PAYNE®

PA13
AIR CONDITIONER
1 AND 3 PHASE
1-1/2 - 5 TONS (018-060)

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), ARI, and CEC.

ELECTRICAL RANGE:

Units offered in single phase 208/230v are 018-060, three phase 208/230v in 036, 048 and 060, and three phase 460v in 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:

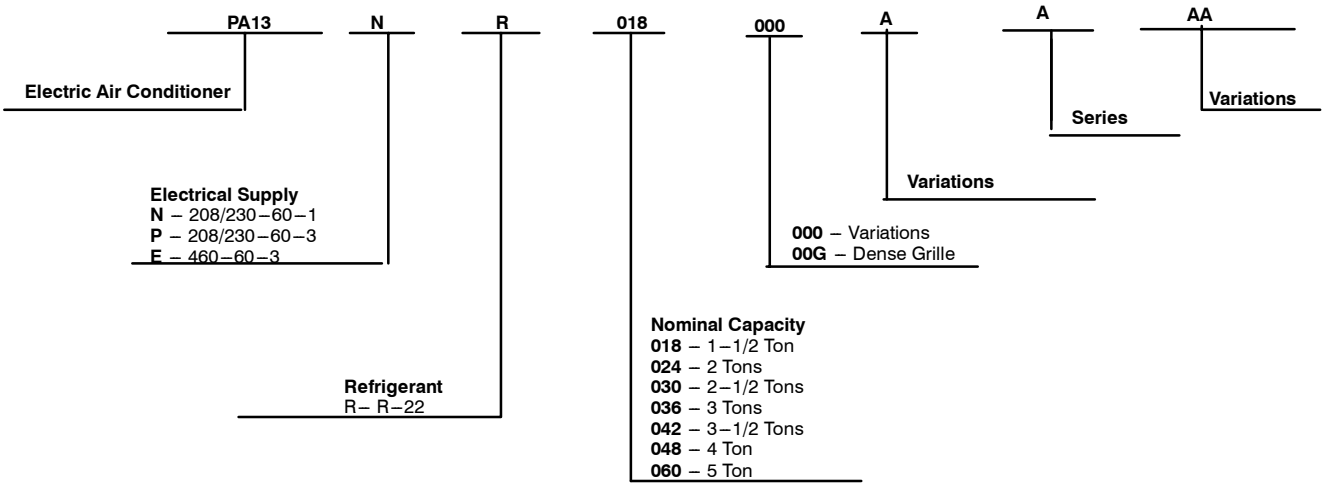
One access panel provides access to electrical controls. Removal of top gives access to fan motor, compressor, and condenser coil.

WARRANTY:

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

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

PRODUCT NUMBER NOMENCLATURE



PA13

ARI PERFORMANCE CERTIFIED
ARI Standard 210/240
Unitary Air Conditioners

ISO 9001:2000
QMI REGISTERED

c UL US

SPECIFICATIONS

UNIT SIZE	018	024	030	036		042	048		060		
SERIES	A,E/ C	A,E/ C	A/B,E/ C	A,E/C/ D		A,E/C	A,E/C		A,E/C		
ELECTRICAL											
Unit Volts—Hertz—Phase	208/230—60—1			208/230–60–1	208/230–60–3	208/230–60–1	208/230–60–1	208/230–60–3	208/230–60–1	208/230–60–3	460–60–3
Operating Voltage Range*	187—253					187–253					414–506
Compressor—Rated Load Amps	7.7	10.8	14.1	14.4	9.6	19.2	20.2/23.0	12.2/16.0	25.3 / 25.0	15.4/17.3	7.14/8.4
Locked Rotor Amps	40.3	45.2	68.0	77.0	75.0	104.0	137.0/115.0	80.8/115.0	141.0/150.0	104.0/123.0	52.0/55.0
Condenser Fan Motor— Full Load Amps	0.5	.75	.75	1.1		1.4	1.4	1.4	1.4	1.4	0.7
Min Unit Ampacity for Wire Sizing	10.1	14.3	18.4	18.7	13.1	25.4	26.7/30.2	16.7/21.4	33.0/32.7	20.7/23.0	9.6/11.2
Min Wire Size (60°/75° Copper) AWG**	14/14	14/14	12/12	12/12	14/14	10/10	8.8	12/12	8/8	12/12	14/14
Max Wire Length (60°/75°) (Ft)‡	72/68	53/50	66/63	66/63	56/54	77/73	115/109 / 100/95	74/70 / 57/54	94/90	60/57 / 55/52	79/75 / 66/62
Max Branch Circuit Fuse Size†	15	20	25	30	20	40	40	25/30	50	30/35	15
COMPRESSOR AND REFRIGERANT											
Compressor—Manufacturer	Copeland										
Type	Scroll										
Temperature and Current Protection	Internal Line Break										
Refrigerant— Type and Amount Lb (kg) @ 15 ft	R–22 4.37/ 6.50 (1.98) / (2.95)	R–22 5.38/ 7.00 (2.44) / (3.188)	R–22 5.70/5.60/ 7.50 (2.56)/(2.54)/(3.40)	R–22 6.25/8.00/ 7.20 (2.84)/(3.63)/(3.27)		R–22 9.15/11.95 (4.15)/(5.42)	R–22 11.55/12.83 (5.24)/(5.82)		R–22 11.55/17.37 (5.24)/(7.88)		
Refrigerant Tubes (In. OD) Vapor and Liquid (Up to 80 Ft)	5/8 and 3/8		3/4 and 3/8			7/8 and 3/8			1–1/8 and 3/8		
CONDENSER COIL AND FAN											
Coil Face Area (Sq Ft)	11.26/14.80	16.79/18.50	18.99/16.74/ 22.20	20.99/22.20/ 18.50		20.99/18.50	25.19/22.20		25.19/24.66		
Fan Motor—HP, Type, and RPM	1/12 PSC and 1100, 1/15 PSC and 1100	1/8 PSC and 825	1/8 PSC and 825	1/5 PSC and 825		1/4 PSC and 1100					
Volts—Hertz—Phase	208/230—60—1										
Condenser Airflow (CFM)	1800	2400	2400	2800		3400	3400		3400		
OPTIONAL EQUIPMENT											
Cycle Protector	KSACY0101AAA										
Start Assist—PTC Type	KAACS0201PTC				N/A	KAACS0201PTC		N/A	KAACS0201PTC	N/A	N/A
Start Assist—Capacitor/Relay Type	KSAHS1501AAA				N/A	KSAHS1501AAA		N/A	KSAHS1601AAA	N/A	N/A
MotorMaster® Control #	KSALA0401AAA										KSALA0501AAA
Ball Bearing Fan Motor (RCD)	N/A	HC38GE231				HC38GE232					HC38GE462
Low–Pressure Switch	KAALP0101LPS										
High–Pressure Switch	KSAHI0101HPS										
Compressor Sound Hood	KSASH1801COP					KSASH0601COP			KSASH2101COP		
Time–Delay Relay	KAATD0101TDR										
Low–Ambient Pressure Switch Kit	KSALA0201R22										
Winter Start Control	KAAWS0101AAA										
Evaporator Freeze Thermostat	KAAFT0101AAA										
Compressor Crankcase Heater	KAACH1401AAA					KAACH1201AAA					KAACH1301AAA
Liquid Line Solenoid Valve††	KAALS0101LLS										
TXV (Hard Shutoff)††	KSATX0601HSO						KSATX0701HSO		KSATX1001HSO		
Standard Thermostat, Manual Change-over, Non–Programmable, °F/°C, 1–Stage Heat, 1–Stage Cool	TSTATPPBAC01										
Thermostat, Auto Changeover, 7–Day Programmable, °F/°C, 1–Stage Heat, 1–Stage Cool	TSTATPPPAC01										
Outdoor Sensor	TSTATXXSEN01–B										
Liquid Line Filter Drier	KH43LZ034										
Backplate for Standard Thermostat	TSTATXXBBP01										
Backplate for Programmable Thermostat	TSTATXXPBP01										

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 (ANSI/NFPA 70). The ampacity of nonmetallic–sheathed cable (NM), trade name ROMEX, shall be that of 60°C (140°F) conductors, per the NEC (ANSI/NFPA 70) Article 336–26.

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

Requires ball–bearing fan motor.

NOTES:

1. Control circuit is 24v on all units and requires external power source.
2. All motors/compressors contain internal overload protection.
3. Copper wire must be used from service disconnect to unit.

