9MXA048080
CNPV*3617A**	1.00	0.94	PG9MXA048080
CNPV*3717A**	1.02	0.92	PG9MXA048080
CSPH*3012A**	1.00	0.94	PG9MXA048080
CSPH*3612A**	1.00	0.90	PG9MXA048080
CAP**3017A**	1.01	0.95	PG9UAA042060
CAP**3617A**	1.01	0.95	PG9UAA042060
CNPV*3017A**	1.01	0.95	PG9UAA042060
CNPV*3117A**	1.02	0.92	PG9UAA042060
CNPV*3617A**	1.01	0.95	PG9UAA042060
CNPV*3717A**	1.03	0.93	PG9UAA042060
CAP**3621A**	1.00	0.94	PG9UAA042080
CNPV*3621A**	1.00	0.94	PG9UAA042080
CAP**3621A**	1.01	0.95	PG9UAA060080
CNPV*3621A**	1.01	0.95	PG9UAA060080
CAP**3621A**	1.00	0.94	PG9UAA060100
CNPV*3621A**	1.00	0.94	PG9UAA060100

See notes on pg. 20

# DETAILED COOLING CAPACITIES# (CONT.)

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)									
CFM	EWB ° F (° C)	75 (23.9)		85 (29.4)		95 (35)		105 (40.6)		115 (46.1)	
		Capacity MBtuHt	Total Sys-tem KW**	Capacity MBtuHt	Total Sys-tem KW**	Capacity MBtuHt	Total Sys-tem KW**	Capacity MBtuHt	Total Sys-tem KW**	Capacity MBtuHt	Total Sys-tem KW**
		PA13NA06(G)--E-B Outdoor Section With CAP**4821A** Indoor Section									
1050	72 (22.2)	29.86	3.90	38.13	19.65	2.71	36.46	19.06	34.71	18.45	3.40
	67 (19.4)	36.66	2.41	35.22	24.67	2.71	33.64	24.05	31.99	23.42	3.40
	62 (16.7)	33.97	2.40	32.65	33.97	2.70	31.21	28.94	29.76	29.76	3.39
	57 (13.9)	33.42	2.40	32.30	32.30	2.70	31.07	31.07	29.78	29.78	3.39
	72 (22.2)	40.35	2.47	38.49	20.57	2.77	36.81	19.99	35.01	19.38	3.46
	67 (19.4)	37.10	2.47	35.62	26.22	2.76	34.00	25.60	32.31	24.96	3.45
	62 (16.7)	34.75	2.46	33.33	33.33	2.76	32.07	32.07	30.71	30.71	3.45
	57 (13.9)	34.54	2.46	33.37	33.37	2.76	32.07	32.07	30.71	30.71	3.45
1350	72 (22.2)	40.70	2.53	38.75	21.45	2.83	37.03	20.86	35.19	20.25	3.52
	67 (19.4)	37.49	2.52	35.90	27.69	2.82	34.25	27.07	32.53	26.42	3.51
	62 (16.7)	35.43	2.52	34.21	34.21	2.82	32.85	32.85	31.43	31.43	3.51
	57 (13.9)	35.43	2.52	34.21	34.21	2.82	32.85	32.85	31.43	31.43	3.51

