

COMMERCIAL HIGH EFFICIENCY PACKAGE AIR CONDITIONER UNITS R-22 SINGLE PACKAGE ROOFTOP 3 – 25 TONS (1 and 3-Phase)

BUILT TO LAST, EASY TO INSTALL AND SERVICE

- One-piece, high efficiency electric cooling with a low profile, prewired, tested, and charged at the factory
- Field convertible supply and return openings (036–120) are intended for installation on a roof top or ground level
- Hermetic-type scroll compressor, single compressor on 036–072 models, dual compressors on 090–180 and 300 models, three compressors on 210 and 240 models
- Refrigeration System: Loss-of-charge, freeze protection, and high pressure safety switches
- Units 090 to 300 have two stage cooling operation
- Refrigerant circuits contain a filter drier to trap dirt and moisture
- Non-corrosive condensate pan on 036–120 models with choice of bottom or side drain connections. All models have self draining, sloping design
- Single-point electrical connections on field installed electric heat units
- Adjustable belt drive indoor fan standard on all units, with permanently lubricated motors
- Direct-drive propeller outdoor fan totally enclosed with permanently lubricated bearings
- Prepainted, galvanized steel cabinet, primer inner panels, certified at 500-hr salt spray test and noncorrosive screws
- Easily removable panels provide ready access to unit components for rapid removal or maintenance
- Two inch disposable fiberglass type return air filters in dedicated rack with tool-less filter access door
- Outdoor temperature cooling operation from down to 25°F and up to 125°F
- Fixed orifice metering devices on 036–120 models to precisely control flow to circuits individually, TXV on 155–300 models
- 24-Volt control circuit with resettable circuit breaker on 036–120 models
- Indoor and outdoor coils constructed of aluminum fins mechanically bonded to seamless copper tubes
- Thru-the-bottom power entry capability
- 25% Manual outside air damper on 155 thru 180 models

WARRANTY

- 5 Year compressor limited warranty
- 1 Year parts limited warranty



PAH036-072



PAH090-120



PAH155-180



PAH210-300



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 the manufacturer's refrigerant charging and air flow instructions. Failure to confirm proper charge and airflow may reduce energy efficiency and shorten equipment life.

UNIT PERFORMANCE DATA

UNIT PAH 1 & 3-Phase	NOMINAL TONS	COOLING			Unit Dimensions H x W x L	Unit Weight
		Net Cap. (Btuh)	SEER	Total kW		
PAH036*0A00AA	3	36,000	13.0	3.21	33-5/16" x 73-11/16" x 45"	435
PAH048*0A00AA	4	46,000	13.0	4.25	33-5/16" x 73-11/16" x 45"	445
PAH060*0A00AA	5	61,000	13.0	5.55	33-5/16" x 73-11/16" x 45"	465

UNIT PAH 3-Phase	NOMINAL TONS	COOLING			Unit Dimensions H x W x L	Unit Weight
		Net Cap. (Btuh)	EER	Total kW		
PAH072*0A00AA	6	74,000	11.0	6.7	41-5/16" x 73-11/16" x 45"	540
PAH090*0A00AA	7 1/2	90,000	11.0	8.2	41-5/16" x 87-3/8" x 57-3/4"	755
PAH102*0A00AA	8 1/2	104,000	11.8	8.8	49-5/16" x 87-3/8" x 57-3/4"	895
PAH120*0A00AA	10	120,000	11.0	10.9	49-5/16" x 87-3/8" x 57-3/4"	915
PAH155*0A00AA	12 1/2	152,000	10.80	14.1	45" x 86-1/8" x 87-3/8"	1575
PAH180*0A00AA	15	176,000	10.80	16.3	45" x 86-1/8" x 87-3/8"	1650
PAH210*0A00AA	18	200,000	10.80	18.5	58-1/8" x 169-1/4" x 86-1/8"	2139
PAH240*0A00AA	20	234,000	10.80	21.7	58-1/8" x 169-1/4" x 86-1/8"	2187
PAH300*0A00AA	25	278,000	10.00	27.8	70-1/8" x 169-1/4" x 86-1/8"	2445

* Indicates Unit voltage: K = 208/230v (1 Phase), H = 208/230v, L = 460v, S = 575v

NOTE: BASE MODEL NUMBERS LISTED. SEE MODEL NOMENCLATURE LISTING FOR ADDITIONAL OPTIONS

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MODEL NOMENCLATURE

MODEL SERIES	P	A	H	090	H	0	A	00	A	A	A
P = Package											
A = Air Conditioning											
H = High Efficiency											
036 = 36,000											
048 = 48,000											
060 = 60,000											
072 = 72,000											
090 = 90,000											
102 = 102,000											
120 = 120,000											
155 = 155,000											
180 = 180,000											
210 = 210,000											
240 = 240,000											
300 = 300,000				NOMINAL COOLING BTU/h							
K = 208/230-1-60											
H = 208/230-3-60											
L = 460-3-60											
S = 575-3-60				VOLTAGE							
0 = No Heat											
A = Standard Motor											
B = High Static Motor				MOTOR OPTION (see spec sheet for details)							
00 = No Factory Installed Options											
XX = See FIOP Selection Guide for Details				FACTORY INSTALLED OPTIONS (see spec sheet for details)							
A = Aluminum/Copper Outdoor Coil				OUTDOOR COIL OPTION							
A = Initial Offering				SALES DIGIT							
A = Original Design				ENGINEERING DIGIT							

FEATURES/BENEFITS

Every compact one-piece unit arrives fully assembled, charged, tested, and ready to run.

QUIET, EFFICIENT OPERATION AND DEPENDABLE PERFORMANCE

Compressors have vibration isolators for quiet operation. Efficient fan and motor design permits operation at low sound levels.

Unit sizes 090–300 offer lower utility costs through part-load operation using 2 stages of cooling.

Quiet and efficient operation is provided by belt-driven evaporator fans (standard on all units over 5 tons). The belt-driven evaporator-fan is equipped with variable-pitch pulleys which allow adjustment within the rpm ranges of the factory-supplied pulleys.

Increased operating efficiency is achieved through computer-designed coils featuring staggered internally enhanced copper tubes. Fins are ripple-edged for strength, lanced, and double waved for higher heat transfer.

DURABLE, DEPENDABLE CONSTRUCTION

Designed for durability in any climate, the weather-resistant cabinets are constructed of galvanized steel and bonderized, and all exterior panels are coated with a prepainted baked enamel finish. The paint finish is non-chalking, and is capable of withstanding ASTM (American Society for Testing and Materials) B117 500-hour Salt Spray Test. All internal cabinet panels are primed, permitting longer life and a more attractive appearance for the entire unit.

In addition, all size 036–120 units are designed with a single, continuous top piece to eliminate any possible leaks at seams or gasketing. Totally enclosed condenser-fan motors and permanently lubricated bearings provide additional unit dependability.

EASY INSTALLATION AND CONVERSION

All Units are Shipped in the Vertical Duct Configuration for fit-up to standard roof curbs. The contractor can order and install the roof curb early in the construction stage, before decisions on size requirements are made.

All units feature a base rail design with forklift slots and rigging holes for easier maneuvering. Durable packaging protects all units during shipment and storage.

The units can be easily converted from a vertical to a horizontal duct configuration by relocating the panels supplied with the unit (sizes 036–120 only).

To Convert Size 036–120 Units from vertical to horizontal discharge, simply relocate 2 panels. The same basic unit can be used for a variety of applications and can be quickly modified at the jobsite.

To Convert Size 155–300 Units from vertical to horizontal discharge, use the optional horizontal supply/return adapter roof curb (PAH155,180) or accessory conversion kit (PAH210–300).

Convenient Duct Openings in the unit basepans permit side-by-side or concentric duct connections without requiring internal unit modification.

NOTE: On units using horizontal supply and return, the accessory barometric relief or power exhaust **MUST** be installed on the return ductwork.

Thru-the-Bottom Service Connection Capability comes standard with the rooftop unit to allow power and control wiring to be routed through the unit's basepan, thereby minimizing roof penetrations (to prevent water leaks). Power and control connections are made on the same side of the unit to simplify installation.

The Non-Corrosive Sloped Condensate Drain Pan (Sizes 036–120) permits either an external horizontal side condensate drain (outside the roof curb) or an internal vertical bottom drain (inside the roof curb). Both options require an external, field-supplied P-trap.

Standard 2-in. Throwaway Filters are easily accessed through a removable panel located above the air intake hood. No tools are required to change unit filters.

Belt-Driven Evaporator-Fan Motors allow maximum on-site flexibility without changing motors or drives.

Field-Installed Accessory Electric Heaters are available in a wide range of capacities. An available single-point wiring kit makes installation simple.

Low Voltage Wiring Connections are easily made thanks to the large terminal board which is located for quick, convenient access.

In addition, color-coded wires permit easy tracing and diagnostics.

PROVEN COMPRESSOR RELIABILITY

Design techniques feature computer-programmed balance between compressor, condenser, and evaporator. Hermetic compressors are equipped with compressor overcurrent and overtemperature protection to ensure dependability.

All units have a metering device which precisely controls refrigerant flow, preventing slugging and flood-back, while maintaining optimum unit performance. Refrigerant filter driers are standard.

INTEGRATED ECONOMIZERS AND OUTDOOR-AIR DAMPERS

Available as options or accessories, economizers and manual outdoor-air dampers introduce outdoor air which mixes with the conditioned air, improving indoor-air quality and often reducing energy consumption.

All economizers incorporate a parallel blade, gear-driven damper system for efficient air mixing and reliable control. In addition, the standard damper actuator includes a spring return to provide reliable closure on power loss. The economizers for sizes 036–120 are equipped with up to 100% barometric relief capability for high outdoor airflow operations. Economizers for unit sizes 036–120 are available, factory-installed, for vertical return only. Economizers for unit sizes 155–300 are compatible for vertical or horizontal return. An optional field-installed barometric relief package is available for 155–300 size units. A barometric relief damper is included with the factory installed economizer on the PAH210–300.

In addition, single-stage power exhaust is available as a field-installed accessory for Economizer to help maintain proper building pressure.

For units without economizer, year-round ventilation is enhanced by a manual outdoor-air damper. On size 036–120 units, a 50% manual damper is available as a field-installed accessory. Unit sizes 155–300 are equipped with a manual 25% damper.

INDOOR-AIR QUALITY

Sloped condensate pans minimize biological growth in rooftop units in accordance with ASHRAE Standard 62. Two-inch filters provide for greater particle reduction in the return air. The face-split evaporator coils improve the dehumidification capability of standard units, maximize building humidity control.

ARI* CAPACITY RATINGS — PAH036–120

UNIT PAH	NOMINAL TONS	STANDARD CFM	NET COOLING CAP (Btuh)	TOTAL kW	SEER†	EER	SOUND RATING (dB)
036	3	1200	36,000	3.21	13.00	11.20	76
048	4	1450	46,000	4.25	13.00	11.05	76
060	5	1750	61,000	5.55	13.00	11.00	80

UNIT PAH	NOMINAL TONS	STANDARD CFM	NET COOLING CAP (Btuh)	TOTAL kW	EER	SOUND RATING (dB)	IPLV
072	6	2100	74,000	6.70	11.00	80	**
090	7 ¹ / ₂	3000	90,000	8.18	11.00	82	11.6
102	8 ¹ / ₂	3000	104,000	8.80	11.80	82	13.1
120	10	3200	120,000	10.91	11.00	84	11.4

LEGEND

dB — Sound Levels (decibels)
db — dry bulb
EER — Energy Efficiency Ratio
IPLV — Integrated Part-Load Value
SEER — Seasonal Energy Efficiency Ratio
wb — wet bulb

*Air-Conditioning & Refrigeration Institute.

†Applies only to units with capacity of 65,000 Btuh or less.

**IPLV is not applicable to single-compressor units.

NOTES:

- Rated in accordance with ARI Standard 210/240 and 270 (036–120 units).
- Ratings are net values, reflecting the effects of circulating fan heat. Ratings are based on:
Cooling Standard: 80°F db, 67° wb indoor entering-air temperature and 95°F db outdoor entering-air temperature.
IPLV Standard: 80°F db, 67°F wb indoor entering-air temperature and 80°F db outdoor entering-air temperature.



- All PAH036–120 units are in compliance with ASHRAE 90.1–1999 Energy Standard for minimum SEER and EER requirements. Refer to state and local codes or visit the following website: <http://bcap-energy.org> to determine if compliance with this standard pertains to a given geographical area of the United States.
- All PAH036–120 units are in compliance with Energy Star high efficiency requirements.

ARI* CAPACITY RATINGS — PAH155,180

UNIT PAH	NOMINAL TONS	NET COOLING CAPACITY (Btuh)	TOTAL WATTS	EER	SOUND RATING (decibels)	IPLV
155	12	152,000	14,074	10.80	8.8	11.8
180	15	176,000	16,296	10.80	8.8	11.7

LEGEND

db — Dry Bulb
EER — Energy Efficiency Ratio
IPLV — Integrated Part-Load Values
wb — Wet Bulb

*Air Conditioning and Refrigeration Institute.

NOTES:

- Rated in accordance with ARI Standards 360–93 and 270–95.
- ARI ratings are net values, reflecting the effects of circulating fan heat.
- Ratings are based on:
Cooling Standard: 80°F db, 67°F wb indoor entering-air temperature and 95°F db air entering outdoor unit.
IPLV Standard: 80°F db, 67°F wb indoor entering-air temperature and 80°F db outdoor entering-air temperature.
- All PAH155, 180 units are in compliance with ASHRAE 90.1 2001 Energy Standard for minimum SEER and EER requirements. Refer to state and local codes or visit the following website: <http://bcap-energy.org> to determine if compliance with this standard pertains to a given geographical area of the United States.



LOW OUTDOOR AIR TEMPERATURE COOLING OPERATION LIMITS

UNIT SIZE PAH	TEMPERATURE LIMIT (F)		
	Standard Unit	Unit With Low Ambient Kit	Unit With Low Ambient Head Pressure Control Kit
155, 180	40	20	–20

ARI* CAPACITY RATINGS — PAH180–300

UNIT PAH	NOMINAL TONS	CFM	NET COOLING CAPACITY (Btuh)	TOTAL kW	EER	SOUND RATING (dB)	IPLV†
210	17.5	5,500	200,000	18.5	10.8	81.7	12.0
240	20	6,000	234,000	21.7	10.8	81.7	11.9
300**	25	7,500	278,000	27.8	10.0	84.6	10.9

LEGEND

db — Dry Bulb
EER — Energy Efficiency Ratio
IPLV — Integrated Part-Load Values
wb — Wet Bulb

*Air Conditioning and Refrigeration Institute.

†IPLV values are calculated based on control configuration T.CTL = 2 (2 Stage Y1).

**Size 300 unit is not listed with ARI, but is tested to ARI standards.

NOTES:

- Rated in accordance with ARI Standards 360–93 and 270–95.
- ARI ratings are net values, reflecting the effects of circulating fan heat.
- Ratings are based on:
Cooling Standard: 80°F db, 67°F wb indoor entering-air temperature and 95°F db air entering outdoor unit.

IPLV Standard: 80°F db, 67°F wb indoor entering-air temperature and 80°F db outdoor entering-air temperature.



- All units are in compliance with ASHRAE 90.1 2001 Energy Standard for minimum EER requirements. Refer to state and local codes or visit the following website: <http://bcap-energy.org> to determine if compliance with this standard pertains to a given geographical area of the United States.

OPTIONS AND ACCESSORIES — PAH036–120

ITEM	OPTION*	ACCESSORY†
High Static Motors and Drives	X	
Convenience Outlet	X	
Copper Fins Outdoor Coil	X	
Economizer with Controller	X	X
Electric Heat		X
Electronic Programmable Thermostat**		X
Indoor Air Quality (CO ₂) Sensor (For Return Air)		X
Manual Outdoor–Air Damper		X
Low Ambient Kits		X
Outdoor Air Enthalpy Sensor		X
Outdoor Coil Grille		X
Outdoor Coil Hail Guard Assembly		X
Outdoor Air/Return Air Temperature Sensor		X
Power Exhaust with Barometric Relief		X
Return Air Enthalpy Sensor		X
Return Air Temperature Sensor		X
Roof Curbs (Vertical and Horizontal Discharge)		X
Smoke Detector Supply	X	
Thermostats and Subbases**		X
Thru–the–Bottom Utility Connections		X
Compressor Cycle Delay		X
Unit–Mounted Non–Fused Disconnect	X	

OPTIONS AND ACCESSORIES — PAH155–300

ITEM	OPTION*	ACCESSORY†
High Static Motors and Drives	X	
Convenience Outlet (Field Powered)	X	
Copper Fins Outdoor Coil	X	
Economizer with Controller	X	X
Electric Heat		X
Electronic Programmable Thermostat**		X
Horizontal Adapter Curb		X
Indoor Air Quality (CO ₂) Sensor		X
Manual Outdoor–Air Damper (Standard on 155–180 Models)	X	X
Low Ambient Kits		X
Outdoor Air Enthalpy Sensor		X
Power Exhaust without Barometric Relief		X
Return Air Enthalpy Sensor		X
Return Air Temperature Sensor		X
Roof Curbs (Vertical and Horizontal Discharge)		X
Smoke Detector Supply and Return (210–300 Only)	X	
Thermostats and Subbases		X
Compressor Cycle Delay		X
Unit–Mounted Non–Fused Disconnect (210–300 Only)	X	
Winter Start Time Delay		X

*Factory–installed.

†Field–installed.

**Available through FAST Parts.

NOTES:

1. Refer to unit specifications or contact your local representative for accessory and option package information.
2. Some options may increase product lead times.

OPTIONS AND ACCESSORIES (cont)

Roof Curbs (Horizontal and Vertical) permit installation and securing of ductwork to curb prior to mounting unit on the curb. 8-in, 14-in. and 24-in. roof curbs are available as field-installed accessories.

Economizer is available as a factory-installed option in vertical supply/return configuration only for unit sizes 036–120. Vertical or horizontal configuration is available for unit sizes 155 and 180. (Economizer is available as a field-installed accessory for horizontal and/or vertical supply return configurations.) The Economizer is provided with an industry standard, standalone, solid-state controller that is easy to configure and troubleshoot. The Economizer is compatible with non-DDC applications. Economizer is equipped with a barometric relief damper capable of relieving up to 100% return air. Dry bulb outdoor-air temperature sensor is provided as standard. The return air sensor, indoor enthalpy sensor, and outdoor enthalpy sensor are provided as field-installed accessories to provide enthalpy control, differential enthalpy control, and differential dry bulb temperature control.

Manual Outdoor-Air Damper accessory can be preset to admit up to 50% outdoor air for year round ventilation.

Low Ambient Control accessory package maintains condensing temperature between 90°F and 110°F at outdoor ambient temperatures down to –20°F by condenser-fan speed modulation or condenser-fan cycling and wind baffles.

Electric Resistance Heaters are UL listed and available to match heating requirements. Single point kits available for each heater when required. Heaters are field-installed accessories.

Unit-Mounted, Non-Fused Disconnect Switch provides unit power shutoff. The switch is accessible from outside the unit and provides power off lockout capability and is available as factory-installed option.

Convenience Outlet can be factory-installed and internally mounted with easily accessible 115-v female receptacle. Requires separate field supplied power source.

Compressor Cycle Delay prevents unit from restarting for minimum of 5 minutes after shutdown.

Thru-the-Bottom Utility Connectors permit electrical connections to be brought to the unit through the basepan. Connectors are a field-installed accessory.

Power Exhaust accessory will provide system exhaust of up to 100% of return air (vertical only). The power exhaust is a field-installed accessory (separate vertical and horizontal design).

ACCESSORIES: PAH036-300

FLAT ROOF CURBS

Model Number	Description	Use With Model Size
AXB035CLA	8" High Roof Curb	036 – 072
AXB035CMA	14" High Roof Curb	036 – 072
AXB035CHA	24" High Roof Curb	036 – 072
AXB045CLA	8" High Roof Curb	090 – 120
AXB045CMA	14" High Roof Curb	090 – 120
AXB045CHA	24" High Roof Curb	090 – 120
AXB060CMA	Vertical Discharge Roof Curb – 14" High	155, 180
AXB060CHA	Vertical Discharge Roof Curb – 24" High	155, 180
AXB065CHA	Horizontal Discharge Roof Curbs – 24" High	155, 180
AXB165CHA	Horizontal Discharge Roof Curbs – 24" High with Duct	155, 180
DNRFCURB118A00	14" High Full Perimeter Roof Curb	210 – 300
DNRFCURB119A00	24" High Full Perimeter Roof Curb	210 – 300

ECONOMIZERS

Model Number	Description	Use With Model Size
DNECOMZR020A02	Vertical 3-Position -- with W7212 controller	036 – 072
DNECOMZR021A02	Vertical 3-Position -- with W7212 controller	090 – 120
DNECOMZR024A02	Horizontal 3-Position -- with W7212 controller	036 – 072
DNECOMZR025A02	Horizontal 3-Position -- with W7212 controller	090 – 120
DNECOMZR008C00	Vertical or Horizontal 3-Position -- with W7212 controller	155, 180
DNECOMZR046C00	Vertical or Horizontal Fully modulating -- with W7212 controller	210 – 240
DNECOMZR047C00	Vertical or Horizontal Fully modulating -- with W7212 controller	300

* Economizer model numbers for factory installed economizers. Must use the 'DN' model power exhaust with 'DN' economizers

ALTERNATE ECONOMIZERS

Model Number	Description	Use With Model Size
AXB035EMA	Fully Modulating Economizer – Downflow	036 – 072
AXB035EPA	Three Position Economizer – Downflow	036 – 072
AXB035HEA	Fully Modulating Economizer – Horizontal	036 – 072
AXB035HPA	Three Position Economizer – Horizontal	036 – 072
AXB145EMA	Fully Modulating Economizer – Downflow	090
AXB245EMA	Fully Modulating Economizer – Downflow	102, 120
AXB145EPA	Three Position Economizer – Downflow	090
AXB245EPA	Three Position Economizer – Downflow	102, 120
AXB145HEA	Fully Modulating Economizer – Horizontal	090
AXB245HEA	Fully Modulating Economizer – Horizontal	102, 120
AXB145HPA	Three Position Economizer – Horizontal	090
AXB245HPA	Three Position Economizer – Horizontal	102, 120
AXB060EMA	Fully Modulating Economizer – Horizontal/Downflow	155, 180
AXB060EPA	Three Position Economizer – Horizontal/Downflow	155, 180

ACCESSORIES: PAH036–300

POWER EXHAUST

Model Number	Description	Use With Model Size
DNPWREXH030A01	Vertical Power Exhaust 208/230 volt	036 – 072
DNPWREXH021A01	Vertical Power Exhaust 460 volt	036 – 072
DNPWREXH022A01	Vertical Power Exhaust 208/230 volt	090 – 120
DNPWREXH023A01	Vertical Power Exhaust 460 volt	090 – 120
DNPWREXH028A01	Horizontal Power Exhaust 208/230 volt	036 – 120
DNPWREXH029A01	Horizontal Power Exhaust 460 volt	036 – 120
DNPWREXH008B00	Power Exhaust 460 volt (field convertible to 208/230 volt)	155, 180
DNPWREXH010B00	Power Exhaust 575 volt	155, 180

ALTERNATE POWER EXHAUST

Model Number	Description	Use With Model Size
AXB035PEH	Power Exhaust 208/230 volt	036 – 072
AXB035PEL	Power Exhaust 460 volt	036 – 072
AXB035PES	Power Exhaust 575 volt	036 – 072
AXB145PEH	Power Exhaust 208/230 volt	090
AXB145PEL	Power Exhaust 460 volt	090
AXB145PES	Power Exhaust 575 volt	090
AXB245PEH	Power Exhaust 208/230 volt	102, 120
AXB245PEL	Power Exhaust 460 volt	102, 120
AXB245PES	Power Exhaust 575 volt	102, 120
AXB060PEH	Power Exhaust 208/230 volt	155, 180
AXB060PEL	Power Exhaust 460 volt	155, 180
AXB060PES	Power Exhaust 575 volt	155, 180

MANUAL OUTDOOR AIR DAMPERS

Model Number	Description	Use With Model Size
DNMANDPR001A03	Manual Fresh Air Damper	036 – 072
DNMANDPR002A03	Manual Fresh Air Damper	090–120
DNBARREL001A00	Barometric Relief Damper	155, 180

ALTERNATE DAMPERS

Model Number	Description	Use With Model Size
AXB035FAA	Manual Fresh Air Damper	036 – 072
AXB035FMA	Motorized Fresh Air Damper	036 – 072
AXB145FAA	Fresh Air Damper – 35% Manual	090
AXB245FAA	Fresh Air Damper – 35% Manual	102, 120
AXB145FMA	Fresh Air Damper – 35% Motorized	090
AXB245FMA	Fresh Air Damper – 35% Motorized	102, 120

LOW AMBIENT CONTROLS

Model Number	Description	Use With Model Size
AXB035LAA	Low Ambient Kit (0 Deg. F)	036 – 072
AXB045LAA	Low Ambient / OFM Sequencing Kit (–20 Deg. F) 208/230v	090 – 120
AXB160LAA	OFM Sequencing kit (3 fans) (10 Deg.)	155, 180

WINTER START KIT

Model Number	Description	Use With Model Size
DNWINSTR001A00	Low pressure switch bypass (time delay)	ALL

PHASE MONITOR CONTROL

Model Number	Description	Use With Model Size
DNPHASE3001A01	Electronic phase monitor breaks "R" control signal if trouble is detected	ALL

THROUGH-THE-BOTTOM/CURB POWER CONNECTION

Model Number	Description	Use With Model Size
DNBTMPWR001A01	Thru-the-bottom electrical	036 – 072
DNBTMPWR002A01	Thru-the-bottom electrical	090 – 120
DNBTMPWR003A01	Thru-the-bottom electrical (AXB035PKA)	036 – 072
AXB045PKA	Thru-the-bottom electrical	090 – 120

ACCESSORIES – PAH 036–300 (cont.)

ECONOMIZER SENSORS

Model Number	Description	Use With Model Size
DNTEMPSN002A00	Single or Differential Temp– (dry bulb) Control	ALL Economizers with W7212 Controller
DNCBDIOX005A00	Single or Differential Temp– (dry bulb) Control	ALL Economizers with W7212 Controller
DNENTDIF004A00	Return Air Enthalpy Sensor	ALL Economizers with W7212 Controller
AXB078ENT	Enthalpy Control	ALL

ANTI-CYCLE TIMER

Model Number	Description	Use With Model Size
DNTIMEGD001A00	Five minute compressor delay	ALL

SMOKE DETECTORS

Model Number	Description	Use With Model Size
DNSMKDET001D00	Smoke Detector Return	210 – 300
DNSMKSUP001B00	Smoke Detector Supply	210 – 300
DNSMKSEN001A00	Smoke Detector Supply & Return	210 – 300

COIL PROTECTION

Model Number	Description	Use With Model Size
AXB035CGA	Coil Guard	072
AXB035HGA	Hail Guard	072
AXB145CGA	Coil Guard	090, 102
AXB245CGA	Coil Guard	120
AXB145HGA	Hail Guard	090, 102
AXB245HGA	Hail Guard	120
AXB060CGA	Coil Guard	155, 180
AXB060HGA	Hail Guard	155, 180

CONCENTRIC DIFFUSERS AND DUCT KITS

Model Number	Description	Use With Model Size
AXB035CTA	20" Round Concentric Duct Kit	036 – 072
AXB445CTA	20" Round Concentric Duct Kit	090
AXB545CTA	Concentric Duct Kit 18" x 28" Rect.	102
AXB645CTA	Concentric Duct Kit 18" x 32" Rect.	120
AXB160CTA	Concentric Duct Kit 18" x 36"	155, 180
AXB030CFA	Concentric Diffuser – Flush Mount	036 – 072
AXB030CSA	Concentric Diffuser – Step Down	036 – 072
AXB040CFA	Concentric Diffuser – Flush Mount	036 – 072
	Concentric Diffuser – Flush Mount (use with AXB445CTA)	090
AXB040CSA	Concentric Diffuser – Step Down	036 – 072
	Concentric Diffuser – Step Down (use with AXB445CTA)	090
AXB045CFA	Concentric Diffuser – Flush Mount (use with AXB545CTA)	102
AXB045CSA	Concentric Diffuser – Step Down (use with AXB545CTA)	102
AXB050CFA	Concentric Diffuser – Flush Mount (use with AXB645CTA)	120
AXB050CSA	Concentric Diffuser – Step Down (use with AXB645CTA)	120
AXB055CFA	Concentric Diffuser – Flush Mount (use with AXB160CTA)	155, 180
AXB055CSA	Concentric Diffuser – Step Down (use with AXB160CTA)	155, 180

ACCESSORIES – PAH 036–120 (cont)

ELECTRIC HEATERS for 036–060 SIZE MODELS				
Model Size	Voltage	kW	Electric Heater Model Number(s)	Single Point Wiring Kits Required
036	208/230/240 (Single phase)	3.3/ 4.0/ 4.4	AES001EHA	–
		4.9/ 5.8/ 6.5	AES007EHA	–
		6.5/ 8.0/ 8.7	AES003EHA	–†
		7.9/ 9.6/ 10.5	AES009EHA	–
		9.8/ 11.6/ 13.0*	AES007EHA+AES007EHA	AXB004SPA
	208/230/240 (3 phase)	3.3/ 4.0/ 4.4	AES001EHA	–
		4.9/ 5.8/ 6.5	AES007EHA	–
		6.5/ 8.0/ 8.7	AES003EHA	–
		7.9/ 9.6/ 10.5	AES009EHA	–
		12.0/ 14.7/ 16.0	AES015EHA	–**
	460/480 (3 phase)	5.5/ 6.0	AES006ELA	–
		8.1/ 8.8	AES008ELA	–
		10.6/ 11.5	AES011ELA	–
		12.9/ 14.0	AES013ELA	–
048	208/230/240 (Single phase)	3.3/ 4.0/ 4.4	AES001EHA	–
		6.5/ 8.0/ 8.7	AES003EHA	–
		9.8/ 11.6/ 13.0*	AES007EHA+AES007EHA	AXB004SPA
		13.1/ 16.0/ 17.4*	AES003EHA+AES003EHA	AXB004SPA
		16.0/ 19.3/ 21.0*	AES009EHA+AES009EHA	AXB004SPA
	208/230/240 (3 phase)	4.9/ 5.8/ 6.5	AES007EHA	–
		6.5/ 8.0/ 8.7	AES003EHA	–
		12.0/ 14.7/ 16.0	AES015EHA	–**
		16.0/ 19.3/ 21.0*	AES009EHA+AES009EHA	AXB002SPA
	460/480 (3 phase)	5.5/ 6.0	AES006ELA	–
		10.6/ 11.5	AES011ELA	–
		12.9/ 14.0	AES013ELA	–
		21.1/ 23.0*	AES011ELA+AES011ELA	–
060	208/230/240 (Single phase)	4.9/ 5.8/ 6.5	AES007EHA	–
		6.5/ 8.0/ 8.7	AES003EHA	–
		9.8/ 11.6/ 13.0	AES007EHA+AES007EHA	AXB004SPA
		13.1/ 16.0/ 17.4*	AES003EHA+AES003EHA	AXB004SPA
		16.0/ 19.3/ 21.0*	AES009EHA+AES009EHA	AXB004SPA
	208/230/240 (3 phase)	4.9/ 5.8/ 6.5	AES007EHA	–
		12.0/ 14.7/ 16.0	AES015EHA	–**
		16.0/ 19.3/ 21.0*	AES009EHA+AES009EHA	AXB002SPA
		20.0/ 24.3/ 26.5*	AES009EHA+AES015EHA	AXB002SPA
	460/480 (3 phase)	5.5/ 6.0	AES006ELA	–
		10.6/ 11.5	AES011ELA	–
		12.9/ 14.0	AES013ELA	–
		21.1/ 23.0	AES011ELA+AES011ELA	–
		23.4/ 25.5*	AES011ELA+AES013ELA	–

ACCESSORIES – PAH 036–120 (cont)

ELECTRIC HEATERS for 072–120 SIZE MODELS				
Model Size	Voltage	kW	Electric Heater Model Number(s)	Single Point Wiring Kits Required
072	208/230/240 (3 phase)	4.9/ 5.8/ 6.5 7.8/ 9.6/ 10.5 12.0/ 14.7/ 16.0 15.8/ 19.3/ 21.0 19.9/ 24.3/ 26.5*	AES007EHA AES009EHA AES015EHA AES009EHA+AES009EHA AES009EHA+AES015EHA	– – –** AXB002SPA AXB002SPA
	460/480 (3 phase)	5.5/ 6.0 10.6/ 11.5 12.9/ 14.0 21.1/ 23.0 23.4/ 25.5*	AES006ELA AES011ELA AES013ELA AES011ELA+AES011ELA AES011ELA+AES013ELA	– – – – –
090	208/230/240 (3 phase)	7.8/ 9.6/ 10.4 12.0/ 14.7/ 16.0 18.6/ 22.8/ 24.8 24.0/ 29.4/ 32.0 31.8/ 39.0/ 42.4*	AES010EHA AES016EHA AES024EHA AES032EHA AES032EHA+AES010EHA	AXB006SPA AXB006SPA AXB007SPA AXB007SPA AXB009SPA
	460/480 (3 phase)	12.8/ 13.9 15.2/ 16.5 25.6/ 27.8 30.4/ 33.0 38.4/ 41.7*	AES014ELA AES016ELA AES027ELA AES033ELA AES027ELA+AES014ELA	AXB006SPA AXB006SPA AXB006SPA AXB006SPA AXB008SPA
	575 (3 phase)	17.0 34.0	AES018ESA AES036ESA	AXB006SPA AXB006SPA
102	208/230/240 (3 phase)	7.8/ 9.6/ 10.4 12.0/ 14.7/ 16.0 18.6/ 22.8/ 24.8 24.0/ 29.4/ 32.0 31.8/ 39.0/ 42.4*	AES010EHA AES016EHA AES024EHA AES032EHA AES032EHA+AES010EHA	AXB011SPA AXB011SPA AXB012SPA AXB012SPA AXB015SPA
	460/480 (3 phase)	12.8/ 13.9 15.2/ 16.5 25.6/ 27.8 30.4/ 33.0 38.4/ 41.7*	AES014ELA AES016ELA AES027ELA AES033ELA AES027ELA+AES014ELA	AXB011SPA AXB011SPA AXB011SPA AXB011SPA AXB014SPA
	575 (3 phase)	17.0 34.0	AES018ESA AES036ESA	AXB011SPA AXB011SPA
120	208/230/240 (3 phase)	7.8/ 9.6/ 10.4 12.0/ 14.7/ 16.0 24.0/ 29.4/ 32.0 31.8/ 38.9/ 42.4* 37.5/ 46.0/ 50.0*	AES010EHA AES016EHA AES032EHA AES032EHA+AES010EHA AES016EHA+AES032EHA	AXB011SPA AXB012SPA AXB012SPA AXB015SPA AXB015SPA
	460/480 (3 phase)	12.8/ 13.9 15.2/ 16.5 30.4/ 33.0 38.4/ 41.7* 46.0/ 50.0*	AES014ELA AES016ELA AES033ELA AES027ELA+AES014ELA AES016ELA+AES033ELA	AXB011SPA AXB011SPA AXB011SPA AXB014SPA AXB014SPA
	575 (3 phase)	17.0 34.0 51.0	AES018ESA AES036ESA AES018ESA+AES036ESA	AXB011SPA AXB011SPA AXB014SPA

†AXB004SPA on units with convenience outlet

** AXB002SPA on high static units with convenience outlet

NOTES:

*Two heater packages required to provide kW indicated

1. The rated heater voltage is 240 and 480 v.

If power distribution voltage varies from rated heater voltage, heater kW will vary accordingly

2. To determine heater kW at voltages other than those shown in table, use the following formula:

Heater kW_{new} = Heater kW rated x (unit power distribution voltage/rated heater voltage)²

As an example:

For a 16 kW heater rated at 240 v with a power distribution voltage of 215 v

kW_{new} = 16 kW (215/240)²

kW_{new} = 12.8 kW (rating at 215 v)

3. 575v units have UL, Canada approval only. Electric heaters are not available for 036–072 or 155–300.

ACCESSORIES – PAH 155–300

ELECTRIC HEATERS for 155–300 SIZE MODELS			
Model Size	Voltage (3 Phase)	kW	Electric Heater Model Number
155	208/240	14/19	AES140EHA
		26/34	AES034EHA
		42/56	AES056EHA
	480	15	AES136EHA
		32	AES132ELA
		55	AES055ELA
180	208/240	26/34	AES034EHA
		42/56	AES056EHA
		56/75	AES075EHA
	480	32	AES132ELA
		55	AES055ELA
		80	AES080ELA
210	208/240	19/25	AES147EHA
		38/50	AES150EHA
		56/75	AES153EHA
	480	25	AES148ELA
		50	AES151ELA
		75	AES154ELA
240	208/240	26/34	AES034EHA
		42/56	AES056EHA
		56/75	AES075EHA
	480	32	AES132ELA
		55	AES055ELA
		80	AES080ELA
300	208/240	19/25	AES147EHA
		38/50	AES150EHA
		56/75	AES153EHA
	480	25	AES148ELA
		50	AES151ELA
		75	AES154ELA

NOTES:

- The rated heater voltage is 240 and 480 v.
If power distribution voltage varies from rated heater voltage, heater kW will vary accordingly
- To determine heater kW at voltages other than those shown in table, use the following formula:

$$\text{Heater kW}_{\text{new}} = \text{Heater kW rated} \times (\text{unit power distribution voltage} / \text{rated heater voltage})^2$$
 As an example:
 For a 16 kW heater rated at 240 v with a power distribution voltage of 215 v

$$\text{kW}_{\text{new}} = 16 \text{ kW} (215/240)^2$$

$$\text{kW}_{\text{new}} = 12.8 \text{ kW (rating at 215 v)}$$
- No Single Point Wiring Kits required on Sizes 155–300
- 575v units have UL, Canada approval only. Electric heaters are not available for 036–072 or 155–300.

PHYSICAL DATA — PAH036-072

UNIT PAH	036	048	060	072
NOMINAL CAPACITY (tons)	3	4	5	6
OPERATING WEIGHT (lb)				
Unit	435	445	465	540
COMPRESSOR			Scroll	
Quantity	1	1	1	1
Oil (oz)	42	53	50	60
REFRIGERANT TYPE				
Expansion Device		Fixed Orifice Metering Device		
Operating Charge (lb-oz)	5-8	10-2	10-0	12-8
CONDENSER FAN			Propeller Type	
Quantity...Diameter (in.)	1...22	1...22	1...22	1...22
Nominal Cfm	3500	3500	4100	4100
Motor Hp...Rpm	1/8...825	1/8...825	1/4...1100	1/4...1100
Watts Input (Total)	180	180	320	320
CONDENSER COIL			3/8-in. OD High-Efficiency Enhanced Copper Tubes, Lanced Aluminum Fins	
Rows...Fins/in.	1...17	2...17	2...17	2...17
Total Face Area (sq ft)	14.6	16.5	16.5	21.3
EVAPORATOR FAN			Centrifugal Type, Belt Drive	
Quantity...Size (in.)	1...10 x 10	1...10 x 10	1...10 x 10	1...10 x 10
Nominal Cfm	1200	1600	2000	2400
Maximum Continuous Bhp				
	Standard		1.30/2.40*	2.40
	High Static		2.90	2.90
Motor Frame				
	Standard		56	56
	High Static		56	56
Fan Rpm Range				
	Standard	680-1044	1035-1460/1035-1460*	1120-1585
	High Static	1075-1455	1300-1685	1300-1685
Motor Bearing Type		Ball	Ball	Ball
Maximum Fan Rpm		2100	2100	2100
Motor Pulley Pitch Diameter A/B (in.)				
	Standard	1.9/2.9	2.4/3.4	2.4/3.4
	High Static	2.8/3.8	3.4/4.4	3.4/4.4
Nominal Motor Shaft Diameter (in.)				
	Standard	1/2	5/8	5/8
	High Static	5/8	7/8	7/8
Fan Pulley Pitch Diameter (in.)				
	Standard	4.5	4.0	3.7
	High Static	4.5	4.5	4.5
Belt — Quantity...Type...Length (in.)				
	Standard	1...A...36	1...A...40	1...A...38
	High Static	1...A...39	1...A...40	1...A...40
Pulley Center Line Distance (in.)		10.0-12.4	14.7-15.5	14.7-15.5
Speed Change per Full Turn of Movable Pulley Flange (rpm)				
	Standard	65	75	95
	High Static	65	60	60
Movable Pulley Maximum Full Turns From Closed Position				
	Standard	5	6	5
	High Static	6	5	5
Factory Setting — Full Turns Open				
	Standard	3	3	3
	High Static	3 1/2	3 1/2	3 1/2
Factory Speed Setting (rpm)				
	Standard	826	1248	1260
	High Static	1233	1396	1396
Fan Shaft Diameter at Pulley (in.)		5/8	5/8	5/8
EVAPORATOR COIL			3/8 in. OD High-Efficiency Enhanced Copper Tubes, Aluminum Double-Wavy Fins	
Rows...Fins/in.	2...15	2...15	4...15	4...15
Total Face Area (sq ft)	5.5	5.5	5.5	7.3
HIGH-PRESSURE SWITCH (psig)				
Standard Compressor Internal Relief (Differential)			450 ± 50	
Cutout			428	
Reset (Auto.)			320	
LOSS-OF-CHARGE/LOW-PRESSURE SWITCH (Liquid Line) (psig)				
Cutout			7 ± 3	
Reset (Auto.)			22 ± 5	
FREEZE-PROTECTION THERMOSTAT				
Opens (F)			30	
Closes (F)			45	
OUTDOOR-AIR INLET SCREENS			Cleanable. Screen size and quantity varies by option selected.	
RETURN-AIR FILTERS				
Quantity...Size (in.)		2...16 x 25 x 2		2...16 x 16 x 2

LEGEND

Bhp — Brake Horsepower

*Single-phase/three-phase.