DIMENSIONS (SERIES A)

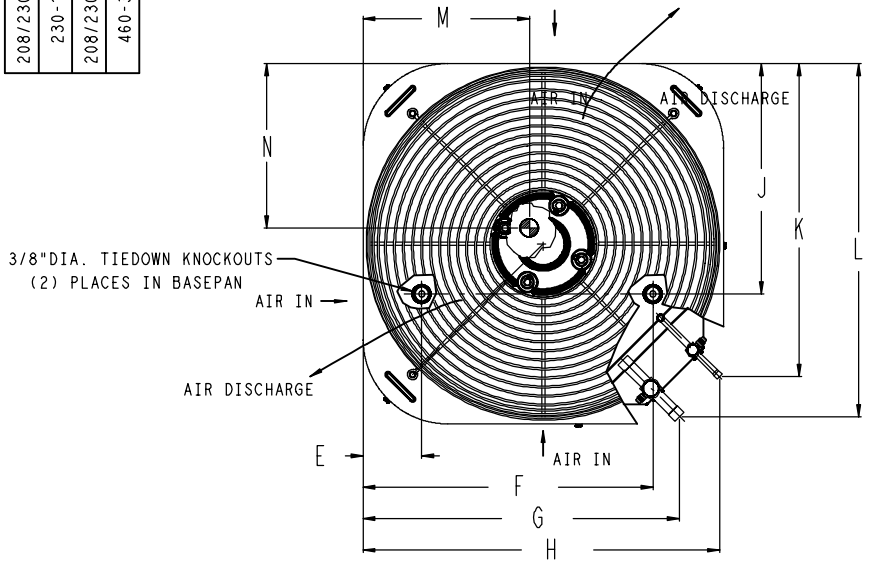
UNIT	SERIES	ELECTRICAL CHARACTERISTICS				A	B	C	D	E	F	G	H	J	K	L	M	N	P	SHIPPING WEIGHT
PA13NR018	A	X	O	O	O	22 1/2 "	31 1/8"	3 3/16"	5/8"	3 11/16"	18 1/8"	19 3/4"	22 1/4"	14 3/8"	19 9/16"	22 1/16"	10 1/4"	9 1/2"	11 1/2"	124#
PA13NR024	A	X	O	O	O	30"	31 1/8"	3 3/16"	5/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	14 3/4"	14"	10"	153#
PA13NR030	A	X	O	O	O	30"	34 1/2"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	14 3/4"	14"	11"	161#
PA13NR036	A	X	O	O	O	30"	37 7/8"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	14 3/4"	14"	12"	172#
PA13PR036	A	O	O	X	O	30"	37 7/8"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	14 3/4"	14"	12"	172#
PA13NR042	A	X	O	O	O	30"	37 7/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	14 3/4"	14"	12"	220#
PA13NR048	A	X	O	O	O	30"	44 5/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	244#
PA13PR048	A	O	O	X	O	30"	44 5/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	244#
PA13NR060	A	X	O	O	O	30"	44 5/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	249#
PA13PR060	A	O	O	X	O	30"	44 5/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	249#
PA13ER060	A	O	O	O	X	30"	44 5/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	249#

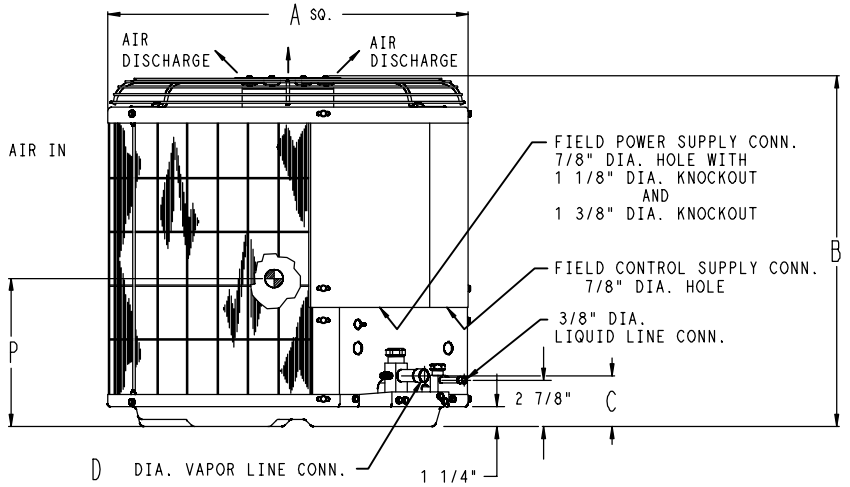
208/230-1-60	230-1-60	208/230-3-60	460-3-60

X=YES
O=NO

NOTES:

1. ALLOW 30" CLEARANCE TO SERVICE SIDE OF UNIT, 48" ABOVE UNIT, 6" ON ONE SIDE, 12" 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 ⊕ .





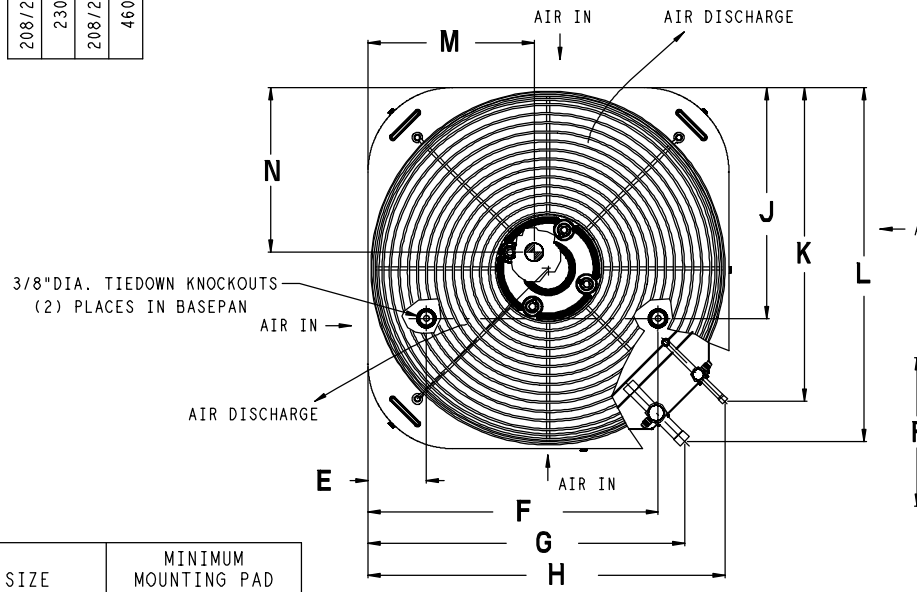
UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
18	22 1/2" X 22 1/2"
24,30,36,42,48,60	30" X 30"

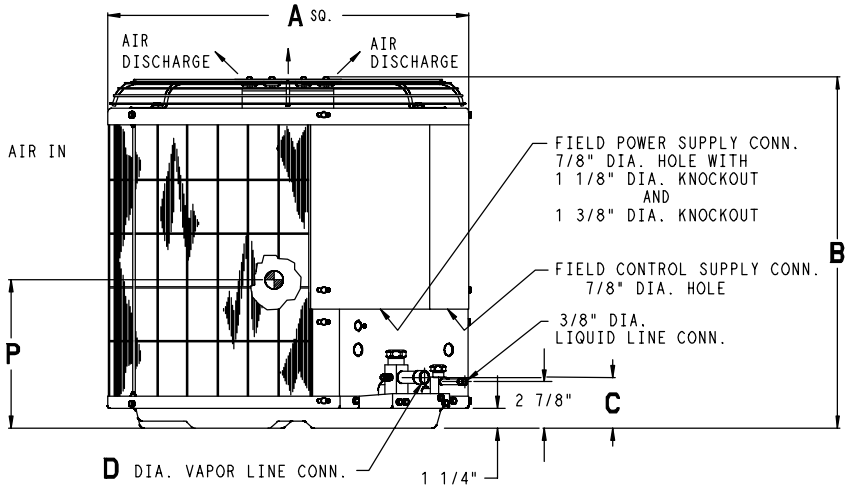
DIMENSIONS (SERIES C, D)

UNIT	SERIES	ELECTRICAL CHARACTERISTICS				A	B	C	D	E	F	G	H	J	K	L	M	N	P	SHIPPING WEIGHT
		208/230-1-60	230-1-60	208/230-3-60	460-3-60															
PA13NR018	C	X	O	O	O	30"	27 15/16"	3 3/16"	5/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	11 1/2"	146#
PA13NR024	C	X	O	O	O	30"	33 15/16"	3 3/16"	5/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	10"	153#
PA13NR030	C	X	O	O	O	30"	39 15/16"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	11"	161#
PA13NR036	C	X	O	O	O	30"	39 15/16"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	12"	172#
PA13PR036	C	O	O	X	O	30"	39 15/16"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	12"	172#
PA13NR036	D	X	O	O	O	30"	33 15/16"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	10"	164#
PA13PR036	D	O	O	X	O	30"	33 15/16"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	10"	164#
PA13NR042	C	X	O	O	O	30"	33 15/16"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	12"	220#
PA13NR048	C	X	O	O	O	30"	39 15/16"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	244#
PA13PR048	C	O	O	X	O	30"	39 15/16"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	244#
PA13NR060	C	X	O	O	O	30"	43 15/16"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15 1/2"	269#
PA13PR060	C	O	O	X	O	30"	43 15/16"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15 1/2"	269#
PA13ER060	C	O	O	O	X	30"	43 15/16"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15 1/2"	269#

X=YES
O=NO

NOTES:
1. ALLOW 30" CLEARANCE TO SERVICE SIDE OF UNIT, 48" ABOVE UNIT, 6" ON ONE SIDE, 12" 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 ⊕ .