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL	COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL	COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
CAP**4817A**	1.00	1.00		CSPH*3612A**	1.00	0.94	PG8*EA048090	CNPV*3621A**	0.97	0.93	PG8*VA060110
CAP**4824A**	1.00	1.00		CSPH*4212A**	0.98	0.94	PG8*EA048090	CNPV*4221A**	0.98	0.94	PG8*VA060110
CNPH*4321A**	1.01	1.01		CSPH*4812A**	1.00	0.92	PG8*EA048090	CNPV*4821A**	0.99	0.91	PG8*VA060110
CNPH*4821A**	1.00	1.00		CAP**3621A**	0.98	0.92	PG8*EA060110	CSPH*3612A**	0.99	0.93	PG8*VA060110
CNPV*3717A**	1.01	1.01		CAP**4221A**	0.98	0.94	PG8*EA060110	CSPH*4212A**	1.00	0.94	PG8*VA060110
CNPV*4324A**	1.01	1.01		CAP**4821A**	0.98	0.92	PG8*EA060110	CSPH*4812A**	1.00	0.92	PG8*VA060110
CNPV*4821A**	1.00	1.00		CNPH*4321A**	1.01	0.93	PG8*EA060110	CAP**4824A**	0.99	0.91	PG8*VA066135
CNPV*4824A**	1.00	1.00		CNPH*4821A**	1.00	0.92	PG8*EA060110	CNPV*4824A**	1.01	0.91	PG8*VA066135
CSPH*4812A**	1.00	1.00		CNPV*3621A**	0.98	0.92	PG8*EA060110	CNPV*4824A**	0.99	0.91	PG8*VA066135
FB4CNF036	0.96	0.96		CNPV*4221A**	0.98	0.94	PG8*EA060110	CSPH*3612A**	0.99	0.93	PG8*VA066135
FB4CNF042	1.00	0.96		CNPV*4821A**	1.00	0.92	PG8*EA060110	CSPH*4212A**	1.00	0.94	PG8*VA066135
FB4CNF048	1.00	0.97		CNPV*4821A**	1.00	0.94	PG8*EA060110	CSPH*4812A**	1.00	0.92	PG8*VA066135
PF4MNA037	0.99	0.96		CSPH*3612A**	1.00	0.94	PG8*EA060110	CAP**3617A**	0.97	0.94	PG95XA*42060B***
PF4MNA043	0.97	0.97		CSPH*4212A**	0.98	0.90	PG8*EA060110	CAP**4817A**	0.97	0.94	PG95XA*42060B***
PF4MNB037	1.01	0.97		CSPH*4812A**	1.00	0.92	PG8*EA060110	CNPH*3617A**	0.97	0.94	PG95XA*42060B***
PF4MNB043	1.01	0.97		CAP**4824A**	1.00	0.92	PG8*EA060135	CNPH*3617A**	0.97	0.94	PG95XA*42060B***
PF4MNB049	1.03	0.94		CNPV*4824A**	1.00	0.92	PG8*EA060135	CNPV*3617A**	0.97	0.94	PG95XA*42060B***
CSPH*3612A**	0.99	0.97	PG8*EA024045	CSPH*4212A**	1.00	0.92	PG8*EA060135	CNPV*3717A**	1.01	0.96	PG95XA*42060B***