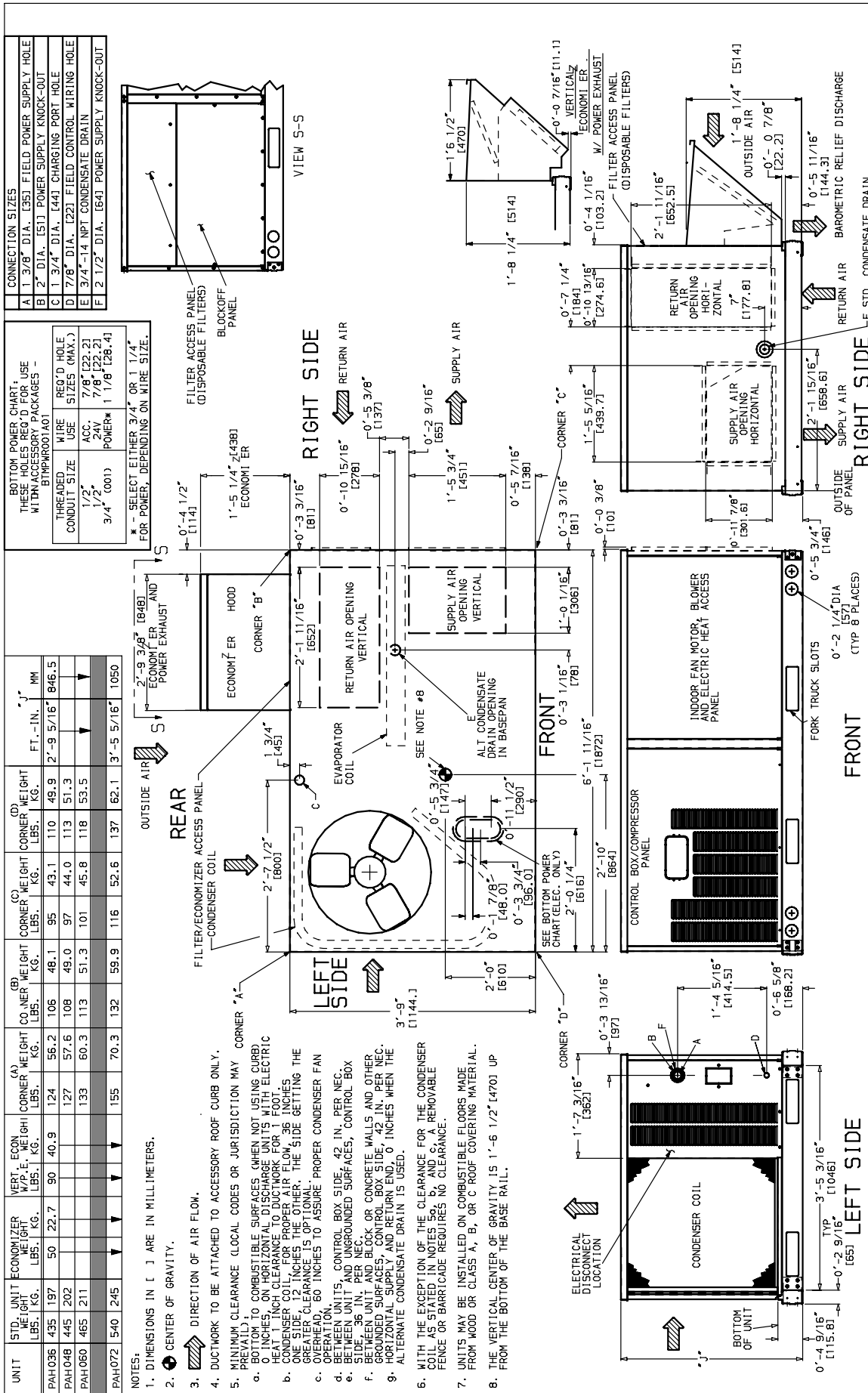
PHYSICAL DATA — PAH090–120

UNIT PAH	090	102	120
NOMINAL CAPACITY (tons)	7 ¹ / ₂	8 ¹ / ₂	10
OPERATING WEIGHT (lb)			
Unit	755	895	915
COMPRESSOR	Scroll		
Quantity	2	2	2
Oil (oz) (each compressor)	53	53	50
REFRIGERANT TYPE	R-22		
Expansion Device	Fixed Orifice Metering Device		
Operating Charge (lb-oz)			
Circuit 1 (first stage)	7–10	9–8	9–6
Circuit 2 (second stage)	8–2	8–13	10–9
CONDENSER FAN	Propeller Type		
Quantity...Diameter (in.)	2...22	2...22	2...22
Nominal Cfm	6500	6500	7000
Motor Hp...Rpm	¹ / ₄ ...1100	¹ / ₄ ...1100	¹ / ₄ ...1100
Watts Input (Total)	650	650	650
CONDENSER COIL	³ / ₈ -in. OD High-Efficiency Enhanced Copper Tubes, Lanced Aluminum Fins		
Rows...Fins/in.	2...17	2...17	2...17
Total Face Area (sq ft)	20.5	25.0	25.0
EVAPORATOR FAN	Centrifugal Type, Belt Drive		
Size (in.)	15 x 15	15 x 15	15 x 15
Nominal Cfm — Standard	3000	3400	4000
Maximum Continuous Bhp			
Standard	2.90	2.90	3.70
High Static	4.20	4.20	5.25
Motor Frame	56	56	56
Fan Rpm Range			
Standard	840–1085	840–1085	860–1080
High Static	860–1080	860–1080	830–1130
Motor Bearing Type	Ball	Ball	Ball
Maximum Fan Rpm	2100	2100	2100
Motor Pulley Pitch Diameter A/B (in.)			
Standard	3.4/4.4	3.4/4.4	4.0/5.0
High Static	4.0/5.0	4.0/5.0	2.8/3.8
Nominal Motor Shaft Diameter (in.)	⁷ / ₈	⁷ / ₈	⁷ / ₈
Fan Pulley Pitch Diameter (in.)			
Standard	7.0	7.0	8.0
High Static	8.0	8.0	5.8
Belt — Quantity...Type...Length (in.)			
Standard	1...A...48	1...A...51	1...A...53
High Static	1...A...53	1...A...53	1...BX...45
Pulley Center Line Distance (in.)	16.75–19.25	16.75–19.25	15.85–17.50
Speed Change per Full Turn of Movable Pulley Flange (rpm)			
Standard	50	50	45
High Static	60	60	60
Movable Pulley Maximum Full Turns From Closed Position			
Standard	5	5	5
High Static	5	5	6
Factory Setting — Full Turns Open	5	5	5
Factory Speed Setting (rpm)			
Standard	840	840	860
High Static	860	860	890
Fan Shaft Diameter at Pulley (in.)	1	1	1
EVAPORATOR COIL	³ / ₈ -in. OD High-Efficiency Enhanced Copper Tubes, Aluminum Double-Wavy Fins, Face Split		
Rows...Fins/in.	3...15	4...15	4...15
Total Face Area (sq ft)	8.9	11.1	11.1
HIGH-PRESSURE SWITCH (psig)			
Standard Compressor Internal Relief (Differential)	450 ± 50		
Cutout	428		
Reset (Auto.)	320		
LOSS-OF-CHARGE/LOW-PRESSURE SWITCH (Liquid Line) (psig)			
Cutout	7 ± 3		
Reset (Auto.)	22 ± 5		
FREEZE-PROTECTION THERMOSTAT			
Opens (F)	30 ± 5		
Closes (F)	45 ± 5		
OUTDOOR-AIR INLET SCREENS	Cleanable. Screen size and quantity varies with option selected.		
RETURN-AIR FILTERS	Throwaway		
Quantity...Size (in.)	4...16 x 20 x 2	4...20 x 20 x 2	4...20 x 20 x 2

LEGEND

Bhp — Brake Horsepower

BASE UNIT DIMENSIONS — PAH036-072



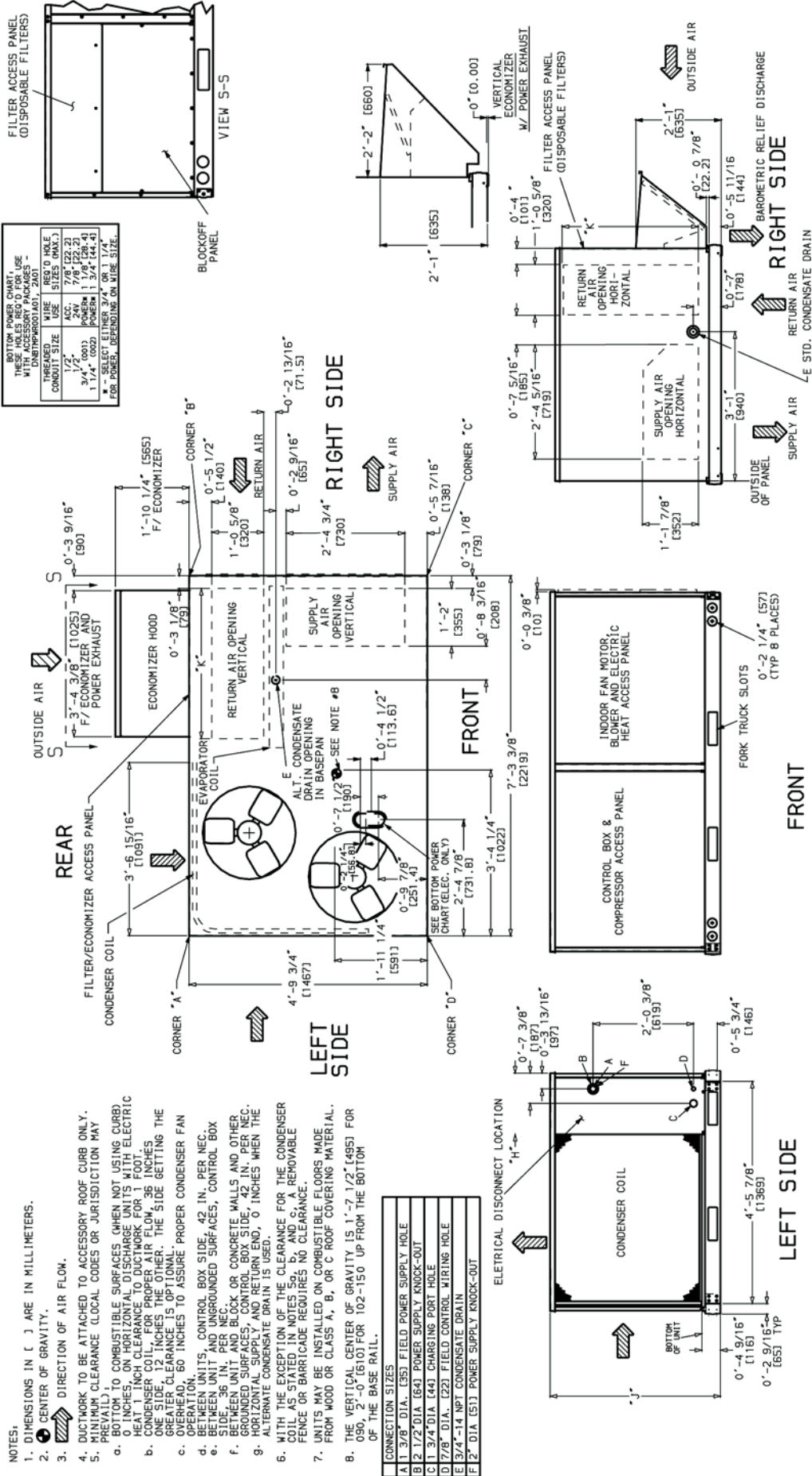
BASE UNIT DIMENSIONS — PAH090-120

UNIT PAH	STD. UNIT WEIGHT		ECONOMIZER WEIGHT		VERT. ECON. W/P.E. WEIGHT		(A) CORNER WEIGHT		(B) CORNER WEIGHT		(C) CORNER WEIGHT		(D) CORNER WEIGHT		"H"		"J"		"K"	
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	ft.-in.	mm	ft.-in.	mm	ft.-in.	mm
090	755	342	75	34.1	145	65.9	195	88	166	75	247	112	288	131	2-10 7/8	885	4-1 5/8	1253	3-0 3/8	924
102	895	406	75	34.1	145	65.9	199	90	170	77	252	114	294	134	2-10 7/8	885	4-1 5/8	1253	3-0 3/8	924
120	915	415	75	34.1	145	65.9	199	90	170	77	252	114	294	134	2-10 7/8	885	4-1 5/8	1253	3-0 3/8	924

NOTES:

1. DIMENSIONS IN () ARE IN MILLIMETERS.
2. CENTER OF GRAVITY.
3. DIRECTION OF AIR FLOW.
4. DUCTWORK TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY.
5. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL).
6. BOTTOM TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 0 INCHES, ON HORIZONTAL DISCHARGE UNITS WITH ELECTRIC HEAT 1 INCH CLEARANCE TO DUCTWORK FOR 1 FOOT.
7. CONDENSER COILS FOR PROPER AIR FLOW, 36 INCHES CLEARANCE TO COMBUSTIBLE SURFACES. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
8. OVERHEAD, 60 INCHES TO ASSURE PROPER CONDENSER FAN OPERATION.
9. BETWEEN UNITS, CONTROL BOX SIDE, 42 IN. PER NEC. BETWEEN UNIT AND UNGROUNDED SURFACES, CONTROL BOX 42 IN. PER NEC. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, CONTROL BOX SIDE, 42 IN. PER NEC.
10. HORIZONTAL SUPPLY AND RETURN END, 0 INCHES WHEN THE ALTERNATE CONDENSATE DRAIN IS USED.
11. WITH THE EXCEPTION OF THE CLEARANCE FOR THE CONDENSER COIL AS STATED IN NOTES 5a, b, AND c, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
12. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B, OR C ROOF COVERING MATERIAL.
13. THE VERTICAL CENTER OF GRAVITY IS 1'-7 1/2" (495) FOR 090, 2'-0" (610) FOR 102-150 UP FROM THE BOTTOM OF THE BASE RAIL.

CONNECTION SIZES
A 1 3/8" DIA. (35) FIELD POWER SUPPLY HOLE
B 2 1/2" DIA. (64) POWER SUPPLY KNOCK-OUT
C 1 3/4" DIA. (44) CHARGING PORT HOLE
D 7/8" DIA. (22) FIELD CONTROL WIRING HOLE
E 3/4" -14 NPT CONDENSATE DRAIN
F 2" DIA. (51) POWER SUPPLY KNOCK-OUT



PERFORMANCE DATA — PAH

COOLING CAPACITIES

PAH036 (3 TONS)													
Temp (F) Air Ent Condenser (Edb)		Temp (F) Air Entering Evaporator — CFM/BF											
		900/0.14				1200/0.17				1500/0.20			
		Temp (F) Air Entering Evaporator — Ewb											
		78	72	67	62	78	72	67	62	78	72	67	62
75	TC	45.6	41.9	38.7	35.7	46.8	43.5	40.8	37.7	48.1	44.8	41.8	39.0
	SHC	14.5	20.4	25.2	29.7	14.7	21.8	28.2	33.8	14.8	23.3	30.7	37.0
	kW	2.24	2.19	2.16	2.12	2.26	2.21	2.18	2.15	2.28	2.23	2.19	2.16
85	TC	44.4	40.7	37.5	34.5	45.7	42.1	39.3	36.4	47.0	43.5	40.4	37.6
	SHC	14.1	19.9	24.7	29.2	14.4	21.5	27.7	33.2	14.8	23.2	30.3	36.4
	kW	2.51	2.46	2.42	2.39	2.53	2.47	2.44	2.41	2.54	2.50	2.45	2.42
95	TC	42.9	39.3	36.1	33.1	44.6	40.8	37.8	34.9		42.0	38.9	36.1
	SHC	13.6	19.5	24.1	28.4	14.0	21.1	27.2	32.5		22.8	29.9	35.6
	kW	2.80	2.75	2.71	2.66	2.83	2.77	2.73	2.69		2.79	2.74	2.71
105	TC	41.3	37.7	34.6	31.7		39.3	36.2	33.4		40.1	37.2	34.7
	SHC	13.0	18.8	23.5	27.8		20.7	26.6	31.8		22.1	29.3	34.7
	kW	3.11	3.06	3.02	2.98		3.09	3.04	3.01		3.10	3.06	3.03
115	TC		36.0	33.0	29.7		37.4	34.5	31.5		38.1	35.5	33.2
	SHC		18.3	22.9	26.7		19.9	26.1	30.9		21.3	28.7	33.2
	kW		3.41	3.36	3.31		3.43	3.39	3.34		3.44	3.41	3.37
125	TC		34.2	31.3	27.8		35.6	32.7	29.4		36.3	33.6	31.9
	SHC		17.6	22.2	25.8		19.4	25.4	29.4		20.8	28.0	31.8
	kW		3.78	3.73	3.66		3.80	3.76	3.71		3.81	3.78	3.75

PAH048 (4 TONS)																	
Temp (F) Air Ent Condenser (Edb)		Temp (F) Air Entering Evaporator — CFM/BF															
		1200/0.17				1450/0.19				1600/0.21				2000/0.24			
		Temp (F) Air Entering Evaporator — Ewb															
		78	72	67	62	78	72	67	62	78	72	67	62	78	72	67	62
75	TC	58.6	54.0	50.7	44.2	59.6	55.9	52.2	47.7	59.9	56.4	52.8	49.1	61.5	58.1	54.5	50.6
	SHC	18.3	26.1	32.7	37.5	18.7	27.6	35.1	41.8	18.7	28.2	36.2	43.8	19.2	30.2	39.5	47.5
	kW	2.80	2.80	2.80	2.80	2.90	2.80	2.80	2.80	2.90	2.80	2.80	2.80	2.90	2.80	2.80	2.80
85	TC	56.4	52.2	48.9	41.9	57.3	54.1	50.4	45.9	58.1	54.5	51.0	47.2	59.5	55.3	52.3	48.7
	SHC	17.6	25.4	32.0	36.4	17.9	26.9	34.5	40.8	18.2	27.5	35.7	42.8	18.5	28.6	38.5	46.6
	kW	3.30	3.20	3.20	3.20	3.30	3.20	3.20	3.20	3.30	3.20	3.20	3.20	3.30	3.20	3.20	3.20
95	TC	54.2	50.7	46.9	39.5	55.0	51.9	48.4	43.5	56.3	52.5	48.9	45.2	57.5	53.9	50.1	46.7
	SHC	16.9	24.9	31.1	35.0	17.2	26.1	33.6	39.6	17.6	26.8	34.7	41.8	17.8	28.8	37.5	45.6
	kW	3.70	3.60	3.60	3.60	3.70	3.70	3.60	3.60	3.70	3.70	3.60	3.60	3.70	3.70	3.60	3.60
105	TC	52.0	48.8	44.5	36.7	52.7	49.8	46.2	40.7	53.8	50.2	46.7	42.1	54.7	51.5	48.2	44.7
	SHC	16.2	24.3	30.2	33.6	16.5	25.3	32.8	38.2	16.8	26.0	33.9	40.3	17.1	27.9	37.4	44.4
	kW	4.20	4.10	4.10	4.00	4.20	4.10	4.10	4.10	4.20	4.10	4.10	4.10	4.20	4.10	4.10	4.10
115	TC	49.9	46.5	41.1	34.3	50.4	47.7	43.3	37.0	41.3	48.0	44.4	38.5	51.9	48.9	45.7	42.0
	SHC	15.5	23.4	28.9	32.4	15.8	24.9	31.8	36.3	16.0	25.4	33.4	38.3	16.3	27.1	36.9	42.0
	kW	4.70	4.60	4.60	4.50	4.70	4.70	4.60	4.60	4.70	4.60	4.60	4.60	4.70	4.70	4.60	4.60
125	TC	47.5	43.8	37.5	32.4		45.1	39.0	33.8		45.3	40.1	35.4		46.3	42.6	38.8
	SHC	15.0	22.5	27.4	31.5		24.1	30.2	33.7		24.7	31.9	35.4		26.5	35.9	38.8
	kW	5.20	5.20	5.10	5.10		5.20	5.20	5.10		5.20	5.20	5.10		5.20	5.20	5.20

PAH060 (5 TONS)																	
Temp (F) Air Ent Condenser (Edb)		Temp (F) Air Entering Evaporator — CFM/BF															
		1500/0.08				1750/0.09				2000/0.11				2500/0.13			
		Temp (F) Air Entering Evaporator — Ewb															
		78	72	67	62	78	72	67	62	78	72	67	62	78	72	67	62
75	TC	80.4	70.8	65.4	58.5	82.5	72.5	67.3	61.1	83.7	73.0	68.4	62.8		74.8	70.3	64.8
	SHC	25.6	34.1	42.7	49.9	26.1	35.7	45.5	54.2	26.3	36.8	48.0	57.8		39.6	53.0	63.4
	kW	3.65	3.53	3.49	3.44	3.68	3.55	3.50	3.46	3.70	3.55	3.51	3.47		3.57	3.54	3.48
85	TC	78.5	68.9	63.2	55.3		70.5	65.1	57.9		72.2	66.4	60.2		73.2	68.1	62.9
	SHC	25.1	33.5	41.8	48.4		35.0	44.8	52.8		37.0	47.6	56.8		39.3	52.5	62.4
	kW	4.20	3.98	3.94	3.87		4.00	3.96	3.90		4.03	3.97	3.92		4.04	3.99	3.94
95	TC		66.8	60.6	52.4		68.3	62.5	54.3		69.3	63.8	56.6		71.2	65.6	60.6
	SHC		32.8	40.7	47.0		34.5	43.8	51.1		36.0	46.7	55.0		39.1	51.8	60.5
	kW		4.48	4.43	4.35		4.50	4.45	4.37		4.51	4.46	4.40		4.55	4.48	4.44
105	TC		64.3	57.7	49.9		65.9	59.8	51.7		66.9	61.1	54.1		68.4	62.8	58.4
	SHC		32.0	39.6	45.8		33.7	42.8	49.7		35.3	45.7	53.5		36.4	51.0	58.4
	kW		5.03	4.96	4.87		5.05	4.99	4.90		5.06	5.00	4.93		5.08	5.02	4.98
115	TC		61.5	54.8	47.3		62.8	56.7	49.1		64.0	58.2	51.6		65.4	59.9	56.1
	SHC		31.0	38.4	44.5		32.5	41.6	48.2		34.4	44.6	51.6		37.4	50.0	56.1
	kW		5.61	5.55	5.46		5.62	5.58	5.49		5.65	5.60	5.52		5.67	5.61	5.57
125	TC		58.7	51.6	44.5		59.9	53.4	46.2		60.8	54.9	49.0		62.2	56.8	53.5
	SHC		30.0	37.2	43.1		31.7	40.4	46.2		33.3	43.4	48.9		36.4	48.9	53.4
	kW		6.27	6.19	6.09		6.28	6.21	6.13		6.29	6.24	6.17		6.31	6.27	6.22

■ — Do not operate at these conditions.

LEGEND

BF — Bypass Factor
 Edb — Entering Dry Bulb
 Ewb — Entering Wet Bulb
 kW — Compressor Motor Power Input
 SHC — Sensible Heat Capacity (1000 Btuh) Gross
 TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil } (h_{lwb})$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80°F edb temperature of air entering evaporator coil. Below 80°F db, subtract (corr factor x cfm) from SHC.

Above 80°F db, add (corr factor x cfm) to SHC.

Correction Factor = $1.10 \times (1 - BF) \times (db - 80)$

PERFORMANCE DATA — PAH (cont)

COOLING CAPACITIES (cont)

PAH072 (6 TONS)																	
Temp (F) Air Ent Condenser (Edb)		Temp (F) Air Entering Evaporator — CFM/BF															
		1800/0.05				2100/0.06				2400/0.06				3000/0.08			
		Temp (F) Air Entering Evaporator — Ewb															
		78	72	67	62	78	72	67	62	78	72	67	62	78	72	67	62
75	TC	93.5	86.7	80.7	74.4	95.3	88.8	82.7	76.6	97.3	90.5	84.4	78.2		92.6	86.3	81.0
	SHC	29.9	43.0	53.7	63.8	30.1	45.0	57.4	68.9	30.7	47.2	61.2	73.6		51.2	67.4	80.7
	kW	4.73	4.58	4.46	4.33	4.77	4.63	4.50	4.38	4.82	4.67	4.55	4.41		4.72	4.58	4.47
85	TC	91.3	84.1	78.2	72.0	93.0	86.4	80.3	74.1		88.2	81.7	75.7		90.2	84.0	78.8
	SHC	29.2	42.0	52.6	62.7	29.6	44.5	56.6	68.0		46.8	60.2	72.5		50.6	67.4	78.7
	kW	5.29	5.10	4.97	4.85	5.34	5.16	5.03	4.90		5.21	5.06	4.93		5.26	5.12	4.99
95	TC	89.0	81.3	75.3	69.2		83.4	77.3	71.3		85.1	78.9	72.9		87.2	80.6	76.2
	SHC	28.4	41.0	51.4	61.4		43.4	55.3	66.6		45.8	59.2	71.2		50.2	65.8	76.2
	kW	5.85	5.65	5.52	5.39		5.71	5.57	5.44		5.77	5.62	5.48		5.83	5.66	5.55
105	TC		77.9	72.0	66.1		80.0	73.8	68.0		81.6	75.3	69.6		83.4	77.1	73.2
	SHC		39.7	50.2	60.0		42.2	54.0	65.2		44.6	57.8	69.3		49.0	64.5	73.2
	kW		6.22	6.08	5.94		6.29	6.13	6.00		6.34	6.17	6.04		6.40	6.22	6.12
115	TC		74.7	68.4	61.8		75.9	70.0	64.1		77.6	71.3	66.5		78.7	73.0	70.1
	SHC		38.7	48.8	58.1		40.8	52.6	63.2		43.3	56.4	66.4		46.9	63.2	70.0
	kW		6.84	6.68	6.49		6.87	6.71	6.56		6.93	6.75	6.63		6.96	6.80	6.72
125	TC		70.3	63.6	57.2		71.8	65.5	59.1		72.9	66.8	61.9		74.0	68.6	66.4
	SHC		37.2	47.0	55.8		39.5	51.0	59.1		41.7	55.0	61.9		45.4	61.8	66.3
	kW		7.43	7.25	7.03		7.48	7.30	7.13		7.51	7.35	7.22		7.54	7.41	7.33

PAH090 (7 ¹ / ₂ TONS)														
Temp (F) Air Ent Condenser (Edb)		Temp (F) Air Entering Evaporator — CFM/BF												
		2250/0.095				3000/0.110				3750/0.135				
		Temp (F) Air Entering Evaporator — Ewb												
		78	72	67	62	78	72	67	62	78	72	67	62	
75	TC	111.9	105.5	96.9	87.6	113.3	107.3	99.6	90.7	114.7	110.3	101.9	93.8	
	SHC	35.4	50.6	63.6	75.7	35.9	53.3	69.2	83.7	38.8	58.0	76.6	92.2	
	kW	5.15	5.15	5.07	5.04	5.42	5.16	5.11	5.06	5.68	5.20	5.13	5.07	
85	TC	108.8	102.5	93.6	83.6	111.9	105.1	96.5	87.5	114.1	107.7	99.0	90.6	
	SHC	34.4	49.7	62.4	73.9	35.3	52.8	68.4	82.2	35.7	57.3	75.9	90.0	
	kw	5.86	5.86	5.79	5.73	6.15	5.89	5.82	5.77	6.43	5.93	5.86	5.78	
95	TC	107.4	98.9	90.1	79.3	109.3	101.6	92.9	83.5	110.8	103.8	95.3	87.4	
	SHC	34.0	48.5	61.2	71.9	34.3	51.9	67.2	80.2	34.9	56.2	74.9	87.3	
	kW	6.69	6.65	6.58	6.49	6.94	6.69	6.61	6.53	7.21	6.72	6.64	6.57	
105	TC	103.4	95.3	86.2	75.7		97.6	88.8	79.6		100.0	91.0	84.1	
	SHC	32.6	47.3	59.6	70.2		50.7	65.9	78.0		55.3	73.6	84.1	
	kW	7.52	7.51	7.44	7.31		7.55	7.48	7.36		7.59	7.50	7.41	
115	TC		91.0	82.0	71.6		93.2	84.5	75.4		95.6	86.6	80.7	
	SHC		45.9	58.0	68.1		49.3	64.2	75.3		54.2	72.1	80.7	
	kw		8.43	8.33	8.20		8.46	8.37	8.27		8.52	8.42	8.34	
125	TC		86.2	77.8	68.1		88.3	80.0	71.9		90.0	81.9	77.2	
	SHC		44.1	56.4	66.3		47.5	62.6	71.8		52.1	70.1	77.2	
	kW		9.38	9.29	9.14		9.43	9.34	9.24		9.47	9.38	9.32	

PAH102 (8½ TONS)																	
Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — CFM/BF															
		2550/0.11				3000/0.12				3400/0.13				4250/0.17			
		Air Entering Evaporator — Ewb (F)															
		57	62	67	72	57	62	67	72	57	62	67	72	57	62	67	72
75	TC	94.6	101.0	110.0	119.2	100.4	104.4	113.4	121.8	104.2	106.8	115.8	123.4	109.8	111.0	119.0	125.8
	SHC	94.6	84.4	69.4	54.4	100.4	92.4	75.0	57.2	104.2	99.0	80.0	59.8	109.8	110.4	89.4	64.2
	kW	5.72	5.76	5.76	5.82	5.74	5.76	5.80	5.86	5.74	5.76	5.82	5.88	5.76	5.78	5.84	5.90
85	TC	91.0	97.4	106.8	115.8	97.4	101.0	110.0	119.6	101.2	103.0	112.0	121.6	108.0	108.0	116.0	123.4
	SHC	91.0	83.0	68.8	53.2	97.4	91.2	74.2	57.0	101.2	97.6	78.8	59.6	108.0	108.0	89.4	64.2
	kW	6.46	6.50	6.52	6.58	6.50	6.52	6.54	6.60	6.5	6.52	6.54	6.64	6.54	6.54	6.60	6.64
95	TC	85.2	91.4	103.0	112.8	93.4	96.6	106.2	116.0	98.2	99.2	108.4	117.8	104.6	104.6	111.6	121.2
	SHC	85.2	80.4	67.2	52.6	93.4	89.4	73.0	55.8	98.2	96.2	78.2	58.8	104.6	104.6	88.0	64.6
	kW	7.24	7.28	7.36	7.42	7.30	7.32	7.38	7.44	7.34	7.36	7.40	7.46	7.36	7.36	7.42	7.50
105	TC	80.0	82.2	98.6	108.6	87.0	87.8	101.6	111.8	93.4	93.6	103.8	114.0	101.0	100.8	106.8	116.6
	SHC	80.0	76.6	65.6	51.2	87.0	85.6	71.6	54.8	93.4	93.2	76.6	57.8	101.0	100.8	86.8	63.6
	kW	8.08	8.12	8.26	8.32	8.16	8.16	8.28	8.36	8.20	8.20	8.30	8.38	8.28	8.28	8.30	8.40
115	TC	73.6	74.6	89.4	103.4	81.0	81.2	95.2	106.4	86.2	86.2	98.4	108.4	96.4	96.4	101.6	111.8
	SHC	73.6	73.0	62.2	49.6	81.0	81.2	69.4	53.0	86.2	86.2	75.0	56.4	96.4	96.4	85.4	62.8
	kW	9.00	9.00	9.16	9.28	9.08	9.08	9.22	9.30	9.14	9.14	9.26	9.34	9.22	9.22	9.30	9.38
125	TC	68.6	68.6	80.2	98.2	74.4	74.4	84.0	101.0	79.2	79.2	86.8	102.8	88.0	88.0	93.8	105.6
	SHC	68.6	68.6	59.0	48.0	74.4	74.4	65.4	51.6	79.2	79.2	71.0	54.6	88.0	88.0	82.8	61.0
	kW	9.98	9.98	10.14	10.32	10.06	10.06	10.18	10.36	10.14	10.14	10.22	10.38	10.24	10.24	10.28	10.42

■ — Do not operate at these conditions.

LEGEND

BF — Bypass Factor
 Edb — Entering Dry Bulb
 Ewb — Entering Wet Bulb
 kW — Compressor Motor Power Input
 SHC — Sensible Heat Capacity (1000 Btuh) Gross
 TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{db} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil } (h_{lwb})$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80°F edb temperature of air entering evaporator coil.
 Below 80°F db, subtract (corr factor x cfm) from SHC.
 Above 80°F db, add (corr factor x cfm) to SHC.
 Correction Factor = $1.10 \times (1 - BF) \times (db - 80)$

PERFORMANCE DATA — PAH (cont)

COOLING CAPACITIES (cont)

PAH120 (10 TONS)																	
Temp (F) Air Ent Condenser (Edb)		Temp (F) Air Entering Evaporator — CFM/BF															
		3000/0.31				3200/0.34				4000/0.46				5000/0.61			
		Temp (F) Air Entering Evaporator — Ewb															
		78	72	67	62	78	72	67	62	78	72	67	62	78	72	67	62
75	TC	152.7	140.3	129.4	115.0	153.1	141.2	130.4	118.1	154.9	145.2	134.0	122.1	158.1	147.5	136.6	125.3
	SHC	46.7	65.6	82.2	97.4	47.3	66.7	84.4	101.5	49.8	71.3	93.1	113.5	51.0	77.9	103.7	124.7
	kW	7.34	7.35	7.21	7.12	7.54	7.37	7.23	7.13	7.71	7.46	7.31	7.17	8.10	7.51	7.37	7.22
85	TC	150.5	137.7	125.3	110.0	151.5	138.9	126.6	113.6		142.6	130.6	117.7		144.6	133.3	122.3
	SHC	44.7	65.0	81.2	95.2	44.9	66.3	83.6	99.7		71.0	92.8	112.0		76.9	103.1	122.2
	kW	8.28	8.29	8.13	8.02	8.51	8.32	8.16	8.03		8.40	8.24	8.09		8.45	8.31	8.16
95	TC	147.7	133.8	120.7	103.0		135.1	121.9	107.2		138.8	125.8	112.8		141.7	128.5	118.5
	SHC	43.9	63.9	79.6	92.2		65.2	82.0	97.0		70.6	91.5	109.7		76.9	102.5	118.4
	kW	9.33	9.33	9.16	8.98		9.35	9.18	9.00		9.44	9.27	9.07		9.51	9.33	9.19
105	TC		128.7	115.4	96.5		129.8	116.6	99.7		133.7	120.3	107.1		136.7	122.8	114.5
	SHC		62.3	77.6	89.4		63.6	80.2	93.5		69.4	89.6	106.8		76.0	100.6	114.3
	kW		10.46	10.28	10.00		10.47	10.30	10.07		10.57	10.38	10.21		10.66	10.43	10.31
115	TC		123.2	109.1	90.8		124.3	110.3	92.2		127.9	114.4	100.8		130.9	116.8	110.1
	SHC		60.4	75.1	86.6		61.9	77.8	90.0		67.6	87.6	100.7		74.6	98.7	109.9
	kW		11.66	11.47	11.20		11.68	11.51	11.25		11.77	11.60	11.41		11.89	11.66	11.58
125	TC		117.5	101.8	86.2		118.5	103.0	87.4		121.6	107.1	96.0		124.1	110.3	104.8
	SHC		58.5	72.5	84.5		60.0	75.0	87.3		65.8	85.1	96.0		72.5	96.9	104.8
	kW		12.99	12.77	12.50		13.02	12.81	12.55		13.10	12.92	12.74		13.19	13.01	12.91

— Do not operate at these conditions.

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

t_{lwb} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

3. The SHC is based on 80°F edb temperature of air entering evaporator coil. Below 80°F db, subtract (corr factor x cfm) from SHC.

Above 80°F db, add (corr factor x cfm) to SHC.

Correction Factor = $1.10 \times (1 - \text{BF}) \times (\text{db} - 80)$

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS

PAH036 (3 TONS) STANDARD MOTOR (BELT DRIVE)* SINGLE AND THREE–PHASE UNITS															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	566	0.14	142	690	0.23	228	791	0.32	320	879	0.42	418	957	0.52	522
1000	598	0.17	173	718	0.27	267	817	0.37	366	903	0.47	471	981	0.58	581
1100	632	0.21	210	748	0.31	311	844	0.42	418	929	0.53	530	1006	0.65	646
1200	666	0.25	252	778	0.36	361	873	0.48	476	956	0.60	594	1031	0.72	718
1300	701	0.30	300	809	0.42	418	902	0.54	540	983	0.67	665	1057	0.80	796
1400	737	0.36	355	842	0.48	481	932	0.61	610	1012	0.75	744	1085	0.89	881
1500	774	0.42	417	875	0.55	551	962	0.69	689	1041	0.83	830	1112	0.98	974

PAH036 (3 TONS) STANDARD MOTOR (BELT DRIVE)* SINGLE AND THREE–PHASE UNITS (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	1029	0.63	630	1095	0.75	742	1157	0.86	859	1216	0.99	980	1272	1.11	1105
1000	1052	0.70	695	1118	0.82	814	1179	0.94	937	1237	1.07	1064	1293	1.20	1195
1100	1076	0.77	767	1141	0.90	892	1202	1.03	1021	1260	1.16	1154	—	—	—
1200	1100	0.85	845	1165	0.98	977	1225	1.12	1112	—	—	—	—	—	—
1300	1126	0.94	930	1189	1.07	1069	—	—	—	—	—	—	—	—	—
1400	1152	1.03	1023	1215	1.17	1168	—	—	—	—	—	—	—	—	—
1500	1179	1.13	1123	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 680 to 1044 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.
3. See general fan performance notes.

PAH036 (3 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* THREE–PHASE UNITS															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	566	0.14	142	690	0.23	228	791	0.32	320	879	0.42	418	957	0.52	522
1000	598	0.17	173	718	0.27	267	817	0.37	366	903	0.47	471	981	0.58	581
1100	632	0.21	210	748	0.31	311	844	0.42	418	929	0.53	530	1006	0.65	646
1200	666	0.25	252	778	0.36	361	873	0.48	476	956	0.60	594	1031	0.72	718
1300	701	0.30	300	809	0.42	418	902	0.54	540	983	0.67	665	1057	0.80	796
1400	737	0.36	355	842	0.48	481	932	0.61	610	1012	0.75	744	1085	0.89	881
1500	774	0.42	417	875	0.55	551	962	0.69	689	1041	0.83	830	1112	0.98	974

PAH036 (3 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* THREE–PHASE UNITS (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	1029	0.63	630	1095	0.75	742	1157	0.86	859	1216	0.99	980	1272	1.11	1105
1000	1052	0.70	695	1118	0.82	814	1179	0.94	937	1237	1.07	1064	1293	1.20	1195
1100	1076	0.77	767	1141	0.90	892	1202	1.03	1021	1260	1.16	1154	1314	1.30	1291
1200	1100	0.85	845	1165	0.98	977	1225	1.12	1112	1282	1.26	1252	1337	1.40	1395
1300	1126	0.94	930	1189	1.07	1069	1249	1.22	1211	1306	1.36	1356	1360	1.51	1506
1400	1152	1.03	1023	1215	1.17	1168	1274	1.32	1317	1330	1.48	1469	1384	1.63	1625
1500	1179	1.13	1123	1241	1.28	1275	1300	1.44	1431	1355	1.60	1590	1408	1.76	1752

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See general fan performance notes.

PAH048 (4 TONS) STANDARD MOTOR (BELT DRIVE)* SINGLE AND THREE–PHASE UNITS															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	666	0.25	252	778	0.36	361	873	0.48	476	956	0.60	594	1031	0.72	718
1300	701	0.30	300	809	0.42	418	902	0.54	540	983	0.67	665	1057	0.80	796
1400	737	0.36	355	842	0.48	481	932	0.61	610	1012	0.75	744	1085	0.89	881
1500	774	0.42	417	875	0.55	551	962	0.69	689	1041	0.83	830	1112	0.98	974
1600	811	0.49	487	909	0.63	629	994	0.78	774	1071	0.93	923	1141	1.08	1076
1700	849	0.57	565	943	0.72	715	1026	0.87	869	1101	1.03	1025	1170	1.19	1185
1800	887	0.65	651	978	0.81	810	1059	0.98	972	1133	1.14	1136	—	—	—
1900	926	0.75	746	1014	0.92	914	1092	1.09	1084	—	—	—	—	—	—
2000	965	0.86	852	1050	1.03	1028	—	—	—	—	—	—	—	—	—

PAH048 (4 TONS) STANDARD MOTOR (BELT DRIVE)* SINGLE AND THREE–PHASE UNITS(cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1100	0.85	845	1165	0.98	977	1225	1.12	1112	—	—	—	—	—	—
1300	1126	0.94	930	1189	1.07	1069	—	—	—	—	—	—	—	—	—
1400	1152	1.03	1023	1215	1.17	1168	—	—	—	—	—	—	—	—	—
1500	1179	1.13	1123	—	—	—	—	—	—	—	—	—	—	—	—
1600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 770 to 1185 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.
3. See general fan performance notes.

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

PAH048 (4 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* THREE-PHASE UNITS															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	666	0.25	252	778	0.36	361	873	0.48	476	956	0.60	594	1031	0.72	718
1300	701	0.30	300	809	0.42	418	902	0.54	540	983	0.67	665	1057	0.80	796
1400	737	0.36	355	842	0.48	481	932	0.61	610	1012	0.75	744	1085	0.89	881
1500	774	0.42	417	875	0.55	551	962	0.69	689	1041	0.83	830	1112	0.98	974
1600	811	0.49	487	909	0.63	629	994	0.78	774	1071	0.93	923	1141	1.08	1076
1700	849	0.57	565	943	0.72	715	1026	0.87	869	1101	1.03	1025	1170	1.19	1185
1800	887	0.65	651	978	0.81	810	1059	0.98	972	1133	1.14	1136	1200	1.31	1304
1900	926	0.75	746	1014	0.92	914	1092	1.09	1084	1164	1.26	1257	1231	1.44	1432
2000	965	0.86	852	1050	1.03	1028	1127	1.21	1206	1197	1.39	1387	1262	1.58	1570

PAH048 (4 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* THREE-PHASE UNITS(cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1100	0.85	845	1165	0.98	977	1225	1.12	1112	1282	1.26	1252	1337	1.40	1395
1300	1126	0.94	930	1189	1.07	1069	1249	1.22	1211	1306	1.36	1356	1360	1.51	1506
1400	1152	1.03	1023	1215	1.17	1168	1274	1.32	1317	1330	1.48	1469	1384	1.63	1625
1500	1179	1.13	1123	1241	1.28	1275	1300	1.44	1431	1355	1.60	1590	1408	1.76	1752
1600	1206	1.24	1231	1268	1.40	1391	1326	1.56	1553	1381	1.73	1719	1433	1.90	1888
1700	1235	1.36	1349	1295	1.52	1515	1352	1.69	1685	1407	1.87	1858	1459	2.04	2034
1800	1264	1.48	1475	1323	1.66	1649	1380	1.84	1826	1434	2.02	2006	1485	2.20	2189
1900	1293	1.62	1611	1352	1.80	1792	1408	1.99	1976	1461	2.17	2163	1512	2.37	2353
2000	1324	1.77	1756	1381	1.96	1945	1436	2.15	2137	1489	2.34	2332	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.

2. Maximum continuous bhp is 2.40.

3. See general fan performance notes.

PAH060 (5 TONS) SINGLE-PHASE — STANDARD MOTOR (BELT DRIVE)*															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	790	0.40	353	897	0.53	471	991	0.68	600	1075	0.83	739	1152	1.00	888
1600	828	0.46	412	931	0.60	536	1022	0.75	670	1104	0.92	813	1180	1.09	966
1700	866	0.54	478	966	0.68	608	1054	0.84	747	1134	1.01	895	1208	1.19	1053
1800	905	0.62	551	1001	0.77	687	1087	0.94	832	1165	1.11	985	1238	1.29	1148
1900	944	0.71	633	1037	0.87	774	1120	1.04	925	1197	1.22	1084	—	—	—
2000	983	0.81	723	1073	0.98	870	1154	1.16	1026	—	—	—	—	—	—
2100	1023	0.92	821	1110	1.10	975	1189	1.28	1137	—	—	—	—	—	—
2200	1063	1.05	929	1147	1.23	1089	—	—	—	—	—	—	—	—	—
2300	1104	1.18	1046	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

PAH060 (5 TONS) SINGLE-PHASE — STANDARD MOTOR (BELT DRIVE)* (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1224	1.18	1045	—	—	—	—	—	—	—	—	—	—	—	—
1600	1250	1.27	1128	—	—	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.

2. Maximum continuous bhp is 1.30.

3. See general fan performance notes.

PAH060 (5 TONS) THREE-PHASE — STANDARD MOTOR (BELT DRIVE)*															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	790	0.40	353	897	0.53	471	991	0.68	600	1075	0.83	739	1152	1.00	888
1600	828	0.46	412	931	0.60	536	1022	0.75	670	1104	0.92	813	1180	1.09	966
1700	866	0.54	478	966	0.68	608	1054	0.84	747	1134	1.01	895	1208	1.19	1053
1800	905	0.62	551	1001	0.77	687	1087	0.94	832	1165	1.11	985	1238	1.29	1148
1900	944	0.71	633	1037	0.87	774	1120	1.04	925	1197	1.22	1084	1268	1.41	1251
2000	983	0.81	723	1073	0.98	870	1154	1.16	1026	1229	1.34	1190	1299	1.53	1362
2100	1023	0.92	821	1110	1.10	975	1189	1.28	1137	1262	1.47	1306	1330	1.67	1483
2200	1063	1.05	929	1147	1.23	1089	1224	1.41	1256	1295	1.61	1431	1362	1.82	1614
2300	1104	1.18	1046	1185	1.37	1212	1260	1.56	1386	1329	1.76	1567	1395	1.98	1754
2400	1145	1.32	1174	1223	1.52	1346	1296	1.72	1526	1364	1.93	1712	1428	2.15	1905
2500	1185	1.48	1311	1262	1.68	1490	1333	1.89	1676	1399	2.10	1868	1462	2.33	2067

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

PAH060 (5 TONS) THREE-PHASE — STANDARD MOTOR (BELT DRIVE)* (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1224	1.18	1045	1291	1.36	1212	1354	1.56	1387	1414	1.77	1570	1472	1.98	1761
1600	1250	1.27	1128	1316	1.46	1299	1379	1.66	1478	1438	1.87	1664	1495	2.09	1858
1700	1278	1.37	1219	1343	1.57	1394	1405	1.77	1576	1463	1.99	1766	1520	2.21	1964
1800	1306	1.48	1318	1370	1.69	1497	1431	1.90	1683	1489	2.11	1877	1545	2.34	2078
1900	1335	1.61	1426	1398	1.81	1609	1458	2.03	1799	1515	2.25	1997	—	—	—
2000	1364	1.74	1542	1427	1.95	1730	1486	2.17	1925	1542	2.39	2126	—	—	—
2100	1395	1.88	1668	1456	2.09	1860	1514	2.32	2060	—	—	—	—	—	—
2200	1426	2.03	1804	1486	2.25	2001	—	—	—	—	—	—	—	—	—
2300	1457	2.19	1949	—	—	—	—	—	—	—	—	—	—	—	—
2400	1489	2.37	2106	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.

2. Maximum continuous bhp is 2.40.

3. See general fan performance notes.

PAH060 (5 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* THREE-PHASE UNITS															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	790	0.40	353	897	0.53	471	991	0.68	600	1075	0.83	739	1152	1.00	888
1600	828	0.46	412	931	0.60	536	1022	0.75	670	1104	0.92	813	1180	1.09	966
1700	866	0.54	478	966	0.68	608	1054	0.84	747	1134	1.01	895	1208	1.19	1053
1800	905	0.62	551	1001	0.77	687	1087	0.94	832	1165	1.11	985	1238	1.29	1148
1900	944	0.71	633	1037	0.87	774	1120	1.04	925	1197	1.22	1084	1268	1.41	1251
2000	983	0.81	723	1073	0.98	870	1154	1.16	1026	1229	1.34	1190	1299	1.53	1362
2100	1023	0.92	821	1110	1.10	975	1189	1.28	1137	1262	1.47	1306	1330	1.67	1483
2200	1063	1.05	929	1147	1.23	1089	1224	1.41	1256	1295	1.61	1431	1362	1.82	1614
2300	1104	1.18	1046	1185	1.37	1212	1260	1.56	1386	1329	1.76	1567	1395	1.98	1754
2400	1145	1.32	1174	1223	1.52	1346	1296	1.72	1526	1364	1.93	1712	1428	2.15	1905
2500	1185	1.48	1311	1262	1.68	1490	1333	1.89	1676	1399	2.10	1868	1462	2.33	2067

PAH060 (5 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* THREE-PHASE UNITS (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1224	1.18	1045	1291	1.36	1212	1354	1.56	1387	1414	1.77	1570	1472	1.98	1761
1600	1250	1.27	1128	1316	1.46	1299	1379	1.66	1478	1438	1.87	1664	1495	2.09	1858
1700	1278	1.37	1219	1343	1.57	1394	1405	1.77	1576	1463	1.99	1766	1520	2.21	1964
1800	1306	1.48	1318	1370	1.69	1497	1431	1.90	1683	1489	2.11	1877	1545	2.34	2078
1900	1335	1.61	1426	1398	1.81	1609	1458	2.03	1799	1515	2.25	1997	1570	2.48	2202
2000	1364	1.74	1542	1427	1.95	1730	1486	2.17	1925	1542	2.39	2126	1596	2.63	2335
2100	1395	1.88	1668	1456	2.09	1860	1514	2.32	2060	1570	2.55	2265	1623	2.79	2478
2200	1426	2.03	1804	1486	2.25	2001	1543	2.48	2204	1598	2.72	2415	—	—	—
2300	1457	2.19	1949	1516	2.42	2151	1573	2.66	2360	1627	2.90	2574	—	—	—
2400	1489	2.37	2106	1547	2.60	2312	1603	2.84	2526	—	—	—	—	—	—
2500	1522	2.56	2272	1579	2.80	2484	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.