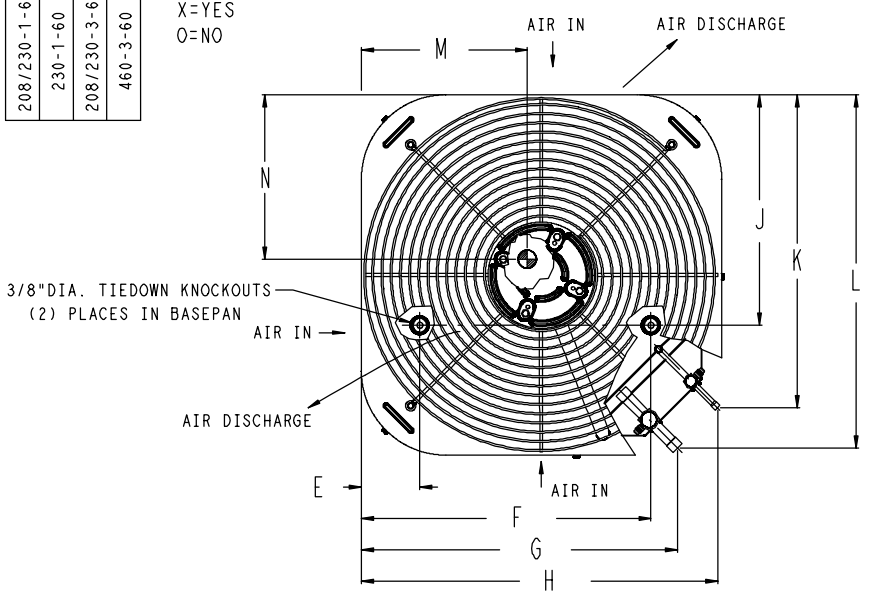
UNIT SIZE	MINIMUM MOUNTING PAD DIMENSIONS
	22 1/2" X 22 1/2"
18,24,30,36,42,48,60	30" X 30"

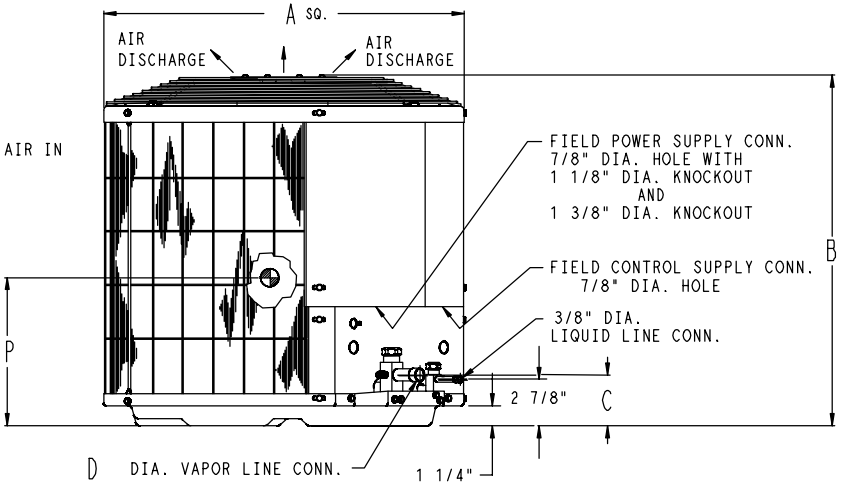
DIMENSIONS (SERIES B,E)

UNIT	SERIES	ELECTRICAL CHARACTERISTICS				A	B	C	D	E	F	G	H	J	K	L	M	N	P	SHIPPING WEIGHT
		208/230-1-60	230-1-60	208/230-3-60	460-3-60															
PA13NR018	E	X	O	O	O	22 1/2 "	31 1/8"	3 3/16"	5/8"	3 11/16"	18 1/8"	19 3/4"	22 1/4"	14 3/8"	19 9/16"	22 1/16"	10 1/4"	9 1/2"	11 1/2"	124#
PA13NR024	E	X	O	O	O	30"	31 1/8"	3 3/16"	5/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	14 3/4"	14"	10"	153#
PA13NR030	B,E	X	O	O	O	30"	31 1/8"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	14 3/4"	14"	10"	153#
PA13NR036	E	X	O	O	O	30"	37 7/8"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	14 3/4"	14"	12"	172#
PA13PR036	E	O	O	X	O	30"	37 7/8"	3 3/16"	3/4"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	14 3/4"	14"	12"	172#
PA13NR042	E	X	O	O	O	30"	37 7/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	14 3/4"	14"	12"	220#
PA13NR048	E	X	O	O	O	30"	44 5/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	244#
PA13PR048	E	O	O	X	O	30"	44 5/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	244#
PA13NR060	E	X	O	O	O	30"	44 5/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	249#
PA13PR060	E	O	O	X	O	30"	44 5/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	249#
PA13ER060	E	O	O	O	X	30"	44 5/8"	3 1/4"	7/8"	6 1/2"	23 1/2"	27 1/4"	29 3/4"	20"	27 1/16"	29 9/16"	15 1/2"	14"	15"	249#

X=YES
O=NO

NOTES:
1. ALLOW 30" CLEARANCE TO SERVICE SIDE OF UNIT, 48" ABOVE UNIT, 6" ON ONE SIDE, 12" 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	22 1/2" X 22 1/2"
24,30,36,42,48,60	30" X 30"

OPTIONAL EQUIPMENT USAGE GUIDELINE

ACCESSORY	REQUIRED FOR LOW−AMBIENT APPLICATIONS (Below 55°F/12.8°C)	REQUIRED FOR LONG−LINE APPLICATIONS* (Over 80 Ft)	REQUIRED FOR SEA COAST APPLICATIONS (Within 2 Miles)
Crankcase Heater	Yes	Yes	No
Evaporator Freeze Thermostat	Yes	No	No
Winter Start Control	Yes†	No	No
Compressor Start Assist Capacitor and Relay	Yes	Yes	No
MotorMaster® Control	Yes	No	No
Wind Baffle	See Low−Ambient Instructions	No	No
Support Feet	Recommended	No	Recommended
Liquid−Line Solenoid Valve	No	See Long−Line Application Guideline	No
Hard Shutoff TXV	Yes	Yes	Yes
Ball Bearing Fan Motor	Yes	No	No

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. 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-cycle 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.)

10. 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 Motor Master®-Low-Ambient Controller must be used when cooling operation is used at outdoor temperatures below 55°F (12.8°C).

11. Low-Pressure Switch

Auto reset SPST switch activated by refrigerant pressure on low side of refrigerant circuit. Cycles compressor off if refrigerant pressure drops to about 27 psig. Prevents indoor coil freeze-up due to loss of indoor airflow. Provides additional protection against compressor damage due to loss of refrigerant charge. To prevent rapid compressor recycling, Cycle Protector can be used with this switch.

Usage Guideline:

Where indoor coil is exposed to dirty air.

All commercial installations.

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 (-28.9°C), it maintains condensing temperature at 100°F ± 10°F.

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-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. 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

SOUND POWER

Unit Size	Standard Rating (dBA)	Typical Octave Band Spectrum (dB, without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018–A,C,E	76	53.0	57.5	62.0	65.0	65.0	59.5	55.5
024–A,C,E	76	51.5	58.0	62.5	69.5	66.5	63.5	59.0
030–A,B,C,E	76	52.0	62.0	64.0	67.0	63.5	63.0	61.0
036–C	80	53.5	63.0	69.5	73.0	69.5	68.5	63.5
036–A,D,E	76	52.5	61.5	66.0	71.5	65.5	62.0	56.5
042–A,C,E	80	59.0	65.5	68.5	73.0	69.5	64.5	62.5
048–A,C,E	80	58.5	66.5	72.0	78.0	71.5	66.5	62.5
060–A,C,E	80	57.0	65.0	70.0	73.5	68.5	67.0	64.5

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

METERING DEVICE

UNIT SIZE–SERIES	INDOOR	REQUIRED SUB–COOLING °F (°C)
018–A,C,E	TXV*	10 (5.6)
024–A,C,E		
030–A,B,C,E		
036–A,C,D,E		
042–A,C,E		
048–A,C,E		
060–A,C,E		

* 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	0 to 80 (0 to 24.38)	3/8	5/8
024, 030, 036			3/4
042, 048			7/8
060			1–1/8