CSPH*4212A**	0.99	0.98	PG8*EA024045	CAP**3614A**	0.97	0.94	PG8*VA036070	CNPV*4217A**	0.99	0.95	PG95XA*42060B***
CAP**3617A**	0.97	0.94	PG8*EA048070	CSPH*3612A**	0.99	0.95	PG8*VA036070	CSPH*3612A**	0.99	0.95	PG95XA*42060B***
CAP**4817A**	0.99	0.95	PG8*EA048070	CSPH*4212A**	0.99	0.93	PG8*VA036070	CSPH*4212A**	1.00	0.96	PG95XA*42060B***
CNPH*3617A**	0.96	0.95	PG8*EA048070	CSPH*4812A**	0.99	0.93	PG8*VA036070	CSPH*4812A**	1.00	0.96	PG95XA*42060B***
CNPV*3617A**	0.96	0.95	PG8*EA048070	CAP**4817A**	0.98	0.93	PG8*VA048090	CAP**3617A**	0.97	0.94	PG95XA*48080B***
CNPV*3717A**	1.01	0.96	PG8*EA048070	CAP**4817A**	0.99	0.93	PG8*VA048090	CAP**4817A**	0.99	0.93	PG95XA*48080B***
CNPV*4217A**	0.98	0.96	PG8*EA048070	CNPH*3617A**	0.97	0.93	PG8*VA048090	CNPV*3617A**	0.97	0.94	PG95XA*48080B***
CSPH*3612A**	0.99	0.95	PG8*EA048070	CNPV*3617A**	0.97	0.93	PG8*VA048090	CNPV*3617A**	0.97	0.94	PG95XA*48080B***
CSPH*4212A**	0.99	0.95	PG8*EA048070	CNPV*3717A**	1.01	0.95	PG8*VA048090	CNPV*3717A**	1.01	0.94	PG95XA*48080B***
CSPH*4812A**	1.00	0.96	PG8*EA048070	CNPV*4217A**	0.99	0.93	PG8*VA048090	CNPV*4217A**	0.99	0.95	PG95XA*48080B***
CAP**3621A**	0.98	0.92	PG8*EA048090	CSPH*3612A**	0.99	0.93	PG8*VA048090	CSPH*3612A**	0.99	0.93	PG95XA*48080B***
CAP**4221A**	0.98	0.94	PG8*EA048090	CSPH*4212A**	1.00	0.94	PG8*VA048090	CSPH*4212A**	1.00	0.93	PG95XA*48080B***
CAP**4821A**	1.00	0.96	PG8*EA048090	CSPH*4812A**	1.00	0.92	PG8*VA048090	CSPH*4812A**	0.99	0.93	PG95XA*48080B***
CNPH*4221A**	0.98	0.94	PG8*EA048090	CAP**3621A**	0.98	0.93	PG8*VA060110	CAP**4821A**	1.01	0.97	PG95XA*60080C***
CNPH*4321A**	1.01	0.93	PG8*EA048090	CAP**4221A**	0.98	0.92	PG8*VA060110	CNPV*4821A**	1.02	0.96	PG95XA*60080C***
CNPH*4821A**	1.00	0.96	PG8*EA048090	CAP**4821A**	0.99	0.93	PG8*VA060110	CNPV*4821A**	1.02	0.96	PG95XA*60080C***
CNPV*3621A**	0.98	0.93	PG8*EA048090	CNPH*4221A**	0.98	0.94	PG8*VA060110	CSPH*4812A**	1.02	0.96	PG95XA*60080C***
CNPV*4221A**	0.98	0.94	PG8*EA048090	CNPV*4321A**	1.01	0.93	PG8*VA060110	CAP**3621A**	0.99	0.95	PG95XA*60100C***