2. Maximum continuous bhp is 2.90.

3. See general fan performance notes.

PAH072 (6 TONS) STANDARD MOTOR (BELT DRIVE)*															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	907	0.63	558	1006	0.80	708	1092	0.97	860	1169	1.14	1015	1239	1.32	1174
1900	945	0.72	638	1042	0.90	796	1126	1.08	956	1201	1.26	1119	1271	1.45	1285
2000	984	0.82	727	1078	1.00	892	1160	1.19	1060	1235	1.39	1230	1303	1.58	1403
2100	1024	0.93	823	1115	1.12	997	1195	1.32	1173	1268	1.52	1350	1335	1.72	1531
2200	1063	1.05	929	1152	1.25	1111	1230	1.46	1294	1302	1.67	1480	1368	1.88	1668
2300	1103	1.18	1044	1189	1.39	1234	1266	1.60	1425	1337	1.82	1618	1402	2.04	1814
2400	1143	1.32	1168	1227	1.54	1367	1302	1.76	1566	1371	1.99	1767	1435	2.22	1970
2500	1183	1.47	1303	1265	1.70	1510	1339	1.93	1717	1406	2.17	1926	—	—	—
2600	1224	1.63	1448	1303	1.87	1663	1375	2.12	1878	1442	2.36	2095	—	—	—
2700	1264	1.81	1604	1342	2.06	1828	1412	2.31	2051	—	—	—	—	—	—
2800	1305	1.99	1772	1381	2.26	2003	—	—	—	—	—	—	—	—	—
2900	1346	2.20	1951	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

PAH072 (6 TONS) STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1304	1.51	1337	1365	1.69	1503	1422	1.88	1674	1477	2.08	1848	1528	2.28	2025
1900	1335	1.64	1454	1395	1.83	1627	1452	2.03	1804	1506	2.23	1984	—	—	—
2000	1366	1.78	1580	1426	1.98	1760	1482	2.19	1943	1535	2.40	2130	—	—	—
2100	1398	1.93	1715	1457	2.14	1901	1512	2.35	2091	—	—	—	—	—	—
2200	1430	2.09	1858	1488	2.31	2052	—	—	—	—	—	—	—	—	—
2300	1462	2.27	2012	—	—	—	—	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1120 to 1585 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.

2. Maximum continuous bhp is 2.40.

3. See general fan performance notes.

PAH072 (6 TONS) HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	907	0.63	558	1006	0.80	708	1092	0.97	860	1169	1.14	1015	1239	1.32	1174
1900	945	0.72	638	1042	0.90	796	1126	1.08	956	1201	1.26	1119	1271	1.45	1285
2000	984	0.82	727	1078	1.00	892	1160	1.19	1060	1235	1.39	1230	1303	1.58	1403
2100	1024	0.93	823	1115	1.12	997	1195	1.32	1173	1268	1.52	1350	1335	1.72	1531
2200	1063	1.05	929	1152	1.25	1111	1230	1.46	1294	1302	1.67	1480	1368	1.88	1668
2300	1103	1.18	1044	1189	1.39	1234	1266	1.60	1425	1337	1.82	1618	1402	2.04	1814
2400	1143	1.32	1168	1227	1.54	1367	1302	1.76	1566	1371	1.99	1767	1435	2.22	1970
2500	1183	1.47	1303	1265	1.70	1510	1339	1.93	1717	1406	2.17	1926	1470	2.41	2136
2600	1224	1.63	1448	1303	1.87	1663	1375	2.12	1878	1442	2.36	2095	1504	2.60	2313
2700	1264	1.81	1604	1342	2.06	1828	1412	2.31	2051	1478	2.56	2275	1539	2.82	2501
2800	1305	1.99	1772	1381	2.26	2003	1450	2.52	2235	1514	2.78	2467	—	—	—
2900	1346	2.20	1951	1420	2.47	2191	1488	2.74	2431	—	—	—	—	—	—
3000	1387	2.41	2142	1459	2.69	2391	—	—	—	—	—	—	—	—	—

PAH072 (6 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1304	1.51	1337	1365	1.69	1503	1422	1.88	1674	1477	2.08	1848	1528	2.28	2025
1900	1335	1.64	1454	1395	1.83	1627	1452	2.03	1804	1506	2.23	1984	1557	2.44	2168
2000	1366	1.78	1580	1426	1.98	1760	1482	2.19	1943	1535	2.40	2130	1586	2.61	2319
2100	1398	1.93	1715	1457	2.14	1901	1512	2.35	2091	1565	2.57	2284	1616	2.79	2481
2200	1430	2.09	1858	1488	2.31	2052	1543	2.53	2249	1596	2.76	2449	—	—	—
2300	1462	2.27	2012	1520	2.49	2212	1574	2.72	2416	—	—	—	—	—	—
2400	1495	2.45	2175	1552	2.68	2383	—	—	—	—	—	—	—	—	—
2500	1529	2.64	2349	1585	2.89	2564	—	—	—	—	—	—	—	—	—
2600	1562	2.85	2533	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.

2. Maximum continuous bhp is 2.90.

3. See general fan performance notes.

PAH090 (7 1/2 TONS) STANDARD MOTOR (BELT DRIVE)*

Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	511	0.53	492	591	0.73	680	660	0.95	885	722	1.19	1106	779	1.44	1342
2300	519	0.56	518	597	0.76	709	666	0.98	916	727	1.22	1140	784	1.48	1378
2400	534	0.61	571	611	0.82	768	678	1.05	982	739	1.30	1210	795	1.56	1453
2500	550	0.67	629	624	0.89	832	690	1.13	1051	750	1.38	1285	805	1.64	1533
2550	558	0.71	660	631	0.93	866	697	1.17	1088	756	1.42	1324	811	1.69	1574
2600	565	0.74	691	638	0.97	901	703	1.21	1125	762	1.46	1365	816	1.73	1617
2700	581	0.81	758	652	1.04	974	716	1.29	1204	774	1.55	1449	828	1.83	1707
2800	597	0.89	829	667	1.13	1051	729	1.38	1287	786	1.65	1538	839	1.93	1801
2900	613	0.97	905	681	1.22	1133	742	1.48	1376	799	1.75	1632	851	2.04	1900
3000	630	1.06	985	696	1.31	1220	756	1.58	1469	811	1.86	1731	863	2.15	2004
3100	646	1.15	1071	711	1.41	1313	770	1.68	1568	824	1.97	1835	875	2.27	2114
3200	663	1.25	1162	726	1.51	1411	784	1.79	1672	837	2.09	1944	888	2.39	2229
3300	679	1.35	1259	741	1.62	1514	798	1.91	1781	851	2.21	2060	900	2.52	2351
3400	696	1.46	1361	756	1.74	1623	812	2.03	1896	864	2.34	2181	913	2.66	2478
3500	713	1.58	1469	772	1.86	1737	827	2.16	2017	878	2.48	2308	926	2.80	2610
3600	729	1.70	1583	787	1.99	1857	841	2.30	2144	892	2.62	2441	—	—	—
3700	746	1.83	1703	803	2.13	1985	856	2.44	2277	906	2.77	2580	—	—	—
3750	755	1.89	1766	811	2.20	2051	864	2.52	2346	913	2.84	2653	—	—	—

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

PAH090 (7 ¹ / ₂ TONS) STANDARD MOTOR (BELT DRIVE)* (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	832	1.71	1592	882	1.99	1855	928	2.29	2131	973	2.59	2420	—	—	—
2300	837	1.75	1630	886	2.03	1896	933	2.33	2174	977	2.64	2463	—	—	—
2400	847	1.83	1710	896	2.12	1980	942	2.43	2262	986	2.74	2556	—	—	—
2500	857	1.92	1794	905	2.22	2069	951	2.52	2355	995	2.84	2653	—	—	—
2550	862	1.97	1838	910	2.27	2114	956	2.58	2403	999	2.90	2704	—	—	—
2600	867	2.02	1884	915	2.32	2162	961	2.63	2453	—	—	—	—	—	—
2700	878	2.12	1978	926	2.42	2261	971	2.74	2556	—	—	—	—	—	—
2800	889	2.23	2077	936	2.54	2365	981	2.86	2664	—	—	—	—	—	—
2900	900	2.34	2181	947	2.65	2474	—	—	—	—	—	—	—	—	—
3000	912	2.46	2290	958	2.78	2588	—	—	—	—	—	—	—	—	—
3100	923	2.58	2406	969	2.90	2708	—	—	—	—	—	—	—	—	—
3200	935	2.71	2526	—	—	—	—	—	—	—	—	—	—	—	—
3300	947	2.84	2652	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 840 to 1085 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See general fan performance notes.

PAH090 (7 ¹ / ₂ TONS) HIGH-STATIC MOTOR (BELT DRIVE)*															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	511	0.53	492	591	0.73	680	660	0.95	885	722	1.19	1106	779	1.44	1342
2300	519	0.56	518	597	0.76	709	666	0.98	916	727	1.22	1140	784	1.48	1378
2400	534	0.61	571	611	0.82	768	678	1.05	982	739	1.30	1210	795	1.56	1453
2500	550	0.67	629	624	0.89	832	690	1.13	1051	750	1.38	1285	805	1.64	1533
2550	558	0.71	660	631	0.93	866	697	1.17	1088	756	1.42	1324	811	1.69	1574
2600	565	0.74	691	638	0.97	901	703	1.21	1125	762	1.46	1365	816	1.73	1617
2700	581	0.81	758	652	1.04	974	716	1.29	1204	774	1.55	1449	828	1.83	1707
2800	597	0.89	829	667	1.13	1051	729	1.38	1287	786	1.65	1538	839	1.93	1801
2900	613	0.97	905	681	1.22	1133	742	1.48	1376	799	1.75	1632	851	2.04	1900
3000	630	1.06	985	696	1.31	1220	756	1.58	1469	811	1.86	1731	863	2.15	2004
3100	646	1.15	1071	711	1.41	1313	770	1.68	1568	824	1.97	1835	875	2.27	2114
3200	663	1.25	1162	726	1.51	1411	784	1.79	1672	837	2.09	1944	888	2.39	2229
3300	679	1.35	1259	741	1.62	1514	798	1.91	1781	851	2.21	2060	900	2.52	2351
3400	696	1.46	1361	756	1.74	1623	812	2.03	1896	864	2.34	2181	913	2.66	2478
3500	713	1.58	1469	772	1.86	1737	827	2.16	2017	878	2.48	2308	926	2.80	2610
3600	729	1.70	1583	787	1.99	1857	841	2.30	2144	892	2.62	2441	939	2.95	2749
3700	746	1.83	1703	803	2.13	1985	856	2.44	2277	906	2.77	2580	953	3.10	2894
3750	755	1.89	1766	811	2.20	2051	864	2.52	2346	913	2.84	2653	959	3.18	2969

PAH090 (7 ¹ / ₂ TONS) HIGH-STATIC MOTOR (BELT DRIVE)* (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	832	1.71	1592	882	1.99	1855	928	2.29	2131	973	2.59	2420	1015	2.92	2720
2300	837	1.75	1630	886	2.03	1896	933	2.33	2174	977	2.64	2463	1020	2.97	2766
2400	847	1.83	1710	896	2.12	1980	942	2.43	2262	986	2.74	2556	1028	3.07	2861
2500	857	1.92	1794	905	2.22	2069	951	2.52	2355	995	2.84	2653	1037	3.18	2962
2550	862	1.97	1838	910	2.27	2114	956	2.58	2403	999	2.90	2704	1041	3.23	3014
2600	867	2.02	1884	915	2.32	2162	961	2.63	2453	1004	2.95	2755	1045	3.29	3068
2700	878	2.12	1978	926	2.42	2261	971	2.74	2556	1013	3.07	2862	1055	3.41	3180
2800	889	2.23	2077	936	2.54	2365	981	2.86	2664	1023	3.19	2975	1064	3.54	3297
2900	900	2.34	2181	947	2.65	2474	991	2.98	2778	1033	3.32	3094	1073	3.67	3419
3000	912	2.46	2290	958	2.78	2588	1001	3.11	2897	1043	3.45	3217	1083	3.80	3547
3100	923	2.58	2406	969	2.90	2708	1012	3.24	3022	1053	3.59	3347	1093	3.95	3682
3200	935	2.71	2526	980	3.04	2834	1023	3.38	3152	1064	3.73	3482	1103	4.10	3821
3300	947	2.84	2652	992	3.18	2966	1034	3.53	3289	1075	3.89	3623	—	—	—
3400	959	2.99	2785	1003	3.33	3103	1045	3.68	3432	1086	4.04	3771	—	—	—
3500	972	3.13	2923	1015	3.48	3246	1057	3.84	3581	—	—	—	—	—	—
3600	984	3.29	3068	1027	3.64	3396	1068	4.01	3736	—	—	—	—	—	—
3700	997	3.45	3218	1040	3.81	3553	1080	4.18	3897	—	—	—	—	—	—
3750	1004	3.54	3296	1046	3.90	3633	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 4.20.
3. See general fan performance notes.

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

PAH102 (8 ¹ / ₂ TONS) STANDARD MOTOR (BELT DRIVE)*															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	489	0.41	386	564	0.54	506	629	0.67	625	688	0.80	745	741	0.93	866
2600	502	0.45	424	576	0.59	548	640	0.72	672	697	0.85	797	750	0.99	923
2700	515	0.50	465	587	0.64	594	650	0.77	723	707	0.91	852	760	1.05	982
2800	529	0.55	508	599	0.69	642	661	0.83	776	718	0.98	910	769	1.12	1044
2900	542	0.59	555	611	0.74	693	672	0.89	832	728	1.04	970	779	1.19	1109
3000	556	0.65	604	623	0.80	748	684	0.95	891	738	1.11	1034	789	1.26	1177
3100	569	0.70	656	636	0.86	805	695	1.02	953	749	1.18	1100	799	1.34	1249
3200	583	0.76	712	648	0.93	865	707	1.09	1018	760	1.26	1170	809	1.42	1323
3300	597	0.83	770	661	1.00	929	718	1.17	1086	771	1.33	1244	820	1.50	1401
3400	611	0.89	832	674	1.07	996	730	1.24	1158	782	1.42	1320	831	1.59	1483
3500	625	0.96	898	687	1.14	1066	742	1.32	1233	794	1.50	1400	841	1.68	1567
3600	639	1.04	967	700	1.22	1140	754	1.41	1312	805	1.59	1484	852	1.78	1656
3700	654	1.11	1040	713	1.31	1218	767	1.50	1395	817	1.69	1571	863	1.87	1748
3800	668	1.20	1116	726	1.39	1299	779	1.59	1481	828	1.78	1662	874	1.98	1844
3900	683	1.28	1197	739	1.48	1385	792	1.69	1572	840	1.88	1758	886	2.08	1943
4000	697	1.37	1281	753	1.58	1474	804	1.79	1666	852	1.99	1857	897	2.20	2048
4100	712	1.47	1370	766	1.68	1567	817	1.89	1764	864	2.10	1960	909	2.31	2155
4200	726	1.57	1462	780	1.79	1665	830	2.00	1866	876	2.22	2067	920	2.43	2268
4300	741	1.67	1559	794	1.89	1767	843	2.12	1973	889	2.34	2179	932	2.56	2384

PAH102 (8 ¹ / ₂ TONS) STANDARD MOTOR (BELT DRIVE)* (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	791	1.06	988	837	1.19	1112	881	1.33	1236	922	1.46	1362	962	1.60	1490
2600	799	1.12	1049	845	1.26	1177	889	1.40	1306	930	1.54	1436	969	1.68	1568
2700	808	1.19	1113	854	1.34	1245	897	1.48	1378	938	1.62	1513	977	1.77	1648
2800	817	1.26	1179	863	1.41	1316	905	1.56	1454	946	1.71	1592	985	1.86	1732
2900	827	1.34	1249	872	1.49	1390	914	1.64	1532	954	1.80	1675	993	1.95	1819
3000	836	1.42	1322	881	1.57	1467	923	1.73	1613	963	1.89	1761	1001	2.05	1909
3100	846	1.50	1398	890	1.66	1547	932	1.82	1698	972	1.98	1849	1010	2.15	2002
3200	856	1.58	1477	899	1.75	1631	941	1.92	1786	980	2.08	1942	1018	2.25	2099
3300	866	1.67	1559	909	1.84	1718	950	2.01	1878	989	2.19	2038	1027	2.36	2199
3400	876	1.76	1645	919	1.94	1808	960	2.12	1972	998	2.29	2137	1036	2.47	2303
3500	886	1.86	1734	929	2.04	1902	969	2.22	2071	1008	2.40	2240	1045	2.58	2410
3600	897	1.96	1827	939	2.14	2000	979	2.33	2173	1017	2.52	2347	1054	2.70	2521
3700	907	2.06	1924	949	2.25	2101	989	2.44	2279	1027	2.63	2457	1063	2.83	2636
3800	918	2.17	2025	959	2.37	2207	999	2.56	2389	1036	2.76	2571	—	—	—
3900	929	2.28	2130	970	2.48	2316	1009	2.68	2502	1046	2.88	2690	—	—	—
4000	940	2.40	2238	980	2.61	2429	1019	2.81	2620	—	—	—	—	—	—
4100	951	2.52	2351	991	2.73	2547	—	—	—	—	—	—	—	—	—
4200	962	2.65	2468	1002	2.86	2668	—	—	—	—	—	—	—	—	—
4300	973	2.78	2589	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 840 to 1085 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See general fan performance notes.

PAH102 (8 ¹ / ₂ TONS) HIGH-STATIC MOTOR (BELT DRIVE)*															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	489	0.41	386	564	0.54	506	629	0.67	625	688	0.80	745	741	0.93	866
2600	502	0.45	424	576	0.59	548	640	0.72	672	697	0.85	797	750	0.99	923
2700	515	0.50	465	587	0.64	594	650	0.77	723	707	0.91	852	760	1.05	982
2800	529	0.55	508	599	0.69	642	661	0.83	776	718	0.98	910	769	1.12	1044
2900	542	0.59	555	611	0.74	693	672	0.89	832	728	1.04	970	779	1.19	1109
3000	556	0.65	604	623	0.80	748	684	0.95	891	738	1.11	1034	789	1.26	1177
3100	569	0.70	656	636	0.86	805	695	1.02	953	749	1.18	1100	799	1.34	1249
3200	583	0.76	712	648	0.93	865	707	1.09	1018	760	1.26	1170	809	1.42	1323
3300	597	0.83	770	661	1.00	929	718	1.17	1086	771	1.33	1244	820	1.50	1401
3400	611	0.89	832	674	1.07	996	730	1.24	1158	782	1.42	1320	831	1.59	1483
3500	625	0.96	898	687	1.14	1066	742	1.32	1233	794	1.50	1400	841	1.68	1567
3600	639	1.04	967	700	1.22	1140	754	1.41	1312	805	1.59	1484	852	1.78	1656
3700	654	1.11	1040	713	1.31	1218	767	1.50	1395	817	1.69	1571	863	1.87	1748
3800	668	1.20	1116	726	1.39	1299	779	1.59	1481	828	1.78	1662	874	1.98	1844
3900	683	1.28	1197	739	1.48	1385	792	1.69	1572	840	1.88	1758	886	2.08	1943
4000	697	1.37	1281	753	1.58	1474	804	1.79	1666	852	1.99	1857	897	2.20	2048
4100	712	1.47	1370	766	1.68	1567	817	1.89	1764	864	2.10	1960	909	2.31	2155
4200	726	1.57	1462	780	1.79	1665	830	2.00	1866	876	2.22	2067	920	2.43	2268
4300	741	1.67	1559	794	1.89	1767	843	2.12	1973	889	2.34	2179	932	2.56	2384

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

PAH102 (8¹/₂ TONS) HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	791	1.06	988	837	1.19	1112	881	1.33	1236	922	1.46	1362	962	1.60	1490
2600	799	1.12	1049	845	1.26	1177	889	1.40	1306	930	1.54	1436	969	1.68	1568
2700	808	1.19	1113	854	1.34	1245	897	1.48	1378	938	1.62	1513	977	1.77	1648
2800	817	1.26	1179	863	1.41	1316	905	1.56	1454	946	1.71	1592	985	1.86	1732
2900	827	1.34	1249	872	1.49	1390	914	1.64	1532	954	1.80	1675	993	1.95	1819
3000	836	1.42	1322	881	1.57	1467	923	1.73	1613	963	1.89	1761	1001	2.05	1909
3100	846	1.50	1398	890	1.66	1547	932	1.82	1698	972	1.98	1849	1010	2.15	2002
3200	856	1.58	1477	899	1.75	1631	941	1.92	1786	980	2.08	1942	1018	2.25	2099
3300	866	1.67	1559	909	1.84	1718	950	2.01	1878	989	2.19	2038	1027	2.36	2199
3400	876	1.76	1645	919	1.94	1808	960	2.12	1972	998	2.29	2137	1036	2.47	2303
3500	886	1.86	1734	929	2.04	1902	969	2.22	2071	1008	2.40	2240	1045	2.58	2410
3600	897	1.96	1827	939	2.14	2000	979	2.33	2173	1017	2.52	2347	1054	2.70	2521
3700	907	2.06	1924	949	2.25	2101	989	2.44	2279	1027	2.63	2457	1063	2.83	2636
3800	918	2.17	2025	959	2.37	2207	999	2.56	2389	1036	2.76	2571	1073	2.95	2755
3900	929	2.28	2130	970	2.48	2316	1009	2.68	2502	1046	2.88	2690	1082	3.09	2877
4000	940	2.40	2238	980	2.61	2429	1019	2.81	2620	1056	3.02	2812	1092	3.22	3004
4100	951	2.52	2351	991	2.73	2547	1029	2.94	2743	1066	3.15	2939	1102	3.36	3136
4200	962	2.65	2468	1002	2.86	2668	1040	3.08	2869	1076	3.29	3070	1112	3.51	3271
4300	973	2.78	2589	1013	3.00	2794	1050	3.22	2999	1087	3.44	3205	1122	3.66	3411

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 4.20.
3. See general fan performance notes.

PAH120 (10 TONS) STANDARD MOTOR (BELT DRIVE)*

Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	556	0.65	604	623	0.80	748	684	0.95	891	738	1.11	1034	789	1.26	1177
3100	569	0.70	656	636	0.86	805	695	1.02	953	749	1.18	1100	799	1.34	1249
3200	583	0.76	712	648	0.93	865	707	1.09	1018	760	1.26	1170	809	1.42	1323
3300	597	0.83	770	661	1.00	929	718	1.17	1086	771	1.33	1244	820	1.50	1401
3400	611	0.89	832	674	1.07	996	730	1.24	1158	782	1.42	1320	831	1.59	1483
3500	625	0.96	898	687	1.14	1066	742	1.32	1233	794	1.50	1406	841	1.68	1567
3600	639	1.04	967	700	1.22	1140	754	1.41	1312	805	1.59	1484	852	1.78	1656
3700	654	1.11	1040	713	1.31	1218	767	1.50	1395	817	1.69	1571	863	1.87	1748
3800	668	1.20	1116	726	1.39	1299	779	1.59	1481	828	1.78	1662	874	1.98	1844
3900	683	1.28	1197	739	1.48	1385	792	1.69	1572	840	1.88	1758	886	2.08	1943
4000	697	1.37	1281	753	1.58	1474	804	1.79	1666	852	1.99	1857	897	2.20	2048
4100	712	1.47	1370	766	1.68	1567	817	1.89	1764	864	2.10	1960	909	2.31	2155
4200	726	1.57	1462	780	1.79	1665	830	2.00	1866	876	2.22	2067	920	2.43	2268
4300	741	1.67	1559	794	1.89	1767	843	2.12	1973	889	2.34	2179	932	2.56	2384
4400	755	1.78	1660	807	2.01	1873	856	2.23	2084	901	2.46	2295	944	2.69	2505
4500	770	1.89	1766	821	2.13	1984	869	2.36	2200	914	2.59	2415	956	2.82	2630
4600	785	2.01	1876	835	2.25	2099	882	2.49	2320	926	2.72	2541	968	2.96	2760
4700	800	2.14	1991	849	2.38	2219	895	2.62	2445	939	2.86	2670	980	3.10	2895
4800	815	2.26	2111	863	2.51	2344	909	2.76	2575	952	3.01	2805	993	3.25	3034
4900	829	2.40	2235	877	2.65	2473	922	2.91	2709	965	3.16	2944	1005	3.41	3178
5000	844	2.54	2365	891	2.80	2608	936	3.06	2849	978	3.31	3089	1018	3.57	3328

PAH120 (10 TONS) STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	836	1.42	1322	881	1.57	1467	923	1.73	1613	963	1.89	1761	1001	2.05	1909
3100	846	1.50	1398	890	1.66	1547	932	1.82	1698	972	1.98	1849	1010	2.15	2002
3200	856	1.58	1477	899	1.75	1631	941	1.92	1786	980	2.08	1942	1018	2.25	2099
3300	866	1.67	1559	909	1.84	1718	950	2.01	1878	989	2.19	2038	1027	2.36	2199
3400	876	1.76	1645	919	1.94	1808	960	2.12	1972	998	2.29	2137	1036	2.47	2303
3500	886	1.86	1734	929	2.04	1902	969	2.22	2071	1008	2.40	2240	1045	2.58	2410
3600	897	1.96	1827	939	2.14	2000	979	2.33	2173	1017	2.52	2347	1054	2.70	2521
3700	907	2.06	1924	949	2.25	2101	989	2.44	2279	1027	2.63	2457	1063	2.83	2636
3800	918	2.17	2025	959	2.37	2207	999	2.56	2389	1036	2.76	2571	1073	2.95	2755
3900	929	2.28	2130	970	2.48	2316	1009	2.68	2502	1046	2.88	2690	1082	3.09	2877
4000	940	2.40	2238	980	2.61	2429	1019	2.81	2620	1056	3.02	2812	1092	3.22	3004
4100	951	2.52	2351	991	2.73	2547	1029	2.94	2743	1066	3.15	2939	1102	3.36	3136
4200	962	2.65	2468	1002	2.86	2668	1040	3.08	2869	1076	3.29	3070	1112	3.51	3271
4300	973	2.78	2589	1013	3.00	2794	1050	3.22	2999	1087	3.44	3205	1122	3.66	3411
4400	985	2.91	2715	1024	3.14	2924	1061	3.36	3134	1097	3.59	3345	—	—	—
4500	996	3.05	2845	1035	3.28	3059	1072	3.51	3274	—	—	—	—	—	—
4600	1008	3.20	2979	1046	3.43	3199	1083	3.67	3418	—	—	—	—	—	—
4700	1020	3.34	3119	1058	3.58	3343	—	—	—	—	—	—	—	—	—
4800	1032	3.50	3263	—	—	—	—	—	—	—	—	—	—	—	—
4900	1044	3.66	3413	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See general fan performance notes.

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

PAH120 (10 TONS) HIGH-STATIC MOTOR (BELT DRIVE)*															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	556	0.65	604	623	0.80	748	684	0.95	891	738	1.11	1034	789	1.26	1177
3100	569	0.70	656	636	0.86	805	695	1.02	953	749	1.18	1100	799	1.34	1249
3200	583	0.76	712	648	0.93	865	707	1.09	1018	760	1.26	1170	809	1.42	1323
3300	597	0.83	770	661	1.00	929	718	1.17	1086	771	1.33	1244	820	1.50	1401
3400	611	0.89	832	674	1.07	996	730	1.24	1158	782	1.42	1320	831	1.59	1483
3500	625	0.96	898	687	1.14	1066	742	1.32	1233	794	1.50	1400	841	1.68	1567
3600	639	1.04	967	700	1.22	1140	754	1.41	1312	805	1.59	1484	852	1.78	1656
3700	654	1.11	1040	713	1.31	1218	767	1.50	1395	817	1.69	1571	863	1.87	1748
3800	668	1.20	1116	726	1.39	1299	779	1.59	1481	828	1.78	1662	874	1.98	1844
3900	683	1.28	1197	739	1.48	1385	792	1.69	1572	840	1.88	1758	886	2.08	1943
4000	697	1.37	1281	753	1.58	1474	804	1.79	1666	852	1.99	1857	897	2.20	2048
4100	712	1.47	1370	766	1.68	1567	817	1.89	1764	864	2.10	1960	909	2.31	2155
4200	726	1.57	1462	780	1.79	1665	830	2.00	1866	876	2.22	2067	920	2.43	2268
4300	741	1.67	1559	794	1.89	1767	843	2.12	1973	889	2.34	2179	932	2.56	2384
4400	755	1.78	1660	807	2.01	1873	856	2.23	2084	901	2.46	2295	944	2.69	2505
4500	770	1.89	1766	821	2.13	1984	869	2.36	2200	914	2.59	2415	956	2.82	2630
4600	785	2.01	1876	835	2.25	2099	882	2.49	2320	926	2.72	2541	968	2.96	2760
4700	800	2.14	1991	849	2.38	2219	895	2.62	2445	939	2.86	2670	980	3.10	2895
4800	815	2.26	2111	863	2.51	2344	909	2.76	2575	952	3.01	2805	993	3.25	3034
4900	829	2.40	2235	877	2.65	2473	922	2.91	2709	965	3.16	2944	1005	3.41	3178
5000	844	2.54	2365	891	2.80	2608	936	3.06	2849	978	3.31	3089	1018	3.57	3328

PAH120 (10 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	836	1.42	1322	881	1.57	1467	923	1.73	1613	963	1.89	1761	1001	2.05	1909
3100	846	1.50	1398	890	1.66	1547	932	1.82	1698	972	1.98	1849	1010	2.15	2002
3200	856	1.58	1477	899	1.75	1631	941	1.92	1786	980	2.08	1942	1018	2.25	2099
3300	866	1.67	1559	909	1.84	1718	950	2.01	1878	989	2.19	2038	1027	2.36	2199
3400	876	1.76	1645	919	1.94	1808	960	2.12	1972	998	2.29	2137	1036	2.47	2303
3500	886	1.86	1734	929	2.04	1902	969	2.22	2071	1008	2.40	2240	1045	2.58	2410
3600	897	1.96	1827	939	2.14	2000	979	2.33	2173	1017	2.52	2347	1054	2.70	2521
3700	907	2.06	1924	949	2.25	2101	989	2.44	2279	1027	2.63	2457	1063	2.83	2636
3800	918	2.17	2025	959	2.37	2207	999	2.56	2389	1036	2.76	2571	1073	2.95	2755
3900	929	2.28	2130	970	2.48	2316	1009	2.68	2502	1046	2.88	2690	1082	3.09	2877
4000	940	2.40	2238	980	2.61	2429	1019	2.81	2620	1056	3.02	2812	1092	3.22	3004
4100	951	2.52	2351	991	2.73	2547	1029	2.94	2743	1066	3.15	2939	1102	3.36	3136
4200	962	2.65	2468	1002	2.86	2668	1040	3.08	2869	1076	3.29	3070	1112	3.51	3271
4300	973	2.78	2589	1013	3.00	2794	1050	3.22	2999	1087	3.44	3205	1122	3.66	3411
4400	985	2.91	2715	1024	3.14	2924	1061	3.36	3134	1097	3.59	3345	1132	3.81	3555
4500	996	3.05	2845	1035	3.28	3059	1072	3.51	3274	1108	3.74	3489	1142	3.97	3704
4600	1008	3.20	2979	1046	3.43	3199	1083	3.67	3418	1118	3.90	3638	1152	4.14	3857
4700	1020	3.34	3119	1058	3.58	3343	1094	3.83	3567	1129	4.07	3792	1163	4.31	4016
4800	1032	3.50	3263	1069	3.74	3492	1105	3.99	3721	1140	4.24	3950	1174	4.48	4179
4900	1044	3.66	3413	1081	3.91	3646	1117	4.16	3880	1151	4.41	4113	1184	4.66	4347
5000	1056	3.82	3566	1093	4.08	3805	1128	4.34	4044	1162	4.59	4282	1195	4.85	4520

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.
3. See general fan performance notes.

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS

PAH036 (3 TONS) STANDARD MOTOR (BELT DRIVE)* SINGLE AND THREE-PHASE UNITS														
Airflow Cfm	External Static Pressure (in. wg)													
	0.2			0.4			0.6			0.8			1.0	
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Watts
900	554	0.14	134	681	0.22	222	783	0.32	316	870	0.42	416	947	0.53
1000	583	0.16	163	707	0.26	257	808	0.36	358	894	0.47	465	971	0.58
1100	612	0.20	195	735	0.30	298	834	0.41	406	919	0.52	519	995	0.64
1200	643	0.23	233	762	0.35	344	860	0.46	459	944	0.58	579	1020	0.71
1300	674	0.28	276	791	0.40	395	887	0.52	517	970	0.65	645	1045	0.78
1400	706	0.33	324	820	0.45	451	914	0.59	582	997	0.72	717	1071	0.86
1500	738	0.38	379	849	0.52	515	942	0.66	653	1024	0.80	796	1097	0.95

PAH036 (3 TONS) STANDARD MOTOR (BELT DRIVE)* SINGLE AND THREE-PHASE UNITS (cont)														
Airflow Cfm	External Static Pressure (in. wg)													
	1.2			1.4			1.6			1.8			2.0	
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Watts
900	1017	0.64	635	1082	0.76	753	1143	0.88	876	1200	1.01	1004	1254	1.14
1000	1041	0.70	696	1105	0.82	820	1166	0.95	948	1223	1.09	1081	—	—
1100	1065	0.77	763	1129	0.90	892	1189	1.03	1026	1245	1.17	1165	—	—
1200	1089	0.84	835	1153	0.98	971	1212	1.12	1111	—	—	—	—	—
1300	1114	0.92	915	1177	1.06	1056	—	—	—	—	—	—	—	—
1400	1139	1.01	1000	1202	1.15	1149	—	—	—	—	—	—	—	—
1500	1164	1.10	1093	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 680 to 1044 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.
3. See general fan performance notes.

PAH036 (3 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* THREE-PHASE UNITS														
Airflow Cfm	External Static Pressure (in. wg)													
	0.2			0.4			0.6			0.8			1.0	
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Watts
900	554	0.14	134	681	0.22	222	783	0.32	316	870	0.42	416	947	0.53
1000	583	0.16	163	707	0.26	257	808	0.36	358	894	0.47	465	971	0.58
1100	612	0.20	195	735	0.30	298	834	0.41	406	919	0.52	519	995	0.64
1200	643	0.23	233	762	0.35	344	860	0.46	459	944	0.58	579	1020	0.71
1300	674	0.28	276	791	0.40	395	887	0.52	517	970	0.65	645	1045	0.78
1400	706	0.33	324	820	0.45	451	914	0.59	582	997	0.72	717	1071	0.86
1500	738	0.38	379	849	0.52	515	942	0.66	653	1024	0.80	796	1097	0.95

PAH036 (3 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* THREE-PHASE UNITS (cont)														
Airflow Cfm	External Static Pressure (in. wg)													
	1.2			1.4			1.6			1.8			2.0	
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Watts
900	1017	0.64	635	1082	0.76	753	1143	0.88	876	1200	1.01	1004	1254	1.14
1000	1041	0.70	696	1105	0.82	820	1166	0.95	948	1223	1.09	1081	1276	1.23
1100	1065	0.77	763	1129	0.90	892	1189	1.03	1026	1245	1.17	1165	1299	1.32
1200	1089	0.84	835	1153	0.98	971	1212	1.12	1111	1269	1.26	1256	1322	1.41
1300	1114	0.92	915	1177	1.06	1056	1236	1.21	1202	1292	1.36	1353	1346	1.52
1400	1139	1.01	1000	1202	1.15	1149	1261	1.31	1301	1316	1.47	1457	1369	1.63
1500	1164	1.10	1093	1227	1.25	1248	1285	1.41	1407	1341	1.58	1570	1394	1.75

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See general fan performance notes.

PAH048 (4 TONS) STANDARD MOTOR (BELT DRIVE)* SINGLE AND THREE-PHASE UNITS														
Airflow Cfm	External Static Pressure (in. wg)													
	0.2			0.4			0.6			0.8			1.0	
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Watts
1200	643	0.23	233	762	0.35	344	860	0.46	459	944	0.58	579	1020	0.71
1300	674	0.28	276	791	0.40	395	887	0.52	517	970	0.65	645	1045	0.78
1400	706	0.33	324	820	0.45	451	914	0.59	582	997	0.72	717	1071	0.86
1500	738	0.38	379	849	0.52	515	942	0.66	653	1024	0.80	796	1097	0.95
1600	771	0.44	440	879	0.59	584	971	0.74	731	1051	0.89	881	1124	1.04
1700	804	0.51	507	910	0.66	661	1000	0.82	816	1079	0.98	974	1151	1.14
1800	837	0.59	582	941	0.75	745	1029	0.91	909	1107	1.08	1075	—	—
1900	871	0.67	665	972	0.84	837	1059	1.02	1010	1136	1.19	1184	—	—
2000	906	0.76	756	1004	0.94	938	1089	1.12	1119	—	—	—	—	—

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

PAH048 (4 TONS) STANDARD MOTOR (BELT DRIVE)* SINGLE AND THREE-PHASE UNITS (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1089	0.84	835	1153	0.98	971	1212	1.12	1111	—	—	—	—	—	—
1300	1114	0.92	915	1177	1.06	1056	—	—	—	—	—	—	—	—	—
1400	1139	1.01	1000	1202	1.15	1149	—	—	—	—	—	—	—	—	—
1500	1164	1.10	1093	—	—	—	—	—	—	—	—	—	—	—	—
1600	1190	1.20	1193	—	—	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 770 to 1185 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.20.
3. See general fan performance notes.

PAH048 (4 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* THREE-PHASE UNITS															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	643	0.23	233	762	0.35	344	860	0.46	459	944	0.58	579	1020	0.71	705
1300	674	0.28	276	791	0.40	395	887	0.52	517	970	0.65	645	1045	0.78	777
1400	706	0.33	324	820	0.45	451	914	0.59	582	997	0.72	717	1071	0.86	857
1500	738	0.38	379	849	0.52	515	942	0.66	653	1024	0.80	796	1097	0.95	942
1600	771	0.44	440	879	0.59	584	971	0.74	731	1051	0.89	881	1124	1.04	1035
1700	804	0.51	507	910	0.66	661	1000	0.82	816	1079	0.98	974	1151	1.14	1136
1800	837	0.59	582	941	0.75	745	1029	0.91	909	1107	1.08	1075	1178	1.25	1244
1900	871	0.67	665	972	0.84	837	1059	1.02	1010	1136	1.19	1184	1206	1.37	1361
2000	906	0.76	756	1004	0.94	938	1089	1.12	1119	1165	1.31	1301	1234	1.49	1486

PAH048 (4 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* THREE-PHASE UNITS (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1089	0.84	835	1153	0.98	971	1212	1.12	1111	1269	1.26	1256	1322	1.41	1404
1300	1114	0.92	915	1177	1.06	1056	1236	1.21	1202	1292	1.36	1353	1346	1.52	1508
1400	1139	1.01	1000	1202	1.15	1149	1261	1.31	1301	1316	1.47	1457	1369	1.63	1618
1500	1164	1.10	1093	1227	1.25	1248	1285	1.41	1407	1341	1.58	1570	1394	1.75	1736
1600	1190	1.20	1193	1252	1.36	1355	1311	1.53	1520	1366	1.70	1690	1418	1.87	1863
1700	1217	1.31	1301	1278	1.48	1470	1336	1.65	1642	1391	1.83	1818	1443	2.01	1998
1800	1244	1.42	1417	1305	1.60	1593	1362	1.78	1772	1416	1.97	1955	1468	2.15	2141
1900	1271	1.55	1541	1331	1.73	1724	1388	1.92	1911	1442	2.11	2101	1494	2.31	2294
2000	1298	1.68	1674	1358	1.87	1865	1415	2.07	2059	1468	2.27	2256	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See general fan performance notes.

PAH060 (5 TONS) SINGLE-PHASE — STANDARD MOTOR (BELT DRIVE)*															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	724	0.33	295	837	0.45	402	937	0.59	524	1028	0.74	660	1111	0.91	808
1600	757	0.39	343	866	0.51	455	962	0.65	580	1050	0.81	719	1132	0.98	870
1700	790	0.45	398	894	0.58	514	988	0.72	643	1074	0.88	784	1154	1.06	938
1800	823	0.52	458	924	0.65	579	1015	0.80	712	1099	0.96	857	1177	1.14	1013
1900	857	0.59	525	955	0.73	650	1043	0.89	787	1125	1.05	936	1201	1.23	1096
2000	892	0.67	599	986	0.82	729	1072	0.98	870	1151	1.15	1022	—	—	—
2100	927	0.77	680	1017	0.92	815	1101	1.08	960	1178	1.26	1116	—	—	—
2200	962	0.87	769	1050	1.02	909	1131	1.19	1059	—	—	—	—	—	—
2300	997	0.97	865	1082	1.14	1010	—	—	—	—	—	—	—	—	—
2400	1033	1.09	970	1115	1.26	1120	—	—	—	—	—	—	—	—	—
2500	1069	1.22	1084	—	—	—	—	—	—	—	—	—	—	—	—

PAH060 (5 TONS) SINGLE-PHASE — STANDARD MOTOR (BELT DRIVE)* (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1188	1.09	970	1261	1.29	1143	—	—	—	—	—	—	—	—	—
1600	1208	1.16	1033	—	—	—	—	—	—	—	—	—	—	—	—
1700	1229	1.24	1103	—	—	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 1.30.
3. See general fan performance notes.

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

PAH060 (5 TONS) THREE-PHASE — STANDARD MOTOR (BELT DRIVE)*

Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	724	0.33	295	837	0.45	402	937	0.59	524	1028	0.74	660	1111	0.91	808
1600	757	0.39	343	866	0.51	455	962	0.65	580	1050	0.81	719	1132	0.98	870
1700	790	0.45	398	894	0.58	514	988	0.72	643	1074	0.88	784	1154	1.06	938
1800	823	0.52	458	924	0.65	579	1015	0.80	712	1099	0.96	857	1177	1.14	1013
1900	857	0.59	525	955	0.73	650	1043	0.89	787	1125	1.05	936	1201	1.23	1096
2000	892	0.67	599	986	0.82	729	1072	0.98	870	1151	1.15	1022	1226	1.33	1185
2100	927	0.77	680	1017	0.92	815	1101	1.08	960	1178	1.26	1116	1251	1.44	1283
2200	962	0.87	769	1050	1.02	909	1131	1.19	1059	1206	1.37	1218	1277	1.56	1389
2300	997	0.97	865	1082	1.14	1010	1161	1.31	1165	1235	1.50	1329	1304	1.69	1503
2400	1033	1.09	970	1115	1.26	1120	1192	1.44	1279	1264	1.63	1448	1332	1.83	1625
2500	1069	1.22	1084	1149	1.39	1239	1223	1.58	1403	1293	1.77	1576	1360	1.98	1757

PAH060 (5 TONS) THREE-PHASE — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1188	1.09	970	1261	1.29	1143	1330	1.49	1327	1395	1.71	1523	1457	1.95	1729
1600	1208	1.16	1033	1279	1.36	1208	1347	1.57	1394	1412	1.79	1590	1474	2.02	1797
1700	1229	1.24	1103	1299	1.44	1280	1366	1.65	1468	1429	1.88	1665	1490	2.11	1873
1800	1250	1.33	1181	1319	1.53	1360	1385	1.74	1549	1448	1.97	1748	1508	2.20	1957
1900	1273	1.43	1266	1341	1.63	1447	1405	1.84	1638	1467	2.07	1839	1527	2.31	2050
2000	1296	1.53	1359	1363	1.74	1542	1427	1.95	1736	1488	2.18	1939	—	—	—
2100	1320	1.64	1459	1386	1.85	1646	1448	2.07	1842	1508	2.30	2047	—	—	—
2200	1345	1.77	1568	1409	1.98	1758	1471	2.20	1956	—	—	—	—	—	—
2300	1371	1.90	1686	1434	2.11	1878	1494	2.34	2080	—	—	—	—	—	—
2400	1397	2.04	1812	1459	2.26	2008	—	—	—	—	—	—	—	—	—
2500	1424	2.19	1948	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1035 to 1460 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See general fan performance notes.