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

RATINGS AND PERFORMANCE

UNIT SIZE – SERIES	INDOOR MODEL	TOTAL CAPACITY BTUH	FACTORY – SUPPLIED ENHANCEMENT	SEER		EER
				STANDARD RATING	PAYNE GAS FURNACE OR ACCESSORY TDR†	
018 – A,E	*CAR**1814A**	17,000	TXV	—	13.00	11.00
	CAR**2414A**	17,600	TXV	—	13.00	11.00
	CAR**2417A**	17,600	TXV	—	13.00	11.00
	CNRV*1814A**	17,000	TXV	—	13.00	11.00
	CNRV*2414A**	17,600	TXV	—	13.00	11.00
	CNRV*2417A**	17,600	TXV	—	13.00	11.00
	CNRH*2417A**	17,600	TXV	—	13.00	11.00
	CNRF*2418A**	17,600	TXV	—	13.00	11.00
	CSRH*2412A**	17,600	TXV	—	13.00	11.00
	PF1MNC018	17,000	TDR&TXV	13.00	—	11.00
	PF1MNC024	17,500	TDR&TXV	13.00	—	11.00
	FF1ENE018	17,000	TDR&TXV	13.00	—	11.00
	FF1ENE024	17,600	TDR&TXV	13.00	—	11.00
	PF1MNC019	17,000	TDR&TXV	14.00	—	12.00
	PF1MNC025	17,600	TDR&TXV	14.00	—	12.00
018 – C	*CAR**1814A**	16,800	TXV	—	13.00	11.00
	CAR**2414A**	17,400	TXV	—	13.00	11.00
	CAR**2417A**	17,400	TXV	—	13.00	11.00
	CNRV*1814A**	17,000	TXV	—	13.00	11.00
	CNRV*2414A**	17,500	TXV	—	13.00	11.00
	CNRV*2417A**	17,500	TXV	—	13.00	11.00
	CNRH*2417A**	17,500	TXV	—	13.00	11.00
	CNRF*2418A**	17,500	TXV	—	13.00	11.00
	CSRH*2412A**	17,600	TXV	—	13.00	11.00
	PF1MNC018	17,000	TDR&TXV	13.00	—	11.00
	PF1MNC024	17,200	TDR&TXV	13.00	—	11.00
	PF1MNC019	17,200	TDR&TXV	14.00	—	12.00
	PF1MNC025	17,200	TDR&TXV	14.00	—	12.00
	FF1ENE018	17,000	TDR&TXV	13.00	—	11.00
	FF1ENE024	17,400	TDR&TXV	13.00	—	11.00
024 – A,E	*CAR**2414A**	23,000	TXV	—	13.00	11.00
	CAR**2417A**	23,000	TXV	—	13.00	11.00
	CAR**3014A**	23,400	TXV	—	13.00	11.00
	CAR**3017A**	23,400	TXV	—	13.00	11.00
	CNRV*2414A**	23,000	TXV	—	13.00	11.00
	CNRV*2417A**	23,000	TXV	—	13.00	11.00
	CNRV*3014A**	23,400	TXV	—	13.00	11.00
	CNRV*3017A**	23,400	TXV	—	13.00	11.00
	CNRH*2417A**	23,000	TXV	—	13.00	11.00
	CNRH*3017A**	23,400	TXV	—	13.00	11.00
	CNRF*2418A**	23,000	TXV	—	13.00	11.00
	CSRH*2412A**	23,000	TXV	—	13.00	11.00
	CSRH*3012A**	23,400	TXV	—	13.00	11.00
	PF1MNC024	23,000	TDR&TXV	13.00	—	11.00
	PF1MNC030	23,200	TDR&TXV	13.00	—	11.00
	FF1ENE024	23,000	TDR&TXV	13.00	—	11.00
	FF1ENE030	23,200	TDR&TXV	13.00	—	11.00
	PF1MNC025	23,000	TDR&TXV	14.00	—	12.00
	PF1MNC031	23,200	TDR&TXV	14.00	—	12.00
024 – C	*CAR**2414A**	23,000	TXV	—	13.00	11.00
	CAR**2417A**	23,000	TXV	—	13.00	11.00
	CAR**3014A**	23,000	TXV	—	13.00	11.00
	CAR**3017A**	23,000	TXV	—	13.00	11.00
	CNRV*2414A**	22,800	TXV	—	13.00	11.00
	CNRV*2417A**	22,800	TXV	—	13.00	11.00
	CNRV*3014A**	22,800	TXV	—	13.00	11.00
	CNRV*3017A**	23,000	TXV	—	13.00	11.00
	CNRH*2417A**	22,800	TXV	—	13.00	11.00
	CNRH*3017A**	23,000	TXV	—	13.00	11.00
	CNRF*2418A**	22,800	TXV	—	13.00	11.00
	CSRH*2412A**	23,000	TXV	—	13.00	11.00
	CSRH*3012A**	23,000	TXV	—	13.00	11.00
	PF1MNC024	22,800	TDR&TXV	13.00	—	11.00
	PF1MNC030	23,000	TDR&TXV	13.00	—	11.00
	PF1MNC025	23,000	TDR&TXV	14.00	—	12.00
	PF1MNC031	23,200	TDR&TXV	14.00	—	12.00
	FF1ENE024	22,800	TDR&TXV	13.00	—	11.00
	FF1ENE030	22,800	TDR&TXV	13.00	—	11.00
030 – A,B,E	*CAR**3014A**	28,000	TXV	—	13.00	11.00
	CAR**3017A**	28,000	TXV	—	13.00	11.00
	CAR**3614A**	28,400	TXV	—	13.00	11.00
	CAR**3617A**	28,400	TXV	—	13.00	11.00
	CAR**3621A**	28,400	TXV	—	13.00	11.00
	CNRV*3014A**	28,000	TXV	—	13.00	11.00
	CNRV*3017A**	28,000	TXV	—	13.00	11.00
	CNRV*3617A**	28,200	TXV	—	13.00	11.00
	CNRV*3621A**	28,200	TXV	—	13.00	11.00
	CNRH*3017A**	28,000	TXV	—	13.00	11.00
	CNRH*3617A**	28,200	TXV	—	13.00	11.00

See notes on pg. 11

RATINGS AND PERFORMANCE (CONT.)

UNIT SIZE – SERIES	INDOOR MODEL	TOTAL CAPACITY BTUH	FACTORY – SUPPLIED ENHANCEMENT	SEER		EER
				STANDARD RATING	PAYNE GAS FURNACE OR ACCESSORY TDR†	
030 – A,B,E	CNRF*3618A**	28,200	TXV	—	13.00	11.00
	CSRH*3012A**	28,000	TXV	—	13.00	11.00
	CSRH*3612A**	28,600	TXV	—	13.00	11.00
	PF1MNC030	28,000	TDR&TXV	13.00	—	11.00
	PF1MNC036	28,200	TDR&TXV	13.00	—	11.00
	FF1ENE030	28,000	TDR&TXV	13.00	—	11.00
	FF1ENE036	28,400	TDR&TXV	13.00	—	11.00
	PF1MNC031	28,000	TDR&TXV	14.00	—	12.00
	PF1MNC037	28,400	TDR&TXV	14.00	—	12.00
030 – C	*CAR**3014A**	28,000	TXV	—	13.00	11.00
	CAR**3017A**	28,000	TXV	—	13.00	11.00
	CAR**3614A**	28,400	TXV	—	13.00	11.00
	CAR**3617A**	28,400	TXV	—	13.00	11.00
	CAR**3621A**	28,400	TXV	—	13.00	11.00
	CNRV*3014A**	28,000	TXV	—	13.00	11.00
	CNRV*3017A**	28,000	TXV	—	13.00	11.00
	CNRV*3617A**	28,200	TXV	—	13.00	11.00
	CNRV*3621A**	28,200	TXV	—	13.00	11.00
	CNRH*3017A**	28,000	TXV	—	13.00	11.00
	CNRH*3617A**	28,200	TXV	—	13.00	11.00
	CNRF*3618A**	28,200	TXV	—	13.00	11.00
	CSRH*3012A**	28,000	TXV	—	13.00	11.00
	CSRH*3612A**	28,600	TXV	—	13.00	11.00
	PF1MNC030	28,000	TDR&TXV	13.00	—	11.00
	PF1MNC036	28,200	TDR&TXV	13.00	—	11.00
	PF1MNC031	28,200	TDR&TXV	14.00	—	12.00
	PF1MNC037	28,200	TDR&TXV	14.00	—	12.00
	FF1ENE030	28,000	TDR&TXV	13.00	—	11.00
	FF1ENE036	28,400	TDR&TXV	13.00	—	11.00
036 – A,E	*CAR**3617A**	34,000	TXV		13.00	11.00
	CAR**3614A**	34,000	TXV	—	13.00	11.00
	CAR**3621A**	34,000	TXV	—	13.00	11.00
	CAR**4221A**	34,400	TXV	—	13.00	11.00
	CAR**4224A**	34,400	TXV	—	13.00	11.00
	CNRV*3617A**	34,000	TXV	—	13.00	11.00
	CNRV*3621A**	34,000	TXV	—	13.00	11.00
	CNRV*4221A**	34,400	TXV	—	13.00	11.00
	CNRH*3617A**	33,800	TXV	—	13.00	11.00
	CNRH*4221A**	34,400	TXV	—	13.00	11.00
	CNRF*3618A**	34,000	TXV	—	13.00	11.00
	CSRH*3612A**	34,000	TXV	—	13.00	11.00
	CSRH*4212A**	34,400	TXV	—	13.00	11.00
	PF1MNC036	34,000	TDR&TXV	13.00	—	11.00
	PF1MNC042	34,400	TDR&TXV	13.00	—	11.00
	PF1MNC043	35,000	TDR&TXV	14.00	—	12.00
	FF1ENE036	34,000	TDR&TXV	13.00	—	11.00
	PF1MNC037	34,400	TDR&TXV	14.00	—	12.00
036 – C, D	*CAR**3617A**	34,000	TXV	—	13.00	11.00
	CAR**3614A**	34,000	TXV	—	13.00	11.00
	CAR**3621A**	34,000	TXV	—	13.00	11.00
	CAR**4221A**	34,400	TXV	—	13.00	11.00
	CAR**4224A**	34,400	TXV	—	13.00	11.00
	CNRV*3617A**	34,000	TXV	—	13.00	11.00
	CNRV*3621A**	34,000	TXV	—	13.00	11.00
	CNRV*4221A**	34,400	TXV	—	13.00	11.00
	CNRH*3617A**	33,800	TXV	—	13.00	11.00
	CNRH*4221A**	34,400	TXV	—	13.00	11.00
	CNRF*3618A**	34,000	TXV	—	13.00	11.00
	CSRH*4212A**	34,400	TXV	—	13.00	11.00
	PF1MNC036	34,000	TDR&TXV	13.00	—	11.00
	PF1MNC042	34,400	TDR&TXV	13.00	—	11.00
	PF1MNC037	34,400	TDR&TXV	14.00	—	12.00
	PF1MNC043	35,000	TDR&TXV	14.00	—	12.00
	FF1ENE036	34,000	TDR&TXV	13.00	—	11.00