PA13NA / PA13PA

**DETAILED COOLING CAPACITIES# (CONT.)**

PAT3NA036(G)-EB Outdoor Section With CAP\*\*4821A\*\* Indoor Section

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
CAP**4221A**	1.00	0.96	PG95XA*60100C***
CAP**4821A**	1.01	0.95	PG95XA*60100C***
CNP**4221A**	0.99	0.95	PG95XA*60100C***
CNP**4321A**	1.03	0.94	PG95XA*60100C***
CNP**4821A**	1.01	0.95	PG95XA*60100C***
CNPV*3621A**	0.98	0.96	PG95XA*60100C***
CNPV*4221A**	0.99	0.95	PG95XA*60100C***
CNPV*4821A**	1.01	0.95	PG95XA*60100C***
CSPH*3612A**	1.01	0.95	PG95XA*60100C***
CSPH*4212A**	1.02	0.96	PG95XA*60100C***
CSPH*4812A**	1.02	0.97	PG95XA*66120D***
CAP**4824A**	1.02	0.96	PG95XA*66120D***
CNPV*4824A**	1.02	0.96	PG95XA*66120D***
CSPH*4812A**	1.02	0.96	PG95XA*66120D***
CAP**3617A**	0.97	0.95	PG96VA*42060B***
CAP**4817A**	0.99	0.95	PG96VA*42060B***
CNP**3617A**	0.96	0.95	PG96VA*42060B***
CNP**4817A**	0.98	0.95	PG96VA*42060B***
CNPV*3717A**	1.01	0.96	PG96VA*42060B***
CNPV*4217A**	0.99	0.96	PG96VA*42060B***
CSPH*3612A**	0.99	0.96	PG96VA*42060B***
CSPH*4212A**	1.00	0.97	PG96VA*42060B***
CSPH*4812A**	0.98	0.95	PG96VA*42060B***
CAP**3617A**	0.99	0.95	PG96VA*48080B***
CAP**4817A**	0.99	0.93	PG96VA*48080B***
CNP**3617A**	0.97	0.94	PG96VA*48080B***
CNP**4817A**	0.97	0.94	PG96VA*48080B***
CNPV*3717A**	1.01	0.95	PG96VA*48080B***
CNPV*4217A**	0.99	0.95	PG96VA*48080B***
CSPH*3612A**	0.99	0.95	PG96VA*48080B***
CSPH*4212A**	1.00	0.96	PG96VA*48080B***
CSPH*4812A**	1.00	0.94	PG96VA*48080B***
CAP**3621A**	0.98	0.93	PG96VA*60080C***
CAP**4221A**	0.98	0.92	PG96VA*60080C***
CAP**4821A**	0.99	0.93	PG96VA*60080C***
CNP**4221A**	0.98	0.94	PG96VA*60080C***
CNP**4321A**	1.01	0.93	PG96VA*60080C***
CNP**4821A**	0.99	0.93	PG96VA*60080C***
CNPV*3621A**	0.97	0.93	PG96VA*60080C***
CNPV*4221A**	0.98	0.94	PG96VA*60080C***
CNPV*4821A**	1.00	0.94	PG96VA*60080C***
CSPH*3612A**	0.99	0.93	PG96VA*60080C***
CSPH*4212A**	1.00	0.94	PG96VA*60080C***
CSPH*4812A**	1.00	0.94	PG96VA*60080C***
CAP**3621A**	0.98	0.92	PG96VA*60100C***
CAP**4221A**	0.98	0.92	PG96VA*60100C***
CAP**4821A**	0.99	0.93	PG96VA*60100C***
CNP**4221A**	1.01	0.93	PG96VA*60100C***
CNP**4321A**	0.99	0.91	PG96VA*60100C***
CNP**4821A**	0.97	0.93	PG96VA*60100C***
CNPV*3621A**	0.98	0.92	PG96VA*60100C***
CNPV*4221A**	0.97	0.93	PG96VA*60100C***
CNPV*4821A**	1.00	0.94	PG96VA*60100C***
CSPH*3612A**	0.99	0.93	PG96VA*60100C***

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
CSPH*4212A**	1.00	0.94	PG96VA*60100C***
CSPH*4812A**	1.00	0.92	PG96VA*60100C***
CAP**4224A**	0.99	0.93	PG96VA*66120D***
CAP**4824A**	0.99	0.93	PG96VA*66120D***
CNPV*4324A**	1.02	0.93	PG96VA*66120D***
CNPV*4824A**	1.00	0.94	PG96VA*66120D***
CSPH*3612A**	0.99	0.93	PG96VA*66120D***
CSPH*4212A**	1.00	0.94	PG96VA*66120D***
CSPH*4812A**	1.00	0.94	PG96VA*66120D***