PAH060 (5 TONS) HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	724	0.33	295	837	0.45	402	937	0.59	524	1028	0.74	660	1111	0.91	808
1600	757	0.39	343	866	0.51	455	962	0.65	580	1050	0.81	719	1132	0.98	870
1700	790	0.45	398	894	0.58	514	988	0.72	643	1074	0.88	784	1154	1.06	938
1800	823	0.52	458	924	0.65	579	1015	0.80	712	1099	0.96	857	1177	1.14	1013
1900	857	0.59	525	955	0.73	650	1043	0.89	787	1125	1.05	936	1201	1.23	1096
2000	892	0.67	599	986	0.82	729	1072	0.98	870	1151	1.15	1022	1226	1.33	1185
2100	927	0.77	680	1017	0.92	815	1101	1.08	960	1178	1.26	1116	1251	1.44	1283
2200	962	0.87	769	1050	1.02	909	1131	1.19	1059	1206	1.37	1218	1277	1.56	1389
2300	997	0.97	865	1082	1.14	1010	1161	1.31	1165	1235	1.50	1329	1304	1.69	1503
2400	1033	1.09	970	1115	1.26	1120	1192	1.44	1279	1264	1.63	1448	1332	1.83	1625
2500	1069	1.22	1084	1149	1.39	1239	1223	1.58	1403	1293	1.77	1576	1360	1.98	1757

PAH060 (5 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1188	1.09	970	1261	1.29	1143	1330	1.49	1327	1395	1.71	1523	1457	1.95	1729
1600	1208	1.16	1033	1279	1.36	1208	1347	1.57	1394	1412	1.79	1590	1474	2.02	1797
1700	1229	1.24	1103	1299	1.44	1280	1366	1.65	1468	1429	1.88	1665	1490	2.11	1873
1800	1250	1.33	1181	1319	1.53	1360	1385	1.74	1549	1448	1.97	1748	1508	2.20	1957
1900	1273	1.43	1266	1341	1.63	1447	1405	1.84	1638	1467	2.07	1839	1527	2.31	2050
2000	1296	1.53	1359	1363	1.74	1542	1427	1.95	1736	1488	2.18	1939	1546	2.42	2151
2100	1320	1.64	1459	1386	1.85	1646	1448	2.07	1842	1508	2.30	2047	1566	2.55	2262
2200	1345	1.77	1568	1409	1.98	1758	1471	2.20	1956	1530	2.44	2164	1587	2.68	2380
2300	1371	1.90	1686	1434	2.11	1878	1494	2.34	2080	1553	2.58	2290	1609	2.83	2509
2400	1397	2.04	1812	1459	2.26	2008	1518	2.49	2213	1576	2.73	2425	—	—	—
2500	1424	2.19	1948	1484	2.42	2147	1543	2.65	2355	1599	2.89	2571	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See general fan performance notes.

PAH072 (6 TONS) STANDARD MOTOR (BELT DRIVE)*

Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	822	0.51	455	927	0.66	589	1018	0.82	728	1100	0.98	873	1174	1.15	1024
1900	855	0.59	520	957	0.74	659	1046	0.91	805	1127	1.08	956	1200	1.25	1113
2000	889	0.66	591	988	0.83	737	1075	1.00	888	1154	1.18	1045	1226	1.36	1208
2100	923	0.75	668	1019	0.92	821	1104	1.10	979	1182	1.29	1142	1253	1.48	1310
2200	957	0.85	753	1051	1.03	912	1134	1.21	1077	1210	1.40	1245	1280	1.60	1419
2300	992	0.95	845	1083	1.14	1011	1164	1.33	1182	1239	1.53	1357	1308	1.73	1537
2400	1026	1.06	945	1115	1.26	1118	1195	1.46	1295	1268	1.66	1476	1336	1.87	1662
2500	1061	1.19	1053	1148	1.39	1233	1226	1.59	1416	1297	1.81	1604	1364	2.02	1796
2600	1097	1.32	1169	1181	1.53	1356	1257	1.74	1546	1327	1.96	1740	1393	2.18	1938
2700	1132	1.46	1294	1214	1.67	1487	1289	1.90	1684	1358	2.12	1885	1422	2.35	2089
2800	1168	1.61	1428	1247	1.83	1629	1320	2.06	1832	1388	2.30	2039	—	—	—
2900	1204	1.77	1572	1281	2.00	1779	1353	2.24	1989	—	—	—	—	—	—
3000	1240	1.94	1725	1315	2.18	1939	—	—	—	—	—	—	—	—	—

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

PAH072 (6 TONS) STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1244	1.33	1182	1308	1.51	1345	1369	1.70	1513	1427	1.90	1687	1483	2.10	1867
1900	1268	1.44	1275	1332	1.63	1443	1393	1.82	1617	1450	2.02	1796	1505	2.23	1979
2000	1294	1.55	1376	1357	1.74	1549	1417	1.95	1727	1474	2.15	1911	1528	2.36	2100
2100	1320	1.67	1483	1382	1.87	1662	1441	2.08	1845	1498	2.29	2034	—	—	—
2200	1346	1.80	1598	1408	2.01	1782	1466	2.22	1971	—	—	—	—	—	—
2300	1372	1.94	1721	1434	2.15	1911	1491	2.37	2105	—	—	—	—	—	—
2400	1400	2.09	1852	1460	2.31	2047	—	—	—	—	—	—	—	—	—
2500	1427	2.24	1992	—	—	—	—	—	—	—	—	—	—	—	—
2600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1120 to 1585 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See general fan performance notes.

PAH072 (6 TONS) HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	822	0.51	455	927	0.66	589	1018	0.82	728	1100	0.98	873	1174	1.15	1024
1900	855	0.59	520	957	0.74	659	1046	0.91	805	1127	1.08	956	1200	1.25	1113
2000	889	0.66	591	988	0.83	737	1075	1.00	888	1154	1.18	1045	1226	1.36	1208
2100	923	0.75	668	1019	0.92	821	1104	1.10	979	1182	1.29	1142	1253	1.48	1310
2200	957	0.85	753	1051	1.03	912	1134	1.21	1077	1210	1.40	1245	1280	1.60	1419
2300	992	0.95	845	1083	1.14	1011	1164	1.33	1182	1239	1.53	1357	1308	1.73	1537
2400	1026	1.06	945	1115	1.26	1118	1195	1.46	1295	1268	1.66	1476	1336	1.87	1662
2500	1061	1.19	1053	1148	1.39	1233	1226	1.59	1416	1297	1.81	1604	1364	2.02	1796
2600	1097	1.32	1169	1181	1.53	1356	1257	1.74	1546	1327	1.96	1740	1393	2.18	1938
2700	1132	1.46	1294	1214	1.67	1487	1289	1.90	1684	1358	2.12	1885	1422	2.35	2089
2800	1168	1.61	1428	1247	1.83	1629	1320	2.06	1832	1388	2.30	2039	1452	2.53	2249
2900	1204	1.77	1572	1281	2.00	1779	1353	2.24	1989	1419	2.48	2202	1482	2.72	2419
3000	1240	1.94	1725	1315	2.18	1939	1385	2.43	2156	1451	2.68	2376	—	—	—

PAH072 (6 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1244	1.33	1182	1308	1.51	1345	1369	1.70	1513	1427	1.90	1687	1483	2.10	1867
1900	1268	1.44	1275	1332	1.63	1443	1393	1.82	1617	1450	2.02	1796	1505	2.23	1979
2000	1294	1.55	1376	1357	1.74	1549	1417	1.95	1727	1474	2.15	1911	1528	2.36	2100
2100	1320	1.67	1483	1382	1.87	1662	1441	2.08	1845	1498	2.29	2034	1552	2.51	2227
2200	1346	1.80	1598	1408	2.01	1782	1466	2.22	1971	1522	2.44	2165	1575	2.66	2363
2300	1372	1.94	1721	1434	2.15	1911	1491	2.37	2105	1547	2.59	2304	1600	2.82	2507
2400	1400	2.09	1852	1460	2.31	2047	1517	2.53	2247	1572	2.76	2451	—	—	—
2500	1427	2.24	1992	1487	2.47	2192	1543	2.70	2398	—	—	—	—	—	—
2600	1455	2.41	2140	1514	2.64	2346	1570	2.88	2557	—	—	—	—	—	—
2700	1483	2.59	2297	1541	2.83	2509	—	—	—	—	—	—	—	—	—
2800	1512	2.77	2463	—	—	—	—	—	—	—	—	—	—	—	—
2900	1541	2.97	2640	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See general fan performance notes.

PAH090 (7 1/2 TONS) STANDARD MOTOR (BELT DRIVE)*

Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	465	0.43	402	555	0.64	596	629	0.86	802	694	1.10	1021	753	1.34	1252
2300	471	0.45	421	560	0.66	618	634	0.89	828	699	1.13	1050	757	1.38	1283
2400	483	0.49	461	571	0.71	665	644	0.94	881	708	1.19	1109	766	1.45	1348
2500	495	0.54	503	581	0.77	715	654	1.01	937	717	1.26	1171	775	1.52	1416
2550	501	0.56	526	587	0.79	740	659	1.04	967	722	1.29	1204	779	1.56	1452
2600	507	0.59	549	592	0.82	767	664	1.07	996	727	1.33	1237	784	1.60	1488
2700	519	0.64	597	603	0.88	823	674	1.14	1059	737	1.40	1306	793	1.68	1563
2800	532	0.70	649	614	0.95	882	684	1.21	1125	746	1.48	1378	803	1.76	1641
2900	544	0.75	703	625	1.01	944	695	1.28	1194	756	1.56	1453	812	1.85	1723
3000	557	0.82	761	637	1.08	1009	705	1.36	1266	766	1.64	1533	822	1.94	1808
3100	570	0.88	823	648	1.16	1079	716	1.44	1342	776	1.73	1615	831	2.03	1897
3200	583	0.95	888	660	1.23	1151	727	1.53	1422	787	1.82	1702	841	2.13	1991
3300	596	1.03	957	672	1.32	1228	738	1.61	1506	797	1.92	1792	851	2.24	2088
3400	609	1.10	1030	684	1.40	1308	749	1.71	1593	808	2.02	1887	861	2.35	2188
3500	622	1.19	1106	696	1.49	1392	760	1.81	1685	818	2.13	1985	872	2.46	2294
3600	635	1.27	1187	708	1.59	1481	771	1.91	1781	829	2.24	2088	882	2.58	2403
3700	649	1.36	1272	720	1.69	1573	783	2.02	1881	840	2.35	2195	892	2.70	2517
3750	655	1.41	1316	726	1.74	1621	789	2.07	1932	845	2.41	2250	897	2.76	2575

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

PAH090 (7¹/₂ TONS) STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	806	1.60	1494	856	1.87	1747	903	2.15	2009	947	2.45	2282	988	2.75	2564
2300	811	1.64	1528	860	1.91	1784	907	2.20	2048	950	2.49	2323	992	2.80	2607
2400	819	1.71	1599	868	1.99	1859	915	2.28	2129	958	2.58	2410	1000	2.89	2698
2500	828	1.79	1672	877	2.08	1938	923	2.37	2214	966	2.68	2499	—	—	—
2550	832	1.83	1710	881	2.12	1979	927	2.42	2258	971	2.73	2545	—	—	—
2600	836	1.88	1749	885	2.17	2021	931	2.47	2302	975	2.78	2592	—	—	—
2700	845	1.96	1830	894	2.26	2107	940	2.57	2394	983	2.88	2689	—	—	—
2800	854	2.05	1914	903	2.36	2197	948	2.67	2488	—	—	—	—	—	—
2900	864	2.15	2002	912	2.46	2290	957	2.77	2587	—	—	—	—	—	—
3000	873	2.24	2093	921	2.56	2388	966	2.89	2691	—	—	—	—	—	—
3100	882	2.35	2189	930	2.67	2489	—	—	—	—	—	—	—	—	—
3200	892	2.45	2288	939	2.78	2595	—	—	—	—	—	—	—	—	—
3300	901	2.56	2391	948	2.90	2704	—	—	—	—	—	—	—	—	—
3400	911	2.68	2499	—	—	—	—	—	—	—	—	—	—	—	—
3500	921	2.80	2610	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 840 to 1085 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See general fan performance notes.

PAH090 (7¹/₂ TONS) HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	465	0.43	402	555	0.64	596	629	0.86	802	694	1.10	1021	753	1.34	1252
2300	471	0.45	421	560	0.66	618	634	0.89	828	699	1.13	1050	757	1.38	1283
2400	483	0.49	461	571	0.71	665	644	0.94	881	708	1.19	1109	766	1.45	1348
2500	495	0.54	503	581	0.77	715	654	1.01	937	717	1.26	1171	775	1.52	1416
2550	501	0.56	526	587	0.79	740	659	1.04	967	722	1.29	1204	779	1.56	1452
2600	507	0.59	549	592	0.82	767	664	1.07	996	727	1.33	1237	784	1.60	1488
2700	519	0.64	597	603	0.88	823	674	1.14	1059	737	1.40	1306	793	1.68	1563
2800	532	0.70	649	614	0.95	882	684	1.21	1125	746	1.48	1378	803	1.76	1641
2900	544	0.75	703	625	1.01	944	695	1.28	1194	756	1.56	1453	812	1.85	1723
3000	557	0.82	761	637	1.08	1009	705	1.36	1266	766	1.64	1533	822	1.94	1808
3100	570	0.88	823	648	1.16	1079	716	1.44	1342	776	1.73	1615	831	2.03	1897
3200	583	0.95	888	660	1.23	1151	727	1.53	1422	787	1.82	1702	841	2.13	1991
3300	596	1.03	957	672	1.32	1228	738	1.61	1506	797	1.92	1792	851	2.24	2088
3400	609	1.10	1030	684	1.40	1308	749	1.71	1593	808	2.02	1887	861	2.35	2188
3500	622	1.19	1106	696	1.49	1392	760	1.81	1685	818	2.13	1985	872	2.46	2294
3600	635	1.27	1187	708	1.59	1481	771	1.91	1781	829	2.24	2088	882	2.58	2403
3700	649	1.36	1272	720	1.69	1573	783	2.02	1881	840	2.35	2195	892	2.70	2517
3750	655	1.41	1316	726	1.74	1621	789	2.07	1932	845	2.41	2250	897	2.76	2575

PAH090 (7¹/₂ TONS) HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	806	1.60	1494	856	1.87	1747	903	2.15	2009	947	2.45	2282	988	2.75	2564
2300	811	1.64	1528	860	1.91	1784	907	2.20	2048	950	2.49	2323	992	2.80	2607
2400	819	1.71	1599	868	1.99	1859	915	2.28	2129	958	2.58	2410	1000	2.89	2698
2500	828	1.79	1672	877	2.08	1938	923	2.37	2214	966	2.68	2499	1008	3.00	2793
2550	832	1.83	1710	881	2.12	1979	927	2.42	2258	971	2.73	2545	1012	3.05	2842
2600	836	1.88	1749	885	2.17	2021	931	2.47	2302	975	2.78	2592	1016	3.10	2891
2700	845	1.96	1830	894	2.26	2107	940	2.57	2394	983	2.88	2689	1024	3.21	2993
2800	854	2.05	1914	903	2.36	2197	948	2.67	2488	991	2.99	2790	1032	3.32	3099
2900	864	2.15	2002	912	2.46	2290	957	2.77	2587	1000	3.10	2894	1041	3.44	3209
3000	873	2.24	2093	921	2.56	2388	966	2.89	2691	1008	3.22	3003	1049	3.56	3323
3100	882	2.35	2189	930	2.67	2489	975	3.00	2798	1017	3.34	3115	1057	3.69	3441
3200	892	2.45	2288	939	2.78	2595	984	3.12	2909	1026	3.47	3233	1066	3.82	3564
3300	901	2.56	2391	948	2.90	2704	993	3.24	3024	1035	3.60	3353	1075	3.96	3690
3400	911	2.68	2499	958	3.02	2817	1002	3.37	3144	1044	3.73	3479	1084	4.10	3821
3500	921	2.80	2610	967	3.15	2935	1011	3.50	3268	1053	3.87	3608	—	—	—
3600	931	2.92	2726	977	3.28	3057	1021	3.64	3396	1062	4.01	3743	—	—	—
3700	941	3.05	2847	987	3.41	3184	1030	3.78	3529	1071	4.16	3882	—	—	—
3750	946	3.12	2908	992	3.48	3249	1035	3.86	3597	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 4.20.
3. See general fan performance notes.

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

PAH102 (8 1/2 TONS) STANDARD MOTOR (BELT DRIVE)*															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	462	0.37	348	541	0.50	467	614	0.64	594	681	0.78	728	744	0.93	868
2600	474	0.41	381	551	0.54	505	622	0.68	635	688	0.83	773	750	0.98	916
2700	486	0.45	417	561	0.58	545	630	0.73	679	695	0.88	820	756	1.04	967
2800	498	0.49	456	571	0.63	587	639	0.78	725	702	0.93	870	762	1.09	1020
2900	510	0.53	497	581	0.68	632	648	0.83	774	710	0.99	922	768	1.15	1076
3000	523	0.58	541	592	0.73	680	657	0.88	825	718	1.05	977	775	1.22	1135
3100	536	0.63	587	603	0.78	730	666	0.94	879	726	1.11	1035	783	1.28	1196
3200	549	0.68	637	614	0.84	783	676	1.00	936	735	1.17	1096	790	1.35	1260
3300	562	0.74	689	626	0.90	839	686	1.07	996	743	1.24	1159	798	1.42	1328
3400	575	0.80	744	637	0.96	898	696	1.14	1059	752	1.31	1226	806	1.50	1398
3500	588	0.86	802	649	1.03	961	707	1.21	1125	762	1.39	1296	815	1.58	1472
3600	601	0.93	864	661	1.10	1026	717	1.28	1194	771	1.47	1369	823	1.66	1548
3700	614	1.00	929	673	1.17	1095	728	1.36	1267	781	1.55	1445	832	1.75	1629
3800	628	1.07	997	685	1.25	1167	739	1.44	1343	791	1.64	1525	841	1.84	1712
3900	641	1.15	1069	697	1.33	1243	750	1.53	1423	801	1.72	1608	850	1.93	1799
4000	655	1.23	1144	709	1.42	1322	761	1.61	1506	812	1.82	1695	860	2.03	1890
4100	668	1.31	1223	722	1.51	1405	773	1.71	1593	822	1.92	1786	870	2.13	1984
4200	682	1.40	1305	734	1.60	1492	784	1.80	1683	833	2.02	1880	880	2.23	2082
4300	696	1.49	1392	747	1.70	1582	796	1.91	1777	844	2.12	1979	890	2.34	2184

PAH102 (8 1/2 TONS) STANDARD MOTOR (BELT DRIVE)* (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	804	1.09	1013	861	1.25	1164	915	1.41	1319	967	1.59	1479	1017	1.76	1642
2600	809	1.14	1065	864	1.31	1219	918	1.48	1378	969	1.65	1541	1018	1.83	1708
2700	813	1.20	1119	869	1.37	1277	921	1.54	1439	972	1.72	1606	1021	1.90	1776
2800	819	1.26	1176	873	1.43	1337	925	1.61	1503	975	1.79	1673	1023	1.98	1847
2900	824	1.32	1235	878	1.50	1400	929	1.68	1569	978	1.87	1742	1026	2.06	1920
3000	830	1.39	1298	883	1.57	1466	934	1.76	1638	982	1.95	1815	1029	2.14	1996
3100	837	1.46	1363	889	1.65	1534	938	1.83	1710	986	2.03	1891	1033	2.23	2075
3200	843	1.53	1431	894	1.72	1606	944	1.91	1785	991	2.11	1969	1037	2.31	2157
3300	850	1.61	1502	901	1.80	1680	949	2.00	1863	996	2.20	2051	1041	2.40	2242
3400	858	1.69	1576	907	1.88	1758	955	2.09	1944	1001	2.29	2135	1046	2.50	2331
3500	865	1.77	1653	914	1.97	1838	961	2.18	2029	1007	2.38	2223	1051	2.60	2422
3600	873	1.86	1733	921	2.06	1922	967	2.27	2116	1012	2.48	2314	1056	2.70	2516
3700	881	1.95	1816	928	2.16	2010	974	2.37	2207	1019	2.58	2409	1062	2.80	2615
3800	889	2.04	1904	936	2.25	2100	981	2.47	2302	1025	2.69	2507	—	—	—
3900	898	2.14	1995	944	2.35	2195	988	2.57	2399	1032	2.80	2608	—	—	—
4000	907	2.24	2089	952	2.46	2293	996	2.68	2501	—	—	—	—	—	—
4100	916	2.35	2187	960	2.57	2395	1004	2.80	2607	—	—	—	—	—	—
4200	925	2.45	2289	969	2.68	2500	—	—	—	—	—	—	—	—	—
4300	934	2.57	2395	978	2.80	2610	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 840 to 1085 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See general fan performance notes.

PAH102 (8 1/2 TONS) HIGH-STATIC MOTOR (BELT DRIVE)*															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	462	0.37	348	541	0.50	467	614	0.64	594	681	0.78	728	744	0.93	868
2600	474	0.41	381	551	0.54	505	622	0.68	635	688	0.83	773	750	0.98	916
2700	486	0.45	417	561	0.58	545	630	0.73	679	695	0.88	820	756	1.04	967
2800	498	0.49	456	571	0.63	587	639	0.78	725	702	0.93	870	762	1.09	1020
2900	510	0.53	497	581	0.68	632	648	0.83	774	710	0.99	922	768	1.15	1076
3000	523	0.58	541	592	0.73	680	657	0.88	825	718	1.05	977	775	1.22	1135
3100	536	0.63	587	603	0.78	730	666	0.94	879	726	1.11	1035	783	1.28	1196
3200	549	0.68	637	614	0.84	783	676	1.00	936	735	1.17	1096	790	1.35	1260
3300	562	0.74	689	626	0.90	839	686	1.07	996	743	1.24	1159	798	1.42	1328
3400	575	0.80	744	637	0.96	898	696	1.14	1059	752	1.31	1226	806	1.50	1398
3500	588	0.86	802	649	1.03	961	707	1.21	1125	762	1.39	1296	815	1.58	1472
3600	601	0.93	864	661	1.10	1026	717	1.28	1194	771	1.47	1369	823	1.66	1548
3700	614	1.00	929	673	1.17	1095	728	1.36	1267	781	1.55	1445	832	1.75	1629
3800	628	1.07	997	685	1.25	1167	739	1.44	1343	791	1.64	1525	841	1.84	1712
3900	641	1.15	1069	697	1.33	1243	750	1.53	1423	801	1.72	1608	850	1.93	1799
4000	655	1.23	1144	709	1.42	1322	761	1.61	1506	812	1.82	1695	860	2.03	1890
4100	668	1.31	1223	722	1.51	1405	773	1.71	1593	822	1.92	1786	870	2.13	1984
4200	682	1.40	1305	734	1.60	1492	784	1.80	1683	833	2.02	1880	880	2.23	2082
4300	696	1.49	1392	747	1.70	1582	796	1.91	1777	844	2.12	1979	890	2.34	2184

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

PAH102 (8 1/2 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2500	804	1.09	1013	861	1.25	1164	915	1.41	1319	967	1.59	1479	1017	1.76	1642
2600	809	1.14	1065	864	1.31	1219	918	1.48	1378	969	1.65	1541	1018	1.83	1708
2700	813	1.20	1119	869	1.37	1277	921	1.54	1439	972	1.72	1606	1021	1.90	1776
2800	819	1.26	1176	873	1.43	1337	925	1.61	1503	975	1.79	1673	1023	1.98	1847
2900	824	1.32	1235	878	1.50	1400	929	1.68	1569	978	1.87	1742	1026	2.06	1920
3000	830	1.39	1298	883	1.57	1466	934	1.76	1638	982	1.95	1815	1029	2.14	1996
3100	837	1.46	1363	889	1.65	1534	938	1.83	1710	986	2.03	1891	1033	2.23	2075
3200	843	1.53	1431	894	1.72	1606	944	1.91	1785	991	2.11	1969	1037	2.31	2157
3300	850	1.61	1502	901	1.80	1680	949	2.00	1863	996	2.20	2051	1041	2.40	2242
3400	858	1.69	1576	907	1.88	1758	955	2.09	1944	1001	2.29	2135	1046	2.50	2331
3500	865	1.77	1653	914	1.97	1838	961	2.18	2029	1007	2.38	2223	1051	2.60	2422
3600	873	1.86	1733	921	2.06	1922	967	2.27	2116	1012	2.48	2314	1056	2.70	2516
3700	881	1.95	1816	928	2.16	2010	974	2.37	2207	1019	2.58	2409	1062	2.80	2615
3800	889	2.04	1904	936	2.25	2100	981	2.47	2302	1025	2.69	2507	1068	2.91	2716
3900	898	2.14	1995	944	2.35	2195	988	2.57	2399	1032	2.80	2608	1074	3.03	2821
4000	907	2.24	2089	952	2.46	2293	996	2.68	2501	1038	2.91	2713	1080	3.14	2930
4100	916	2.35	2187	960	2.57	2395	1004	2.80	2607	1046	3.03	2822	1087	3.26	3042
4200	925	2.45	2289	969	2.68	2500	1011	2.91	2716	1053	3.15	2935	1094	3.39	3159
4300	934	2.57	2395	978	2.80	2610	1020	3.03	2828	1061	3.27	3052	1101	3.52	3279

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 4.20.
3. See general fan performance notes.

PAH120 (10 TONS) STANDARD MOTOR (BELT DRIVE)*

Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	523	0.58	541	592	0.73	680	657	0.88	825	718	1.05	977	775	1.22	1135
3100	536	0.63	587	603	0.78	730	666	0.94	879	726	1.11	1035	783	1.28	1196
3200	549	0.68	637	614	0.84	783	676	1.00	936	735	1.17	1096	790	1.35	1260
3300	562	0.74	689	626	0.90	839	686	1.07	996	743	1.24	1159	798	1.42	1328
3400	575	0.80	744	637	0.96	898	696	1.14	1059	752	1.31	1226	806	1.50	1398
3500	588	0.86	802	649	1.03	961	707	1.21	1125	762	1.39	1296	815	1.58	1472
3600	601	0.93	864	661	1.10	1026	717	1.28	1194	771	1.47	1369	823	1.66	1548
3700	614	1.00	929	673	1.17	1095	728	1.36	1267	781	1.55	1445	832	1.75	1629
3800	628	1.07	997	685	1.25	1167	739	1.44	1343	791	1.64	1525	841	1.84	1712
3900	641	1.15	1069	697	1.33	1243	750	1.53	1423	801	1.72	1608	850	1.93	1799
4000	655	1.23	1144	709	1.42	1322	761	1.61	1506	812	1.82	1695	860	2.03	1890
4100	668	1.31	1223	722	1.51	1405	773	1.71	1593	822	1.92	1786	870	2.13	1984
4200	682	1.40	1305	734	1.60	1492	784	1.80	1683	833	2.02	1880	880	2.23	2082
4300	696	1.49	1392	747	1.70	1582	796	1.91	1777	844	2.12	1979	890	2.34	2184
4400	710	1.59	1482	760	1.80	1677	808	2.01	1876	855	2.23	2081	900	2.46	2290
4500	723	1.69	1577	773	1.90	1775	820	2.12	1978	866	2.35	2187	910	2.57	2400
4600	737	1.80	1675	785	2.01	1877	832	2.24	2085	877	2.46	2297	921	2.70	2514
4700	751	1.91	1778	798	2.13	1984	844	2.35	2195	889	2.59	2412	932	2.82	2633
4800	765	2.02	1885	812	2.25	2095	856	2.48	2310	900	2.71	2531	942	2.95	2756
4900	779	2.14	1996	825	2.37	2210	869	2.61	2430	912	2.85	2654	953	3.09	2883
5000	793	2.26	2112	838	2.50	2330	881	2.74	2554	923	2.98	2782	965	3.23	3014

PAH120 (10 TONS) STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	830	1.39	1298	883	1.57	1466	934	1.76	1638	982	1.95	1815	1029	2.14	1996
3100	837	1.46	1363	889	1.65	1534	938	1.83	1710	986	2.03	1891	1033	2.23	2075
3200	843	1.53	1431	894	1.72	1606	944	1.91	1785	991	2.11	1969	1037	2.31	2157
3300	850	1.61	1502	901	1.80	1680	949	2.00	1863	996	2.20	2051	1041	2.40	2242
3400	858	1.69	1576	907	1.88	1758	955	2.09	1944	1001	2.29	2135	1046	2.50	2331
3500	865	1.77	1653	914	1.97	1838	961	2.18	2029	1007	2.38	2223	1051	2.60	2422
3600	873	1.86	1733	921	2.06	1922	967	2.27	2116	1012	2.48	2314	1056	2.70	2516
3700	881	1.95	1816	928	2.16	2010	974	2.37	2207	1019	2.58	2409	1062	2.80	2615
3800	889	2.04	1904	936	2.25	2100	981	2.47	2302	1025	2.69	2507	1068	2.91	2716
3900	898	2.14	1995	944	2.35	2195	988	2.57	2399	1032	2.80	2608	1074	3.03	2821
4000	907	2.24	2089	952	2.46	2293	996	2.68	2501	1038	2.91	2713	1080	3.14	2930
4100	916	2.35	2187	960	2.57	2395	1004	2.80	2607	1046	3.03	2822	1087	3.26	3042
4200	925	2.45	2289	969	2.68	2500	1011	2.91	2716	1053	3.15	2935	1094	3.39	3159
4300	934	2.57	2395	978	2.80	2610	1020	3.03	2828	1061	3.27	3052	1101	3.52	3279
4400	944	2.69	2504	986	2.92	2723	1028	3.16	2946	1068	3.40	3173	1108	3.65	3403
4500	954	2.81	2618	996	3.05	2840	1037	3.29	3067	1076	3.54	3297	—	—	—
4600	963	2.93	2736	1005	3.18	2962	1045	3.42	3192	1085	3.67	3426	—	—	—
4700	974	3.07	2858	1014	3.31	3088	1054	3.56	3322	—	—	—	—	—	—
4800	984	3.20	2985	1024	3.45	3219	—	—	—	—	—	—	—	—	—
4900	994	3.34	3116	1034	3.60	3353	—	—	—	—	—	—	—	—	—
5000	1005	3.49	3251	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See general fan performance notes.

FAN PERFORMANCE DATA — PAH

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

PAH120 (10 TONS) HIGH-STATIC MOTOR (BELT DRIVE)*															
Airflow Cfm	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	523	0.58	541	592	0.73	680	657	0.88	825	718	1.05	977	775	1.22	1135
3100	536	0.63	587	603	0.78	730	666	0.94	879	726	1.11	1035	783	1.28	1196
3200	549	0.68	637	614	0.84	783	676	1.00	936	735	1.17	1096	790	1.35	1260
3300	562	0.74	689	626	0.90	839	686	1.07	996	743	1.24	1159	798	1.42	1328
3400	575	0.80	744	637	0.96	898	696	1.14	1059	752	1.31	1226	806	1.50	1398
3500	588	0.86	802	649	1.03	961	707	1.21	1125	762	1.39	1296	815	1.58	1472
3600	601	0.93	864	661	1.10	1026	717	1.28	1194	771	1.47	1369	823	1.66	1548
3700	614	1.00	929	673	1.17	1095	728	1.36	1267	781	1.55	1445	832	1.75	1629
3800	628	1.07	997	685	1.25	1167	739	1.44	1343	791	1.64	1525	841	1.84	1712
3900	641	1.15	1069	697	1.33	1243	750	1.53	1423	801	1.72	1608	850	1.93	1799
4000	655	1.23	1144	709	1.42	1322	761	1.61	1506	812	1.82	1695	860	2.03	1890
4100	668	1.31	1223	722	1.51	1405	773	1.71	1593	822	1.92	1786	870	2.13	1984
4200	682	1.40	1305	734	1.60	1492	784	1.80	1683	833	2.02	1880	880	2.23	2082
4300	696	1.49	1392	747	1.70	1582	796	1.91	1777	844	2.12	1979	890	2.34	2184
4400	710	1.59	1482	760	1.80	1677	808	2.01	1876	855	2.23	2081	900	2.46	2290
4500	723	1.69	1577	773	1.90	1775	820	2.12	1978	866	2.35	2187	910	2.57	2400
4600	737	1.80	1675	785	2.01	1877	832	2.24	2085	877	2.46	2297	921	2.70	2514
4700	751	1.91	1778	798	2.13	1984	844	2.35	2195	889	2.59	2412	932	2.82	2633
4800	765	2.02	1885	812	2.25	2095	856	2.48	2310	900	2.71	2531	942	2.95	2756
4900	779	2.14	1996	825	2.37	2210	869	2.61	2430	912	2.85	2654	953	3.09	2883
5000	793	2.26	2112	838	2.50	2330	881	2.74	2554	923	2.98	2782	965	3.23	3014

PAH120 (10 TONS) HIGH-STATIC MOTOR (BELT DRIVE)* (cont)															
Airflow Cfm	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	830	1.39	1298	883	1.57	1466	934	1.76	1638	982	1.95	1815	1029	2.14	1996
3100	837	1.46	1363	889	1.65	1534	938	1.83	1710	986	2.03	1891	1033	2.23	2075
3200	843	1.53	1431	894	1.72	1606	944	1.91	1785	991	2.11	1969	1037	2.31	2157
3300	850	1.61	1502	901	1.80	1680	949	2.00	1863	996	2.20	2051	1041	2.40	2242
3400	858	1.69	1576	907	1.88	1758	955	2.09	1944	1001	2.29	2135	1046	2.50	2331
3500	865	1.77	1653	914	1.97	1838	961	2.18	2029	1007	2.38	2223	1051	2.60	2422
3600	873	1.86	1733	921	2.06	1922	967	2.27	2116	1012	2.48	2314	1056	2.70	2516
3700	881	1.95	1816	928	2.16	2010	974	2.37	2207	1019	2.58	2409	1062	2.80	2615
3800	889	2.04	1904	936	2.25	2100	981	2.47	2302	1025	2.69	2507	1068	2.91	2716
3900	898	2.14	1995	944	2.35	2195	988	2.57	2399	1032	2.80	2608	1074	3.03	2821
4000	907	2.24	2089	952	2.46	2293	996	2.68	2501	1038	2.91	2713	1080	3.14	2930
4100	916	2.35	2187	960	2.57	2395	1004	2.80	2607	1046	3.03	2822	1087	3.26	3042
4200	925	2.45	2289	969	2.68	2500	1011	2.91	2716	1053	3.15	2935	1094	3.39	3159
4300	934	2.57	2395	978	2.80	2610	1020	3.03	2828	1061	3.27	3052	1101	3.52	3279
4400	944	2.69	2504	986	2.92	2723	1028	3.16	2946	1068	3.40	3173	1108	3.65	3403
4500	954	2.81	2618	996	3.05	2840	1037	3.29	3067	1076	3.54	3297	1115	3.79	3531
4600	963	2.93	2736	1005	3.18	2962	1045	3.42	3192	1085	3.67	3426	1123	3.93	3664
4700	974	3.07	2858	1014	3.31	3088	1054	3.56	3322	1093	3.82	3560	1131	4.08	3801
4800	984	3.20	2985	1024	3.45	3219	1063	3.71	3456	1102	3.96	3697	1139	4.23	3943
4900	994	3.34	3116	1034	3.60	3353	1073	3.85	3594	1111	4.12	3839	1148	4.38	4088
5000	1005	3.49	3251	1044	3.74	3492	1082	4.01	3737	1119	4.27	3986	1156	4.55	4238

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.
3. See general fan performance notes.

GENERAL FAN PERFORMANCE NOTES

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See accessory/factory-installed option static pressure information.
2. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Performance tables for additional information.
3. Use of a field-supplied motor may affect wire sizing.
4. Interpolation is permissible. Do not extrapolate.

FAN PERFORMANCE DATA

FAN RPM AT MOTOR PULLEY SETTING*; STANDARD MOTOR/DRIVE

UNIT PAH	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
036	1044	1008	971	935	898	863	826	789	753	716	680	—	—
048	1185	1144	1102	1061	1019	987	936	895	853	812	770	—	—
060	1460	1425	1389	1354	1318	1283	1248	1212	1177	1141	1106	1070	1035
072	1585	1490	1445	1400	1350	1305	1260	1210	1165	1120	—	—	—
090,102	1085	1060	1035	1010	985	960	935	910	890	865	840	—	—
120	1080	1060	1035	1015	990	970	950	925	905	880	860	—	—

*Approximate fan rpm shown.

FAN RPM AT MOTOR PULLEY SETTING*; HIGH-STATIC MOTOR/DRIVE

UNIT PAH	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
036	1455	1423	1392	1360	1328	1297	1265	1233	1202	1170	1138	1107	1075
048	1455	1423	1392	1360	1328	1297	1265	1233	1202	1170	1138	1107	1075
060	1685	1589	1557	1525	1493	1460	1428	1396	1364	1332	1300	—	—
072	1685	1589	1557	1525	1493	1460	1428	1396	1364	1332	1300	—	—
090	1080	1025	1007	988	970	952	933	915	897	878	860	—	—
102	1080	1025	1007	988	970	952	933	915	897	878	860	—	—
120	1130	1112	1087	1062	1037	1212	987	962	937	912	887	862	830

*Approximate fan rpm shown.

PERFORMANCE DATA — PAH (cont)

EVAPORATOR-FAN MOTOR PERFORMANCE — STANDARD MOTOR

UNIT PAH	UNIT PHASE	MAXIMUM CONTINUOUS BHP*	MAXIMUM OPERATING WATTS*	UNIT VOLTAGE	MAXIMUM AMP DRAW
036	Single	1.20	1000	208/230	4.9
	Three	1.20	1000	208/230	4.9
				460	2.2
				575	2.2
048	Single	1.20	1000	208/230	4.9
	Three	1.20	1000	208/230	4.9
				460	2.2
				575	2.2
060	Single	1.30	1650	208/230	10.1
	Three	2.40	2120	208/230	6.7
				460	3.0
				575	3.0
072	Three	2.40	2120	208/230	6.7
				460	3.0
				575	3.0
				575	3.0
090,102	Three	2.90	2615	208/230	8.6
				460	3.9
				575	3.9
				575	3.9
120	Three	3.70	3775	208/230	12.2
				460	5.5
				575	5.5
				575	5.5

LEGEND

Bhp — Brake Horsepower

*Extensive motor and electrical testing on these units ensures that the full horsepower and watts range of the motors can be utilized with confidence. Using your fan motors up to the ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

EVAPORATOR-FAN MOTOR PERFORMANCE — HIGH-STATIC MOTORS

UNIT PAH	UNIT PHASE	MAXIMUM CONTINUOUS BHP*	MAXIMUM OPERATING WATTS*	UNIT VOLTAGE	MAXIMUM AMP DRAW
036	Three	2.40	2120	208/230	6.7
				460	3.0
				575	3.0
				575	3.0
048	Three	2.40	2120	208/230	6.7
				460	3.0
				575	3.0
				575	3.0
060	Three	2.90	2615	208/230	8.6
				460	3.9
				575	3.9
				575	3.9
072	Three	2.90	2615	208/230	8.6
				460	3.9
				575	3.9
				575	3.9
090,102	Three	4.20	3775	208/230	12.2
				460	5.5
				575	5.5
				575	5.5
120	Three	5.25	4400	208/230	17.3
				460	8.5
				575	8.5
				575	8.5

LEGEND

Bhp — Brake Horsepower

*Extensive motor and electrical testing on these units ensures that the full horsepower and watts range of the motors can be utilized with confidence. Using your fan motors up to the ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

ACCESSORY ELECTRIC HEATERS

STATIC PRESSURE DROP (in. wg) PAH036—072

COMPONENT	CFM								
	900	1200	1400	1600	1800	2000	2200	2400	2600
1 Heater Module	0.05	0.07	0.09	0.09	0.10	0.11	0.11	0.12	0.13
2 Heater Modules	0.15	0.16	0.16	0.16	0.17	0.17	0.17	0.18	0.18

LEGEND

FIOP — Factory-Installed Option

ACCESSORY ELECTRIC HEATERS

STATIC PRESSURE DROP (in. wg) PAH090—120

COMPONENT	CFM								
	2200	2500	3000	3500	4000	4500	5000	5500	6000
1 Heater Module	0.02	0.03	0.05	0.065	0.08	0.10	0.12	0.14	0.155
2 Heater Modules	0.03	0.05	0.07	0.09	0.12	0.14	0.16	0.19	0.21

EVAPORATOR-FAN MOTOR EFFICIENCY

MOTOR PAH	EFFICIENCY
036,048	75
060	74/84*
072	84
090,102	80
120	85

*Single-phase/3-phase.

NOTE: Convert watts to bhp using the following formula:

$$\text{bhp} = \frac{\text{watts input} \times \text{motor efficiency}}{746}$$

ACCESSORY/FIOP ECONOMIZER STATIC PRESSURE* (in. wg) — PAH036—072

COMPONENT	CFM							
	1250	1500	1750	2000	2250	2500	2750	3000
Vertical Economizer	0.045	0.065	0.08	0.12	0.145	0.175	0.22	0.255
Horizontal Economizer	—	—	0.1	0.125	0.15	0.18	0.225	0.275

LEGEND

FIOP — Factory-Installed Option

NOTE: Performance is for DN series economizer.

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should be used in conjunction with the Fan Performance tables to determine indoor blower rpm and watts.

ACCESSORY/FIOP ECONOMIZER STATIC PRESSURE* (in. wg) — PAH090—120

COMPONENT	CFM												
	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250
Vertical Economizer	0.06	0.075	0.09	0.115	0.13	0.15	0.17	0.195	0.22	0.25	0.285	0.325	0.36
Horizontal Economizer	—	0.1	0.125	0.15	0.18	0.21	0.25	0.275	0.3	0.34	0.388	—	—

LEGEND

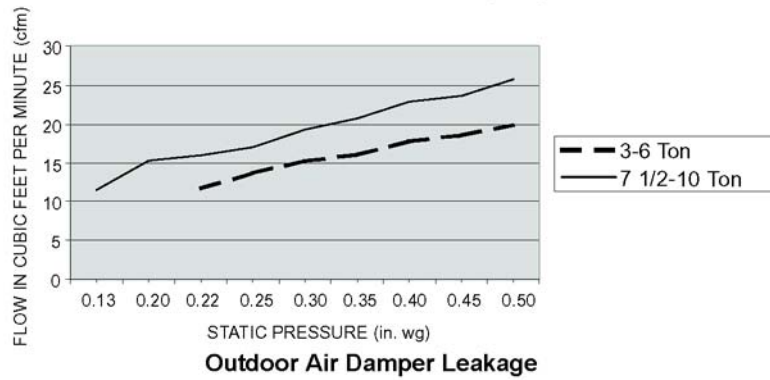
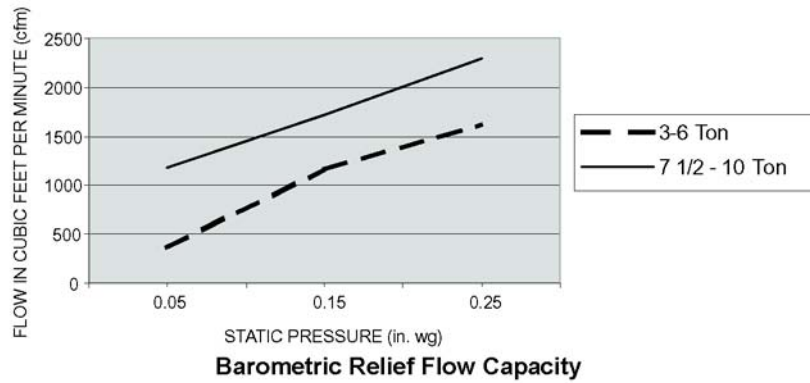
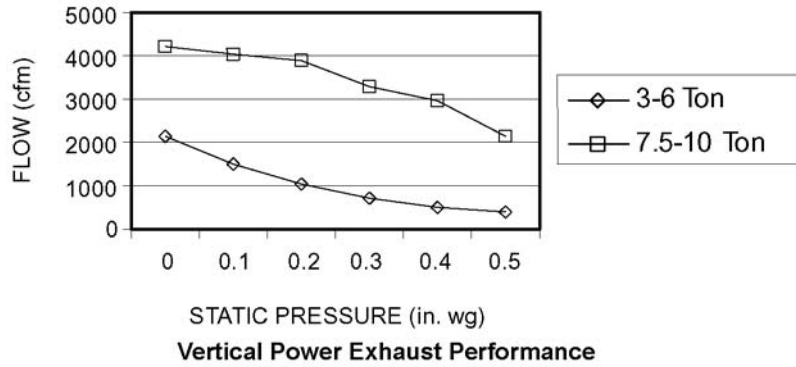
FIOP — Factory-Installed Option

NOTE: Performance is for DN series economizer.

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should be used in conjunction with the Fan Performance tables to determine indoor blower rpm and watts.

PERFORMANCE DATA — PAH (cont)

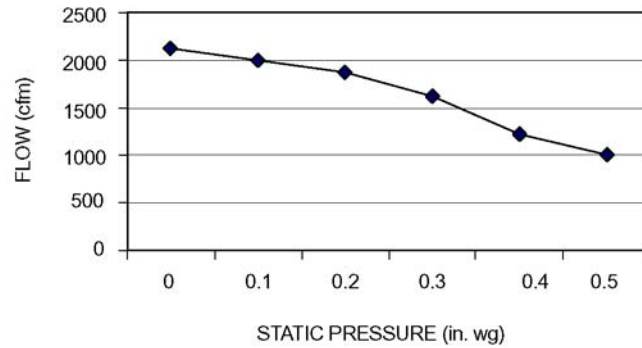
Vertical Economizer Performance Data (PAH036-120)



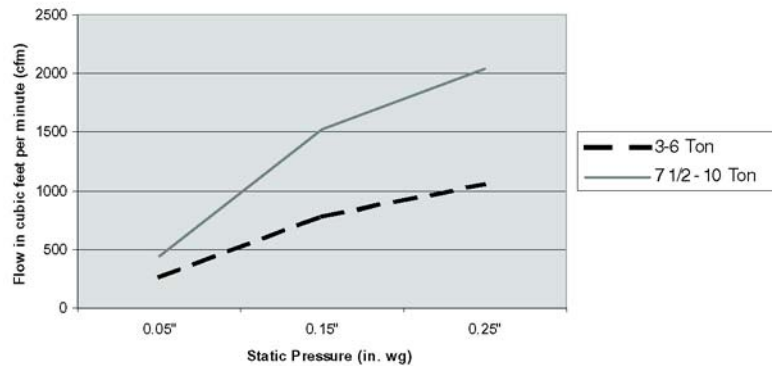
NOTE: Performance is for DN series economizer.