See notes on pg. 11

RATINGS AND PERFORMANCE (CONT.)

UNIT SIZE – SERIES	INDOOR MODEL	TOTAL CAPACITY BTUH	FACTORY – SUPPLIED ENHANCEMENT	SEER		EER
				STANDARD RATING	PAYNE GAS FURNACE OR ACCESSORY TDR†	
042 – A,E	*CAR**4221A**	40,000	TXV	—	13.00	11.00
	CAR**4224A**	40,000	TXV	—	13.00	11.00
	CAR**4817A**	41,000	TXV	—	13.00	11.00
	CAR**4821A**	41,000	TXV	—	13.00	11.00
	CAR**4824A**	41,000	TXV	—	13.00	11.00
	CNRV*4221A**	40,000	TXV	—	13.00	11.00
	CNRV*4821A**	41,000	TXV	—	13.00	11.00
	CNRV*4824A**	41,000	TXV	—	13.00	11.00
	CNRH*4221A**	40,000	TXV	—	13.00	11.00
	CNRH*4821A**	41,000	TXV	—	13.00	11.00
	CNRF*4818A**	41,000	TXV	—	13.00	11.00
	CSRH*4212A**	40,000	TXV	—	13.00	11.00
	CSRH*4812A**	41,000	TXV	—	13.00	11.00
	PF1MNC042	40,000	TDR&TXV	13.00	—	11.00
	PF1MNC048	40,000	TDR&TXV	13.00	—	11.00
	PF1MNC043	41,000	TDR&TXV	14.00	—	11.50
	PF1MNC049	41,500	TDR&TXV	14.00	—	11.50
042 – C	*CAR**4221A**	40,000	TXV	—	13.00	11.00
	CAR**4224A**	40,000	TXV	—	13.00	11.00
	CAR**4817A**	41,000	TXV	—	13.00	11.00
	CAR**4821A**	41,000	TXV	—	13.00	11.00
	CAR**4824A**	41,000	TXV	—	13.00	11.00
	CNRV*4221A**	40,000	TXV	—	13.00	11.00
	CNRV*4821A**	41,000	TXV	—	13.00	11.00
	CNRV*4824A**	41,000	TXV	—	13.00	11.00
	CNRH*4221A**	40,000	TXV	—	13.00	11.00
	CNRH*4821A**	41,000	TXV	—	13.00	11.00
	CNRF*4818A**	41,000	TXV	—	13.00	11.00
	CSRH*4212A**	40,000	TXV	—	13.00	11.00
	CSRH*4812A**	41,000	TXV	—	13.00	11.00
	PF1MNC042	40,000	TDR&TXV	13.00	—	11.00
	PF1MNC043	40,000	TDR&TXV	13.00	—	11.00
	PF1MNC048	41,500	TDR&TXV	14.00	—	12.00
	PF1MNC049	41,000	TDR&TXV	14.00	—	12.00
048 – A,E	*CAR**4821A**	46,000	TXV	—	13.00	11.00
	CAR**4817A**	46,000	TXV	—	13.00	11.00
	CAR**4824A**	46,000	TXV	—	13.00	11.00
	CAR**6021A**	47,000	TXV	—	13.00	11.00
	CAR**6024A**	47,000	TXV	—	13.00	11.00
	CNRV*4821A**	46,000	TXV	—	13.00	11.00
	CNRV*4824A**	46,000	TXV	—	13.00	11.00
	CNRV*6024A**	47,000	TXV	—	13.00	11.00
	CNRH*4821A**	46,000	TXV	—	13.00	11.00
	CNRH*6024A**	47,000	TXV	—	13.00	11.00
	CNRF*4818A**	45,000	TXV	—	13.00	11.00
	CSRH*4812A**	46,000	TXV	—	13.00	11.00
	CSRH*6012A**	47,000	TXV	—	13.00	11.00
	PF1MNC048	46,000	TDR&TXV	13.00	—	11.00
	PF1MNC060	47,000	TDR&TXV	13.00	—	11.00
	PF1MNC049	47,500	TDR&TXV	14.00	—	11.50
	PF1MNC061	48,000	TDR&TXV	14.00	—	11.50
048 – C	*CAR**4821A**	46,000	TXV	—	13.00	11.00
	CAR**4817A**	46,000	TXV	—	13.00	11.00
	CAR**4824A**	46,000	TXV	—	13.00	11.00
	CAR**6021A**	47,000	TXV	—	13.00	11.00
	CAR**6024A**	47,000	TXV	—	13.00	11.00
	CNRV*4821A**	46,000	TXV	—	13.00	11.00
	CNRV*4824A**	46,000	TXV	—	13.00	11.00
	CNRV*6024A**	47,000	TXV	—	13.00	11.00
	CNRH*4821A**	46,000	TXV	—	13.00	11.00
	CNRH*6024A**	47,000	TXV	—	13.00	11.00
	CNRF*4818A**	45,000	TXV	—	13.00	11.00
	CSRH*4812A**	46,000	TXV	—	13.00	11.00
	CSRH*6012A**	47,000	TXV	—	13.00	11.00
	PF1MNC048	46,000	TDR&TXV	13.00	—	11.00
	PF1MNC060	47,000	TDR&TXV	13.00	—	11.00
	PF1MNC049	47,500	TDR&TXV	14.00	—	12.00
	PF1MNC061	48,000	TDR&TXV	14.00	—	12.00

See notes on pg. 11

RATINGS AND PERFORMANCE (CONT.)

UNIT SIZE– SERIES	INDOOR MODEL	TOTAL CAPACITY BTUH	FACTORY– SUPPLIED ENHANCEMENT	SEER		EER
				STANDARD RATING	PAYNE GAS FURNACE OR ACCESSORY TDR†	
060–A,E	*CAR**6024A**	57,000	TXV	—	13.00	11.00
	CAR**6021A**	56,500	TXV	—	13.00	11.00
	CNRV*6024A**	57,000	TXV	—	13.00	11.00
	CNRH*6024A**	57,000	TXV	—	13.00	11.00
	CSRH*6012A**	57,000	TXV	—	13.00	11.00
	PF1MNC060	56,500	TDR&TXV	13.00	—	11.00
	PF1MNC061	57,500	TDR&TXV	13.00	—	11.00
060–C	*CAR**6024A**	57,000	TXV	—	13.00	11.00
	CAR**6021A**	56,500	TXV	—	13.00	11.00
	CNRV*6024A**	57,000	TXV	—	13.00	11.00
	CNRH*6024A**	57,000	TXV	—	13.00	11.00
	CSRH*6012A**	57,000	TXV	—	13.00	11.00
	PF1MNC060	56,500	TDR&TXV	13.00	—	11.00
	PF1MNC061	57,500	TDR&TXV	13.00	—	11.00

* Tested Combination

† 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.

‡ Requires hard shutoff TXV; based on computer simulation.

EER – Energy Efficiency Ratio

SEER – Seasonal Energy Efficiency Ratio

TDR – Time–Delay Relay.

TXV – Thermostatic Expansion Valve.

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. Minimum outdoor operating ambient in cooling mode is 55°F (12.8°C), maximum 115°F (46.1°C).