See notes on pg. 20



# DETAILED COOLING CAPACITIES# (CONT.)

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)														
CFM	EWB ° F (° C)	75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)		
		Capacity MBtuHt	Total Sys-tem KW**	Sens†	Capacity MBtuHt	Total Sys-tem KW**	Sens†	Capacity MBtuHt	Total Sys-tem KW**	Sens†	Capacity MBtuHt	Total Sys-tem KW**	Sens†	Capacity MBtuHt	Total Sys-tem KW**	Sens†
<b>PA13NA042(G) - B Outdoor Section With CAP**4221A** Indoor Section</b>																
		46.73	2.89	23.07	44.70	2.89	22.34	42.56	21.57	21.57	40.30	20.78	19.94	38.89	26.05	25.19
<b>1225</b>		42.85	2.87	28.38	40.97	2.87	27.64	38.98	26.86	26.86	36.89	26.05	25.19	34.03	31.22	32.16
		39.35	2.86	33.67	37.65	2.86	32.90	35.87	32.09	32.09	34.03	31.22	32.16	32.16	33.88	32.18
		38.30	2.85	38.30	36.91	2.85	36.91	35.44	35.44	35.44	33.88	33.88	32.18	32.18	35.04	33.24
<b>1400</b>		47.42	2.96	24.09	45.31	2.96	23.35	43.09	22.57	22.57	40.75	21.77	20.92	37.35	27.69	26.83
		43.52	2.94	30.05	41.57	2.94	29.29	39.50	28.50	28.50	37.35	27.69	26.83	35.04	35.04	33.24
		40.18	2.93	35.17	38.29	2.93	35.17	36.65	36.65	36.65	35.04	35.04	33.24	33.24	38.49	37.35
		39.77	2.92	39.77	38.29	2.92	38.29	36.71	36.71	36.71	35.04	35.04	33.24	35.04	41.08	40.3
<b>1575</b>		47.94	3.02	25.07	45.76	3.02	24.32	43.48	23.54	23.54	41.08	22.73	21.87	37.73	29.30	28.42
		44.03	3.01	31.67	42.02	3.01	30.91	39.90	30.12	30.12	37.73	29.30	28.42	35.97	35.97	34.07
		40.98	2.99	40.98	39.39	2.99	39.39	37.73	37.73	37.73	35.97	35.97	34.07	35.97	35.97	34.07
		40.96	2.99	40.96	39.40	2.99	39.40	37.74	37.74	37.74	35.98	35.98	34.07	35.98	35.98	34.07

PA13NA / PA13PA

# DETAILED COOLING CAPACITIES# (CONT.)

PA13NA042(G) – B Outdoor Section With CAP\*\*4221A\*\* Indoor Section

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
CAP**4221A**	1.01	1.01	PG9UAA060080
CAP**4821A**	1.04	0.99	PG9UAA060080
CNPV*4221A**	1.01	1.01	PG9UAA060080
CNPV*4821A**	1.03	0.98	PG9UAA060080
CAP**4224A**	1.01	1.01	PG9UAA060100
CAP**4821A**	1.04	0.99	PG9UAA060100
CNPV*4221A**	1.01	1.01	PG9UAA060100
CNPV*4821A**	1.03	0.98	PG9UAA060100
CAP**4224A**	1.01	0.97	PG9UAA060120
CAP**4824A**	1.04	0.99	PG9UAA060120
CNPV*4324A**	1.05	0.96	PG9UAA060120
CNPV*4824A**	1.04	0.99	PG9UAA060120