PERFORMANCE DATA — PAH (cont)

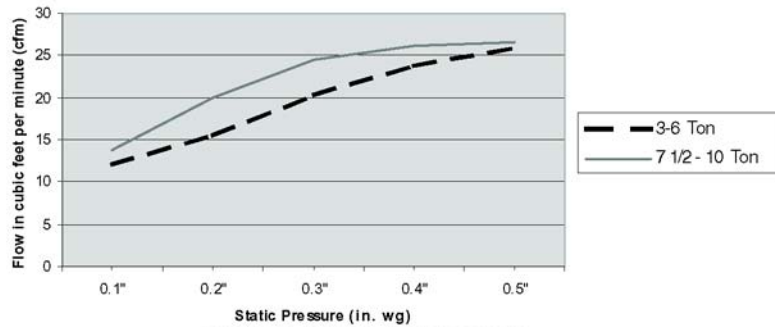
Horizontal Economizer Performance Data (PAH036-120)



Horizontal Power Exhaust Performance



Barometric Relief Capacity



Outdoor Air Damper Leakage

NOTE: Performance is for DN series economizer.

POWER EXHAUST POWER REQUIREMENTS

POWER EXHAUST SIZE	AMPS (2 Fans Running)	MOCP	
		230 VAC	460 VAC
3 to 6 Ton	1.40 Amps at 60 Hz	15.0 amps	15.0 amps
7 1/2 to 10 Ton	3.04 Amps at 60 Hz		

LEGEND

MOCP — Maximum Overcurrent Protection

OUTDOOR SOUND POWER (TOTAL UNIT)

UNIT PAH	ARI RATING (dB)	OCTAVE BANDS							
		63	125	250	500	1000	2000	4000	8000
036,048	76	55.9	66.0	64.0	66.2	68.4	64.5	61.7	57.3
060,072	80	59.1	68.9	68.7	71.9	74.0	68.9	65.7	59.0
090,102	82	62.2	69.3	71.5	74.7	76.2	72.9	68.7	61.5
120	84	64.6	71.1	73.3	76.9	77.6	73.7	70.6	63.7

LEGEND

ARI — Air Conditioning and Refrigeration Institute

dB — Sound Levels (decibels)

NOTES: Indoor sound power is available in the Electronic Catalog program (ECAT) for specific operating parameters.

POWER EXHAUST OPTIONS

VERTICAL — MOUNTED IN ECONOMIZER HOOD				
POWER EXHAUST PART NO.	POWER EXHAUST DESCRIPTION	APPLICATION USAGE	POWER OUTPUT (Hp per fan)	NO. FANS
DNPWREXH030A01	Power Exhaust System (208/230-1-60)	036-072*	0.23	2
DNPWREXH021A01	Power Exhaust System (460-3-60)	036-072	0.24	2
DNPWREXH022A01	Power Exhaust System (208/230-1-60)	090-120*	0.47	2
DNPWREXH023A01	Power Exhaust System (460-3-60)	090-120	0.37	2

HORIZONTAL — MOUNTED IN RETURN DUCTWORK				
POWER EXHAUST PART NO.	POWER EXHAUST DESCRIPTION	APPLICATION USAGE	POWER OUTPUT (Hp per fan)	NO. FANS
DNPWREXH028A01	Horizontal Power Exhaust (208/230-1-60)	All*	0.48	1
DNPWREXH029A01	Horizontal Power Exhaust (460-3-60)	All	0.48	1

*Single or three phase rooftop unit.

*Single or three phase rooftop unit.

ELECTRICAL DATA — PAH036-120

Unit Size	NOMINAL V-PH-Hz	IFM Type	Voltage Range		Compressor (each)			OFM (each)		IFM FLA	Electric Heat		Power Supply*		Disconnect Size	
			Min	Max	Qty	RLA	LRA	Qty	FLA		Actual kW†	FLA	MCA	MOCP	FLA	LRA
036	208/230-1-60	STD	187	254	1	16	88	1	0.7	4.9	—/—	—/—	25.6/25.6	30/30	25/25	101/101
											3.3/4.0	15.9/18.3	26.0/29.0	30/30	25/27	101/101
											4.9/5.8	23.5/27.1	35.5/40.0	40/40	33/37	101/101
											6.5/8.0	31.4/36.3	45.4/51.4	50/50	42/47	101/101
											7.9/9.6	37.9/43.1	53.5/60.0	60/60	49/55	101/101
											9.8/11.6	46.9/54.2	64.8/73.8	70/80	60/68	101/101
	208/230-3-60	STD	187	254	1	10.3	77	1	0.7	4.9	—/—	—/—	18.5/18.5	25/25	18/18	90/90
											3.3/4.0	9.2/10.6	18.5/19.4	25/25	18/18	90/90
											4.9/5.8	13.6/15.6	23.1/25.7	25/30	21/24	90/90
											6.5/8.0	18.1/20.9	28.8/32.3	30/35	26/30	90/90
											7.9/9.6	21.9/25.3	33.5/37.7	35/40	31/35	90/90
											9.8/14.7	33.4/38.5	47.8/54.2	50/60	44/50	90/90
	208/230-3-60	HIGH	187	254	1	10.3	77	1	0.7	5.8	—/—	—/—	19.4/19.4	25/25	19/19	120/120
											3.3/4.0	9.2/10.6	19.4/20.5	25/25	19/19	120/120
											4.9/5.8	13.6/15.6	24.2/26.8	30/30	22/25	120/120
											6.5/8.0	18.1/20.9	29.9/33.4	35/35	28/31	120/120
											7.9/9.6	21.9/25.3	34.6/38.8	35/40	32/36	120/120
											9.8/14.7	33.4/38.5	48.9/55.4	50/60	45/51	120/120
	460-3-60	STD	414	508	1	5.1	39	1	0.4	2.2	—	—	9.0	20	9	46
											5.5	7.2	11.8	20	11	46
											8.1	10.6	16.0	20	15	46
											10.6	13.8	20.0	25	18	46
											12.9	16.8	23.8	25	22	46
		HIGH	414	508	1	5.1	39	1	0.4	2.6	—	—	9.4	20	9	60
											5.5	7.2	12.3	20	11	60
048	208/230-1-60	STD	197	254	1	23.7	126	1	0.7	4.9	—/—	—/—	35.2/35.2	45/45	34/34	139/139
											3.3/4.0	15.9/18.3	35.2/35.2	45/45	34/34	139/139
											6.5/8.0	31.4/36.3	45.4/51.4	50/60	42/47	139/139
											9.8/11.6	46.9/54.2	64.8/73.8	70/80	60/68	139/139
											13.1/16.0	62.8/72.5	84.7/96.8	90/100	78/89	139/139
											16.0/19.3	75.8/87.5	100.9/115.5	110/125	93/106	139/139
	208/230-3-60	STD	187	254	1	13.5	93	1	0.7	4.9	—/—	—/—	22.5/22.5	30/30	22/22	106/106
											4.9/5.8	13.6/15.6	23.1/25.7	30/30	22/24	106/106
											6.5/8.0	18.1/20.9	28.8/32.3	30/35	26/30	106/106
											12.0/14.7	33.4/38.5	47.8/54.2	50/60	44/50	106/106
											16.0/19.3	43.8/50.5	60.8/59.3	70/70	56/64	106/106
		HIGH	187	254	1	13.5	93	1	0.7	5.8	—/—	—/—	23.4/23.4	30/30	23/23	136/136
											4.9/5.8	13.6/15.6	24.2/26.8	30/30	23/25	136/136
	460-3-60	STD	414	508	1	6.4	46.5	1	0.4	2.2	—	—	10.6	20	10	53
											5.5	7.2	11.8	20	11	54
											10.6	13.8	20.0	25	18	54
											12.9	16.8	23.8	25	22	54
											21.1	27.7	37.3	40	34	54
		HIGH	414	508	1	6.4	46.5	1	0.4	2.6	—	—	11.0	20	11	67
											5.5	7.2	12.3	20	11	68
048	575-3-60	STD	518	632	1	6.4	40	1	0.4	1.9	—	—	10.3	15	10	45
											—	—	10.4	15	10	52
											—	—	10.3	15	10	45
											—	—	10.4	15	10	52
											—	—	10.3	15	10	45
											—	—	10.4	15	10	52

ELECTRICAL DATA — PAH036-120

Unit Size	NOMINAL V-PH-Hz	IFM Type	Voltage Range		Compressor (each)			OFM (each)		IFM FLA	Electric Heat		Power Supply*		Disconnect Size	
			Min	Max	Qty	RLA	LRA	Qty	FLA		Actual kW†	FLA	MCA	MOCP	FLA	LRA
060	208/230-1-60	STD	187	254	1	28.8	169	1	1.5	8.8	—/—	—/—	46.3/46.3	60/60	45/45	216/216
											4.9/5.8	23.5/27.1	46.3/46.3	60/60	45/45	216/216
											6.5/8.0	31.4/36.3	50.3/56.3	60/60	46/52	216/216
											8.7/11.6	46.9/54.2	69.7/78.7	70/80	64/72	216/216
											13.0/16.0	62.8/72.5	49.5/101.6	90/110	82/93	216/216
	208/230-3-60	STD	187	254	1	17.3	123	1	1.5	5.8	15.8/19.3	75.8/87.5	105.8/120.4	110/125	97/111	216/216
											—/—	—/—	28.9/28.9	35/35	28/28	168/168
											4.9/5.8	13.6/15.6	28.9/28.9	35/35	28/28	168/168
											7.9/9.6	21.9/25.3	34.6/38.8	35/35	32/36	168/168
											12.0/14.7	33.4/38.5	48.9/55.4	50/50	45/51	168/168
		HIGH	187	254	1	17.3	123	1	1.5	7.5	15.8/19.3	43.8/50.5	62.0/70.4	70/70	57/65	168/168
											19.9/24.3	55.2/63.8	76.3/86.9	80/80	70/80	168/168
											—/—	—/—	30.6/30.6	35/35	30/30	187/187
											4.9/5.8	13.6/15.6	30.6/30.6	35/35	30/30	187/187
											7.9/9.6	21.9/25.3	36.7/40.9	40/45	34/38	187/187
	460-3-60	STD	414	508	1	9	62	1	0.8	2.6	12.0/14.7	33.4/38.5	51.1/57.5	60/60	47/53	187/187
											15.8/19.3	43.8/50.5	64.1/72.5	70/80	59/67	187/187
											19.9/24.3	55.2/63.8	78.4/89.1	80/90	72/82	187/187
		HIGH	414	508	1	9	62	1	0.8	3.4	—	—	14.7	20	14	84
											5.5	7.2	14.7	20	10	84
											10.6	13.8	20.5	25	19	84
072	208/230-3-60	STD	187	254	1	20.5	156	1	1.4	5.8	12.9	16.8	24.3	25	22	84
											21.1	27.7	37.8	40	35	84
											23.4	30.1	40.8	45	38	84
		HIGH	187	254	1	20.5	156	1	1.4	7.5	—	—	15.5	20	15	93
											5.5	7.2	15.5	20	15	94
											10.6	13.8	21.5	25	20	94
											12.9	16.8	25.3	30	23	94
											21.1	27.7	38.8	40	36	94
											23.4	30.1	41.8	45	38	94
	575-3-60	STD	518	632	1	7.1	50	1	0.6	2.0	—	—	11.5	15	11	63
		HIGH	518	632	1	7.1	50	1	0.6	2.8	—	—	12.3	15	12	72
	460-3-60	STD	414	508	1	9.6	75	1	0.6	2.6	—	—	15.2	20	15	97
											5.5	7.2	15.2	20	15	97
											10.6	13.8	20.5	25	19	97
											12.9	16.8	24.3	25	22	97
											21.1	27.7	37.8	40	35	97
		HIGH	414	508	1	9.6	75	1	0.6	3.4	23.4	30.7	41.6	45	38	97
											—	—	16.0	20	16	106
											5.5	7.2	16.0	20	16	107
											10.6	13.8	21.5	25	20	107
											12.9	16.8	25.3	30	23	107
	575-3-60	STD	518	632	1	7.7	56	1	0.6	2.0	—	—	11.5	15	11	63
		HIGH	518	632	1	7.7	56	1	0.6	2.0	—	—	12.3	15	12	72

ELECTRICAL DATA — PAH036-120

UNIT SIZE	NOMINAL V-PH-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (each)			OFM (each)		IFM FLA	ELECTRIC HEAT		POWER SUPPLY*		DISCONNECT SIZE	
			Min	Max	Qty	RLA	LRA	Qty	FLA		Actual kW†	FLA	MCA	MOCP	FLA	LRA
090	208/230-3-60	STD	187	254	2	12.4	88	2	1.4	7.5	—/— 7.8/9.6 12.0/14.7 18.6/22.8 24.0/29.4 31.8/38.9	—/— 21.7/25.0 33.4/38.5 51.7/59.7 66.7/77.0 88.4/102.0	38.2/38.2 38.2/40.6 51.1/57.5 74.0/84.0 92.8/105.6 119.9/136.9	45/45 45/45 60/60 80/90 100/110 125/150	40/40 40/40 47/53 68/77 85/97 110/126	242/242 242/242 242/242 242/242 242/242 242/242
											—/— 7.8/9.6 12.0/14.7 18.6/22.8 24.0/29.4 31.8/38.9	—/— 21.7/25.0 33.4/38.5 51.7/59.7 66.7/77.0 88.4/102.0	41.3/41.3 41.3/44.5 54.9/61.4 77.9/87.8 96.6/109.5 123.7/140.8	45/45 50/50 60/70 80/90 100/110 125/150	44/44 44/44 51/56 72/81 89/101 114/129	267/267 267/267 267/267 267/267 267/267 267/267
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	19.2 25.1 29.1 46.0 53.9 66.9	20 20 20 50 60 70	20 23 27 42 50 62	121 121 121 121 121 121
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	20.6 26.9 30.8 47.8 55.6 68.7	20 20 35 50 60 70	22 25 28 44 51 63	133 134 134 134 134 134
											— 17.0 34.0	— 16.4 32.7	14.8 23.9 44.4	20 25 45	16 22 41	91 91 91
											— 17.0 34.0	— 16.4 32.7	15.3 24.6 45.0	20 25 50	16 23 42	101 101 101
	460-3-60	STD	414	508	2	6.4	44	2	0.7	3.4	— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	19.2 25.1 29.1 46.0 53.9 66.9	20 20 20 50 60 70	20 23 27 42 50 62	121 121 121 121 121 121
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	20.6 26.9 30.8 47.8 55.6 68.7	20 20 35 50 60 70	22 25 28 44 51 63	133 134 134 134 134 134
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	20.6 26.9 30.8 47.8 55.6 68.7	20 20 35 50 60 70	22 25 28 44 51 63	133 134 134 134 134 134
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	20.6 26.9 30.8 47.8 55.6 68.7	20 20 35 50 60 70	22 25 28 44 51 63	133 134 134 134 134 134
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	20.6 26.9 30.8 47.8 55.6 68.7	20 20 35 50 60 70	22 25 28 44 51 63	133 134 134 134 134 134
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	20.6 26.9 30.8 47.8 55.6 68.7	20 20 35 50 60 70	22 25 28 44 51 63	133 134 134 134 134 134
	575-3-60	STD	518	632	2	4.8	34	2	0.6	2.8	— 17.0 34.0	— 16.4 32.7	14.8 23.9 44.4	20 25 45	16 22 41	91 91 91
											— 17.0 34.0	— 16.4 32.7	15.3 24.6 45.0	20 25 50	16 23 42	101 101 101
											— 17.0 34.0	— 16.4 32.7	15.3 24.6 45.0	20 25 50	16 23 42	101 101 101
											— 17.0 34.0	— 16.4 32.7	15.3 24.6 45.0	20 25 50	16 23 42	101 101 101
											— 17.0 34.0	— 16.4 32.7	15.3 24.6 45.0	20 25 50	16 23 42	101 101 101
											— 17.0 34.0	— 16.4 32.7	15.3 24.6 45.0	20 25 50	16 23 42	101 101 101
102	208/230-3-60	STD	187	254	2	13.4	105	2	1.4	7.5	—/— 7.8/9.6 12.0/14.7 18.6/22.8 24.0/29.4 31.8/38.9	—/— 21.7/25.0 33.4/38.5 51.7/59.7 66.7/77.0 88.4/102.0	40.2/40.2 40.2/40.6 51.1/57.5 74.0/84.0 92.8/105.6 119.9/136.9	45/45 45/45 60/60 80/90 100/110 110/150	42/42 42/42 47/53 68/77 85/97 110/126	276/276 276/276 276/276 276/276 276/276 276/276
											—/— 7.8/9.6 12.0/14.7 18.6/22.8 24.0/29.4 31.8/38.9	—/— 21.7/25.0 33.4/38.5 51.7/59.7 66.7/77.0 88.4/102.0	40.2/40.2 40.2/40.6 51.1/57.5 74.0/84.0 92.8/105.6 119.9/136.9	45/45 45/45 60/60 80/90 100/110 110/150	42/42 42/42 47/53 68/77 85/97 110/126	276/276 276/276 276/276 276/276 276/276 276/276
											—/— 7.8/9.6 12.0/14.7 18.6/22.8 24.0/29.4 31.8/38.9	—/— 21.7/25.0 33.4/38.5 51.7/59.7 66.7/77.0 88.4/102.0	40.2/40.2 40.2/40.6 51.1/57.5 74.0/84.0 92.8/105.6 119.9/136.9	45/45 45/45 60/60 80/90 100/110 110/150	42/42 42/42 47/53 68/77 85/97 110/126	276/276 276/276 276/276 276/276 276/276 276/276
											—/— 7.8/9.6 12.0/14.7 18.6/22.8 24.0/29.4 31.8/38.9	—/— 21.7/25.0 33.4/38.5 51.7/59.7 66.7/77.0 88.4/102.0	40.2/40.2 40.2/40.6 51.1/57.5 74.0/84.0 92.8/105.6 119.9/136.9	45/45 45/45 60/60 80/90 100/110 110/150	42/42 42/42 47/53 68/77 85/97 110/126	276/276 276/276 276/276 276/276 276/276 276/276
											—/— 7.8/9.6 12.0/14.7 18.6/22.8 24.0/29.4 31.8/38.9	—/— 21.7/25.0 33.4/38.5 51.7/59.7 66.7/77.0 88.4/102.0	40.2/40.2 40.2/40.6 51.1/57.5 74.0/84.0 92.8/105.6 119.9/136.9	45/45 45/45 60/60 80/90 100/110 110/150	42/42 42/42 47/53 68/77 85/97 110/126	276/276 276/276 276/276 276/276 276/276 276/276
											—/— 7.8/9.6 12.0/14.7 18.6/22.8 24.0/29.4 31.8/38.9	—/— 21.7/25.0 33.4/38.5 51.7/59.7 66.7/77.0 88.4/102.0	40.2/40.2 40.2/40.6 51.1/57.5 74.0/84.0 92.8/105.6 119.9/136.9	45/45 45/45 60/60 80/90 100/110 110/150	42/42 42/42 47/53 68/77 85/97 110/126	276/276 276/276 276/276 276/276 276/276 276/276
	460-3-60	STD	414	508	2	7.4	55	2	0.7	3.4	— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	21.5 25.1 29.1 46.0 53.9 66.9	20 20 20 50 60 70	23 23 27 42 50 62	143 143 143 143 143 143
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	21.5 25.1 29.1 46.0 53.9 66.9	20 20 20 50 60 70	23 23 27 42 50 62	143 143 143 143 143 143
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	21.5 25.1 29.1 46.0 53.9 66.9	20 20 20 50 60 70	23 23 27 42 50 62	143 143 143 143 143 143
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	21.5 25.1 29.1 46.0 53.9 66.9	20 20 20 50 60 70	23 23 27 42 50 62	143 143 143 143 143 143
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	21.5 25.1 29.1 46.0 53.9 66.9	20 20 20 50 60 70	23 23 27 42 50 62	143 143 143 143 143 143
											— 12.8 15.2 25.5 30.3 38.3	— 16.7 19.8 33.4 39.7 50.2	21.5 25.1 29.1 46.0 53.9 66.9	20 20 20 50 60 70	23 23 27 42 50 62	143 143 143 143 143 143
	575-3-60	STD	518	632	2	6.4	44	2	0.6	2.8	— 17.0 34.0	— 16.4 32.7	18.4 23.9 44.4	25 25 45	19 22 41	111 111 111
											— 17.0 34.0	— 16.4 32.7	18.4 23.9 44.4	25 25 45	19 22 41	111 111 111
											— 17.0 34.0	— 16.4 32.7	18.4 23.9 44.4	25 25 45	19 22 41	111 111 111
											— 17.0 34.0	— 16.4 32.7	18.4 23.9 44.4	25 25 45	19 22 41	111 111 111
											— 17.0 34.0	— 16.4 32.7	18.4 23.9 44.4	25 25 45	19 22 41	111 111 111
											— 17.0 34.0	— 16.4 32.7	18.4 23.9 44.4	25 25 45	19 22 41	111 111 111

ELECTRICAL DATA — PAH (cont)

UNIT SIZE	NOMINAL V-PH-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (each)			OFM (each)		IFM FLA	ELECTRIC HEAT		POWER SUPPLY*		DISCONNECT SIZE	
			Min	Max	Qty	RLA	LRA	Qty	FLA	IFM FLA	Actual kW†	FLA	MCA	MOCP	FLA	LRA
120	208-3-60	STD	187	254	2	17.6	125	2	1.4	10.6	—/—	—/—	53.0/53.0	60/60	56/56	341/341
			187	254	2	17.6	125	2	1.4	10.6	7.8/9.6	21.7/25.0	53.0/53.0	60/60	56/56	341/341
			187	254	2	17.6	125	2	1.4	10.6	12.0/14.7	33.4/38.5	54.9/61.4	60/70	56/56	341/341
			187	254	2	17.6	125	2	1.4	10.6	24.0/29.4	66.7/77.0	96.6/109.5	100/110	89/101	341/341
			187	254	2	17.6	125	2	1.4	10.6	31.8/38.9	88.4/102.0	123.7/140.8	125/150	114/129	341/341
			187	254	2	17.6	125	2	1.4	10.6	37.5/45.9	104.2/104.2	143.5/133.5	150/150	132/151	341/341
		HIGH	187	254	2	17.6	125	2	1.4	15	—/—	—/—	57.4/57.4	70/70	61/61	364/364
			187	254	2	17.6	125	2	1.4	15	7.8/9.6	21.7/25.0	57.4/57.4	70/70	62/62	364/364
			187	254	2	17.6	125	2	1.4	15	12.0/14.7	33.4/38.5	60.4/66.9	70/80	61/62	364/364
			187	254	2	17.6	125	2	1.4	15	24.0/29.4	66.7/77.0	102.1/115.0	110/125	94/106	364/364
			187	254	2	17.6	125	2	1.4	15	31.8/38.9	88.4/102.0	129.2/146.3	150/150	119/135	364/364
	460-3-60	STD	414	508	2	8.3	62.5	2	0.7	4.8	—	—	24.9	30	26	170
			414	508	2	8.3	62.5	2	0.7	4.8	12.8	16.7	26.9	30	26	171
			414	508	2	8.3	62.5	2	0.7	4.8	15.2	19.8	30.8	35	28	171
			414	508	2	8.3	62.5	2	0.7	4.8	30.3	39.7	55.6	60	51	171
			414	508	2	8.3	62.5	2	0.7	4.8	38.3	50.2	68.7	70	63	171
			414	508	2	8.3	62.5	2	0.7	4.8	45.9	60.1	66.1	80	75	171
		HIGH	414	508	2	8.3	62.5	2	0.7	7.4	—	—	27.5	30	29	182
			414	508	2	8.3	62.5	2	0.7	7.4	12.8	16.7	30.1	35	29	182
			414	508	2	8.3	62.5	2	0.7	7.4	15.2	19.8	34.1	40	31	182
			414	508	2	8.3	62.5	2	0.7	7.4	30.3	39.7	58.9	60	54	182
			414	508	2	8.3	62.5	2	0.7	7.4	38.3	50.2	71.9	80	66	182
	575-3-60	STD	518	632	2	6.3	50	2	0.6	3.3	—	—	18.7	25	20	133
			518	632	2	6.3	50	2	0.6	3.3	17.0	16.4	24.6	25	23	133
			518	632	2	6.3	50	2	0.6	3.3	34.0	32.7	45.0	50	41	133
			518	632	2	6.3	50	2	0.6	3.3	51.0	49.1	53.2	60	60	133
			518	632	2	6.3	50	2	0.6	5.6	—	—	21.0	25	22	139
		HIGH	518	632	2	6.3	50	2	0.6	5.6	17.0	16.4	27.4	30	25	139
			518	632	2	6.3	50	2	0.6	5.6	34.0	32.7	47.9	50	44	139
			518	632	2	6.3	50	2	0.6	5.6	51.0	49.1	56.1	70	63	139
			518	632	2	6.3	50	2	0.6	5.6	—	—	—	—	—	—
			518	632	2	6.3	50	2	0.6	5.6	—	—	—	—	—	—

LEGEND

- CONV — Convenience Outlet
- FLA — Full Load Amps
- HACR — Heating, Air Conditioning and Refrigeration
- IFM — Indoor (Evaporator) Fan Motor
- LRA — Locked Rotor Amps
- MCA — Minimum Circuit Amps
- MOCP — Maximum Overcurrent Protection
- NEC — National Electrical Code
- OFM — Outdoor (Condenser) Fan Motor
- PH — Dehumidification System
- RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.

†Heater capacity (kW) is based on heater voltage of 208 v, 240 v, 480 v or 600 v. If power distribution voltage to unit varies from rated heater voltage, heater kW will vary accordingly.

NOTES:

- In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker.

2. Unbalanced 3-Phase Supply Voltage

Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

% Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 460–3–60.

AB = 452 v

BC = 464 v

AC = 455 v



$$\begin{aligned} \text{Average Voltage} &= \frac{452 + 464 + 455}{3} \\ &= \frac{1371}{3} \\ &= 457 \end{aligned}$$

Determine maximum deviation from average voltage.

(AB) 457 – 452 = 5 v

(BC) 464 – 457 = 7 v

(AC) 457 – 455 = 2 v

Maximum deviation is 7 v.

Determine percent of voltage imbalance.

$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{7}{457} \\ &= 1.53\% \end{aligned}$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

- Non-fused disconnect switch cannot be used when rooftop unit electrical ratings exceed 80 amps.

- For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP.

Check MCA and MOCP when power exhaust is powered through the unit. Determine the new MCA including the power exhaust using the following formula:

$$\text{MCA New} = \text{MCA unit only} + \text{MCA of Power Exhaust}$$

If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 35 amps, the MCA New is below 35, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST ELECTRICAL DATA

POWER EXHAUST PART NO.	APPLICATION USAGE	MCA (230v)	MCA (460v)	MCA (575v)	MOCP (separate power source only)
DNPWREXH030A01	036–072*	1.6	N/A	0.64	15
DNPWREXH021A01		N/A	0.68	N/A	15
DNPWREXH022A01	090–120*	3.4	N/A	1.32	15
DNPWREXH023A01		N/A	1.4	N/A	15
DNPWREXH028A01	ALL*	1.7	N/A	0.68	15
DNPWREXH029A01	ALL	N/A	0.7	N/A	15

*Single or three phase.

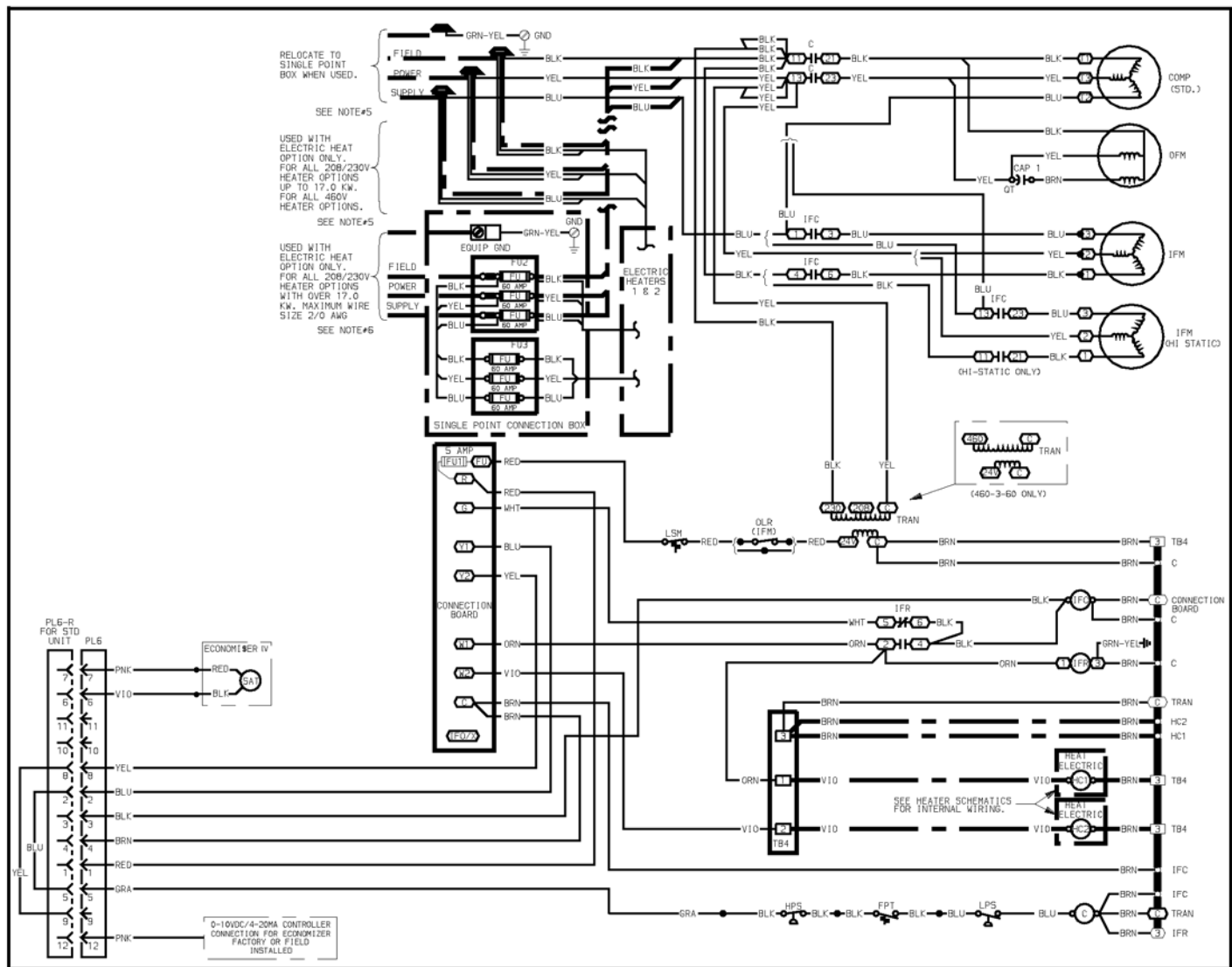
Model	Volt/Phase/Hertz	Application Usage	Unit			
			LRA	FLA	MCA	Fuse Size
AXB035PEH	208/230/1/60	072	10.2	4.3	5.4	10
AXB035PEL	460/1/60	072	4.1	1.7	2.2	4
AXB035PES	575/1/60	072	4.1	1.7	2.2	4
AXB145PEH	208–230/1/60	090–102	10.2	4.3	5.4	8
AXB145PEL	460/1/60	090–102	4.1	1.7	2.2	5
AXB145PES	575/1/60	090–102	4.1	1.7	2.2	5
AXB245PEH	208–230/1/60	120	24.9	5.0	6.3	10
AXB245PEL	460/1/60	120	N/A	2.2	2.8	5
AXB245PES	575/1/60	120	N/A	1.5	1.9	4

*Single or three phase.

NOTE: AXB power exhaust is wired single phase, drop third leg when installing.

NOTE: If a single power source is to be used, size wire to include power exhaust MCA and MOCP.

TYPICAL WIRING SCHEMATICS — PAH



PAH036-120 (PAH072 Shown)

LEGEND AND NOTES

- AWG — American Wire Gage
- C — Contactor, Compressor
- CAP — Capacitor
- COMP — Compressor Motor
- EQUIP — Equipment
- FPT — Freeze Protection Thermostat
- FU — Fuse
- GND — Ground
- HPS — High-Pressure Switch
- IFC — Indoor (Evaporator) Fan Contactor
- IFM — Indoor (Evaporator) Fan Motor
- IFR — Indoor (Evaporator) Fan Relay
- LPS — Low-Pressure Switch
- LSM — Limit Switch (Manual Reset)
- OFM — Outdoor (Condenser) Fan Motor
- OLR — Overload Relay
- PLG — Plug
- PL — Plug Assembly
- QT — Quadruple Terminal

RAT — Return Air Temperature Sensor
SAT — Supply-Air Thermostat
TB — Terminal Block
TRAN — Transformer

 Field Splice

 Marked Wire

 Terminal (Marked)

 Terminal (Unmarked)

 Terminal Block

 Splice

 Splice (Marked)

 Factory Wiring

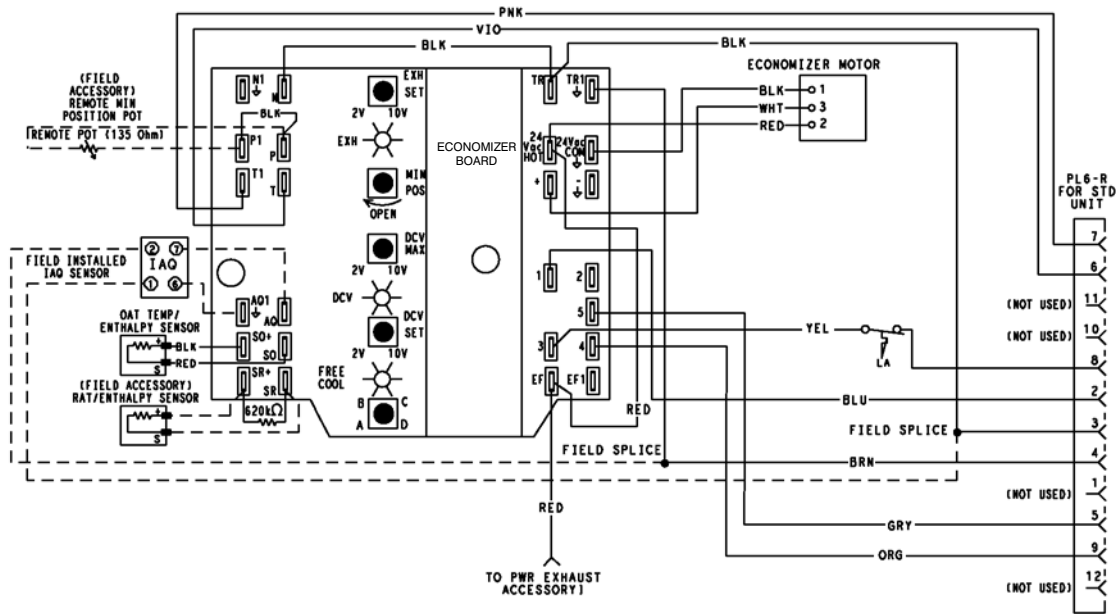
- - - - Field Control Wiring
 - - - - Field Power Wiring
 - - - - Accessory or Optional Wiring
 To indicate common potential only. Not to represent wiring.

NOTES:

1. If any of the original wire furnished must be replaced, it must be replaced with type 90° C wire or its equivalent.
2. Three-phase motors are protected under primary single-phasing conditions.
5. Use copper conductors only.
6. Use copper, copper clad aluminum or aluminum conductors.

TYPICAL WIRING SCHEMATICS — PAH (cont)

Economizer Wiring – PAH036–120 Units



LEGEND

IAQ — Indoor Air Quality
LA — Low Ambient Lockout Device
POT — Potentiometer
OAT — Outdoor-Air Temperature
RAT — Return-Air Temperature

NOTE:

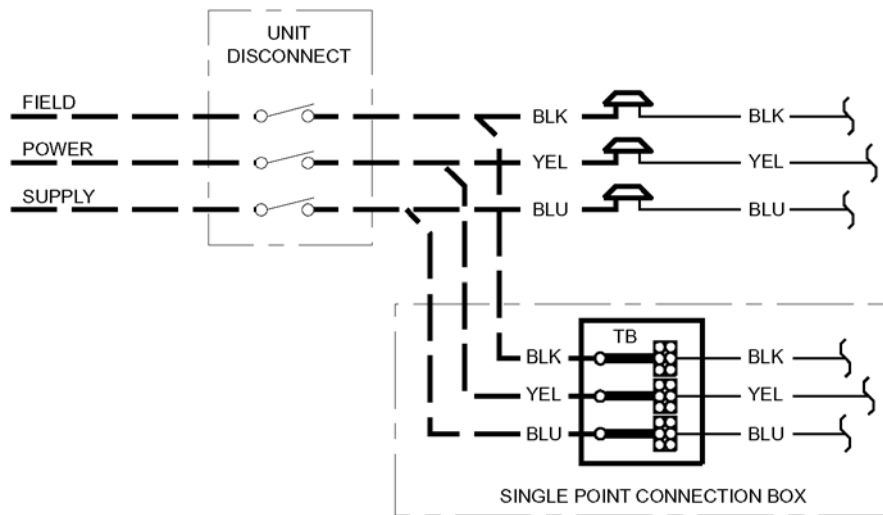
Potentiometer Defaults Settings:
Power Exhaust Middle
Minimum Pos. Fully Closed
DCV Max. Middle
DCV Set Middle
Enthalpy C Setting

NOTES:

1. 620 ohm, 1 watt 5% resistor should be removed only when using differential enthalpy or dry bulb.
2. If a separate field-supplied 24v transformer is used for the IAQ sensor power supply, it cannot have the secondary of the transformer grounded.
3. For field-installed remote minimum position POT, remove black wire jumper between P and P1 and set control minimum position POT to the minimum position.

NOTE: Electrical wiring is for DN series economizer.

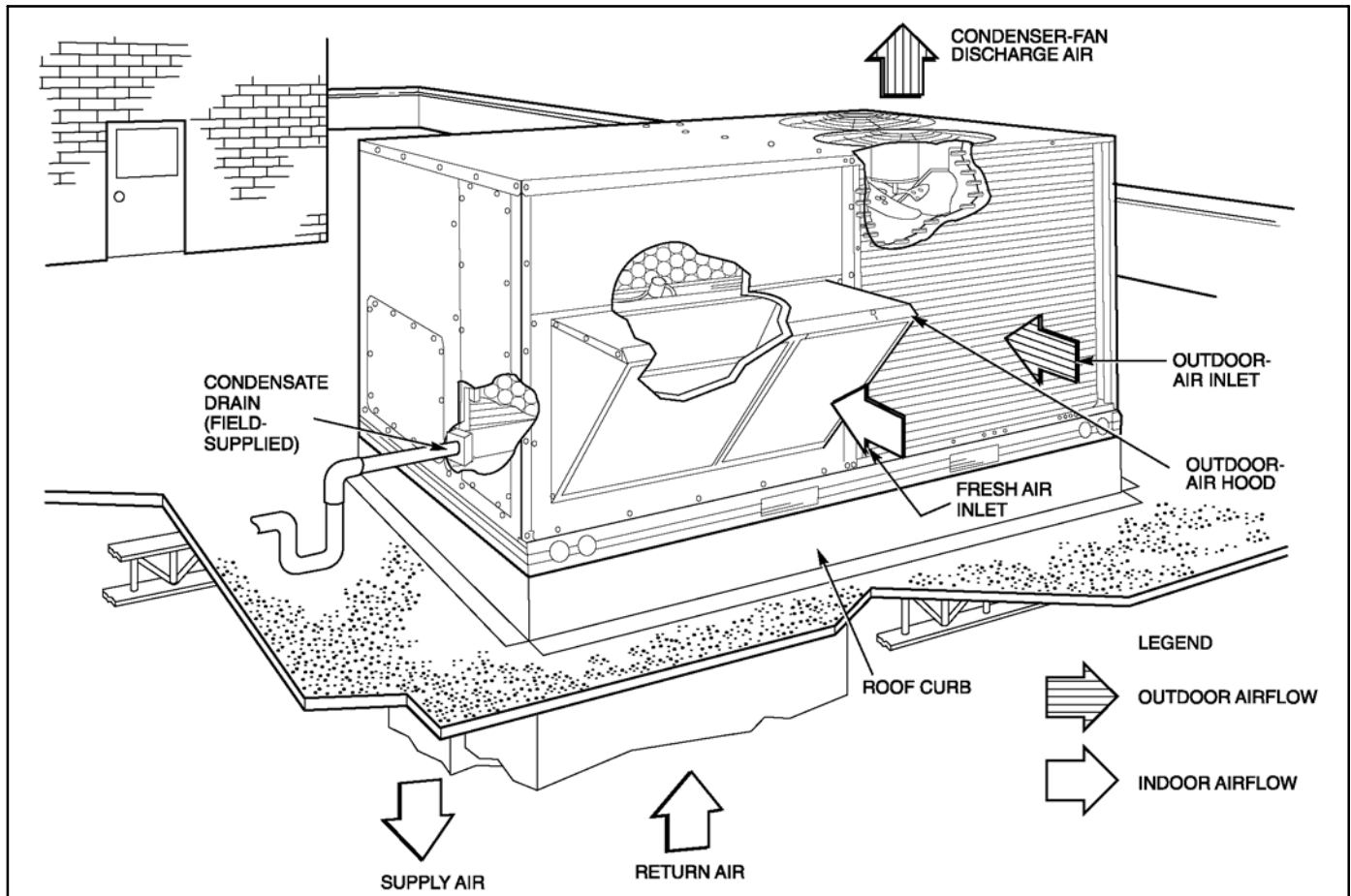
Non-Fused Disconnect (Optional) – PAH036–120



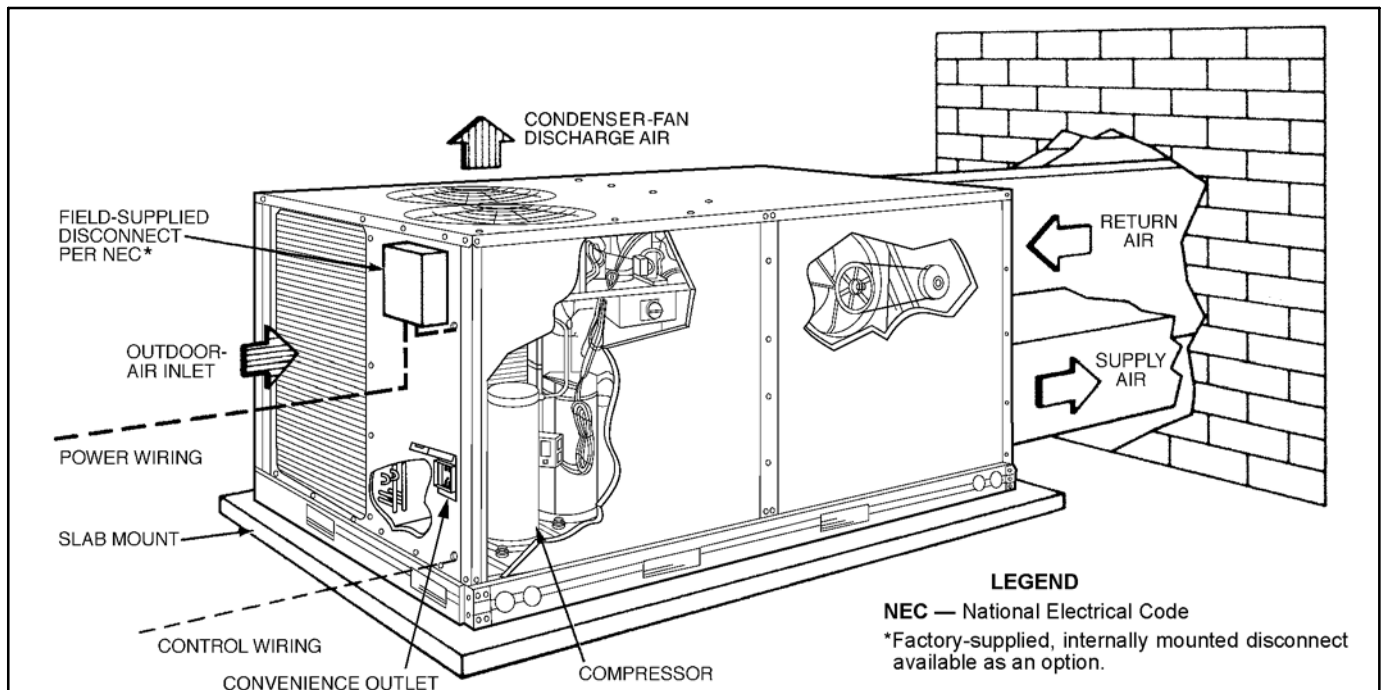
NOTE: Use copper conductors only.

TYPICAL PIPING AND WIRING — PAH036-120

Vertical Discharge Ducting



Horizontal Discharge Ducting



GUIDE SPECIFICATIONS — PAH036-120

PACKAGED ROOFTOP ELECTRIC COOLING UNIT —
CONSTANT VOLUME APPLICATIONS
HVAC GUIDE SPECIFICATIONS
SIZE RANGE: 3 TO 10 TONS, NOMINAL (COOLING)
4.4 to 51 kW, NOMINAL
(ACCESSORY ELECTRIC HEATING)



MODEL NUMBERS : PAH

PAH036-120 UNITS
ARE ENERGY STAR
QUALIFIED

PART 1 - GENERAL

1.01 SYSTEM DESCRIPTION

Outdoor rooftop mounted, electrically controlled heating and cooling unit utilizing a hermetic compressor(s) for cooling duty. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.