DETAILED COOLING CAPACITIES*

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 MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
PA13NR018--A, C, E Outdoor Section With CAR1814** Indoor Section**																
525	72 (22.2)	20.25	10.58	1.24	19.32	10.22	1.36	18.41	9.88	1.49	17.54	9.55	1.64	16.70	9.24	1.81
	67 (19.4)	18.15	12.80	1.26	17.29	12.44	1.37	16.45	12.09	1.50	15.65	11.75	1.64	14.88	11.44	1.81
	62 (16.7)	16.41	15.02	1.27	15.64	14.64	1.38	14.89	14.27	1.50	14.20	13.91	1.64	13.56	13.56	1.80
	57 (13.9)	15.94	15.94	1.27	15.32	15.32	1.38	14.71	14.71	1.51	14.13	14.13	1.64	13.57	13.57	1.80
600	72 (22.2)	20.70	11.12	1.26	19.72	10.76	1.38	18.78	10.41	1.52	17.87	10.07	1.67	16.99	9.76	1.84
	67 (19.4)	18.57	13.66	1.28	17.67	13.29	1.40	16.80	12.93	1.53	15.97	12.59	1.67	15.18	12.27	1.84
	62 (16.7)	16.91	16.16	1.29	16.12	15.75	1.41	15.40	15.32	1.53	14.77	14.77	1.67	14.17	14.17	1.83
	57 (13.9)	16.70	16.70	1.30	16.04	16.04	1.41	15.39	15.39	1.53	14.77	14.77	1.67	14.18	14.18	1.83
675	72 (22.2)	21.04	11.63	1.29	20.03	11.26	1.41	19.05	10.91	1.54	18.10	10.57	1.69	17.20	10.24	1.87
	67 (19.4)	18.90	14.47	1.31	17.97	14.10	1.42	17.07	13.73	1.55	16.22	13.38	1.70	15.40	13.05	1.87
	62 (16.7)	17.37	17.18	1.32	16.64	16.64	1.43	15.96	15.96	1.56	15.30	15.30	1.70	14.67	14.67	1.87
	57 (13.9)	17.34	17.34	1.32	16.64	16.64	1.43	15.96	15.96	1.56	15.30	15.30	1.70	14.67	14.67	1.87

Multipliers for Determining the Performance With Other Indoor Sections

PA13NR018--A,E		
Indoor Unit	Cooling	
	Capacity	Power
*CAR**1814A**	1.00	1.00
CAR**2414A**	1.04	1.04
CAR**2417A**	1.04	1.04
CNRV*1814A**	1.00	1.00
CNRV*2414A**	1.04	1.04
CNRV*2417A**	1.04	1.04
CNRH*2417A**	1.04	1.04
CNRF*2418A**	1.04	1.04
CSRH*2412A**	1.04	1.04
PF1MNC018	1.00	1.00
PF1MNC024	1.03	1.03
FF1ENE018	1.00	1.00
FF1ENE024	1.04	1.04
PF1MNC019	1.00	0.92
PF1MNC025	1.04	0.95

PA13NR018--C		
Indoor Unit	Cooling	
	Capacity	Power
CAR**1814A**	1.00	1.00
CAR**2414A**	1.04	1.04
CAR**2417A**	1.04	1.04
CNRF*2418A**	1.04	1.04
CNRH*2417A**	1.04	1.04
CNRV*1814A**	1.01	1.01
CNRV*2414A**	1.04	1.04
CNRV*2417A**	1.04	1.04
CSRH*2412A**	1.05	1.05
FF1ENE018	1.01	1.01
FF1ENE024	1.04	1.04
PF1MNC018	1.01	1.01
PF1MNC019	1.02	0.98
PF1MNC024	1.02	1.02
PF1MNC025	1.02	0.98

See notes on pg. 18

DETAILED COOLING CAPACITIES*

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)														
		75			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)		
CFM	EWB	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
PA13NR024--A,C, E Outdoor Section With CAR2414** Indoor Section**																
700	72 (22.2)	27.46	14.40	1.74	26.29	13.95	1.89	25.13	13.51	2.06	23.99	13.09	2.26	22.86	12.67	2.47
	67 (19.4)	24.69	17.49	1.73	23.61	17.03	1.88	22.55	16.59	2.05	21.50	16.16	2.24	20.46	15.74	2.45
	62 (16.7)	22.38	20.58	1.73	21.40	20.11	1.87	20.45	19.64	2.03	19.53	19.17	2.22	18.66	18.66	2.42
	57 (13.9)	21.77	21.77	1.73	20.99	20.99	1.87	20.22	20.22	2.03	19.45	19.45	2.21	18.68	18.68	2.42
800	72 (22.2)	28.05	15.14	1.78	26.82	14.68	1.93	25.61	14.24	2.10	24.42	13.80	2.30	23.25	13.38	2.52
	67 (19.4)	25.24	18.66	1.77	24.11	18.20	1.92	23.00	17.74	2.09	21.92	17.31	2.28	20.84	16.87	2.49
	62 (16.7)	23.02	22.14	1.77	22.03	21.63	1.91	21.10	21.10	2.08	20.30	20.30	2.26	19.48	19.48	2.47
	57 (13.9)	22.78	22.78	1.77	21.95	21.95	1.91	21.12	21.12	2.08	20.30	20.30	2.26	19.48	19.48	2.47
900	72 (22.2)	28.48	15.84	1.82	27.21	15.37	1.97	25.96	14.92	2.14	24.73	14.47	2.34	23.52	14.04	2.56
	67 (19.4)	25.66	19.77	1.81	24.49	19.30	1.96	23.35	18.84	2.13	22.23	18.39	2.32	21.13	17.95	2.53
	62 (16.7)	23.61	23.57	1.81	22.74	22.74	1.96	21.87	21.87	2.12	21.01	21.01	2.31	20.15	20.15	2.52
	57 (13.9)	23.62	23.62	1.81	22.74	22.74	1.96	21.87	21.87	2.12	21.01	21.01	2.31	20.15	20.15	2.52

Multipliers for Determining the Performance With Other Indoor Sections

PA13NR024–A,E		
Indoor Unit	Cooling	
	Capacity	Power
*CAR**2414A**	1.00	1.00
CAR**2417A**	1.00	1.00
CAR**3014A**	1.02	1.02
CAR**3017A**	1.02	1.02
CNRV*2414A**	1.00	1.00
CNRV*2417A**	1.00	1.00
CNRV*3014A**	1.02	1.02
CNRV*3017A**	1.02	1.02
CNRH*2417A**	1.00	1.00
CNRH*3017A**	1.02	1.02
CNRF*2418A**	1.00	1.00
CSRH*2412A**	1.00	1.00
CSRH*3012A**	1.02	1.02
PF1MNC024	1.00	1.00
PF1MNC030	1.01	1.01
FF1ENE024	1.00	1.00
FF1ENE030	1.01	1.01
PF1MNC025	1.00	0.92
PF1MNC031	1.01	0.92

PA13NR024--C		
Indoor Unit	Cooling	
	Capacity	Power
CAR**2414A**	1.00	1.00
CAR**2417A**	1.00	1.00
CAR**3014A**	1.00	1.00
CAR**3017A**	1.00	1.00
CNRF*2418A**	0.99	0.99
CNRH*2417A**	0.99	0.99
CNRH*3017A**	1.00	1.00
CNRV*2414A**	0.99	0.99
CNRV*2417A**	0.99	0.99
CNRV*3014A**	0.99	0.99
CNRV*3017A**	1.00	1.00
CSRH*2412A**	1.00	1.00
CSRH*3012A**	1.00	1.00
FF1ENE024	0.99	0.99
FF1ENE030	0.99	0.99
PF1MNC024	0.99	0.99
PF1MNC025	1.00	0.96
PF1MNC030	1.00	1.00
PF1MNC031	1.01	0.96

See notes on pg. 18

DETAILED COOLING CAPACITIES*

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)														
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)		
CFM	EWB	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
PA13NR030--A,C,E Outdoor Section With CAR3014** Indoor Section**																
875	72 (22.2)	32.84	17.62	2.07	31.62	17.16	2.28	30.34	16.69	2.51	28.99	16.19	2.77	27.59	15.68	3.05
	67 (19.4)	29.87	21.79	2.05	28.75	21.32	2.26	27.59	20.85	2.49	26.37	20.35	2.75	25.10	19.83	3.02
	62 (16.7)	27.46	25.92	2.04	26.48	25.43	2.25	25.46	24.90	2.48	24.42	24.35	2.73	23.46	23.46	3.01
	57 (13.9)	27.04	27.04	2.03	26.22	26.22	2.24	25.35	25.35	2.48	24.43	24.43	2.73	23.46	23.46	3.01
1000	72 (22.2)	33.37	18.51	2.13	32.09	18.04	2.33	30.75	17.56	2.57	29.35	17.05	2.82	27.90	16.53	3.10
	67 (19.4)	30.37	23.22	2.11	29.21	22.75	2.31	28.00	22.26	2.55	26.74	21.75	2.80	25.43	21.22	3.08
	62 (16.7)	28.16	27.74	2.09	27.18	27.18	2.30	26.27	26.27	2.53	25.29	25.29	2.79	24.26	24.26	3.07
	57 (13.9)	28.09	28.09	2.09	27.20	27.20	2.30	26.27	26.27	2.53	25.29	25.29	2.79	24.26	24.26	3.07
1125	72 (22.2)	33.75	19.35	2.18	32.42	18.87	2.39	31.04	18.38	2.62	29.60	17.87	2.87	28.10	17.34	3.15
	67 (19.4)	30.74	24.58	2.16	29.55	24.11	2.37	28.31	23.60	2.60	27.02	23.08	2.85	25.68	22.53	3.13
	62 (16.7)	28.95	28.95	2.15	28.01	28.01	2.36	27.03	27.03	2.59	25.99	25.99	2.84	24.90	24.90	3.12
	57 (13.9)	28.95	28.95	2.15	28.01	28.01	2.36	27.03	27.03	2.59	25.99	25.99	2.84	24.90	24.90	3.12