See notes on pg. 20

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
CNPV*4821A**	1.04	0.95	PG95XA*60100C***
CNPV*4824A**	1.04	0.98	PG95XA*60100C***
CSPH*4212A**	1.04	0.98	PG95XA*60100C***
CSPH*4812A**	1.04	0.95	PG95XA*60100C***
CAP**4224A**	1.03	0.98	PG95XA*66120D***
CAP**4823A**	1.04	0.97	PG95XA*66120D***
CAP**4824A**	1.04	0.97	PG95XA*66120D***
CNPH*4221A**	1.01	0.97	PG95XA*66120D***
CNPH*4321A**	1.05	0.98	PG95XA*66120D***
CNPH*4821A**	1.04	0.97	PG95XA*66120D***
CNPV*4324A**	1.06	0.97	PG95XA*66120D***
CNPV*4824A**	1.04	0.97	PG95XA*66120D***
CSPH*4212A**	1.04	0.97	PG95XA*66120D***
CSPH*4812A**	1.05	0.98	PG95XA*66120D***
CAP**4817A**	1.00	0.96	PG9MXA036060
CNPH*4221A**	0.99	0.94	PG9MXA036060
CNPH*4821A**	1.01	0.97	PG9MXA036060
CNPV*4217A**	0.99	0.94	PG9MXA036060
CSPH*4212A**	0.99	0.94	PG9MXA036060
CSPH*4812A**	1.00	0.96	PG9MXA036060
CAP**4817A**	1.00	0.96	PG9MXA036080
CNPH*4221A**	0.99	0.94	PG9MXA036080
CNPH*4821A**	1.01	0.93	PG9MXA036080
CNPV*4217A**	0.99	0.94	PG9MXA036080
CSPH*4212A**	0.99	0.91	PG9MXA036080
CSPH*4812A**	1.00	0.92	PG9MXA036080
CAP**4817A**	1.00	0.96	PG9MXA048080
CNPH*4221A**	0.99	0.94	PG9MXA048080
CNPH*4821A**	1.00	0.92	PG9MXA048080
CNPV*4217A**	0.99	0.94	PG9MXA048080
CSPH*4212A**	0.99	0.91	PG9MXA048080
CSPH*4812A**	1.00	0.92	PG9MXA048080
CAP**4221A**	0.99	0.94	PG9MXA060100
CAP**4821A**	1.00	0.92	PG9MXA060100
CAP**4823A**	1.00	0.92	PG9MXA060100
CNPH*4221A**	0.99	0.94	PG9MXA060100
CNPH*4821A**	1.00	0.92	PG9MXA060100
CNPV*4221A**	0.99	0.94	PG9MXA060100
CNPV*4821A**	1.01	0.93	PG9MXA060100
CSPH*4212A**	0.99	0.91	PG9MXA060100
CSPH*4812A**	1.00	0.92	PG9MXA060100
CAP**4224A**	0.99	0.91	PG9MXA060120
CAP**4824A**	1.00	0.92	PG9MXA060120
CNPH*4221A**	0.99	0.94	PG9MXA060120
CNPH*4821A**	1.01	0.93	PG9MXA060120
CNPV*4221A**	0.99	0.91	PG9MXA060120
CNPV*4821A**	1.01	0.93	PG9MXA060120
CSPH*4212A**	0.99	0.91	PG9MXA060120
CSPH*4812A**	1.00	0.92	PG9MXA060120
CAP**4817A**	1.01	0.97	PG9UAA042060
CNPV*4217A**	1.03	1.03	PG9UAA042060
CAP**4221A**	1.01	1.01	PG9UAA042080
CAP**4821A**	1.03	1.03	PG9UAA042080
CNPV*4221A**	1.01	1.01	PG9UAA042080
CNPV*4821A**	1.03	1.03	PG9UAA042080



DETAILED COOLING CAPACITIES# (CONT.)

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																			
		75 (23.9)				85 (29.4)				95 (35)				105 (40.6)				115 (46.1)			
		CFM	EWB ° F (° C)	Capacity MBtu/h		Total Sys-tem KW**	Capacity MBtu/h		Total Sys-tem KW**	Capacity MBtu/h		Total Sys-tem KW**	Capacity MBtu/h		Total Sys-tem KW**	Capacity MBtu/h		Total Sys-tem KW**			
Total	Sens†			Total	Sens†		Total	Sens†		Total	Sens†		Total	Sens†							
		72 (22.2)	34.03	67.21	4.17	64.33	32.99	4.62	61.25	31.88	57.99	30.72	5.69	54.51	29.50	6.30					
1750		67 (19.4)	42.10	61.78	4.12	59.11	41.03	4.58	56.26	39.90	53.27	38.73	5.64	50.10	37.51	6.26					
		62 (16.7)	50.10	56.85	4.08	54.44	49.01	4.54	51.89	47.82	49.28	46.54	5.60	46.74	46.74	6.23					
		57 (13.9)	55.51	55.51	4.07	53.53	53.53	4.53	51.41	51.41	49.17	49.17	5.60	46.74	46.74	6.23					
2000		72 (22.2)	35.65	68.22	4.27	65.20	34.58	4.73	62.01	34.46	58.62	32.28	5.79	55.02	31.05	6.40					
		67 (19.4)	44.73	62.74	4.22	59.96	43.64	4.68	57.00	42.50	53.90	41.32	5.74	50.82	40.07	6.36					
		62 (16.7)	53.65	58.02	4.18	55.58	52.46	4.64	53.19	53.19	50.79	50.79	5.71	48.19	48.19	6.33					
2250		72 (22.2)	37.17	68.93	4.37	65.81	36.09	4.83	62.53	34.96	59.04	33.77	5.89	55.34	32.51	6.50					
		67 (19.4)	47.24	63.43	4.32	60.56	46.14	4.78	57.53	44.99	54.34	43.78	5.84	50.99	42.50	6.46					
		62 (16.7)	59.25	59.25	4.29	57.01	57.01	4.75	54.62	54.62	52.11	52.11	5.82	49.36	49.36	6.44					
		57 (13.9)	59.25	59.25	4.29	57.01	57.01	4.75	54.62	54.62	52.12	52.12	5.82	49.36	49.36	6.44					