1.02 QUALITY ASSURANCE

- A. Unit shall well exceed ASHRAE 90.1-2001 Energy Standards. PAH036-120 units are Energy Star qualified.
- B. Unit shall be rated in accordance with ARI Standards 210 or 360. Designed in accordance with UL Standard 1995.
- C. Unit shall be designed to conform to ASHRAE 15, latest revision.
- D. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
- E. Roof curb shall be designed to conform to NRCA Standards.
- F. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
- G. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
- H. Unit shall be designed in accordance with ISO 9001:2000, and shall be manufactured in a facility registered to ISO 9001:2000.
- I. Each unit shall be subjected to a completely automated run testing on the assembly line. A factory-supplied printout indicating tested pressures, amperages, data, and inspectors; providing certification of the unit status at the time of manufacture shall be available upon request.

1.03 DELIVERY, STORAGE, AND HANDLING

Unit shall be stored and handled per manufacturer's recommendations.

PART 2 - PRODUCTS

2.01 EQUIPMENT (STANDARD)

A. General:

Factory assembled, single-piece heating and cooling unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a prepainted baked enamel finish on all externally exposed surfaces.
2. Evaporator fan compartment interior cabinet surfaces shall be insulated with a minimum $\frac{1}{2}$ -in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side.
3. Cabinet panels shall be easily removable for servicing.
4. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
5. Unit shall have a factory-installed, sloped condensate drain pan made of a non-corrosive material, providing a minimum $\frac{3}{4}$ -in.-14 NPT. connection with both vertical and horizontal drains, and shall comply with ASHRAE Standard 62.
6. Unit shall have a factory-installed filter access panel to provide filter access with tool-less removal.
7. Unit shall have standard thru-the-bottom power connection capability (accessory kit is required).

C. Fans:

1. Evaporator Fan:

- a. Fan shall be belt driven as shown on the equipment drawings. Belt drive shall include an adjustable-pitch motor pulley.

- b. Fan wheel shall be double-inlet type with forward-curved blades.
- c. Bearings shall be sealed, permanently lubricated ball-bearing type for longer life and lower maintenance.
2. Evaporator fan shall be made from steel with a corrosion-resistant finish and shall be dynamically balanced.
3. Rooftop evaporator fan motors smaller than 5 hp are designed and rated in maximum continuous Bhp or maximum continuous watts. The motors do not have a hp rating on the nameplate.
4. Condenser fan shall be of the direct-driven (with totally enclosed motors) propeller type and shall discharge air vertically.
5. Condenser fan shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.

D. Compressor(s):

1. Fully hermetic type, internally protected scroll-type.
2. Factory mounted on rubber grommets and internally spring mounted for vibration isolation.
3. On dual electrically and mechanically independent circuits (090-120).

E. Coils:

1. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved, $\frac{3}{8}$ -in. OD copper tubes with all joints brazed.
2. Dual compressor models (090-120), evaporator coils are face-split design (circuit no. 1 on bottom).
3. Testing:
 - a. Evaporator and condenser coils shall be qualified to UL 1995 burst test at 2,200 psi.
 - b. Evaporator and condenser coils shall be leak tested to 150 psig and pressure tested to 400 psig. deg. F 60. Hardness of paint film: H-2H pencil hardness. Gloss (per ASTM 0523, 60).
4. Optional Coils:
 - a. Copper-fin coils shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan. All copper construction shall provide protection in moderate coastal environments.

F. Refrigerant Components:

Refrigerant circuit components shall include:

1. Fixed orifice metering system.
2. Refrigerant filter drier.
3. Service gage connections on suction, discharge, and liquid lines.

G. Filter Section:

1. Standard filter section shall consist of factory-installed, low velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
2. Filter face velocity shall not exceed 320 fpm at nominal airflows.
3. Filter section should use only one size filter.
4. Filters shall be accessible through an access panel with "no-tool" removal.

H. Controls and Safeties:

1. Unit Controls:

Unit shall be complete with self-contained low-voltage control circuit protected by a fuse on the 24-v transformer side (090-120 units have a resettable circuit breaker).

2. Safeties:

- a. Unit shall incorporate a solid-state compressor protector which provides anti-cycle reset capability at the space thermostat, should any of the following standard safety devices trip and shut off compressor.
 - (1.) Compressor overtemperature, overcurrent.
 - (2.) Loss-of-charge/low-pressure switch.
 - (3.) Freeze-protection thermostat, evaporator coil.
 - (4.) High-pressure switch.
 - (5.) Automatic reset motor thermal overload protector.

The lockout protection shall be easily disconnected at the control board, if necessary.

GUIDE SPECIFICATIONS — PAH036-120

- I. Operating Characteristics:
 - 1. Unit shall be capable of starting and running at 125°F ambient outdoor temperature, meeting maximum load criteria of ARI Standard 210/240 or 360 at + 10% voltage.
 - 2. Compressor with standard controls shall be capable of operation down to 25°F ambient outdoor temperature.
- J. Electrical Requirements:

All unit power wiring shall enter unit cabinet at a single factory-predrilled location.
- K. Motors:
 - 1. Compressor motors shall be cooled by refrigerant gas passing through motor windings and shall have line break thermal and current overload protection.
 - 2. Evaporator-fan motor shall have permanently lubricated bearings and inherent automatic-reset thermal overload protection. Evaporator motors do NOT have conventional horsepower (HP) ratings listed on the motor nameplate. Motors are designed and qualified in the "air-over" location downstream of the cooling coil and carry a "maximum continuous bhp" rating that is the maximum application bhp rating for the motor; no "safety factors" above that rating may be applied.
 - 3. Totally enclosed condenser-fan motor shall have permanently lubricated bearings, and inherent automatic-reset thermal overload protection.
- L. Special Features
 - 1. Integrated Economizers
 - a. Integrated integral modulating type capable of simultaneous economizer and compressor operation.
 - b. Available as a factory-installed option in vertical supply/return configuration only. (Available as a field-installed accessory for dedicated horizontal and/or vertical supply return configurations.)
 - c. Includes all hardware and controls to provide cooling with outdoor air.
 - d. Equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
 - e. Capable of introducing up to 100% outdoor air.
 - f. Economizer shall be equipped with a barometric relief damper capable of relieving up to 100% return air.
 - g. Designed to close damper(s) during loss-of power situations with spring return built into motor.
 - h. Dry bulb outdoor-air temperature sensor shall be provided as standard. Outdoor air sensor set point is adjustable and shall range from 40° to 100° F. For the economizer, the return air sensor, indoor enthalpy sensor, and outdoor enthalpy sensor shall be provided as field installed accessories to provide enthalpy control, differential enthalpy control, and differential dry bulb temperature control.
 - i. Economizer controller shall use a mixed air thermistor mounted on the evaporator fan housing to control economizer operation to a supply air temperature of 55° F.
 - j. The economizer shall have a gear-driven parallel blade design.
 - k. Economizer controller shall provide control of internal building pressure through its accessory power exhaust function. Factory set at 100%, with a range of 0% to 100%.
 - l. Economizer Controller Occupied Minimum Damper Position Setting maintains the minimum airflow into the building during occupied period providing design ventilation rate for full occupancy (damper position during heating). A remote potentiometer may be used to override the set point.
 - m. Economizer Controller Unoccupied Minimum Damper Position Setting – The economizer damper shall be completely closed when the unit is in the occupied mode.
 - n. Economizer Controller IAQ/DCV Maximum Damper Position Setting – Setting the maximum position of the damper prevents the introduction of large amounts of hot or cold air into the space. This position is intended to satisfy the base minimum ventilation rate.
 - o. Economizer controller IAQ/DCV control modulates the outdoor-air damper to provide ventilation based on the optional 2 to 10 vdc CO2 sensor input.
 - p. Compressor lockout sensor (opens at 35° F, closes at 50° F).
 - q. Actuator shall be direct coupled to economizer gear, eliminating linkage arms and rods.
 - r. Control LEDs:
 - 1. When the outdoor-air damper is capable of providing free cooling, the "Free Cool" LED shall illuminate.
 - 2. The IAQ LED indicates when the module is on the DCV mode.
 - 3. The EXH LED indicates when the exhaust fan contact is closed.
 - s. Remote Minimum Position Control – A field-installed accessory remote potentiometer shall allow the outdoor-air damper to be opened or closed beyond the minimum position in the occupied mode for modified ventilation.

PHYSICAL DATA: PAH155-180

UNIT PAH		155			180		
UNIT VOLTAGE		208/230	460	575	208/230	460	575
NOMINAL CAPACITY (tons)		12			15		
OPERATING WEIGHT (lb)							
Unit							
Al/Al*		1575			1650		
Al/Cu*		1725			1800		
COMPRESSOR							
Quantity...Model (Ckt 1, Ckt 2)		2...ZR72KC			1...ZR94KC, 1...ZR72KC		
Number of Refrigerant Circuits		2			2		
Crankcase Heater Watts		70			70		
Loading (% of Full Capacity)		0, 53, 100			0, 60, 100		
Oil (oz) (Ckt 1, Ckt 2)		60, 60			85, 60		
REFRIGERANT TYPE					R-22		
Expansion Device					TXV		
Operating Charge (lb)**							
Circuit 1		20.7			19.5		
Circuit 2		13.4			13.45		
CONDENSER FAN					Propeller Type		
Nominal Cfm		10,500			10,500		
Quantity...Diameter (in.)		3...22			3...22		
Motor Hp...Rpm		1/2...1050			1/2...1050		
Watts Input (Total)		1100			1100		
CONDENSER COIL					Cross-Hatched 3/8-in. Copper Tubes, Aluminum Lanced, Aluminum Pre-Coated, or Copper Plate Fins		
Rows...Fins/in.		4...15			4...15		
Total Face Area (sq ft)		21.7			21.7		
EVAPORATOR FAN					Centrifugal Type		
Quantity...Size (in.)		2...12 x 12			2...12 x 12		
Type Drive		Belt			Belt		
Nominal Cfm		5200			6000		
Std Motor Hp		2.9			3.0		
Opt Motor Hp		3.7			N/A		
Motor Nominal Rpm		1725			1745		
Std Maximum Continuous Bhp		3.13			6.13		
Opt Maximum Continuous Bhp		4.26			N/A		
Motor Frame Size		56H			184T		
Fan Rpm Range		895-1147 1040-1315			895-1147		
		Low-Medium Static High Static			873-1021 1025-1200		
Motor Bearing Type		Ball 1,550			Ball 1,550		
Maximum Allowable Rpm					1,550		
Motor Pulley Pitch Dia.		3.1/4.1 3.7/4.7			3.1/4.1 N/A		
		Low-Medium Static High Static			4.9/5.9 4.9/5.9		
Nominal Motor Shaft Diameter (in.)		7/8			7/8		
Fan Pulley Pitch Diameter (in.)		6.0			6.0		
		Low-Medium Static High Static			9.4 8.0		
Nominal Fan Shaft Diameter (in.)		13/16			13/16		
Belt, Quantity...Type...Length (in.)		1...BX...45 1...BX...45			1...BX...45 1...BX...45		
		Low-Medium Static High Static			1...BX...50 1...BX...48		
Pulley Center Line Distance (in.)		14.5-16.0			14.5-16.0		
Speed Change per Full Turn of Movable		45			45		
Pulley Flange (Rpm)		45			N/A		
Movable Pulley Maximum Full Turns From Closed Position		6			6		
Factory Speed		3.5			3.5		
Factory Speed Setting (Rpm)		987			987		
		Low-Medium Static High Static			1155 N/A		
EVAPORATOR COIL					Cross-Hatched 3/8-in. Copper Tubes, Aluminum Lanced or Copper Plate Fins, Face Split		
Rows...Fins/in.		4...15			4...15		
Total Face Area (sq ft)		17.5			17.5		
HIGH-PRESSURE SWITCH (psig)							
Cutout					426		
Reset (Auto.)					320		
LOW-PRESSURE SWITCH (psig)							
Cutout					27		
Reset (Auto.)					44		
FREEZE PROTECTION THERMOSTAT (F)							
Opens					30 ± 5		
Closes					45 ± 5		
OUTDOOR-AIR INLET SCREENS					Cleanable		
Quantity...Size (in.)					2...20 x 25 x 1 1...20 x 20 x 1		
RETURN-AIR FILTERS					Throwaway		
Quantity...Size (in.)					4...20 x 20 x 2 4...16 x 20 x 2		

LEGEND

Al — Aluminum
Bhp — Brake Horsepower
Cu — Copper
TXV — Thermostatic Expansion Valve

*Evaporator coil fin material/condenser coil fin material.

†Weight of 14-in. roof curb.

**Circuit 1 uses the lower portion of condenser coil and lower portion of evaporator coils, and Circuit 2 uses the upper portion of both coils.

††Due to belt and pulley style, pulley cannot be set from 0 to 1 1/2 turns open.

PHYSICAL DATA: PAH210-300

UNIT PAH	210	240	300
NOMINAL CAPACITY (tons)	18	20	25
OPERATING WEIGHT (lb)			
AI/AI	2139	2187	2446
COMPRESSOR			
Quantity	3	3	2
Number of Refrigerant Circuits	3	3	2
Oil (ounces) Ckt A...Ckt B...Ckt C	68...68...90	90...90...90	110...110...NA
REFRIGERANT TYPE			
Expansion Device	TXV	TXV	TXV
Operating Charge (lb)			
Circuit A	13.1	13.8	21.8
Circuit B	12.7	13.9	20.3
Circuit C	15.2	15.5	NA
CONDENSER FAN			
Nominal Cfm (Total, all fans)	14,000	14,000	21,000
Quantity...Diameter (in.)	4...22	4...22	6...22
Motor Hp...Rpm	1/4...1100	1/4...1100	1/4...1100
Watts Input (Total)	1400	1400	2100
CONDENSER COIL			
Rows...Fins/in.	2...17	2...17	2...17
Total Face Area (sq ft)	57.78	57.78	66.67
EVAPORATOR FAN			
Quantity...Size	2...15x11	2...15x11	2...15x11
Type Drive	Belt	Belt	Belt
Nominal Cfm	7000	8000	10,000
Motor Bearing Type	Ball	Ball	Ball
Maximum Allowable Fan Rpm	1400	1400	1400
EVAPORATOR COIL			
Rows...Fins/in.	3...15	4...15	4...15
Total Face Area (sq ft)	23.33	23.33	27.22
HIGH-PRESSURE SWITCH (psig)			
Cutout	426	426	426
Reset (Auto)	320	320	320
OUTDOOR-AIR INLET SCREENS			
Quantity...Size (in.)	3...20x25	3...20x25	3...20x25
RETURN-AIR FILTERS			
Quantity...Size (in.)	9...16x25	9...16x25	9...18x24

LEGEND

TXV — Thermostatic Expansion Valve

OPERATING AND RIGGING WEIGHTS — PAH155,180

UNIT	BASE UNIT OPERATING WEIGHTS*			
	155		180	
	lb	kg	lb	kg
PAH	1575	714	1650	748

*Base unit weight does not include electric heaters, copper coils, economizer, power exhaust, barometric relief or crating. See Options and Accessories table below for more information.

NOTE: For 155 and 180 unit sizes add 75 lb (34 kg) for domestic crating.

PHYSICAL DATA — PAH (cont)

EVAPORATOR FAN DATA — PAH210–300 VERTICAL SUPPLY/RETURN UNITS

PAH	210		240		300	
	208/230 and 460 v	575	208/230 and 460 v	575	208/230 and 460 v	575
LOW RANGE						
Motor Hp	3.7	3	5	5	5	5
Motor Nominal Rpm	1725	1725	1745	1745	1745	1745
Maximum Continuous Bhp	4.25	3.45	5.75	5.75	5.75	5.75
Maximum Continuous Watts	3698	3146	4900	4900	4900	4900
Motor Frame Size	56HZ	56HZ	S184T	184T	S184T	184T
Motor Shaft Diameter (in.)	7/8	7/8	1 1/8	1 1/8	1 1/8	1 1/8
Fan Rpm Range	647–886	810–1072	949–1206	949–1206	805–1007	805–1007
Motor Pulley Min. Pitch Diameter (in.)	2.7	3.01	3.7	3.7	4.8	4.8
Motor Pulley Max. Pitch Diameter (in.)	3.7	4.1	4.7	4.7	6.0	6.0
Blower Pulley Pitch Diameter (in.)	7.2	6.6	6.8	6.8	10.4	10.4
Blower Pulley Shaft Diameter (in.)	1.1875	1.1875	1.1875	1.1875	1.1875	1.1875
Blower Pulley Type	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Pulley Center Line Distance (in.)	11.293–13.544	11.286–14.475	9.81–13.055	9.81–13.055	9.81–13.055	9.81–13.055
Belt, Quantity..Type..Length (in.)	1...BX...38	1...BX...38	1...BX...38	1...BX...38	1...BX...45	1...BX...45
Speed Change per Turn – Moveable Pulley (rpm)	40	44	43	43	34	34
Moveable Pulley Maximum Full Turns	6	6	6	6	6	6
Factory Speed Setting (rpm)	767	941	1078	1078	906	906
HIGH RANGE						
Motor Hp	5	5	7.5	7.5	7.5	7.5
Motor Nominal Rpm	1745	1745	1745	1745	1745	1745
Maximum Continuous Bhp	5.75	5.75	8.63	8.63	8.63	8.63
Maximum Continuous Watts	4900	4900	7267	7267	7267	7267
Motor Frame Size	S184T	184T	S213T	S213T	S213T	S213T
Motor Shaft Diameter (in.)	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8	1 3/8
Fan Rpm Range	897–1139	873–1108	941–1176	941–1176	941–1176	941–1176
Motor Pulley Min. Pitch Diameter (in.)	3.7	3.7	4.8	4.8	4.8	4.8
Motor Pulley Max. Pitch Diameter (in.)	4.7	4.7	6.0	6.0	6.0	6.0
Blower Pulley Pitch Diameter (in.)	7.2	7.4	8.9	8.9	8.9	8.9
Blower Pulley Shaft Diameter (in.)	1.1875	1.1875	1.1875	1.1875	1.1875	1.1875
Blower Pulley Type	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Pulley Center Line Distance (in.)	9.81–13.055	9.81–13.055	9.025–12.179	9.025–12.179	9.025–12.179	9.025–12.179
Belt, Quantity..Type..Length (in.)	1...BX...38	1...BX...38	1...BX...42	1...BX...42	1...BX...42	1...BX...42
Speed Change per Turn – Moveable Pulley (rpm)	40	39	39	39	39	39
Moveable Pulley Maximum Full Turns	6	6	6	6	6	6
Factory Speed Setting (rpm)	1018	991	1059	1059	1059	1059

BASE UNIT DIMENSIONS: PAH155-180

UNIT	STD. WEIGHT	UNIT ECONOMIZER WEIGHT	CORNER A	CORNER B	CORNER C	CORNER D	DIM A	DIM B	DIM C
PAH									
155	1575 LB	90 LB	407 LB	375 LB	383 LB	410 LB	3'-5"	3'-5"	1'-10"
	714 KG	41 KG	185 KG	170 KG	174 KG	186 KG	(1039)	(1054)	(559)
180	1650 LB	90 LB	375 LB	375 LB	449 LB	452 LB	3'-2"	3'-7"	1'-10"
	748 KG	41 KG	170 KG	170 KG	204 KG	205 KG	(963)	(1092)	(559)

NOTES:
 1. REFER TO PRINT FOR ROOF CURB ACCESSORY DIMENSIONS.
 2. DIMENSIONS ARE IN MILLIMETERS.
 3. DIRECTION OF GRAVITY.
 4. DIRECTION OF AIR FLOW.

5. DUCTWORK TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY.
 6. MINIMUM CLEARANCE: 7'-0" (2134) FOR COIL REMOVAL. THIS DIMENSION CAN BE REDUCED TO 4'-0" (1219) IF CONDITIONS PERMIT COIL REMOVAL FROM THE TOP.

7. WITH THE EXCEPTION OF CLEARANCE FOR THE CONDENSER COIL AND THE DAMPER/POWER EXHAUST AS STATED IN NOTE #6, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.

8. DIMENSIONS ARE FROM OUTSIDE OF CORNER POST.
 9. A 90 DEGREE ELBOW MUST BE INSTALLED ON THE SUPPLY DUCTWORK BELOW THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

10. LEFT SIDE: 4'-0" (1219) FOR PROPER CONDENSER COIL AIR FLOW.
 11. RIGHT SIDE: 4'-0" (1219) FOR PROPER OPERATION OF DAMPER AND POWER EXHAUST IF SO EQUIPPED.

12. LOCAL CODES OR JURISDICTION MAY PREVAIL.
 13. THE CONDENSER COIL MAY BE REMOVED FOR MAINTENANCE.

14. THE DAMPER/POWER EXHAUST AS STATED IN NOTE #6, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.

15. DIMENSIONS ARE FROM OUTSIDE OF CORNER POST.
 16. ALLOW 0'-5/16" (8) ON EACH SIDE FOR TOP COVER DRIP EDGE.

17. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

18. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

19. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

20. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

21. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

22. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

23. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

24. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

25. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

26. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

27. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

28. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

29. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

30. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

31. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

32. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

33. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

34. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

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43. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

44. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

45. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

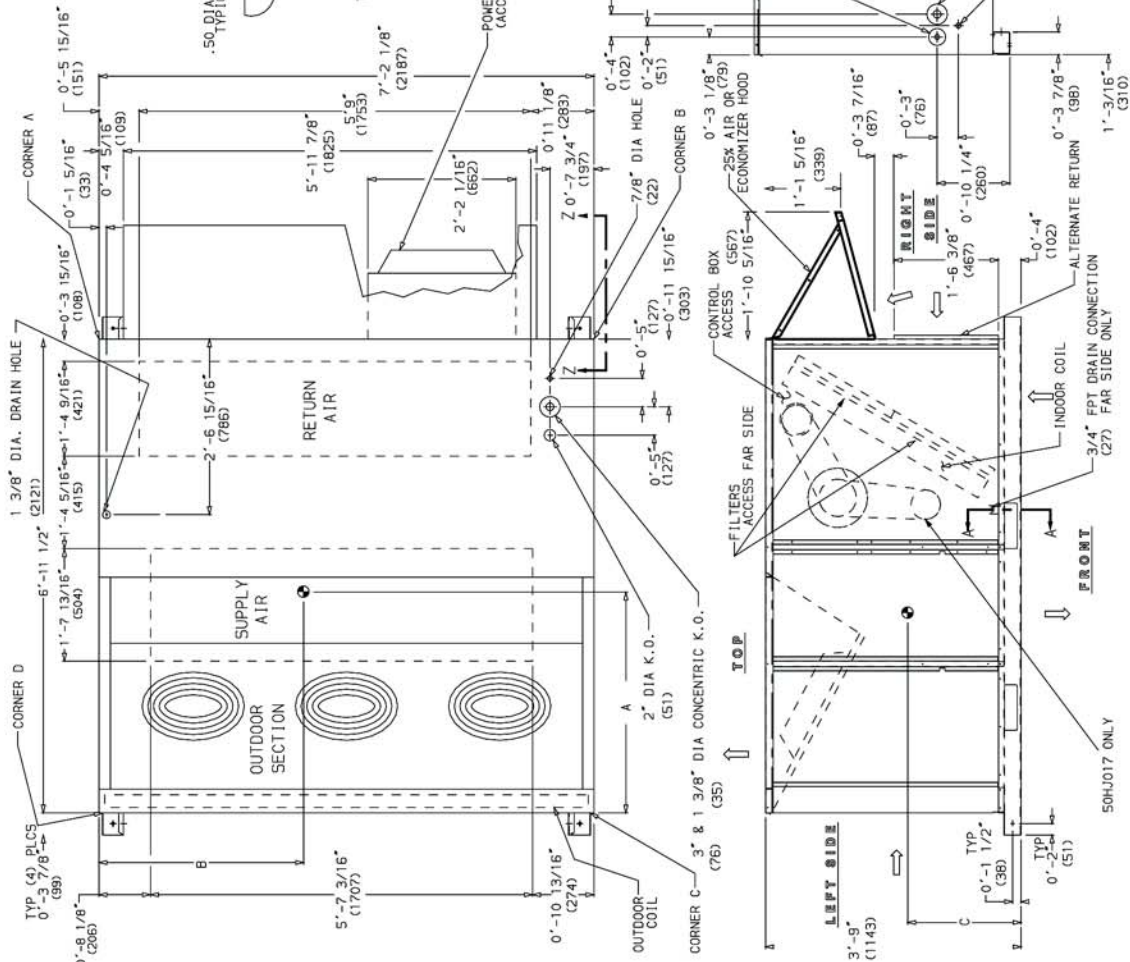
46. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

47. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

48. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

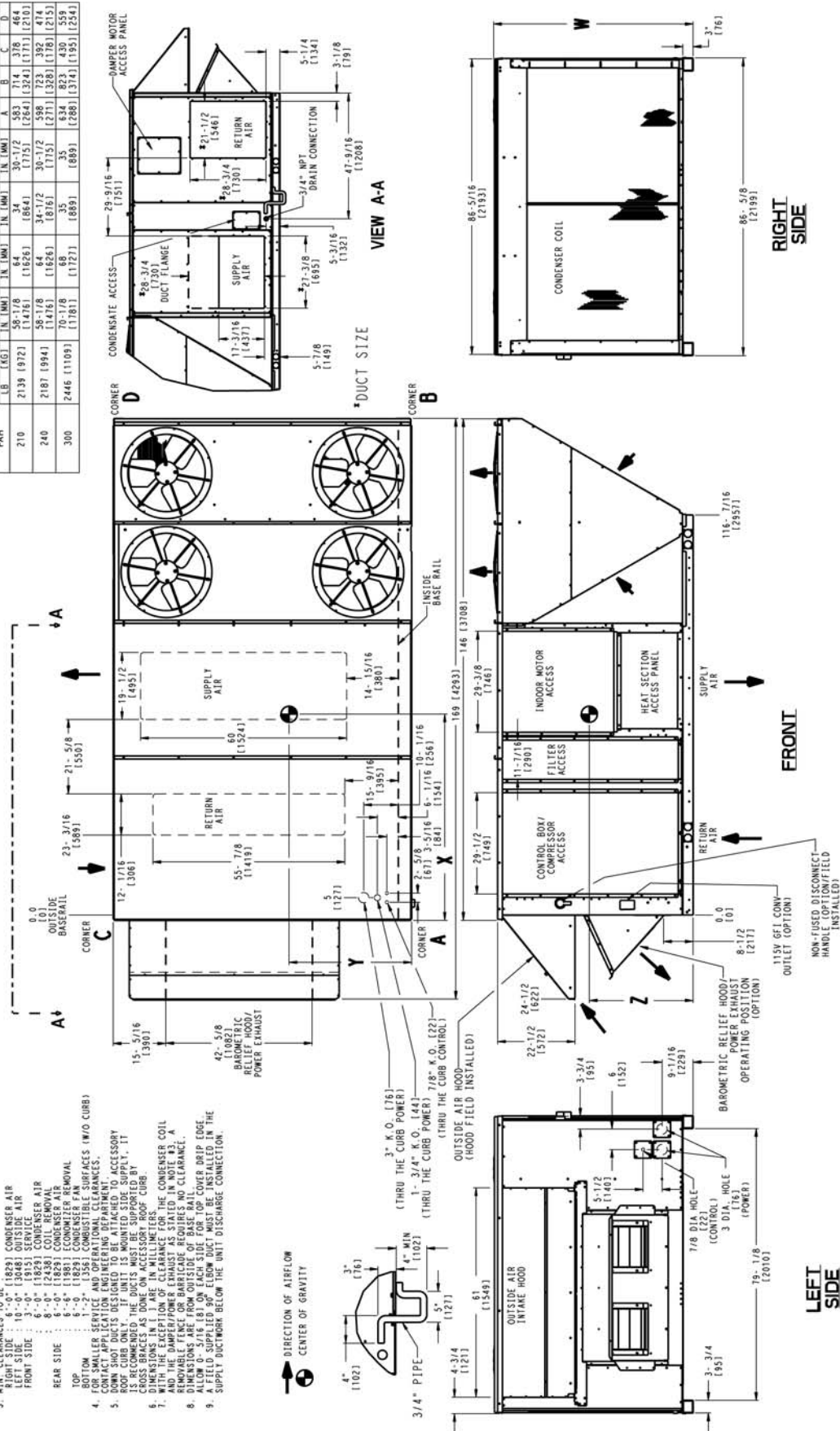
49. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.

50. THE UNIT DISCHARGE FOR UNITS EQUIPPED WITH ELECTRIC HEATERS.



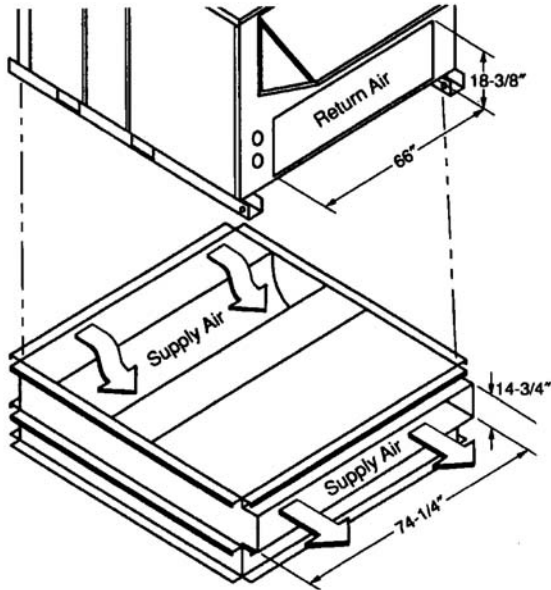
BASE UNIT DIMENSIONS: PAH210-300

UNIT SIZE	OPERATING WEIGHT LB. (KG)	UNIT HEIGHT	CENTER OF GRAVITY LOCATION			CORNER WEIGHT LB. (KG)		
			X (IN)	Y (IN)	Z (IN)	C	D	E
PAH								
210	2138 (972)	58-7/8 (1476)	64 (1626)	34 (864)	30-1/2 (762)	583 (260)	714 (320)	464 (210)
240	2187 (994)	58-7/8 (1476)	64 (1626)	64 (1626)	30-1/2 (762)	588 (265)	712 (319)	474 (215)
300	2446 (1109)	71-1/2 (1813)	71-1/2 (1813)	71-1/2 (1813)	30-1/2 (762)	624 (281)	768 (345)	524 (237)

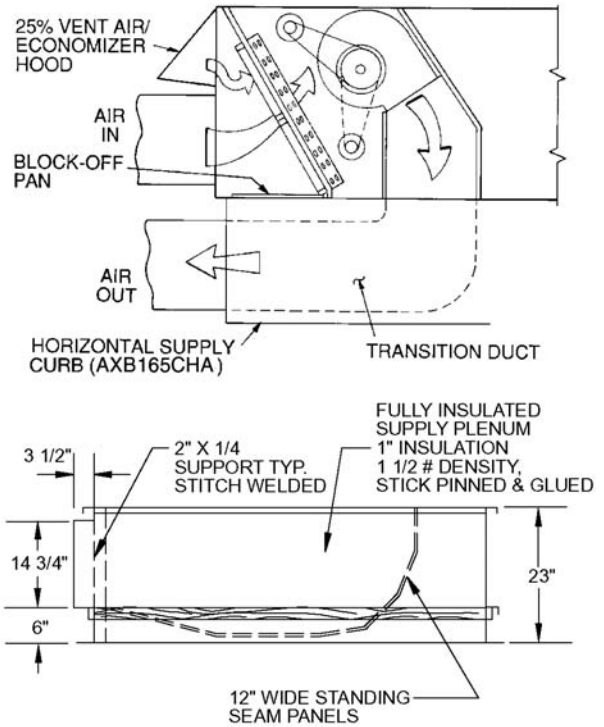


ACCESSORY DIMENSIONS

Horizontal Supply/Return Adapter Installation: PAH155-180

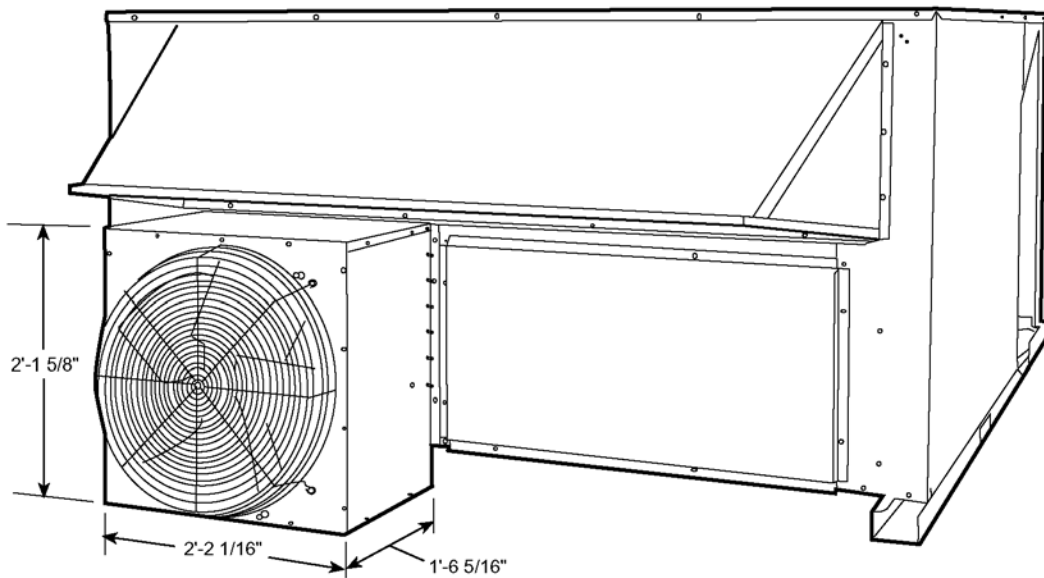


NOTE: AXB165CHA is a fully factory pre-assembled horizontal adapter and includes an insulated transition duct. The pressure drop through the adapter curb is negligible. For horizontal return applications: The power exhaust and barometric relief dampers must be installed in the return air duct.



ACCESSORY PACKAGE NO.	CURB HEIGHT	DESCRIPTION
AXB165CHA	1'-11" (584)	Pre-Assembled Horizontal Adapter Roof Curb

Barometric Relief/Power Exhaust



PERFORMANCE DATA: PAH155

COOLING CAPACITIES

PAH155 (12 Tons)																						
Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF																				
		3600/0.01							4375/0.01							5000/0.01						
		Air Entering Evaporator — Ewb (F)																				
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	152	156	161	174	189	201	213	161	164	167	180	195	207	218	169	171	172	184	199	211	222
	SHC	152	144	135	114	92.9	75.4	57.5	156	150	125	99.6	78.7	57.5	169	166	162	134	105	81.3	57.4	
	kW	7.56	7.65	7.74	8.01	8.33	8.6	8.86	7.76	7.82	7.88	8.14	8.46	8.72	8.97	7.92	7.95	7.98	8.24	8.55	8.82	9.06
70	TC	148	152	156	169	183	195	206	157	160	162	174	189	200	211	165	166	167	179	193	204	214
	SHC	148	141	133	112	90.6	73.2	55.4	157	153	148	123	97.3	76.5	55.3	165	162	160	132	103	79.1	55.3
	kW	8.5	8.58	8.67	8.97	9.26	9.53	9.8	8.7	8.75	8.81	9.07	9.39	9.66	9.91	8.86	8.89	8.91	9.16	9.49	9.76	9.99
75	TC	146	150	154	166	181	192	204	155	158	160	172	186	197	208	163	164	164	176	189	201	212
	SHC	146	139	132	111	89.7	72.2	54.6	155	151	146	122	96.2	75.5	54.6	163	161	158	131	101	78.1	54.5
	kW	9.02	9.1	9.18	9.45	9.8	10.1	10.4	9.22	9.27	9.31	9.58	9.91	10.2	10.5	9.39	9.41	9.43	9.68	9.99	10.3	10.6
85	TC	142	145	149	161	175	186	196	151	153	154	166	179	190	200	158	159	159	170	183	194	203
	SHC	142	136	129	109	87.4	70	52.4	151	147	144	119	93.9	73.2	52.3	158	157	155	128	99.1	75.8	52.2
	kW	10.1	10.2	10.3	10.6	10.9	11.2	11.5	10.3	10.4	10.4	10.7	11	11.3	11.6	10.5	10.5	10.5	10.8	11.1	11.4	11.7
95	TC	138	141	143	155	168	179	189	147	148	149	160	173	183	192	153	153	154	164	177	187	195
	SHC	138	133	127	106	85	67.7	50.1	147	144	141	117	91.6	70.9	50	153	153	152	126	96.9	73.5	49.9
	kW	11.4	11.4	11.5	11.8	12.2	12.4	12.7	11.6	11.6	11.6	11.9	12.3	12.6	12.8	11.8	11.8	11.8	12	12.4	12.7	12.9
105	TC	134	136	138	149	162	172	181	141	142	143	153	166	176	184	148	148	148	157	169	179	186
	SHC	134	129	124	104	82.4	65.3	47.7	141	139	137	114	89	68.4	47.5	148	148	148	123	94.3	70.9	47.4
	kW	12.7	12.8	12.8	13.2	13.5	13.8	14.1	12.9	13	13	13.3	13.6	13.9	14.2	13.1	13.1	13.1	13.4	13.7	14	14.3
115	TC	129	130	132	143	155	164	172	136	137	138	146	158	168	175	142	142	142	149	161	171	177
	SHC	129	125	121	101	79.8	62.7	45.1	136	135	133	111	86.3	65.9	45	142	142	142	120	91.6	68.4	45
	kW	14.2	14.2	14.3	14.6	15	15.3	15.6	14.4	14.4	14.5	14.7	15.1	15.5	15.7	14.6	14.6	14.6	14.8	15.2	15.6	15.7
125	TC	124	125	126	136	147	156	163	131	131	132	140	150	159	165	136	136	136	142	153	162	167
	SHC	124	121	118	98.2	77	60.1	42.5	131	130	128	109	83.5	63.2	42.5	136	136	136	117	88.7	65.7	42.4
	kW	15.8	15.8	15.9	16.2	16.6	17	17.2	16.1	16.1	16.1	16.4	16.7	17.1	17.3	16.3	16.2	16.2	16.4	16.8	17.2	17.4

PAH155 (12 Tons) (cont)																
Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF														
		5625/0.02							6250/0.02							
		Air Entering Evaporator — Ewb (F)														
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	
60	TC	175	175	176	187	202	214	224	180	180	180	190	204	216	226	
	SHC	175	173	171	142	110	83.8	57.3	180	180	180	151	115	86.2	57.2	
	kW	8.03	8.05	8.07	8.3	8.61	8.87	9.1	8.14	8.15	8.16	8.36	8.66	8.93	9.14	
70	TC	170	171	171	181	195	207	216	175	176	176	184	198	209	218	
	SHC	170	169	168	140	108	81.5	55.2	175	176	176	148	113	84	55.1	
	kW	8.98	8.99	9.01	9.23	9.55	9.81	10	9.09	9.1	9.11	9.3	9.61	9.87	10.1	
75	TC	168	168	169	179	192	203	213	173	173	173	181	195	206	215	
	SHC	168	167	166	139	107	80.5	54.4	173	173	173	147	112	83	54.3	
	kW	9.5	9.51	9.52	9.75	10.1	10.3	10.6	9.62	9.62	9.62	9.81	10.1	10.4	10.6	
85	TC	163	163	164	172	185	196	205	168	168	168	175	188	198	206	
	SHC	163	162	162	136	104	78.2	52.2	168	168	168	145	109	80.6	52.1	
	kW	10.6	10.6	10.6	10.9	11.2	11.5	11.7	10.7	10.7	10.8	10.9	11.2	11.5	11.8	
95	TC	158	158	158	166	178	189	196	162	162	162	168	180	190	197	
	SHC	158	157	157	134	102	75.9	49.8	162	162	162	142	107	78.3	49.7	
	kW	11.9	11.9	11.9	12.1	12.4	12.7	12.9	12	12	12	12.1	12.5	12.8	13	
105	TC	152	152	152	159	171	181	187	157	157	157	161	173	182	188	
	SHC	152	152	152	131	99.3	73.3	47.4	157	157	157	139	104	75.7	47.4	
	kW	13.2	13.2	13.2	13.4	13.8	14.1	14.3	13.4	13.4	13.4	13.5	13.9	14.2	14.4	
115	TC	146	146	146	151	163	172	177	150	150	150	153	165	174	178	
	SHC	146	146	146	128	96.6	70.7	44.9	150	150	150	136	102	73.1	44.8	
	kW	14.7	14.7	14.7	14.9	15.3	15.6	15.8	14.9	14.9	14.9	14.9	15.4	15.7	15.8	
125	TC	140	140	140	144	155	163	167	144	144	144	146	156	164	168	
	SHC	140	140	140	125	93.7	67.9	42.4	144	144	144	133	98.7	70.2	42.3	
	kW	16.4	16.4	16.4	16.5	16.9	17.2	17.4	16.5	16.5	16.5	16.6	17	17.3	17.4	

LEGEND

- BF** — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

- Direct interpolation is permissible. Do not extrapolate.
- The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil } (h_{lwb})$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

- The SHC is based on 80°F edb temperature of air entering evaporator coil.
Below 80°F edb, subtract (corr factor x cfm) from SHC.
Above 80°F edb, add (corr factor x cfm) to SHC.