Multipliers for Determining the Performance With Other Indoor Sections

PA13NR030-A,E		
Indoor Unit	Cooling	
	Capacity	Power
*CAR**3014A**	1.00	1.00
CAR**3017A**	1.00	1.00
CAR**3614A**	1.01	1.01
CAR**3617A**	1.01	1.01
CAR**3621A**	1.01	1.01
CNRV*3014A**	1.00	1.00
CNRV*3017A**	1.00	1.00
CNRV*3617A**	1.01	1.01
CNRV*3621A**	1.01	1.01
CNRH*3017A**	1.00	1.00
CNRH*3617A**	1.01	1.01
CNRF*3618A**	1.01	1.01
CSRH*3012A**	1.00	1.00
CSRH*3612A**	1.02	1.02
PF1MNC030	1.00	1.00
PF1MNC036	1.01	1.01
FF1ENE030	1.00	1.00
FF1ENE036	1.01	1.01
PF1MNC031	1.00	0.92
PF1MNC037	1.01	0.93

PA13NR030-C		
Indoor Unit	Cooling	
	Capacity	Power
CAR**3014A**	1.00	1.00
CAR**3017A**	1.00	1.00
CAR**3614A**	1.01	1.01
CAR**3617A**	1.01	1.01
CAR**3621A**	1.01	1.01
CNRF*3618A**	1.01	1.01
CNRH*3017A**	1.00	1.00
CNRH*3617A**	1.01	1.01
CNRV*3014A**	1.00	1.00
CNRV*3017A**	1.00	1.00
CNRV*3617A**	1.01	1.01
CNRV*3621A**	1.01	1.01
CSRH*3012A**	1.00	1.00
CSRH*3612A**	1.02	1.02
FF1ENE030	1.00	1.00
FF1ENE036	1.01	1.01
PF1MNC030	1.00	1.00
PF1MNC031	1.01	0.96
PF1MNC036	1.01	1.01
PF1MNC037	1.01	0.96

See notes on pg. 18

DETAILED COOLING CAPACITIES*

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)														
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)		
CFM	EWB	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**
		Total	Sens‡		Total	Sens ‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
PA13NR036-A, C, D, E Outdoor Section With CAR3617** Indoor Section**																
1050	72 (22.2)	39.86	21.05	2.53	38.36	20.48	2.78	36.82	19.89	3.06	35.19	19.29	3.36	33.51	18.67	3.70
	67 (19.4)	36.28	25.84	2.51	34.92	25.27	2.75	33.50	24.68	3.03	32.05	24.08	3.33	30.53	23.46	3.66
	62 (16.7)	33.28	30.62	2.48	32.08	30.04	2.73	30.83	29.43	3.00	29.56	28.77	3.30	28.27	28.06	3.64
	57 (13.9)	32.50	32.50	2.47	31.52	31.52	2.72	30.48	30.48	3.00	29.39	29.39	3.30	28.25	28.25	3.64
1200	72 (22.2)	40.50	22.02	2.60	38.94	21.45	2.85	37.34	20.85	3.12	35.64	20.23	3.43	33.90	19.60	3.76
	67 (19.4)	36.88	27.42	2.57	35.47	26.84	2.82	34.00	26.25	3.09	32.49	25.64	3.39	30.92	25.00	3.73
	62 (16.7)	34.06	32.72	2.55	32.83	32.11	2.79	31.54	31.54	3.07	30.43	30.43	3.37	29.21	29.21	3.71
	57 (13.9)	33.77	33.77	2.54	32.71	32.71	2.79	31.59	31.59	3.07	30.43	30.43	3.37	29.21	29.21	3.71
1350	72 (22.2)	40.98	22.95	2.66	39.37	22.36	2.91	37.69	21.75	3.18	35.96	21.13	3.49	34.17	20.49	3.82
	67 (19.4)	37.35	28.93	2.63	35.89	28.35	2.88	34.38	27.74	3.15	32.82	27.11	3.46	31.21	26.47	3.79
	62 (16.7)	34.77	34.76	2.61	33.68	33.68	2.86	32.50	32.50	3.13	31.27	31.27	3.44	29.99	29.99	3.77
	57 (13.9)	34.81	34.81	2.61	33.69	33.69	2.86	32.50	32.50	3.13	31.28	31.28	3.44	29.99	29.99	3.77

Multipliers for Determining the Performance With Other Indoor Sections

PA13ANR036--A,E		
INDOOR UNIT	COOLING	
	Capacity	Power
*CAR**2414A**	1.00	1.00
CAR**2417A**	1.00	1.00
CAR**3014A**	1.02	1.02
CAR**3017A**	1.02	1.02
CNRV*2414A**	1.00	1.00
CNRV*2417A**	1.00	1.00
CNRV*3014A**	1.02	1.02
CNRV*3017A**	1.02	1.02
CNRH*2417A**	1.00	1.00
CNRH*3017A**	1.02	1.02
CNRF*2418A**	1.00	1.00
CSRH*2412A**	1.00	1.00
CSRH*3012A**	1.02	1.02
PF1MNC024	1.00	1.00
PF1MNC030	1.01	1.01
FF1ENE024	1.00	1.00
FF1ENE030	1.01	1.01
PF1MNC025	1.00	0.92
PF1MNC031	1.01	0.92

See notes on pg. 18

PA13NR036--C, D		
Indoor Unit	Cooling	
	Capacity	Power
CAR**3614A**	1.00	1.00
CAR**3617A**	1.00	1.00
CAR**3621A**	1.00	1.00
CAR**4221A**	1.01	1.01
CAR**4224A**	1.01	1.01
CNRF*3618A**	1.00	1.00
CNRH*3617A**	0.99	0.99
CNRH*4221A**	1.01	1.01
CNRV*3617A**	1.00	1.00
CNRV*3621A**	1.00	1.00
CNRV*4221A**	1.01	1.01
CSRH*4212A**	1.01	1.01
FF1ENE036	1.00	1.00
PF1MNC036	1.00	1.00
PF1MNC037	1.01	0.97
PF1MNC042	1.01	1.01
PF1MNC043	1.03	0.98

DETAILED COOLING CAPACITIES*

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)														
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)		
CFM	EWB	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
PA13NR042– A, C, E Outdoor Section With CAR4221** Indoor Section**																
1225	72 (22.2)	46.80	24.63	2.98	45.12	23.98	3.27	43.36	23.31	3.60	41.47	22.61	3.95	39.48	21.87	4.35
	67 (19.4)	42.50	30.14	2.95	41.00	29.50	3.24	39.40	28.83	3.56	37.70	28.13	3.92	35.91	27.41	4.31
	62 (16.7)	38.87	35.66	2.92	37.55	35.02	3.21	36.16	34.33	3.54	34.68	33.60	3.89	33.16	32.77	4.28
	57 (13.9)	37.93	37.93	2.91	36.84	36.84	3.21	35.69	35.69	3.53	34.44	34.44	3.89	33.11	33.11	4.28
1400	72 (22.2)	47.55	25.74	3.05	45.81	25.09	3.34	43.96	24.41	3.67	42.01	23.69	4.03	39.94	22.94	4.42
	67 (19.4)	43.24	31.95	3.02	41.66	31.29	3.31	40.00	30.63	3.64	38.24	29.93	3.99	36.39	29.18	4.38
	62 (16.7)	39.79	38.12	2.99	38.44	37.42	3.29	37.04	36.66	3.61	35.67	35.67	3.97	34.26	34.26	4.36
	57 (13.9)	39.42	39.42	2.99	38.27	38.27	3.29	37.02	37.02	3.61	35.69	35.69	3.97	34.26	34.26	4.36
1575	72 (22.2)	48.13	26.82	3.12	46.34	26.16	3.42	44.44	25.47	3.74	42.41	24.74	4.10	40.28	23.98	4.49
	67 (19.4)	43.82	33.73	3.09	42.20	33.07	3.38	40.49	32.39	3.71	38.68	31.67	4.06	36.77	30.91	4.46
	62 (16.7)	40.70	40.30	3.07	39.41	39.41	3.36	38.11	38.11	3.69	36.70	36.70	4.05	35.19	35.19	4.44
	57 (13.9)	40.67	40.67	3.07	39.44	39.44	3.36	38.11	38.11	3.69	36.71	36.71	4.05	35.20	35.20	4.44