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL	COOLING INDOOR MODEL			FURNACE MODEL			
				Model	Capacity	Power	Model	Capacity	Power	
*CAP**6024A**	1.00	1.00		CNPV*6124A**	0.99	0.99	PG8*EA060135	0.99	0.99	PG95XA*66120D***
CAP**6021A**	0.98	0.98		CSPH*6012A**	0.98	0.94	PG8*EA060135	0.98	0.94	PG95XA*66120D***
CNPV*6024A**	1.00	1.00		CAP**6021A**	1.01	1.01	PG8*VA060110	1.01	1.01	PG95XA*66120D***
CNPV*6124A**	1.00	1.00		CSPH*6012A**	1.02	1.00	PG8*VA060110	1.02	0.96	PG95XA*66120D***
CNPV*6124A**	1.00	1.00		CAP**6024A**	0.99	0.96	PG8*VA060135	0.99	0.96	PG95XA*66120D***
CSPH*6012A**	1.00	1.00		CNPV*6024A**	1.00	0.96	PG8*VA060135	1.00	1.00	PG96VA*60080C***
FB4CNF060	0.98	0.98		CNPV*6124A**	1.00	0.97	PG8*VA060135	1.02	1.02	PG96VA*60080C***
PF4MNA061	1.00	0.96		CNPV*6024A**	0.99	0.96	PG8*VA060135	1.01	1.01	PG96VA*60100C***
PF4MNB061	1.02	1.02		CSPH*6012A**	1.00	0.96	PG8*VA060135	1.00	0.98	PG96VA*60100C***
CAP**6021A**	0.98	0.94	PG8*EA060110	CAP**6024A**	0.99	0.97	PG95XA*60080C***	0.99	0.97	PG96VA*66120D***
CSPH*6012A**	0.98	0.94	PG8*EA060110	CSPH*6012A**	0.99	0.97	PG95XA*60080C***	0.98	0.96	PG96VA*66120D***
CAP**6024A**	0.98	0.94	PG8*EA060135	CAP**6021A**	1.01	1.01	PG95XA*60100C***	0.98	0.96	PG96VA*66120D***
CNPV*6024A**	0.98	0.98	PG8*EA060135	CSPH*6012A**	1.00	0.98	PG95XA*60100C***	1.00	0.97	PG96VA*66120D***
CNPV*6124A**	0.99	0.99	PG8*EA060135	CAP**6024A**	0.99	0.96	PG95XA*66120D***	0.99	0.96	PG96VA*66120D***

† 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 Btu/h (245 kW) per 1000 CFM (480 L/S) of indoor coil air for each degree below 80°F (27°C), or add 835 Btu/h (245 kW) per 1000 CFM (480 L/S) of indoor coil air per degree above 80°F (27°C).

# Detailed cooling capacities are based on indoor and outdoor unit at the same elevation per AHRI standard 210/240-2008. If additional tubing length and/or indoor unit is located above outdoor unit, a slight variation in capacity may occur.

\*\* System kw is total of indoor and outdoor unit kilowatts.

EWB — Entering Wet Bulb

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

## 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 125°F (51.7°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 m).
6. For interconnecting refrigerant tube lengths greater than 80 ft (24.38 m) horizontal or 35 ft (10.7 m) vertical differential, consult Residential Piping and Long-Line Guideline available from equipment distributor.
7. Crankcase heater required when the application qualifies as long-line.
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.