PERFORMANCE DATA: PAH180

COOLING CAPACITIES (cont)

PAH180 (15 Tons)																						
Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF																				
		4500/0.01								5250/0.01								6000/0.01				
		Air Entering Evaporator — Ewb (F)																				
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	180.5	184.6	188.7	203.5	219.9	233.7	247	189.3	191.7	194.2	208.7	224.1	238	251	198.1	198.8	199.6	212.9	229.3	242	255
	SHC	180.5	172.4	159.4	132.3	104.7	87.9	65.7	189.3	183.2	173.2	142.8	110.4	91	65.5	198.1	195.1	185.1	153.1	116.7	94	65.4
	kW	9.41	9.49	9.58	9.87	10.19	10.47	10.78	9.58	9.58	9.63	9.68	9.97	10.29	10.57	10.87	9.75	9.77	9.79	10.07	10.39	10.67
70	TC	176.7	180.5	184.4	199	215.1	227.8	242	185.3	187.5	189.8	203	219.2	231.8	245	193	194.5	195.1	208.1	224.3	237	248
	SHC	176.7	169	155.8	129.4	102.4	86	63.9	185.3	179.7	169.3	138.9	108	89.1	63.8	193	191.4	181	149.7	114.2	92.2	63.7
	kW	10.5	10.57	10.64	10.96	11.35	11.62	11.95	10.68	10.72	10.76	11.06	11.45	11.72	12.04	10.85	10.87	10.89	11.17	11.55	11.82	12.13
75	TC	174.7	177.5	181	196	213	224.2	238	182.3	184.4	186	201	217	229.2	242	190.9	191.3	189	204	219	233.1	246
	SHC	174.7	167.2	147	124	99	84.9	62.9	182.3	177.9	160	133	105	88	62.8	190.9	189.5	173	143	113	91	62.7
	kW	11.07	11.14	11.2	11.6	12	12.23	12.57	11.25	11.3	11.3	11.7	12.1	12.33	12.66	11.45	11.45	11.4	11.8	12.1	12.44	12.75
85	TC	169.6	172.2	175	190	205	218.1	230.8	177.2	179	180	194	209	221.9	233.3	185.6	185.9	183	198	212	225.7	237
	SHC	169.6	163.3	145	121	97	82.5	60.7	177.2	174.1	157	130	102	85.6	60.5	185.6	184.7	168	139	106	88.6	60.4
	kW	12.29	12.35	12.3	12.7	13.1	13.5	13.86	12.47	12.51	12.5	12.8	13.2	13.61	13.96	12.67	12.68	12.6	12.9	13.3	13.71	14.05
95	TC	164.3	166.5	168	182	197	209.8	221.2	171.7	172.6	172	187	201	213.4	224.6	179.1	179.3	176	190	203	217.1	228
	SHC	164.3	158.9	142	118	93	79.8	57.9	171.7	168.8	154	127	98	82.8	57.9	179.1	178.7	164	136	102	86	57.8
	kW	13.59	13.65	13.5	13.9	14.3	14.85	15.23	13.8	13.82	13.6	14	14.4	14.96	15.32	14	14	13.8	14.1	14.5	15.07	15.43
105	TC	158.1	159.8	161	174	188	200.3	212.4	165.2	166	165	178	191	203.8	214.6	172.3	172.3	169	181	193	207.3	216.8
	SHC	158.1	154.2	138	115	91	76.8	55.2	165.2	163.1	150	124	95	79.9	55.1	172.3	172.2	158	132	98	83	54.9
	kW	14.97	15.02	14.8	15.2	15.6	16.28	16.69	15.19	15.21	14.9	15.3	15.7	16.39	16.77	15.41	15.4	15.1	15.4	15.7	16.5	16.86
115	TC	151.8	152.8	152	165	179	190.6	201.3	158.4	158.8	157	168	180	194	204.5	165	164.9	161	171	181	197.3	206.6
	SHC	151.8	149.1	134	111	87	73.7	52.1	158.4	157	145	120	91	76.7	52.1	165	164.9	151	128	94	79.8	51.9
	kW	16.45	16.48	16.1	16.5	16.9	17.79	18.21	16.68	16.68	16.2	16.6	17	17.91	18.3	16.89	16.88	16.4	16.7	17	18.01	18.39
125	TC	144.7	145.4	146	157.1	170.5	180.7	191.1	150.8	151.1	151.5	160.2	172.9	183.9	192	156.8	156.9	157	163.2	175.4	186.2	193.9
	SHC	144.7	143.5	123.4	102.2	81.16	70.4	48.9	150.8	150.2	135.2	109.6	85.15	73.4	48.8	156.8	156.9	145.6	117.4	89.3	76.4	48.7
	kW	17.96	16.48	18.05	18.49	18.99	19.44	19.85	18.18	18.22	18.25	18.6	19.11	19.5	19.89	18.42	18.44	18.46	18.72	19.14	19.65	19.93

PAH180 (15 Tons) (cont)															
Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF													
		6750/0.01							7500/0.02						
		Air Entering Evaporator — Ewb (F)													
		54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	203.8	204.2	204.6	216.3	231.7	244	257	209.5	209.5	209.6	218.8	235	248	259
	SHC	203.8	201.8	191.2	164.1	124.1	97	65.4	209.5	209.5	196.6	173.7	138.1	100	65.2
	kW	9.88	9.88	9.89	10.13	10.45	10.72	11	9.99	9.99	9.99	10.19	10.51	10.78	11.05
70	TC	199.6	199.8	200.1	210.5	226.5	239	250	205.2	205.1	205.1	213.8	228.8	241	252
	SHC	199.6	197.8	187	159.7	121.3	95.2	63.5	205.2	205.1	192.4	169.8	134.5	98.2	63.5
	kW	10.99	10.99	11	11.24	11.6	11.88	12.18	11.12	11.11	11.11	11.31	11.65	11.94	12.22
75	TC	196.4	196.6	194	206	220	235	247	201.9	201.9	198	208	223	237	249
	SHC	196.4	195.7	181	153	120	94	62.5	201.9	201.9	186	163	163	97.1	62.5
	kW	11.58	11.58	11.6	11.9	12.2	12.5	12.8	11.71	11.7	11.7	11.9	11.9	12.56	12.84
85	TC	191	191.1	188	200	213	227.8	239	196.4	196.4	192	202	214	229.8	241
	SHC	191	190.5	175	148	115	91.6	60.2	196.4	196.4	180	157	119	94.6	60.2
	kW	12.81	12.81	12.7	13	13.3	13.77	14.1	12.96	12.95	12.8	13.1	13.4	13.84	14.13
95	TC	184.4	184.5	181	192	205	219.1	229.7	189.7	189.7	185	194	206	221.1	230.5
	SHC	184.4	184.2	170	144	108	88.9	57.7	189.7	189.7	174	153	113	91.9	57.6
	kW	14.15	14.15	13.9	14.2	14.6	15.14	15.47	14.29	14.29	14	14.3	14.6	15.2	15.51
105	TC	176.7	176.7	173	182	194	209.2	218.5	181.9	181.9	177	184	194	211.1	220.1
	SHC	176.7	176.7	162	140	103	86	54.9	181.9	181.9	166	148	107	88.9	54.7
	kW	15.55	15.55	15.2	15.5	15.8	16.57	16.9	15.7	15.7	15.3	15.5	15.8	16.64	16.94
115	TC	169.5	169.4	166	172	183	198.2	207.1	173.9	173.8	169	174	183	200	208.6
	SHC	169.5	169.4	155	136	98	82.7	51.8	173.9	173.8	158	142	101	85.6	51.7
	kW	17.05	17.04	16.6	16.8	17.1	18.08	18.42	17.2	17.2	16.7	16.9	17.1	18.15	18.45
125	TC	160.9	161.1	161.2	165.6	177.4	187.9	195.4	165.1	165.2	165.4	167.8	179.2	188.6	196
	SHC	160.9	161.1	150.7	125.6	95.04	79.4	48.7	165.1	165.2	155.2	133.2	105.3	82.3	48.6
	kW	18.57	18.59	18.62	18.81	19.18	19.68	20.06	18.72	18.75	18.78	18.91	19.33	19.71	20.09

LEGEND

- BF — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btu/h) Gross
TC — Total Capacity (1000 Btu/h) Gross

NOTES:

- Direct interpolation is permissible. Do not extrapolate.
- The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btu/h)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h}_{lwb}\text{)}$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btu/h)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

- The SHC is based on 80°F edb temperature of air entering evaporator coil.
Below 80°F edb, subtract (corr factor x cfm) from SHC.
Above 80°F edb, add (corr factor x cfm) to SHC.

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	

PERFORMANCE DATA: PAH210

COOLING CAPACITIES (cont)

PAH210 (18 Tons)																						
Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF																				
		5400/0.05						6300/0.06						7200/0.07								
								Air Entering Evaporator — Ewb (F)														
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	202	206	211	229	248	263	279	212	215	218	235	254	269	285	220	221	223	239	259	273	289
	SHC	202	193	184	155	124	99.3	74.7	212	205	199	166	131	103	74.9	220	216	213	177	138	106	75
	kW	10.2	10.3	10.4	10.6	10.8	11	11.2	10.4	10.4	10.4	10.7	10.9	11.1	11.3	10.5	10.5	10.5	10.7	11	11.2	11.4
70	TC	197	202	206	223	242	256	272	207	209	212	228	247	262	277	215	216	217	233	252	267	282
	SHC	197	189	181	152	122	97	72.5	207	202	196	163	129	101	72.7	215	212	210	174	135	104	72.8
	kW	11.4	11.5	11.5	11.8	12	12.2	12.5	11.6	11.6	11.6	11.9	12.1	12.3	12.6	11.7	11.7	11.7	11.9	12.2	12.4	12.6
75	TC	195	199	203	219	238	253	268	204	206	209	225	244	258	273	212	213	214	229	248	263	277
	SHC	195	187	180	150	120	95.8	71.3	204	199	195	162	127	99.3	71.4	212	210	208	173	134	103	71.5
	kW	12.1	12.2	12.2	12.5	12.7	13	13.2	12.3	12.3	12.3	12.6	12.8	13	13.3	12.4	12.4	12.4	12.6	12.9	13.1	13.3
85	TC	190	193	196	213	231	246	260	199	201	202	218	236	251	264	206	207	208	222	240	255	268
	SHC	190	183	177	148	118	93.4	68.8	199	195	191	159	125	96.9	68.9	206	205	204	170	131	100	69
	kW	13.5	13.5	13.6	13.8	14.1	14.4	14.6	13.6	13.7	13.7	13.9	14.2	14.5	14.7	13.7	13.8	13.8	14	14.3	14.5	14.8
95	TC	184	187	190	205	222	236	250	193	194	195	210	227	241	254	200	200	201	214	231	245	258
	SHC	184	179	173	144	114	90.2	65.9	193	190	187	156	121	93.7	66.1	200	199	199	167	128	97.1	66.2
	kW	15	15	15.1	15.4	15.7	15.9	16.2	15.1	15.2	15.2	15.5	15.8	16	16.3	15.3	15.3	15.3	15.5	15.8	16.1	16.3
105	TC	178	180	182	197	213	228	240	186	187	188	201	217	232	244	193	193	193	205	221	235	247
	SHC	178	173	169	141	111	87.3	62.9	186	184	183	152	118	90.8	63.1	193	193	193	163	124	94.1	63.2
	kW	16.6	16.7	16.7	17	17.3	17.7	17.9	16.8	16.8	16.8	17.1	17.4	17.8	18	16.9	16.9	16.9	17.2	17.5	17.8	18
115	TC	171	172	174	188	203	217	228	179	179	179	192	207	221	232	185	185	185	195	210	224	235
	SHC	171	168	165	137	107	83.6	59.6	179	178	178	149	114	87.1	59.7	185	185	185	159	121	90.4	59.9
	kW	18.4	18.4	18.4	18.8	19.1	19.4	19.7	18.6	18.6	18.6	18.9	19.2	19.5	19.8	18.7	18.7	18.7	19	19.3	19.6	19.9
125	TC	164	165	165	178	192	205	216	171	171	171	182	196	208	219	177	177	177	185	199	211	222
	SHC	164	162	160	134	104	79.8	56.1	171	171	171	145	110	83.2	56.3	177	177	177	155	117	86.5	56.4
	kW	20.2	20.3	20.3	20.6	21	21.3	21.6	20.4	20.4	20.4	20.8	21.1	21.4	21.7	20.6	20.6	20.6	20.8	21.2	21.5	21.8

PAH210 (18 Tons) (cont)															
Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF													
		8100/0.08						9000/0.09							
		Air Entering Evaporator — Ewb (F)													
		54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	227	227	228	243	262	277	293	233	233	233	246	265	280	295
	SHC	227	226	224	187	144	109	75.1	233	233	233	198	151	113	75.1
	KW	10.5	10.6	10.6	10.7	11	11.2	11.4	10.6	10.6	10.6	10.8	11	11.3	11.5
70	TC	222	222	222	236	255	271	284	228	228	227	239	258	272	287
	SHC	222	221	221	185	142	107	72.8	228	228	227	195	148	110	72.9
	KW	11.8	11.8	11.8	12	12.2	12.5	12.7	11.9	11.9	11.8	12	12.3	12.5	12.7
75	TC	219	219	219	232	251	266	280	225	224	224	235	254	268	282
	SHC	219	218	218	183	140	106	71.6	225	224	224	193	147	109	71.7
	KW	12.5	12.5	12.5	12.7	12.9	13.2	13.4	12.6	12.5	12.5	12.7	13	13.2	13.4
85	TC	213	213	213	225	243	258	271	218	218	218	228	245	260	273
	SHC	213	213	213	180	138	103	69.1	218	218	218	190	144	107	69.2
	KW	13.8	13.8	13.8	14.1	14.3	14.6	14.8	13.9	13.9	13.9	14.1	14.4	14.6	14.8
95	TC	206	206	206	217	234	248	260	211	211	211	220	236	250	262
	SHC	206	206	206	177	134	100	66.3	211	211	211	187	141	103	66.4
	KW	15.4	15.4	15.4	15.6	15.9	16.1	16.4	15.5	15.5	15.5	15.6	15.9	16.2	16.4
105	TC	199	199	199	208	224	238	249	203	203	203	204	210	226	240
	SHC	199	199	199	173	131	97.2	63.2	203	203	203	204	183	137	100
	KW	17	17.1	17.1	17.3	17.6	17.9	18.1	17.2	17.2	17.2	17.3	17.6	17.9	18.1
115	TC	191	191	191	198	213	226	237	195	195	195	201	215	228	238
	SHC	191	191	191	169	127	93.5	60	195	195	195	179	133	96.6	60
	KW	18.8	18.8	18.8	19	19.3	19.7	19.9	18.9	18.9	18.9	19.1	19.4	19.7	19.9
125	TC	182	182	182	188	201	213	224	186	186	186	190	203	215	225
	SHC	182	182	182	165	123	89.6	56.5	186	186	186	174	129	92.6	56.6
	KW	20.7	20.7	20.7	20.9	21.2	21.6	21.9	20.9	20.9	20.9	21	21.3	21.6	21.9

LEGEND

- BF** — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

- Direct interpolation is permissible. Do not extrapolate.
- The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (} h_{lwb} \text{)}$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

- The SHC is based on 80°F edb temperature of air entering evaporator coil.
Below 80°F edb, subtract (corr factor x cfm) from SHC.
Above 80°F edb, add (corr factor x cfm) to SHC.

BYPASS FACTOR (BF)	ENTERING AIR DRY—BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.

Correction Factor = $1.10 \times (1 - \text{BF}) \times (\text{edb} - 80)$.

4. Use chart below for bypass factor.

CFM	ENTERING WET—BULB (F)					
	54	58	62	67	72	80
	Bypass Factor					
5400	0.424	0.238	0.125	0.120	0.138	0.000
6300	0.478	0.304	0.153	0.132	0.145	0.000
7200	0.525	0.364	0.190	0.144	0.153	0.000
8100	0.562	0.414	0.231	0.156	0.162	0.000

PERFORMANCE DATA: PAH240

COOLING CAPACITIES (cont)

PAH240 (20 Tons)																						
Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF																				
		6,000/0.04							7,000/0.05							8,000/0.05						
		Air Entering Evaporator — Ewb (F)																				
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	235	242	248	267	288	306	323	247	251	256	274	296	312	330	257	259	262	279	300	317	333
	SHC	235	224	212	178	143	115	86.6	247	238	230	191	151	119	87	257	251	246	204	159	123	86.7
	kW	11.5	11.6	11.7	12	12.4	12.7	13	11.7	11.8	11.8	12.1	12.5	12.8	13.1	11.9	11.9	11.9	12.2	12.6	12.9	13.1
70	TC	231	237	242	261	282	300	316	242	246	250	268	289	305	323	252	254	256	273	293	310	326
	SHC	231	220	209	175	141	113	84.5	242	234	227	189	149	117	84.9	252	247	243	201	156	120	84.6
	kW	13.1	13.2	13.3	13.6	14	14.3	14.6	13.3	13.3	13.4	13.7	14.1	14.4	14.8	13.4	13.5	13.5	13.8	14.2	14.5	14.8
75	TC	228	234	239	257	278	295	311	239	243	246	264	285	301	318	249	250	252	269	290	305	322
	SHC	228	218	208	174	139	112	83.1	239	232	225	187	147	115	83.6	249	245	241	199	155	119	83.5
	kW	13.9	14	14.1	14.5	14.9	15.2	15.6	14.1	14.2	14.2	14.6	15	15.3	15.7	14.3	14.3	14.4	14.7	15.1	15.4	15.8
85	TC	223	227	231	250	270	287	303	234	236	238	256	277	292	310	243	244	245	261	282	296	314
	SHC	223	213	204	171	136	109	80.5	234	227	221	184	144	112	80.9	243	240	236	196	152	116	81.3
	kW	15.6	15.7	15.8	16.2	16.6	17.1	17.4	15.8	15.9	15.9	16.3	16.8	17.2	17.6	16	16.1	16.1	16.5	16.9	17.3	17.7
95	TC	216	219	223	241	260	277	292	226	228	230	247	267	282	298	235	235	236	251	272	285	303
	SHC	216	208	200	167	132	105	77.2	226	221	217	180	141	109	77.7	235	233	231	192	148	112	78
	kW	17.4	17.5	17.6	18.1	18.6	19	19.4	17.7	17.7	17.8	18.2	18.7	19.1	19.6	17.9	17.9	17.9	18.3	18.9	19.2	19.7
105	TC	208	211	214	231	249	265	279	218	219	220	236	256	270	285	226	226	226	241	260	273	290
	SHC	208	202	195	163	129	101	73.6	218	215	212	176	137	105	74	226	226	225	188	145	108	74.4
	kW	19.3	19.4	19.5	20	20.6	21	21.5	19.6	19.6	19.7	20.2	20.8	21.2	21.6	19.9	19.9	19.9	20.3	20.9	21.3	21.8
115	TC	200	202	204	220	237	253	266	209	210	210	225	243	257	271	217	217	217	229	248	260	275
	SHC	200	195	190	158	124	97.2	69.5	209	207	206	171	132	101	70	217	217	217	183	140	104	70.4
	kW	21.3	21.4	21.5	22	22.7	23.2	23.6	21.7	21.7	21.7	22.2	22.9	23.3	23.8	21.9	21.9	21.9	22.4	23	23.4	23.9
125	TC	191	192	193	208	224	239	251	199	199	200	212	230	243	255	207	207	206	216	232	245	257
	SHC	191	188	185	153	120	92.8	65.3	199	199	199	166	128	96.4	65.7	207	207	206	178	135	99.8	65.5
	kW	23.5	23.5	23.6	24.2	24.8	25.4	25.9	23.8	23.8	23.8	24.4	25	25.5	26	24.1	24.1	24.1	24.5	25.1	25.7	26.1

PAH240 (20 Tons) (cont)															
Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF													
		9,000/0.06							10,000/0.07						
		Air Entering Evaporator — Ewb (F)													
		54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	265	266	267	284	305	321	338	272	272	272	287	307	325	340
	SHC	265	262	260	216	166	126	87	272	271	271	227	173	130	86.7
	kW	12	12	12	12.3	12.7	12.9	13.2	12.1	12.1	12.1	12.4	12.7	13	13.3
70	TC	260	261	261	277	298	315	331	266	267	267	281	301	317	333
	SHC	260	258	256	213	164	124	85	266	267	267	225	171	127	84.7
	kW	13.6	13.6	13.6	13.9	14.3	14.6	14.9	13.7	13.7	13.7	14	14.3	14.6	15
75	TC	256	257	258	273	294	310	326	263	263	263	277	296	312	327
	SHC	256	255	254	211	162	123	83.7	263	263	263	223	169	126	83.4
	kW	14.5	14.5	14.5	14.8	15.2	15.5	15.8	14.6	14.6	14.6	14.9	15.2	15.6	15.9
85	TC	250	250	250	265	285	301	316	257	256	256	268	287	303	317
	SHC	250	250	249	208	159	120	81	257	256	256	220	166	123	80.7
	kW	16.2	16.2	16.2	16.5	17	17.4	17.7	16.4	16.4	16.4	16.6	17	17.4	17.7
95	TC	242	242	242	255	274	288	304	248	248	248	258	276	292	306
	SHC	242	242	242	204	155	116	77.8	248	248	248	215	162	120	77.6
	kW	18.1	18.1	18.1	18.4	18.9	19.3	19.7	18.3	18.3	18.2	18.5	19	19.4	19.7
105	TC	233	233	233	244	263	275	291	239	239	239	247	264	279	291
	SHC	233	233	233	200	152	112	74.2	239	239	239	211	158	116	73.9
	kW	20.1	20.1	20.1	20.4	21	21.4	21.8	20.3	20.2	20.2	20.5	21	21.5	21.8
115	TC	223	223	223	232	250	262	276	229	228	228	235	251	263	276
	SHC	223	223	223	195	147	108	70.2	229	228	228	206	154	111	69.9
	kW	22.2	22.1	22.1	22.5	23.1	23.5	24	22.3	22.3	22.3	22.6	23.1	23.6	24
125	TC	213	212	212	219	234	247	258	218	217	217	222	235	248	259
	SHC	213	212	212	189	142	103	65.4	218	217	217	200	148	106	65.2
	kW	24.3	24.3	24.3	24.6	25.2	25.7	26.2	24.5	24.5	24.5	24.7	25.3	25.8	26.2

LEGEND

- BF — Bypass Factor
- Edb — Entering Dry-Bulb
- Ewb — Entering Wet-Bulb
- kW — Compressor Motor Power Input
- ldb — Leaving Dry-Bulb
- lwb — Leaving Wet-Bulb
- SHC — Sensible Heat Capacity (1000 Btuh) Gross
- TC — Total Capacity (1000 Btuh) Gross

NOTES:

- Direct interpolation is permissible. Do not extrapolate.
- The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h}_{lwb}\text{)}$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

- The SHC is based on 80°F edb temperature of air entering evaporator coil. Below 80°F edb, subtract (corr factor x cfm) from SHC. Above 80°F edb, add (corr factor x cfm) to SHC.

BYPASS FACTOR (BF)	ENTERING AIR DRY—BULB TEMP (F
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PERFORMANCE DATA: PAH300

COOLING CAPACITIES (cont)

PAH300 (25 Tons)																						
Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF																				
		7,500/0.05								8,250/0.06								9,500/0.07				
		Air Entering Evaporator — Ewb (F)																				
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	54	58	62	67	72	76	80
60	TC	287	296	304	331	359	385	408	297	304	310	336	367	390	414	311	315	319	345	375	398	421
	SHC	287	274	261	220	178	145	110	297	285	273	229	185	148	110	311	303	294	246	194	152	111
	KW	15.5	15.7	15.9	16.5	17.3	17.9	18.6	15.7	15.9	16	16.7	17.4	18.1	18.7	16	16.1	16.2	16.9	17.6	18.3	19
70	TC	279	286	293	318	345	367	392	288	293	298	323	350	372	397	301	303	306	329	357	381	403
	SHC	279	267	255	214	173	139	105	288	278	268	224	178	142	105	301	294	287	239	188	147	105
	KW	17	17.2	17.3	18	18.7	19.3	20	17.2	17.3	17.5	18.1	18.8	19.4	20.1	17.5	17.6	17.7	18.3	19	19.7	20.3
75	TC	275	281	287	311	338	360	383	283	288	293	316	343	365	388	296	298	300	323	349	372	394
	SHC	275	264	252	212	170	136	102	283	274	265	221	176	139	103	296	290	284	237	185	144	103
	KW	17.9	18.1	18.2	18.8	19.5	20.1	20.8	18.1	18.2	18.4	18.9	19.7	20.3	20.9	18.4	18.5	18.5	19.1	19.8	20.5	21.1
85	TC	267	272	277	299	324	345	366	274	278	282	304	329	350	370	286	287	289	311	334	355	375
	SHC	267	257	247	207	165	131	97.3	274	267	259	216	171	134	97.3	286	282	278	232	180	139	97.3
	KW	19.8	19.9	20	20.6	21.2	21.8	22.4	20	20.1	20.1	20.7	21.4	22	22.6	20.2	20.3	20.3	20.9	21.5	22.1	22.7
95	TC	259	263	267	288	311	331	350	267	270	273	293	315	335	354	278	279	281	299	322	340	358
	SHC	259	251	242	202	160	126	92.5	267	261	255	212	166	129	92.5	278	276	273	227	175	134	92.4
	KW	22.1	22.2	22.3	22.8	23.4	23.9	24.5	22.3	22.4	22.5	22.9	23.5	24	24.6	22.6	22.6	22.6	23.1	23.6	24.2	24.7
105	TC	253	256	260	279	301	318	335	260	262	264	282	304	322	338	269	270	270	287	308	326	342
	SHC	253	246	239	198	156	122	87.9	260	255	250	207	162	125	87.8	269	268	267	222	171	129	87.7
	KW	24.9	25	25.1	25.4	25.9	26.4	26.9	25.1	25.1	25.1	25.5	26	26.5	26.9	25.2	25.2	25.2	25.6	26.1	26.6	27.1
115	TC	246	249	252	270	291	305	320	253	255	256	274	294	309	323	262	262	262	277	298	312	328
	SHC	246	240	235	195	152	118	83.5	253	250	246	204	158	121	83.4	262	261	261	218	167	125	83.9
	KW	28.1	28.2	28.3	28.6	29	29.3	29.6	28.3	28.3	28.3	28.6	29	29.4	29.7	28.4	28.4	28.4	28.7	29.1	29.4	29.9
125	TC	238	240	242	259	279	293	305	245	246	246	262	281	295	310	253	253	253	266	284	298	313
	SHC	238	234	230	190	148	114	79.2	245	243	240	199	153	116	79.7	253	253	253	214	162	120	79.9
	KW	31.6	31.7	31.7	32	32.4	32.6	32.9	31.8	31.8	31.8	32.1	32.4	32.7	33	31.9	31.9	31.9	32.1	32.5	32.7	33.1

PAH300 (25 Tons) (cont)																
Temp (F) Air Ent Condenser (Edb)		Air Entering Evaporator — Cfm/BF														
		10,750/0.08							12,000/0.09							
		Air Entering Evaporator — Ewb (F)														
		54	58	62	67	72	76	80	54	58	62	67	72	76	80	
60	TC	322	324	327	351	380	404	429	332	333	334	357	386	410	432	
	SHC	322	317	313	260	203	157	111	332	330	329	276	212	162	111	
	kW	16.3	16.4	16.4	17	17.8	18.5	19.2	16.6	16.6	16.6	17.2	18	18.6	19.2	
70	TC	311	312	314	336	364	386	408	320	320	321	341	368	392	414	
	SHC	311	308	305	255	198	151	105	320	320	319	269	206	156	106	
	kW	17.8	17.8	17.9	18.4	19.2	19.8	20.5	18	18	18	18.5	19.3	20	20.6	
75	TC	306	307	308	329	356	378	398	315	315	315	333	360	383	404	
	SHC	306	304	302	252	195	149	103	315	314	314	266	203	153	103	
	kW	18.7	18.7	18.7	19.3	20	20.6	21.3	18.9	18.9	18.9	19.4	20.1	20.8	21.4	
85	TC	295	296	297	315	340	362	379	303	303	303	319	344	365	385	
	SHC	295	295	294	246	189	144	97.3	303	303	303	260	198	148	97.9	
	kW	20.5	20.5	20.5	21	21.7	22.3	22.8	20.7	20.7	20.7	21.1	21.8	22.4	23	
95	TC	286	286	286	303	327	344	364	293	293	294	307	330	347	366	
	SHC	286	286	286	241	185	138	93	293	293	294	255	193	142	92.8	
	kW	22.7	22.7	22.7	23.1	23.8	24.3	24.9	22.9	22.9	22.9	23.2	23.9	24.4	24.9	
105	TC	277	277	277	290	312	329	347	284	284	285	295	314	331	352	
	SHC	277	277	277	236	179	133	88.3	284	284	285	250	188	137	88.7	
	kW	25.4	25.4	25.4	25.7	26.2	26.7	27.2	25.5	25.6	25.6	25.8	26.3	26.7	27.3	
115	TC	268	269	269	281	300	315	332	274	274	275	283	303	317	333	
	SHC	268	269	269	232	176	129	84.4	274	274	275	245	184	133	84	
	kW	28.5	28.5	28.5	28.7	29.2	29.5	30	28.6	28.6	28.6	28.8	29.2	29.5	30	
125	TC	260	259	259	269	287	300	316	265	265	264	271	289	302	318	
	SHC	260	259	259	227	171	125	80	265	265	264	240	179	129	80.1	
	kW	32	32	32	32.1	32.5	32.8	33.2	32.1	32.1	32.1	32.2	32.5	32.8	33.3	

LEGEND

- BF** — Bypass Factor
Edb — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h}_{lwb}\text{)}$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

2. The following formulas may be used:
 3. The SHC is based on 80°F edb temperature of air entering evaporator coil.
 Below 80°F edb, subtract (corr factor x cfm) from SH

PERFORMANCE DATA: PAH155

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS

PAH155 (12 TONS) WITH STANDARD MOTOR*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	542	687	0.72	649	841	0.96	737	1045	1.19	813	1229	1.43	882	1419	1.68
4000	564	792	0.83	666	956	1.08	754	1170	1.33	829	1364	1.58	897	1565	1.83
4250	586	903	0.96	684	1078	1.21	771	1302	1.47	846	1506	1.73	913	1716	2.00
4500	610	1021	1.09	702	1207	1.35	789	1440	1.63	863	1653	1.90	929	1873	2.18
4750	634	1147	1.24	721	1343	1.51	806	1584	1.80	880	1807	2.08	946	2037	2.37
5000	659	1281	1.40	741	1486	1.68	823	1735	1.98	897	1968	2.28	963	2207	2.57
5250	684	1423	1.58	762	1637	1.86	841	1894	2.17	914	2135	2.48	980	2385	2.79
5500	710	1572	1.78	783	1796	2.06	859	2060	2.38	932	2311	2.70	997	2571	3.03
5750	736	1732	1.98	805	1965	2.28	878	2235	2.60	949	2496	2.94	1014	2765	3.27
6000	762	1900	2.21	828	2143	2.51	898	2419	2.84	967	2689	3.18	—	—	—
6250	788	2080	2.45	851	2332	2.76	918	2612	3.09	—	—	—	—	—	—

PAH155 (12 TONS) WITH STANDARD MOTOR* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	947	1617	1.93	1009	1823	2.20	1069	2051	2.47	1127	2301	2.75	1184	2563	3.05
4000	960	1773	2.09	1020	1989	2.36	1079	2227	2.64	1135	2486	2.93	1190	2756	3.23
4250	975	1934	2.27	1033	2161	2.54	1090	2408	2.83	1144	2676	3.12	—	—	—
4500	990	2102	2.45	1047	2339	2.74	1102	2596	3.03	1155	2843	3.33	—	—	—
4750	1006	2276	2.66	1062	2524	2.95	1116	2790	3.24	—	—	—	—	—	—
5000	1022	2457	2.87	1078	2717	3.17	—	—	—	—	—	—	—	—	—
5250	1039	2646	3.10	—	—	—	—	—	—	—	—	—	—	—	—
5500	1056	2843	3.35	—	—	—	—	—	—	—	—	—	—	—	—
5750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 895 to 1147 rpm. Alternate high-static drive range is 1040 to 1315 (for 208/230 and 460-v units). The alternate high-static drive range is not available for 575-v units. Other rpms require a field-supplied drive.

NOTES:

- Boldface** indicates field-supplied drive required.
- Maximum continuous bhp for the standard motor is 3.13 (for 208/230 and 460-v units) or 3.38 (for 575-v units). The maximum continuous watts is 2700 (for 208/230 and 460-v units) or 3065 (for 575-v units). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
- Fan performance is identical for horizontal discharge applications using horizontal adapter curb.
- See general fan performance notes.

PAH155 (12 TONS) WITH OPTIONAL MOTOR*															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	542	687	0.72	649	841	0.96	737	1045	1.19	813	1229	1.43	882	1419	1.68
4000	564	792	0.83	666	956	1.08	754	1170	1.33	829	1364	1.58	897	1565	1.83
4250	586	903	0.96	684	1078	1.21	771	1302	1.47	846	1506	1.73	913	1716	2.00
4500	610	1021	1.09	702	1207	1.35	789	1440	1.63	863	1653	1.90	929	1873	2.18
4750	634	1147	1.24	721	1343	1.51	806	1584	1.80	880	1807	2.08	946	2037	2.37
5000	659	1281	1.40	741	1486	1.68	823	1735	1.98	897	1968	2.28	963	2207	2.57
5250	684	1423	1.58	762	1637	1.86	841	1894	2.17	914	2135	2.48	980	2385	2.79
5500	710	1572	1.78	783	1796	2.06	859	2060	2.38	932	2311	2.70	997	2571	3.03
5750	736	1732	1.98	805	1965	2.28	878	2235	2.60	949	2496	2.94	1014	2765	3.27
6000	762	1900	2.21	828	2143	2.51	898	2419	2.84	967	2689	3.18	1031	2968	3.53
6250	788	2080	2.45	851	2332	2.76	918	2612	3.09	985	2892	3.45	1048	3181	3.81

PAH155 (12 TONS) WITH OPTIONAL MOTOR* (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3750	947	1617	1.93	1009	1823	2.20	1069	2051	2.47	1127	2301	2.75	1184	2563	3.05
4000	960	1773	2.09	1020	1989	2.36	1079	2227	2.64	1135	2486	2.93	1190	2756	3.23
4250	975	1934	2.27	1033	2161	2.54	1090	2408	2.83	1144	2676	3.12	1197	2954	3.42
4500	990	2102	2.45	1047	2339	2.74	1102	2596	3.03	1155	2872	3.33	1207	3158	3.63
4750	1006	2276	2.66	1062	2524	2.95	1116	2790	3.24	1168	3073	3.55	1218	3366	3.86
5000	1022	2457	2.87	1078	2717	3.17	1131	2990	3.48	1182	3280	3.79	1231	3579	4.10
5250	1039	2646	3.10	1094	2916	3.41	1146	3198	3.73	1196	3493	4.04	—	—	—
5500	1056	2843	3.35	1111	3124	3.67	1162	3412	3.99	—	—	—	—	—	—
5750	1073	3048	3.60	1128	3339	3.94	—	—	—	—	—	—	—	—	—
6000	1090	3261	3.88	1145	3562	4.22	—	—	—	—	—	—	—	—	—
6250	1107	3483	4.16	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 895 to 1147 rpm. Alternate high-static drive range is 1040 to 1315. Other rpms require a field-supplied drive.

NOTES:

- Boldface** indicates field-supplied drive required.
- Maximum continuous bhp for the standard motor is 4.26. The maximum continuous watts is 3610. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
- Fan performance is identical for horizontal discharge applications using horizontal adapter curb.
- See general fan performance notes.

PERFORMANCE DATA: PAH180

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

PAH180* (15 TONS)																		
Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	753	1307	1.53	753	1307	1.53	784	1397	1.64	859	1635	1.92	928	1880	2.20	993	2133	2.50
4800	747	1384	1.62	747	1384	1.62	806	1563	1.83	878	1808	2.12	946	2060	2.42	1009	2319	2.72
5100	741	1465	1.72	752	1500	1.76	828	1745	2.05	898	1996	2.34	964	2255	2.65	1026	2521	2.96
5700	735	1659	1.95	805	1895	2.22	876	2156	2.53	942	2423	2.84	1004	2696	3.16	1064	2975	3.49
6000	759	1854	2.18	832	2118	2.48	901	2388	2.80	965	2663	3.12	1026	2943	3.45	1083	3228	3.79
6300	790	2088	2.45	860	2360	2.77	926	2638	3.09	988	2920	3.43	1048	3208	3.76	1104	3501	4.11
6600	821	2340	2.74	888	2621	3.07	952	2906	3.41	1013	3196	3.75	1070	3491	4.10	1125	3791	4.45
6900	852	2611	3.06	917	2900	3.40	979	3194	3.75	1038	3492	4.10	1094	3794	4.45	1147	4101	4.81
7200	883	2903	3.40	946	3200	3.75	1006	3501	4.11	1063	3807	4.47	1118	4117	4.83	1170	4431	5.20
7500	914	3215	3.77	975	3521	4.13	1033	3830	4.49	1089	4143	4.86	1142	4461	5.23	1193	4781	5.61

PAH180* (15 TONS) (cont)																		
Airflow (Cfm)	Available External Static Pressure (in. wg)																	
	1.4			1.6			1.8			2.0			2.2			2.4		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
4500	1055	2394	2.81	1114	2662	3.12	1170	2938	3.45	1224	3220	3.78	1276	3509	4.12	1326	3805	4.46
4800	1070	2585	3.03	1127	2859	3.35	1183	3139	3.68	1236	3427	4.02	1287	3721	4.36	1336	4020	4.72
5100	1086	2794	3.28	1142	3073	3.60	1196	3359	3.94	1248	3650	4.28	1299	3949	4.63	1347	4253	4.99
5700	1120	3260	3.82	1174	3551	4.17	1226	3848	4.51	1277	4151	4.87	1325	4458	5.23	1373	4772	5.60
6000	1139	3520	4.13	1192	3817	4.48	1243	4119	4.83	1292	4427	5.19	1340	4741	5.56	1387	5060	5.93
6300	1158	3799	4.46	1210	4102	4.81	1260	4410	5.17	1309	4724	5.54	1356	5043	5.91	—	—	—
6600	1178	4095	4.80	1229	4405	5.17	1278	4720	5.54	1326	5039	5.91	—	—	—	—	—	—
6900	1199	4412	5.18	1249	4728	5.55	1297	5050	5.92	—	—	—	—	—	—	—	—	—
7200	1221	4749	5.57	1270	5072	5.95	—	—	—	—	—	—	—	—	—	—	—	—
7500	1243	5107	5.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

PAH180* (15 TONS) (cont)													
Airflow (Cfm)	Available External Static Pressure (in. wg)												
	2.6			2.8			3.0			3.2			
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm
4500	1375	4107	4.82	1421	4414	5.18	1467	4728	5.55	1511	5047	5.92	—
4800	1384	4326	5.07	1430	4638	5.44	1475	4955	5.81	—	—	—	—
5100	1395	4563	5.35	1440	4879	5.72	—	—	—	—	—	—	—
5700	1418	5091	5.97	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—
6600	—	—	—	—	—	—	—	—	—	—	—	—	—
6900	—	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower
Watts — Input Watts to Motor

*Standard low-medium static drive range is 873 to 1021 rpm. Alternate high-static drive range is 1025 to 1200. Other rpms require a field-supplied drive.

NOTES:

- Maximum continuous bhp for the standard motor is 6.13. The maximum continuous watts is 5180. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
- Fan performance is identical for horizontal discharge applications using horizontal adapter curb.
- See general fan performance notes.

GENERAL FAN PERFORMANCE NOTES

NOTES:

- Values include losses for filters, unit casing, and wet coils. See accessory/factory-installed option static pressure information.
- Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. See Evaporator-Fan Motor Performance tables for additional information.
- Use of a field-supplied motor may affect wire sizing.
- Interpolation is permissible. Do not extrapolate.
- Field-supplied drive requires changing belt and motor pulley to meet desired airflow. See application data or contact your local representative for details.

PERFORMANCE DATA: PAH210–240

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

PAH210* (18 TONS)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	423	522	0.60	521	715	0.82	605	906	1.04	679	1093	1.26	747	1278	1.47
4000	454	675	0.78	545	884	1.02	625	1093	1.26	697	1299	1.49	762	1502	1.73
4500	487	859	0.99	572	1082	1.24	648	1307	1.50	717	1529	1.76	780	1750	2.01
5000	522	1077	1.24	601	1311	1.51	673	1550	1.78	739	1789	2.06	800	2026	2.33
5500	559	1330	1.53	632	1573	1.81	700	1826	2.10	763	2080	2.39	822	2332	2.68
6000	598	1621	1.86	664	1873	2.15	729	2137	2.46	789	2405	2.77	846	2671	3.07
6500	637	1953	2.25	698	2212	2.54	759	2486	2.86	817	2766	3.18	871	3046	3.50
7000	677	2327	2.68	734	2593	2.98	791	2876	3.31	846	3167	3.64	898	3459	3.98
7500	718	2745	3.16	770	3018	3.47	824	3309	3.81	876	3609	4.15	926	3913	4.50
8000	759	3209	3.69	808	3489	4.01	858	3787	4.36	907	4095	4.71	956	4410	5.07
8500	801	3722	4.28	846	4007	4.61	893	4311	4.96	940	4628	5.32	986	4952	5.69

PAH210* (18 TONS) (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
3500	810	1461	1.68	868	1642	1.89	923	1821	2.09	975	1999	2.30	1024	2176	2.50
4000	823	1703	1.96	880	1902	2.19	934	2100	2.42	985	2296	2.64	1034	2490	2.86
4500	839	1969	2.26	894	2185	2.51	947	2400	2.76	997	2613	3.01	1045	2826	3.25
5000	857	2261	2.60	911	2494	2.87	962	2726	3.14	1011	2956	3.40	1058	3185	3.66
5500	877	2583	2.97	930	2832	3.26	979	3080	3.54	1027	3326	3.83	1073	3570	4.11
6000	899	2937	3.38	950	3202	3.68	999	3465	3.98	1045	3726	4.29	1090	3986	4.58
6500	923	3327	3.83	972	3606	4.15	1020	3883	4.47	1065	4159	4.78	1108	4434	5.10
7000	948	3753	4.32	996	4045	4.65	1042	4337	4.99	1086	4627	5.32	1128	4917	5.65
7500	975	4219	4.85	1021	4525	5.20	1066	4829	5.55	1109	5134	5.90	1150	5436	6.25
8000	1002	4727	5.44	1047	5045	5.80	1091	5362	6.17	1133	5680	6.53	1173	5995	6.90
8500	1031	5280	6.07	1075	5609	6.45	1117	5938	6.83	1158	6268	7.21	1197	6596	7.59

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive ranges:

Low Range: 647–886 (208/230 and 460-v), 810–1072 (575-v)

High Range: 897–1139 (208/230 and 460-v), 873–1108 (575-v)

All other rpms require field-supplied drive.

NOTES:

1. Maximum continuous bhp is:

Low Range: 4.25 (208/230 and 460-v), 3.45 (575-v)

High Range: 5.75

2. See general fan performance notes.

PAH240* (20 TONS)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	533	1106	1.27	611	1342	1.54	682	1582	1.82	748	1822	2.10	808	2059	2.37
5,500	571	1366	1.57	643	1613	1.86	711	1867	2.15	773	2121	2.44	832	2374	2.73
6,000	610	1666	1.92	676	1922	2.21	740	2188	2.52	800	2456	2.82	857	2724	3.13
6,500	650	2007	2.31	712	2271	2.61	772	2548	2.93	829	2829	3.25	883	3110	3.58
7,000	691	2391	2.75	748	2663	3.06	805	2949	3.39	859	3242	3.73	911	3536	4.07
7,500	732	2820	3.24	786	3100	3.57	839	3395	3.91	891	3698	4.25	941	4004	4.61
8,000	775	3297	3.79	824	3585	4.12	874	3887	4.47	924	4200	4.83	972	4516	5.19
8,500	817	3823	4.40	863	4118	4.74	911	4428	5.09	958	4749	5.46	1003	5075	5.84
9,000	860	4400	5.06	904	4702	5.41	948	5019	5.77	993	5347	6.15	1036	5683	6.54
9,500	903	5031	5.79	944	5339	6.14	986	5663	6.51	1028	5998	6.90	1070	6343	7.29
10,000	947	5715	6.57	985	6030	6.93	1025	6360	7.32	1065	6703	7.71	1105	7055	8.11

PAH240* (20 TONS) (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
5,000	865	2294	2.64	918	2527	2.91	969	2760	3.17	1018	2990	3.44	1065	3219	3.70
5,500	886	2625	3.02	938	2875	3.31	988	3123	3.59	1035	3369	3.87	1081	3614	4.16
6,000	910	2990	3.44	960	3254	3.74	1008	3518	4.05	1054	3779	4.35	1099	4040	4.65
6,500	935	3391	3.90	984	3670	4.22	1030	3948	4.54	1075	4224	4.86	1118	4499	5.18
7,000	961	3830	4.40	1008	4123	4.74	1054	4415	5.08	1098	4706	5.41	1140	4996	5.75
7,500	989	4311	4.96	1035	4617	5.31	1079	4922	5.66	1122	5227	6.01	1163	5530	6.36
8,000	1018	4835	5.56	1062	5153	5.93	1105	5472	6.29	1147	5790	6.66	1187	6106	7.02
8,500	1048	5405	6.22	1091	5735	6.60	1133	6065	6.98	1173	6396	7.36	1212	6725	7.73
9,000	1079	6022	6.93	1121	6364	7.32	1161	6706	7.71	1201	7048	8.11	1239	7390	8.50
9,500	1112	6691	7.70	1152	7042	8.10	1191	7395	8.51	1229	7749	8.91	1266	8102	9.32
10,000	1145	7412	8.52	1184	7773	8.94	1222	8135	9.36	1259	8500	9.78	1295	8864	10.20

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive ranges:

Low Range: 949–1206

High Range: 941–1176

All other rpms require field-supplied drive.

NOTES:

1. Maximum continuous bhp is:

Low Range: 5.75

High Range: 8.63

2. See general fan performance notes.

PERFORMANCE DATA: PAH300

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

PAH300* (25 TONS)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	734	2384	2.74	752	2482	2.85	803	2,752	3.16	848	2,998	3.45	891	3,250	3.74
7,000	728	2506	2.88	792	2911	3.35	844	3,220	3.70	887	3,484	4.01	928	3,742	4.30
7,500	746	2738	3.15	831	3375	3.88	884	3,734	4.29	927	4,023	4.63	966	4,293	4.94
8,000	786	3148	3.62	869	3868	4.45	925	4,292	4.94	968	4,612	5.30	1006	4,901	5.64
8,500	827	3611	4.15	905	4384	5.04	964	4,891	5.63	1008	5,251	6.04	1046	5,564	6.40
9,000	870	4125	4.74	940	4921	5.66	1003	5,529	6.36	1049	5,939	6.83	1086	6,281	7.22
9,500	913	4691	5.40	975	5480	6.30	1042	6,202	7.13	1089	6,674	7.68	1127	7,053	8.11
10,000	957	5312	6.11	1010	6073	6.98	1079	6,906	7.94	1128	7,453	8.57	1167	7,876	9.06
10,500	1002	5988	6.89	1047	6715	7.72	1115	7,635	8.78	1167	8,275	9.52	1207	8,751	10.06
11,000	1047	6719	7.73	1086	7416	8.53	1150	8,388	9.65	1205	9,133	10.50	1247	9,674	11.13
11,500	1092	7507	8.63	1126	8180	9.41	1185	9,163	10.54	1242	10,025	11.53	1286	10,642	12.24
12,000	1137	8356	9.61	1168	9009	10.36	1220	9,975	11.47	1278	10,945	12.59	1325	11,654	13.40
12,500	1182	9264	10.65	1210	9903	11.39	1256	10,835	12.46	1314	11,891	13.68	—	—	—

PAH300* (25 TONS) (cont)															
Airflow (Cfm)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp	Rpm	Watts	Bhp
6,500	934	3,521	4.05	978	3,822	4.40	1023	4,160	4.78	1071	4,540	5.22	1119	4,961	5.71
7,000	967	4,010	4.61	1007	4,297	4.94	1048	4,612	5.30	1090	4,960	5.70	1134	5,344	6.15
7,500	1003	4,565	5.25	1040	4,847	5.57	1078	5,148	5.92	1116	5,474	6.30	1155	5,830	6.71
8,000	1041	5,181	5.96	1076	5,465	6.29	1111	5,762	6.63	1146	6,076	6.99	1181	6,412	7.37
8,500	1081	5,859	6.74	1114	6,150	7.07	1147	6,448	7.42	1179	6,756	7.77	1212	7,081	8.14
9,000	1121	6,595	7.59	1153	6,899	7.93	1184	7,202	8.28	1215	7,512	8.64	1246	7,832	9.01
9,500	1161	7,390	8.50	1193	7,710	8.87	1223	8,025	9.23	1253	8,340	9.59	1282	8,660	9.96
10,000	1202	8,244	9.48	1233	8,584	9.87	1263	8,913	10.25	1291	9,237	10.62	1319	9,563	11.00
10,500	1242	9,154	10.53	1273	9,519	10.95	1303	9,866	11.35	1331	10,203	11.73	1358	10,537	12.12
11,000	1282	10,118	11.64	1314	10,514	12.09	1343	10,884	12.52	1371	11,237	12.92	1397	11,584	13.32
11,500	1322	11,136	12.81	1354	11,568	13.30	1384	11,964	13.76	—	—	—	—	—	—
12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan

Watts — Input Watts to Motor

*Motor drive ranges:

Low Range: 805—1007

High Range: 941—1176

All other rpms require field-supplied drive.