Multipliers for Determining the Performance With Other Indoor Sections

PA13ANR042–A,E		
INDOOR UNIT	COOLING	
	Capacity	Power
*CAR**4221A**	1.00	1.00
CAR**4224A**	1.00	1.00
CAR**4817A**	1.03	1.03
CAR**4821A**	1.03	1.03
CAR**4824A**	1.03	1.03
CNRV*4221A**	1.00	1.00
CNRV*4821A**	1.03	1.03
CNRV*4824A**	1.03	1.03
CNRH*4221A**	1.00	1.00
CNRH*4821A**	1.03	1.03
CNRF*4818A**	1.03	1.03
CSRH*4212A**	1.00	1.00
CSRH*4812A**	1.03	1.03
PF1MNC042	1.00	1.00
PF1MNC048	1.00	1.00
PF1MNC043	1.03	0.98
PF1MNC049	1.04	0.99

PA13NR042--C		
Indoor Unit	Cooling	
	Capacity	Power
CAR**4221A**	1.00	1.00
CAR**4224A**	1.00	1.00
CAR**4817A**	1.03	1.03
CAR**4821A**	1.03	1.03
CAR**4824A**	1.03	1.03
CNRF*4818A**	1.03	1.03
CNRH*4221A**	1.00	1.00
CNRH*4821A**	1.03	1.03
CNRV*4221A**	1.00	1.00
CNRV*4821A**	1.03	1.03
CNRV*4824A**	1.03	1.03
CSRH*4212A**	1.00	1.00
CSRH*4812A**	1.03	1.03
PF1MNC042	1.00	1.00
PF1MNC043	1.03	0.98
PF1MNC048	1.00	1.00
PF1MNC049	1.04	0.99

See notes on pg. 18

DETAILED COOLING CAPACITIES*

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)														
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)		
CFM	EWB	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
PA13NR048--A, C, E Outdoor Section With CAR4821** Indoor Section**																
1400	72 (22.2)	53.99	28.33	3.29	51.89	27.52	3.69	49.66	26.67	4.13	47.32	25.79	4.63	44.83	24.87	5.17
	67 (19.4)	49.26	34.71	3.26	47.34	33.90	3.66	45.30	33.04	4.10	43.16	32.16	4.59	40.89	31.23	5.12
	62 (16.7)	45.08	41.06	3.23	43.37	40.24	3.63	41.56	39.37	4.07	39.67	38.43	4.55	37.71	37.41	5.07
	57 (13.9)	43.77	43.77	3.22	42.40	42.40	3.63	40.93	40.93	4.07	39.36	39.36	4.55	37.68	37.68	5.07
1600	72 (22.2)	54.93	29.66	3.37	52.73	28.83	3.77	50.41	27.98	4.22	47.97	27.08	4.71	45.38	26.15	5.25
	67 (19.4)	50.14	36.84	3.34	48.13	36.02	3.74	46.00	35.15	4.18	43.78	34.26	4.67	41.43	33.32	5.20
	62 (16.7)	46.10	43.95	3.31	44.34	43.07	3.71	42.51	42.09	4.15	40.76	40.76	4.64	38.97	38.97	5.17
	57 (13.9)	45.52	45.52	3.31	44.04	44.04	3.71	42.45	42.45	4.15	40.77	40.77	4.64	38.97	38.97	5.17
1800	72 (22.2)	55.62	30.91	3.45	53.34	30.07	3.85	50.95	29.20	4.30	48.43	28.30	4.79	45.76	27.35	5.33
	67 (19.4)	50.78	38.87	3.42	48.72	38.04	3.82	46.52	37.17	4.26	44.23	36.25	4.75	41.82	35.29	5.29
	62 (16.7)	47.09	46.43	3.40	45.36	45.36	3.80	43.69	43.69	4.24	41.91	41.91	4.73	40.00	40.00	5.26
	57 (13.9)	46.95	46.95	3.39	45.38	45.38	3.80	43.69	43.69	4.24	41.91	41.91	4.73	40.01	40.01	5.26

Multipliers for Determining the Performance With Other Indoor Sections

PA13ANR048--A,E		
INDOOR UNIT	COOLING	
	Capacity	Power
*CAR**4821A**	1.00	1.00
CAR**4817A**	1.00	1.00
CAR**4824A**	1.00	1.00
CAR**6021A**	1.02	1.02
CAR**6024A**	1.02	1.02
CNRV*4821A**	1.00	1.00
CNRV*4824A**	1.00	1.00
CNRV*6024A**	1.02	1.02
CNRH*4821A**	1.00	1.00
CNRH*6024A**	1.02	1.02
CNRF*4818A**	0.98	0.98
CSRH*4812A**	1.00	1.00
CSRH*6012A**	1.02	1.02
PF1MNC048	1.00	1.00
PF1MNC060	1.02	1.02
PF1MNC049	1.03	0.99
PF1MNC061	1.04	1.00

PA13NR048--C		
Indoor Unit	Cooling	
	Capacity	Power
CAR**4817A**	1.00	1.00
CAR**4821A**	1.00	1.00
CAR**4824A**	1.00	1.00
CAR**6021A**	1.02	1.02
CAR**6024A**	1.02	1.02
CNRF*4818A**	0.98	0.98
CNRH*4821A**	1.00	1.00
CNRH*6024A**	1.02	1.02
CNRV*4821A**	1.00	1.00
CNRV*4824A**	1.00	1.00
CNRV*6024A**	1.02	1.02
CSRH*4812A**	1.00	1.00
CSRH*6012A**	1.02	1.02
PF1MNC048	1.00	1.00
PF1MNC049	1.03	0.99
PF1MNC060	1.02	1.02
PF1MNC061	1.04	1.00

See notes on pg. 18

DETAILED COOLING CAPACITIES*

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)													
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)		115 (46.1)		
CFM	EWB	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**	Capacity MBtuh†		Total System kW**
		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡		Total	Sens‡	
PA13NR060--A, B, C, E Outdoor Section With CAR6024** Indoor Section**															
1750	72 (22.2)	66.83	35.44	4.22	64.38	34.51	4.66	61.69	33.50	5.13	58.87	32.45	5.65	55.89	31.35	6.20
	67 (19.4)	60.78	43.58	4.17	58.53	42.64	4.60	56.12	41.64	5.07	53.58	40.60	5.58	50.88	39.51	6.13
	62 (16.7)	55.66	51.68	4.12	53.65	50.70	4.55	51.54	49.65	5.02	49.34	48.50	5.53	47.13	47.13	6.08
	57 (13.9)	54.44	54.44	4.11	52.79	52.79	4.54	51.04	51.04	5.01	49.16	49.16	5.52	47.15	47.15	6.08
2000	72 (22.2)	67.96	37.18	4.33	65.39	36.23	4.77	62.60	35.20	5.24	59.65	34.13	5.76	56.56	33.02	6.31
	67 (19.4)	61.86	46.38	4.27	59.51	45.43	4.71	57.00	44.41	5.18	54.36	43.35	5.69	51.56	42.22	6.24
	62 (16.7)	57.00	55.34	4.23	54.96	54.26	4.66	52.92	52.92	5.13	50.93	50.93	5.65	48.78	48.78	6.20
	57 (13.9)	56.60	56.60	4.22	54.84	54.84	4.66	52.95	52.95	5.13	50.94	50.94	5.65	48.79	48.79	6.20
2250	72 (22.2)	68.78	38.81	4.43	66.13	37.85	4.88	63.24	36.81	5.35	60.20	35.72	5.86	57.02	34.59	6.42
	67 (19.4)	62.66	49.05	4.38	60.24	48.08	4.82	57.65	47.04	5.29	54.93	45.95	5.80	52.05	44.79	6.35
	62 (16.7)	58.34	58.34	4.34	56.50	56.50	4.78	54.50	54.50	5.25	52.37	52.37	5.76	50.08	50.08	6.32
	57 (13.9)	58.36	58.36	4.34	56.51	56.51	4.78	54.50	54.50	5.25	52.38	52.38	5.76	50.09	50.09	6.32

Multipliers for Determining the Performance With Other Indoor Sections

PA13ANR060--A,B,E		
INDOOR UNIT	COOLING	
	Capacity	Power
*CAR**6024A**	1.00	1.00
CAR**6021A**	0.99	0.99
CNRV*6024A**	1.00	1.00
CNRH*6024A**	1.00	1.00
CSRH*6012A**	1.00	1.00
PF1MNC060	0.99	0.99
PF1MNC061	1.01	1.01

PA13NR060--C		
Indoor Unit	Cooling	
	Capacity	Power
CAR**6021A**	0.99	0.99
CAR**6024A**	1.00	1.00
CNRH*6024A**	1.00	1.00
CNRV*6024A**	1.00	1.00
CSRH*6012A**	1.00	1.00
PF1MNC060	0.99	0.99
PF1MNC061	1.01	1.01

* 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.

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.

 Printed in U.S.A. Edition Date: 06/07 **Catalog No. SS–PA13–04**

Replaces: SS–PA13–03