NOTES:

1. Maximum continuous bhp is:

Low Range: 5.75

High Range: 8.63

2. See general fan performance notes.

PERFORMANCE DATA — PAH (cont)

ACCESSORY/FIOP STATIC PRESSURE (in. wg)* — PAH155,180

COMPONENT	CFM								
	4500	5000	5400	6000	7200	7500	9000	10,000	11,250
Economizer	0.040	0.050	0.060	0.070	0.090	0.100	0.110	0.120	0.140

LEGEND

FIOP — Factory-Installed Option

NOTE: Performance is for DN series economizer.

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should then be used in conjunction with the Fan Performance tables to determine blower rpm and watts.

ACCESSORY/ELECTRIC HEAT STATIC PRESSURE (in. wg) — PAH155,180 UNITS

UNIT PAH	HEATER RATED VOLTAGE	CFM	ELECTRIC HEATERS PRESSURE DROP (kW)		
			0.05 (14/19, 26/34)	0.06 (42/56)	0.07 (56/75)
155,180	208/240—3—60	3,750	0.05 (14/19, 26/34)	0.06 (42/56)	0.07 (56/75)
		4,000	0.05 (14/19, 26/34)	0.06 (42/56)	0.07 (56/75)
		5,000	0.07 (14/19, 26/34)	0.08 (42/56)	0.10 (56/75)
		6,000	0.09 (14/19, 26/34)	0.12 (42/56)	0.15 (56/75)
		7,200	0.11 (14/19, 26/34)	0.16 (42/56)	0.20 (56/75)
		7,500	0.12 (14/19, 26/34)	0.17 (42/56)	0.21 (56/75)
	480—3—60	3,750	0.05 (15, 32)	0.06 (55)	0.07 (80)
		4,000	0.05 (15, 32)	0.06 (55)	0.07 (80)
		5,000	0.07 (15, 32)	0.08 (55)	0.10 (80)
		6,000	0.09 (15, 32)	0.12 (55)	0.15 (80)
		7,200	0.11 (15, 32)	0.15 (55)	0.20 (80)
		7,500	0.12 (15, 32)	0.17 (55)	0.21 (80)
	600—3—60	3,750	0.06 (37)		
		4,000	0.06 (37)		
		5,000	0.08 (37)		
		6,000	0.12 (37)		
		7,200	0.15 (37)		
		7,500	0.17 (37)		

LEGEND

FIOP — Factory-Installed Option

NOTES:

- Heaters are rated at 240 v, 480 v and 600 v.
- The factory assembled horizontal adapter substantially improves fan performance.

- The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should then be used in conjunction with the Fan Performance table to determine blower rpm, bhp, and watts.

ACCESSORY/FIOP STATIC PRESSURE (in. wg)* — PAH210—300

COMPONENT	CFM								
	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000
Economizer	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10

COMPONENT	CFM							
	8,500	9,000	9,500	10,000	10,500	11,000	11,500	12,000
Economizer	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09

LEGEND

FIOP — Factory-Installed Option

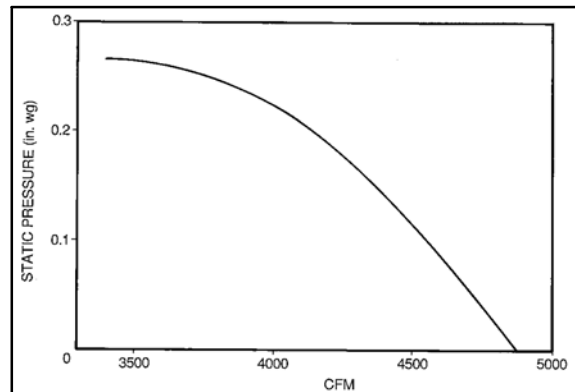
NOTE: Performance is for DN series economizer.

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should then be used in conjunction with the Fan Performance tables to determine blower rpm and watts.

EVAPORATOR-FAN MOTOR EFFICIENCY — PAH155,180

MOTOR HORSEPOWER	MOTOR EFFICIENCY (%)
2.9, 3.7	85.8
3.0	87.5
5.0	87.5

NOTE: All indoor-fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.



Fan Performance Using Accessory Power Exhaust (PAH155,180)

EVAPORATOR FAN MOTOR PERFORMANCE — PAH155,180

UNIT PAH	NOMINAL HP	VOLTAGE	MAX WATTS	EFF. %	MAX BHP	MAX BkW	MAX AMPS
155 (Standard Motor)	2.9	208	2700	85.8	3.13	2.34	9.46
	2.9	230	2700	85.8	3.13	2.34	8.6
	2.9	460	2700	85.8	3.13	2.34	4.3
	3	575	3065	81.7	3.38	2.53	3.9
155 (Optional Motor)	3.7	208	3610	85.8	4.38	3.27	10.5
	3.7	230	3610	85.8	4.38	3.27	10.5
	3.7	460	3610	85.8	4.38	3.27	4.8
180	5	208	5180	87.5	6.13	4.57	15.8
	5	230	5180	87.5	6.13	4.57	15.8
	5	460	5180	87.5	6.13	4.57	7.9
	5	575	5180	87.5	6.13	4.57	6.0

LEGEND

BHP — Brake Horsepower

BkW — Brake Kilowatts

PERFORMANCE DATA — PAH (cont)

EVAPORATOR FAN MOTOR PERFORMANCE — PAH210—300

UNIT PAH	DRIVE	ORIENTATION	MOTOR P/N	NOMINAL HP	VOLTAGE	MAX WATTS	EFFICIENCY %	MAX BHP	MAX BkW	MAX AMPS
210	Low	Vertical	HD60FK651	3.7	208	3698	85.8	4.25	3.17	10.6
			HD60FK651	3.7	230	3698	85.8	4.25	3.17	9.6
			HD60FK651	3.7	460	3698	85.8	4.25	3.17	4.8
			HD58DL575	3.0	575	3149	81.7	3.45	2.57	3.9
	High	Vertical	HD60FL650	5	208	4900	87.5	5.75	4.29	16.7
			HD60FL650	5	230	4900	87.5	5.75	4.29	15.2
			HD60FL650	5	460	4900	87.5	5.75	4.29	7.6
			HD60FL575	5	575	4900	87.5	5.75	4.29	6.1
240	Low	Vertical	HD60FL650	5	208	4900	87.5	5.75	4.29	16.7
			HD60FL650	5	230	4900	87.5	5.75	4.29	15.2
			HD60FL650	5	460	4900	87.5	5.75	4.29	7.6
			HD60FL575	5	575	4900	87.5	5.75	4.29	6.1
	High	Vertical	HD62FL650	7.5	208	7267	88.5	8.63	6.43	24.2
			HD62FL650	7.5	230	7267	88.5	8.63	6.43	22
			HD62FL650	7.5	460	7267	88.5	8.63	6.43	11
			HD62FL575	7.5	575	7267	88.5	8.63	6.43	9
300	Low	Vertical	HD60FL650	5	208	4900	87.5	5.75	4.29	16.7
			HD60FL650	5	230	4900	87.5	5.75	4.29	15.2
			HD60FL650	5	460	4900	87.5	5.75	4.29	7.6
			HD60FL575	5	575	4900	87.5	5.75	4.29	6.1
	High	Vertical	HD62FL650	7.5	208	7267	88.5	8.63	6.43	24.2
			HD62FL650	7.5	230	7267	88.5	8.63	6.43	22
			HD62FL650	7.5	460	7267	88.5	8.63	6.43	11
			HD62FL575	7.5	575	7267	88.5	8.63	6.43	9

LEGEND

BHP — Brake Horsepower

BkW — Brake Kilowatts

FAN RPM AND MOTOR PULLEY SETTINGS* — PAH155,180

UNIT PAH	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
155 (208/230, 460 v)†	1147	1124	1101	1078	1055	1032	1010	987	964	941	918	895	††
155 (208/230, 460 v)**	1315	1292	1269	1246	1223	1200	1178	1155	1132	1109	1086	1063	1040
180†	††	††	††	††	1021	1002	984	965	947	928	910	891	873
180**	††	††	††	††	1200	1178	1156	1134	1112	1091	1069	1047	1025

*Approximate fan rpm shown (belt slip may vary).

†Indicates standard drive package.

**Indicates alternate drive package.

††Due to belt and pulley style, pulley cannot be set to this number of turns open.

FAN RPM AND MOTOR PULLEY SETTINGS* — PAH210—300

RANGE		MOTOR PULLEY TURNS OPEN												
		0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
210 (230 and 460 volt)	Low Range Vertical	647	667	687	707	727	747	767	786	806	826	846	866	886
	High Range Vertical	897	917	937	958	978	998	1018	1038	1058	1079	1099	1119	1139
240 (230 and 460 volt)	Low Range Vertical	949	970	992	1013	1035	1056	1078	1099	1120	1142	1163	1185	1206
	High Range Vertical	941	961	980	1000	1019	1039	1059	1078	1098	1117	1137	1156	1176
300 (all voltages)	Low Range Vertical	805	822	839	856	872	889	906	923	940	957	973	990	1007
	High Range Vertical	941	961	980	1000	1019	1039	1059	1078	1098	1117	1137	1156	1176

*Approximate fan rpm shown.

MULTIPLICATION FACTORS

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	380	440	460	480	550	575	600
240	0.69	0.75	0.92	1.000	—	—	—	—	—	—	—
480	—	—	—	—	0.63	0.84	0.92	1.00	—	—	—
600	—	—	—	—	—	—	—	—	0.84	0.92	1.00

NOTES: The following equation converts kW of heat energy to Btuh: kW x 3.413 = Btuh.

EXAMPLE: 26.0 kW (at 240 v) heater on 208 v

= 26.0 (.75 mult factor)

= 19.5 kW capacity at 208 v.

PERFORMANCE DATA — PAH (cont)

COOLING OPERATION AIR QUANTITY LIMITS — PAH155,180

UNIT PAH	MINIMUM CFM	MAXIMUM CFM
155	3600	6250
180	4500	7500

OUTDOOR AIR LOW TEMPERATURE OPERATING LIMITS — PAH155,180

TEMPERATURE LIMIT (F)		
Standard Unit	Unit With Low Ambient Kit	Unit With Low Ambient Head Pressure Control Kit
40	20	-20

OUTDOOR SOUND POWER (TOTAL UNIT)

UNIT PAH	ARI RATING (dB)	A-WEIGHT (dB)	OCTAVE BANDS							
			63	125	250	500	1000	2000	4000	8000
155,180	88	87.6	90.8	88.7	86.4	84.3	83.5	78.4	75.6	66.8
210,240	82	81.7	90.2	84.8	80.7	79.0	77.6	71.4	66.7	60.7
300	85	84.9	90.0	86.3	83.6	82.9	80.3	74.9	71.4	66.5

LEGEND

ARI — Air Conditioning and Refrigeration Institute

ELECTRIC RESISTANCE HEATER DATA

UNIT PAH	HEATER kW							HEATER STAGES	% HEAT PER STAGE	MAXIMUM STAGES*	MINIMUM		HEATER AMPS						
	Unit Voltages										Heating Cfm								
	208	230	240	460	480	575	600				Cfm	L/s							
155	14	17	19	14	15	—	—	1	100	1	3750	1770	39.3	43.4	45.3	17.2	17.9	—	—
	26	31	34	30	32	—	—	2	50/50	2			71.3	78.9	82.3	37.3	39.0	—	—
	42	52	56	50	55	37	40	2	33/67	3			117.0	129.4	135.0	63.3	66.1	37.0	38.6
180	26	31	34	30	32	—	—	2	50/50	2	3750	1770	71.3	78.8	82.3	37.3	39.0	—	—
	42	52	56	50	55	—	—	2	33/67	3			117.0	129.4	135.0	63.3	66.1	—	—
	56	69	75	73	80	—	—	2	50/50	4			155.9	172.4	179.9	92.0	96.0	—	—

*Maximum number of stages using accessory low-ambient kit or head pressure control device and low-ambient kit.

NOTES: Heaters are rated at 208, 240, 480, and 600 v. Use multiplication factors table to determine kW at different voltages.

INDOOR SOUND DATA (TOTAL UNIT)

UNIT PAH	SOUND RATING dB (60 Hz)	A-WEIGHTED (dB)	SOUND POWER (dB)							
			Octave Bands							
			63	125	250	500	1000	2000	4000	8000
155	88	87.3	87.1	89.9	86.4	84.0	82.7	79.0	73.9	68.6
180	89	88.0	95.7	88.9	87.2	85.2	91.9	79.5	72.7	66.0

LEGEND

dB — Sound Levels (decibels)

ELECTRICAL DATA: PAH155-180

UNIT PAH	NOMIN. VOLT. (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR				OFM			IFM		POWER EXHAUST		ELECTRIC HEAT*		POWER SUPPLY	
				No. 1		No. 2												
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	FLA	LRA	kW	FLA	MCA	MOCP†
155 (Standard IFM)	208/230	187	253	20.7	156	20.7	156	3	0.5	1.7	2.9	8.8/ 8.4	—	—	—	—	60/60	80/80
													4.6	18.8	—	—	65/65	80/80
													—	—	14/19	39/45	60/67	80/80
													4.6	18.8	14/19	39/45	66/73	80/80
													—	—	26/34	71/82	100/113	100/125
													4.6	18.8	26/34	71/82	106/119	110/125
	460	414	506	10	75	10	75	3	0.5	0.8	2.9	4.2	—	—	—	—	29	35
													2.3	6.0	—	—	31	40
													—	—	15	18	29	35
													2.3	6.0	15	18	31	40
													—	—	32	39	54	60
													2.3	6.0	32	39	57	60
	575	518	633	8.2	54	8.2	54	3	0.5	0.75	3.0	3.9	—	—	—	—	25	30
													2.1	4.8	—	—	27	30
													—	—	37**	37	51	60
													2.1	4.8	37**	37	54	60
													—	—	—	—	—	—
													—	—	—	—	—	—

ELECTRICAL DATA: PAH155-180

UNIT PAH	NOMIN. VOLT. (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR				OFM			IFM		POWER EXHAUST		ELECTRIC HEAT*		POWER SUPPLY													
				No. 1		No. 2																								
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	FLA	LRA	kW	FLA	MCA	MOCP†												
155 (Optional IFM)	208/230	187	253	20.7	156	20.7	156	3	0.5	1.7	3.7	10.5/ 11.0	—	—	—	—	62/63	80/80												
													4.6	18.8	—	—	67/67	80/80												
													—	—	14/19	39/45	62/70	80/80												
													4.6	18.8	14/19	39/45	68/76	80/80												
													—	—	26/34	71/82	102/116	110/125												
													4.6	18.8	26/34	71/82	108/122	110/125												
													—	—	42/56**	117/135	159/149	175/175												
													4.6	18.8	42/56**	117/135	165/155	175/175												
	460	414	506	10	75	10	75	3	0.5	0.8	3.7	4.8	2.3	6.0	—	—	30	35												
													—	—	15	18	30	35												
													2.3	6.0	15	18	32	40												
													—	—	32	39	55	60												
180	208/230	187	253	32.1	195	20.7	156	3	0.5	1.7	5.0	15.8/ 15.8	—	—	—	—	82/82	110/110												
													4.6	18.8	—	—	86/86	110/110												
													—	—	26/34	71/82	109/122	110/125												
													4.6	18.8	26/34	71/82	114/128	125/150												
													—	—	42/56	117/135	166/155	175/175												
													4.6	18.8	42/56	117/135	172/161	175/175												
													—	—	56/75**	156/180	176/200	200/225												
													4.6	18.8	56/75**	156/180	182/206	200/225												
													460	414	508	16.4	95	10	70	3	0.5	0.8	5.0	7.9	—	—	—	—	41	50
																									2.3	6.0	—	—	43	50
	—	—	32	39	59	60																								
	2.3	6.0	32	39	62	70																								
	—	—	55	66	76	90																								
	2.3	6.0	55	66	79	90																								
	—	—	80**	96	106	125																								
	2.3	6.0	80**	96	109	125																								
	575	518	633	12	80	8.2	54	3	0.5	0.75	5.0	6.0	2.1	4.8	—	—	31 34	40 40												

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps
 *Fuse or HACR circuit breaker.
 *Heater capacity (kW) is based on heater voltage of 208 v, 240 v, 480 v, and 600 v. Heaters are rated at 240 v, 480 v, or 600 v. If power distribution voltage to unit varies from rated heater voltage, heater kW will vary accordingly. To determine heater capacity at actual unit voltage, multiply 240 v, 480 v, or 600 v capacity by multipliers found in table on page 202.
 †Fuse or HACR circuit breaker.
 **Electric heaters are field installed.

NOTES:

- In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. The Canadian units may be fuse or circuit breaker.
- Unbalanced 3-Phase Supply Voltage**
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

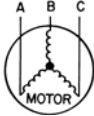
% Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

EXAMPLE: Supply voltage is 460-3-60.

Determine maximum deviation from average voltage.

AB = 452 v
 BC = 464 v
 AC = 455 v




$$\begin{aligned}
 \text{Average Voltage} &= \frac{452 + 464 + 455}{3} \\
 &= \frac{1371}{3} \\
 &= 457
 \end{aligned}$$

Determine maximum deviation from average voltage.

(AB) 457 - 452 = 5 v

(BC) 464 - 457 = 7 v

(AC) 457 - 455 = 2 v

Maximum deviation is 7 v.

Determine percent voltage imbalance.

$$\begin{aligned}
 \% \text{ Voltage Imbalance} &= 100 \times \frac{7}{457} \\
 &= 1.53\%
 \end{aligned}$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

- MCA calculation for PAH155 units with electric heaters over 50 kW = (1.25 x IFM amps) + (1.00 x heater FLA).

ELECTRICAL DATA: PAH210-300

UNIT SIZE PAH	Nominal Voltage (3 Ph, 60 Hz)	Voltage Range		Compressor						OFM		FLA (ea)	Electric Heat		IFM		Power Exhaust			Power Supply		Disconnect Size		
				No. 1		No. 2		No. 3									Qty	Hp	FLA (ea)	MCA	MOCP*		FLA	
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA		
210	208/230	187	253	16.7	130	16.7	130	22.4	184	4	0.25	1.5	—	—	3.7	10.6/9.6	—	—	—	78/77	100/90	83/82		
																	2	1	5.9	90/89	100/100	97/96		
																	—	—	—	84/83	100/100	90/89		
															5	16.7/15.2	2	1	5.9	96/94	100/100	104/102		
																	—	—	—	92/89	100/100	99/96		
																	2	1	5.9	104/101	125/110	112/110		
															7.5	24.2/22	2	1	5.9	104/101	125/110	112/110		
																	—	—	—	78/87	100/90	83/82		
																	2	1	5.9	93/102	100/110	97/96		
													19/25	52/60	5	16.7/15.2	2	1	5.9	86/94	100/100	90/89		
																	—	—	—	101/109	110/110	104/102		
																	2	1	5.9	95/103	100/110	99/96		
															7.5	24.2/22	2	1	5.9	110/117	125/125	112/110		
																	—	—	—	143/132	150/150	132/149		
																	2	1	5.9	158/147	175/150	145/163		
															38/50	104/120	5	16.7/15.2	2	1	5.9	166/154	175/175	152/169
																			—	—	—	160/148	175/150	147/163
																			2	1	5.9	175/162	200/175	161/177
													56/75†	156/180	3.7		10.6/9.6	2	1	5.9	78/77	100/90	83/82	
																		—	—	—	84/83	100/100	90/89	
																		2	1	5.9	96/94	100/100	104/102	
															5		16.7/15.2	2	1	5.9	92/89	100/100	99/96	
																		—	—	—	104/101	125/110	112/110	
																		2	1	5.9	104/101	125/110	112/110	
	460	414	506	9	70	9	70	10.7	90	4	0.25	0.7			—	—	3.7	4.8	—	—	—	39	45	42
																			2	1	3.1	45	50	49
																			—	—	—	42	50	45
													5	7.6			2	1	3.1	48	50	52		
																	—	—	—	45	50	49		
																	2	1	3.1	51	60	56		
													25	30			3.7	4.8	—	—	—	44	45	42
																			2	1	3.1	51	60	49
																			—	—	—	47	50	45
															5	7.6	2	1	3.1	55	60	52		
																	—	—	—	51	60	49		
																	2	1	3.1	59	60	56		
													50	60	3.7	4.8	—	—	—	66	80	75		
																	2	1	3.1	74	80	82		
																	—	—	—	70	80	78		
															5	7.6	2	1	3.1	77	80	85		
																	—	—	—	74	80	82		
																	2	1	3.1	82	90	89		
													75	90	3.7	4.8	—	—	—	96	100	109		
																	2	1	3.1	104	110	116		
																	—	—	—	100	110	112		
															5	7.6	2	1	3.1	107	125	119		
																	—	—	—	104	125	116		
																	2	1	3.1	112	125	123		
575	518	633	7	55	7	55	9.3	73	4	0.25	0.7	—	—	3	3.9	—	—	—	32	40	35			
																2	1	2.4	37	45	40			
																—	—	—	35	40	37			
														5	6.1	2	1	2.4	39	45	43			
																—	—	—	37	45	40			
																2	1	2.4	42	50	46			
														24.8	24	3	3.9	—	—	—	35	40	35	
																		2	1	2.4	41	45	40	
																		—	—	—	38	40	37	
												5	6.1			2	1	2.4	44	45	43			
																—	—	—	41	45	40			
																2	1	2.4	47	50	46			
												48.3	46	3	3.9	—	—	—	62	70	57			
																2	1	2.4	68	70	63			
																—	—	—	65	70	60			
														5	6.1	2	1	2.4	71	80	65			
																—	—	—	69	70	63			
																2	1	2.4	75	80	69			
														78	75	3	3.9	—	—	—	80	90	91	
																		2	1	2.4	86	90	96	
																		—	—	—	83	90	93	
												5	6.1			2	1	2.4	89	100	99			
																—	—	—	86	100	97			
																2	1	2.4	92	100	102			

See legend and notes on next page.

ELECTRICAL DATA — PAH (cont)

ELECTRIC HEAT BRANCH CIRCUIT 208/240 75-kW ELECTRIC HEAT†

UNIT SIZE PAH	Nominal Voltage (3 Ph 60 Hz)	Voltage Range		Compressor						OFM			Electric Heat		IFM		Power Exhaust			Power Supply		Disconnect Size
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	
210	208/240	187	253	—	—	—	—	—	—	—	—	56/75	156/180	—	—	—	—	—	156/180	175/200	179/207	

FEEDER CIRCUIT FOR 208/230 UNIT WITH 75-kW ELECTRIC HEAT†

UNIT SIZE PAH	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST		POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3													
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	
210	208/230	187	253	16.7	130	16.7	130	22.4	184	4	0.25	1.5	56/ 75	156/ 180	3.7	10.6/9.6	—	—	169/192	200/225	192/218
																	2	1	5.9	184/207	200/225
															5	16.7/15.2	—	—	177/199	200/225	199/224
																	2	1	5.9	192/214	200/225
															7.5	24.2/22.0	—	—	186/208	200/225	207/232
																	2	1	5.9	201/222	225/225

LEGEND

FLA — Full Load Amps	MCA — Minimum Circuit Amps
HACR — Heating, Air Conditioning and Refrigeration	MOCP — Maximum Overcurrent Protection
IFM — Indoor (Evaporator) Fan Motor	NEC — National Electrical Code
LRA — Locked Rotor Amps	OFM — Outdoor (Condenser) Fan Motor
	RLA — Rated Load Amps

*Fuse or HACR circuit breaker.

†208/230 v 75-kW Electric Heat units must use dual-point wiring. The main table lists the branch circuit values for the refrigeration part of the system. The following two tables list the branch circuit values for the electric heat and values for a feeder circuit for both branch circuits.

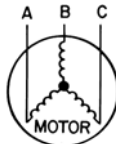
NOTES:

- In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
- Unbalanced 3-Phase Supply Voltage**
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

% Voltage Imbalance

Example: Supply voltage is 460—3—60.

AB = 452 v
BC = 464 v
AC = 455 v
(AC) 457 – 455 = 2 v



$$\begin{aligned} \text{Average Voltage} &= \frac{452 + 464 + 455}{3} \\ &= \frac{1371}{3} \\ &= 457 \end{aligned}$$

Determine maximum deviation from average voltage.

(AB) 457 – 452 = 5 v

(BC) 464 – 457 = 7 v

(AC) 457 – 455 = 2 v

Maximum deviation is 7 v.

$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{7}{457} \\ &= 1.53\% \end{aligned}$$

Determine percent of voltage imbalance.

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

- The 75-kW 208/240-v electric heat can be factory installed but it must be wired separately in the field.
- The convenience outlet full load amps (FLA) are 5, 3 and 3 for 208/230, 460, 575-v units, respectively.
- The FLA load amps provided in the table for electric heaters are based on 208/240, 480 and 600 v.
- MCA calculation for PAH155 units with electric heaters over 50 kW is = 1.25 x (IFM + Power Exhaust + Convenience Outlet FLA amps) + 1.00 x (Electric Heater FLA).



ELECTRICAL DATA — PAH (cont)

ELECTRICAL DATA — PAH210-300 (cont)

UNIT SIZE PAH	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE		
				No. 1		No. 2		No. 3									Qty	Hp	FLA (ea)	Qty	Hp	FLA (ea)	MCA	MOCP*
Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA				
240	208/230	187	253	22.4	184	22.4	184	22.4	184	4	0.25	1.5	—	—	3.7	10.6/9.6	2	1	5.9	101/100	110/110	110/109		
															5	16.7/15.2	—	—	—	96/94	100/100	103/102		
																	2	1	5.9	107/106	125/125	117/115		
																	—	—	—	103/101	125/110	112/109		
															7.5	24.2/22	2	1	5.9	115/113	125/125	126/123		
																	—	—	—	112/108	125/125	120/116		
																	2	1	5.9	124/120	150/125	133/130		
															10	30.8/28	—	—	—	89/88	100/100	96/95		
																	3.7	10.6/9.6	2	1	5.9	101/102	110/110	110/109
																	5	16.7/15.2	—	—	—	96/94	100/100	103/102
															2	1			5.9	107/109	125/125	117/115		
															—	—			—	103/103	125/110	112/109		
													7.5	24.2/22	2	1	5.9	115/117	125/125	126/123				
															—	—	—	112/110	125/125	120/116				
															2	1	5.9	124/125	150/125	133/130				
													38/50	104/120	3.7	10.6/9.6	—	—	—	143/132	150/150	132/149		
																	2	1	5.9	158/147	175/150	145/163		
																	—	—	—	151/139	175/150	139/155		
															5	16.7/15.2	2	1	5.9	166/154	175/175	152/169		
																	—	—	—	160/148	175/150	147/163		
																	2	1	5.9	175/162	200/175	161/177		
															7.5	24.2/22	—	—	—	169/155	175/175	155/170		
																	2	1	5.9	183/170	200/175	169/184		
																	10	30.8/28	—	—	—	89/88	100/100	96/95
	2	1	5.9	101/100	110/110	110/109																		
	—	—	—	96/94	100/100	103/102																		
	56/75†	156/180	3.7	10.6/9.6	—	—	—	107/106	125/125	117/115														
					—	—	—	103/101	125/110	112/109														
					2	1	5.9	115/113	125/125	126/123														
			5	16.7/15.2	2	1	5.9	112/108	125/125	120/116														
					—	—	—	124/120	150/125	133/130														
					—	—	—	96/88	100/100	96/95														
			460	414	506	10.7	90	10.7	90	10.7	90	4	0.25	0.7	—	—	3.7	4.8	2	1	3.1	42	50	46
																	5	7.6	—	—	—	49	50	53
																			2	1	3.1	51	60	56
																			—	—	—	49	50	53
																	7.5	11	2	1	3.1	55	60	60
																			—	—	—	52	60	56
	2	1																	3.1	59	60	63		
	25	30															3.7	4.8	—	—	—	44	50	46
																			2	1	3.1	51	60	53
																			—	—	—	47	50	49
																	5	7.6	2	1	3.1	55	60	56
																			—	—	—	51	60	53
															2	1			3.1	59	60	60		
															7.5	11	—	—	—	55	60	56		
																	2	1	3.1	63	70	63		
																	—	—	—	66	80	75		
50															60	3.7	4.8	2	1	3.1	74	80	82	
																		—	—	—	70	80	78	
																		2	1	3.1	77	80	85	
	5	7.6														—	—	—	74	80	82			
																2	1	3.1	82	90	89			
																—	—	—	78	90	85			
	7.5	11														2	1	3.1	85	90	92			
																—	—	—	96	100	109			
			2	1	3.1	104	110	116																
	75	90	3.7	4.8	—	—	—	100	110	112														
					2	1	3.1	107	125	119														
					—	—	—	104	125	116														
5			7.6	2	1	3.1	112	125	123															
				—	—	—	108	125	120															
				2	1	3.1	115	125	127															

See legend and notes on next page.

ELECTRICAL DATA — PAH (cont)

ELECTRICAL DATA — PAH210–300 (cont)

UNIT SIZE PAH	NOM. VOLT (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3									Qty	Hp	FLA (ea)	kW	FLA	
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
240	575	518	633	9.3	73	9.3	73	9.3	73	4	0.25	0.7	—	—	5	6.1	—	—	—	39	45	42
																	2	1	2.4	44	50	48
																	—	—	—	42	50	46
																	2	1	2.4	47	50	51
															7.5	9	—	—	—	44	50	48
																	2	1	2.4	49	60	53
																	—	—	—	39	45	42
																	2	1	2.4	44	50	48
															10	11	—	—	—	42	50	46
																	2	1	2.4	47	50	51
																	—	—	—	44	50	48
																	2	1	2.4	50	60	53
													24.8	24	5	6.1	—	—	—	39	45	42
																	2	1	2.4	44	50	48
																	—	—	—	42	50	46
																	2	1	2.4	47	50	51
															7.5	9	—	—	—	44	50	48
																	2	1	2.4	50	60	53
																	—	—	—	44	50	48
															10	11	—	—	—	44	50	48
																	2	1	2.4	50	60	53
																	—	—	—	44	50	48
																	2	1	2.4	50	60	53
48.3	46	5	6.1	—	—	—	65	70	60													
				2	1	2.4	71	80	65													
				—	—	—	69	70	63													
				2	1	2.4	75	80	69													
		7.5	9	—	—	—	71	80	66													
				2	1	2.4	77	80	71													
				—	—	—	83	90	93													
		10	11	—	—	—	83	90	93													
				2	1	2.4	89	100	99													
				—	—	—	86	100	97													
				2	1	2.4	92	100	102													
78	75	5	6.1	—	—	—	83	90	93													
				2	1	2.4	89	100	99													
				—	—	—	86	100	97													
				2	1	2.4	92	100	102													
7.5	9	—	—	—	83	90	93															
		2	1	2.4	89	100	99															
		—	—	—	86	100	97															
		2	1	2.4	92	100	102															
10	11	—	—	—	83	90	93															
		2	1	2.4	89	100	99															
		—	—	—	86	100	97															
		2	1	2.4	92	100	102															

ELECTRIC HEAT BRANCH CIRCUIT 208/240 75–kW ELECTRIC HEAT†

UNIT SIZE PAH	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
240	208/240	187	253	—	—	—	—	—	—	—	—	56/75	156/180	—	—	—	—	—	156/180	175/200	179/207	

FEEDER CIRCUIT FOR 208/230 UNIT WITH 75-kW ELECTRIC HEAT†

UNIT SIZE PAH	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
240	208/230	187	253	22.4	184	22.4	184	22.4	184	4	0.25	1.5	56/75	156/180	3.7	10.6/9.6	—	—	—	169/192	200/225	192/218
																	2	1	5.9	184/207	200/225	205/232
																	—	—	—	177/199	200/225	199/224
																	2	1	5.9	192/214	200/225	212/238
															5	16.7/15.2	—	—	—	186/208	200/225	207/232
																	2	1	5.9	201/222	225/225	221/246
																	—	—	—	195/215	225/225	215/239
																	2	1	5.9	209/230	225/250	228/253
															7.5	24.2/22	—	—	—	—	—	—
																	2	1	5.9	—	—	—
																	—	—	—	—	—	—
																	2	1	5.9	—	—	—
10	30.8/28	—	—	—	—	—	—															
		2	1	5.9	—	—	—															
		—	—	—	—	—	—															
		2	1	5.9	—	—	—															

LEGEND

- FLA** — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Fuse or HACR circuit breaker.

†208/230 v 75-kW Electric Heat units must use dual-point wiring. The main table lists the branch circuit values for the refrigeration part of the system. The following two tables list the branch circuit values for the electric heat and values for a feeder circuit for both branch circuits.

NOTES:

- In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.

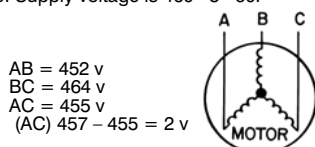
2. Unbalanced 3-Phase Supply Voltage

Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

% Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 460–3–60.



$$\begin{aligned}
 \text{Average Voltage} &= \frac{452 + 464 + 455}{3} \\
 &= \frac{1371}{3} \\
 &= 457
 \end{aligned}$$

Determine maximum deviation from average voltage.

(AB) 457 – 452 = 5 v

(BC) 464 – 457 = 7 v

(AC) 457 – 455 = 2 v

Maximum deviation is 7 v.

Determine percent of voltage imbalance.

$$\begin{aligned}
 \% \text{ Voltage Imbalance} &= 100 \times \frac{7}{457} \\
 &= 1.53\%
 \end{aligned}$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

- The 75-kW 208/240-v electric heat can be factory installed but it must be wired separately in the field.
- The convenience outlet full load amps (FLA) are 5, 3 and 3 for 208/230, 460, 575-v units, respectively.
- The FLA load amps provided in the table for electric heaters are based on 208/240, 480 and 600 v.
- MCA calculation for PAH units with electric heaters over 50 kW is = 1.25 x (IFM + Power Exhaust + Convenience Outlet FLA amps) + 1.00 x (Electric Heater FLA).



ELECTRICAL DATA — PAH (cont)

ELECTRICAL DATA — PAH210-300 (cont)

UNIT SIZE PAH	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR				OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2														
		Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCP*	FLA
300	208/230	187	253	47.1	245	47.1	245	6	0.25	1.5	—	—	5	16.7/15.2	—	—	—	132/130	175/175	138/136
													2	1	5.9	143/142	175/175	151/150		
													7.5	24.2/22	—	—	—	139/137	175/175	147/144
													2	1	5.9	151/149	175/175	160/158		
													—	—	—	146/143	175/175	154/151		
													2	1	5.9	158/155	200/200	168/164		
													5	16.7/15.2	—	—	—	132/130	175/175	138/136
													2	1	5.9	143/142	175/175	151/150		
													7.5	24.2/22	—	—	—	139/137	175/175	147/144
											2	1	5.9	151/149	175/175	160/158				
											—	—	—	146/143	175/175	154/151				
											2	1	5.9	158/155	200/200	168/164				
											5	16.7/15.2	—	—	—	132/130	175/175	138/136		
											2	1	5.9	143/142	175/175	151/150				
											7.5	24.2/22	—	—	—	139/137	175/175	147/144		
											2	1	5.9	151/149	175/175	160/158				
											—	—	—	146/143	175/175	154/151				
											2	1	5.9	158/155	200/200	168/164				
											5	16.7/15.2	—	—	—	132/130	175/175	138/136		
											2	1	5.9	143/142	175/175	151/150				
											7.5	24.2/22	—	—	—	139/137	175/175	147/144		
											2	1	5.9	151/149	175/175	160/158				
											—	—	—	146/143	175/175	154/151				
											2	1	5.9	158/155	200/200	168/164				
	5	16.7/15.2	—	—	—	132/130	175/175	138/136												
	2	1	5.9	143/142	175/175	151/150														
	7.5	24.2/22	—	—	—	139/137	175/175	147/144												
	2	1	5.9	151/149	175/175	160/158														
	—	—	—	146/143	175/175	154/151														
	2	1	5.9	158/155	200/200	168/164														
	5	16.7/15.2	—	—	—	132/130	175/175	138/136												
	2	1	5.9	143/142	175/175	151/150														
	7.5	24.2/22	—	—	—	139/137	175/175	147/144												
	2	1	5.9	151/149	175/175	160/158														
	—	—	—	146/143	175/175	154/151														
	2	1	5.9	158/155	200/200	168/164														
	5	16.7/15.2	—	—	—	132/130	175/175	138/136												
	2	1	5.9	143/142	175/175	151/150														
	7.5	24.2/22	—	—	—	139/137	175/175	147/144												
	2	1	5.9	151/149	175/175	160/158														
	—	—	—	146/143	175/175	154/151														
	2	1	5.9	158/155	200/200	168/164														
	5	16.7/15.2	—	—	—	132/130	175/175	138/136												
	2	1	5.9	143/142	175/175	151/150														
	7.5	24.2/22	—	—	—	139/137	175/175	147/144												
	2	1	5.9	151/149	175/175	160/158														
	—	—	—	146/143	175/175	154/151														
	2	1	5.9	158/155	200/200	168/164														
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136													
2	1	5.9	143/142	175/175	151/150															
7.5	24.2/22	—	—	—	139/137	175/175	147/144													
2	1	5.9	151/149	175/175	160/158															
—	—	—	146/143	175/175	154/151															
2	1	5.9	158/155	200/200	168/164															
5	16.7/15.2	—	—	—	132/130	175/175	138/136</													

See legend and notes on next page.

ELECTRICAL DATA — PAH (cont)

ELECTRIC HEAT BRANCH CIRCUIT 208/240 75-kW ELECTRIC HEAT†

UNIT SIZE PAH	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCPS*	FLA
300	208/240	187	253	—	—	—	—	—	—	—	—	56/75	156/180	—	—	—	—	—	156/180	175/200	179/207	

FEEDER CIRCUIT FOR 208/230 UNIT WITH 75-kW ELECTRIC HEAT†

UNIT SIZE PAH	NOMINAL VOLTAGE (3 Ph, 60 Hz)	VOLTAGE RANGE		COMPRESSOR						OFM			ELECTRIC HEAT		IFM		POWER EXHAUST			POWER SUPPLY		DISCONNECT SIZE
				No. 1		No. 2		No. 3														
		Min	Max	RLA	LRA	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	kW	FLA	Hp	FLA	Qty	Hp	FLA (ea)	MCA	MOCPS*	FLA
300	208/230	187	253	47.1	245	47.1	245	—	—	6	0.25	1.5	56/75	156/180	5	16.7/15.2	—	—	—	183/205	200/225	204/230
																	2	1	5.9	198/220	200/225	218/244
															7.5	24.2/22	—	—	—	193/214	200/225	213/238
																	2	1	5.9	207/229	225/250	227/252
															10	30.8/28	—	—	—	201/221	225/225	221/245
																	2	1	5.9	216/236	225/250	234/259

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCPS — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Fuse or HACR circuit breaker.

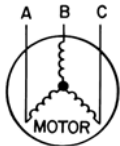
†208/230 v 75-kW Electric Heat units must use dual-point wiring. The main table lists the branch circuit values for the refrigeration part of the system. The following two tables list the branch circuit values for the electric heat and values for a feeder circuit for both branch circuits.

NOTES:

- In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
- Unbalanced 3-Phase Supply Voltage**
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 460–3–60.



AB = 452 v
 BC = 464 v
 AC = 455 v

$$\begin{aligned}
 \text{Average Voltage} &= \frac{452 + 464 + 455}{3} \\
 &= \frac{1371}{3} \\
 &= 457
 \end{aligned}$$

Determine maximum deviation from average voltage.

$$(AB) 457 - 452 = 5 \text{ v}$$

$$(BC) 464 - 457 = 7 \text{ v}$$

$$(AC) 457 - 455 = 2 \text{ v}$$

Maximum deviation is 7 v.

Determine percent of voltage imbalance.

$$\begin{aligned}
 \% \text{ Voltage Imbalance} &= 100 \times \frac{7}{457} \\
 &= 1.53\%
 \end{aligned}$$

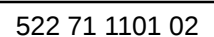
This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

- The 75-kW 208/240-v electric heat can be factory installed but it must be wired separately in the field.
- The convenience outlet full load amps (FLA) are 5, 3 and 3 for 208/230, 460, 575-v units, respectively.
- The FLA load amps provided in the table for electric heaters are based on 208/240, 480 and 600 v.
- MCA calculation for PAH units with electric heaters over 50 kW is = 1.25 x (IFM + Power Exhaust + Convenience Outlet FLA amps) + 1.00 x (Electric Heater FLA).

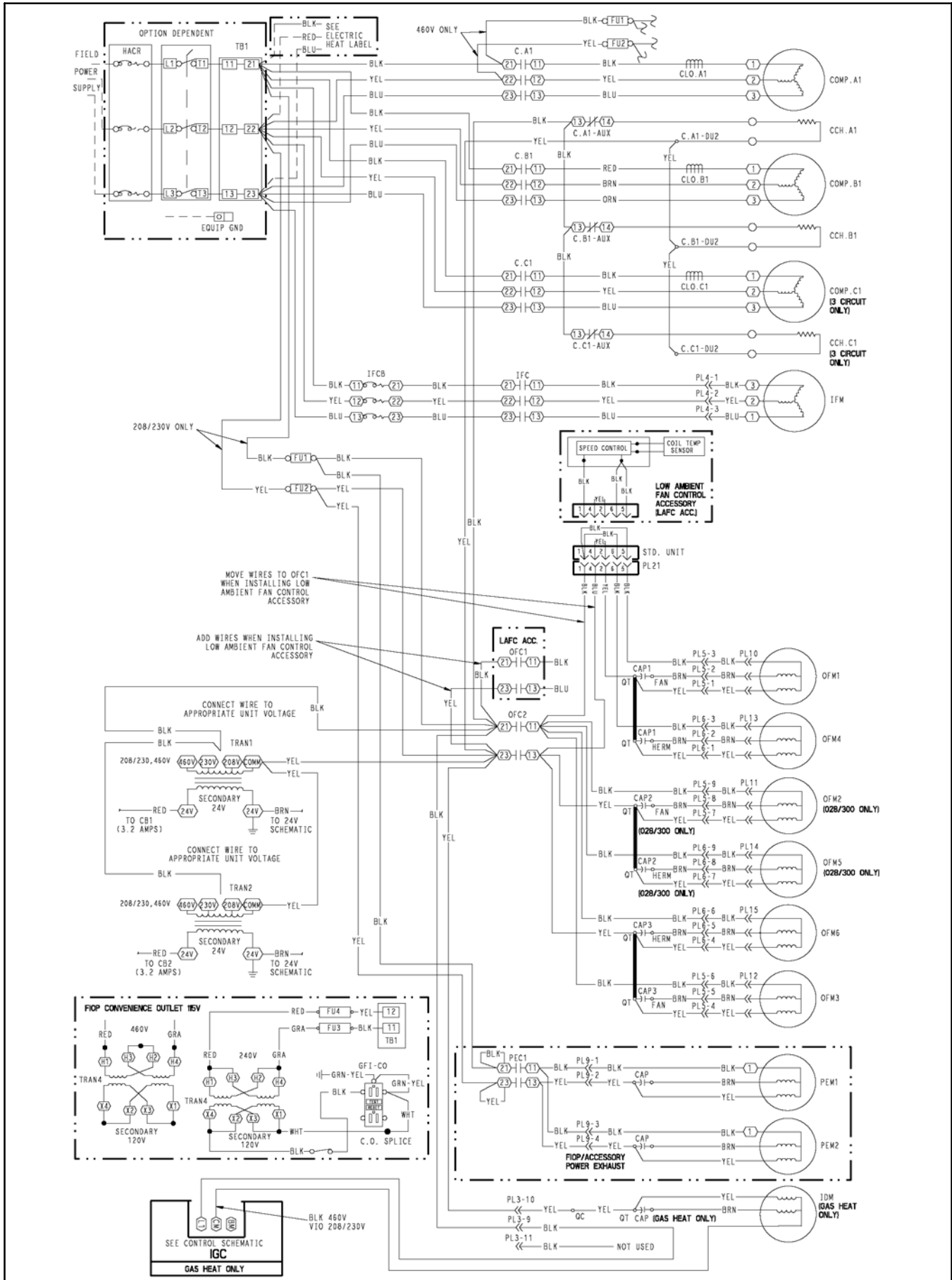


Low Voltage Control Schematic (PAH210 Shown)



TYPICAL WIRING SCHEMATICS — PAH (cont)

Power Schematic (PAH210 Shown)



TYPICAL WIRING SCHEMATICS — PAH (cont)

LEGEND

---A — Circuit A
AUX — Auxiliary Contact
AL — Ambient Limit
---B — Circuit B
---C — Circuit C
C — Compressor, Contactor
CAP — Capacitor
CB — Circuit Breaker
CCH — Crankcase Heater
CLO — Compressor Lockout
COMP — Compressor
CR — Control Relay
ECB — Economizer Control Board
FCS — Fan Control Switch
FIOP — Factory-Installed Option
FPT — Freeze Protect Thermostat
FU — Fuse
GND — Ground

HACR — Heating, Air Conditioning, and Refrigeration
HERM — Hermetic
HPS — High-Pressure Switch
IA — Indoor Air
IAQ — Indoor Air Quality
IFC — Indoor Fan Contactor
IFCB — Indoor Fan Circuit Breaker
IFM — Indoor Fan Motor
LAFC — Low Ambient Fan Control
LPS — Low-Pressure Switch
OA — Outdoor Air
OFC — Outdoor Fan Contactor
OFM — Outdoor Fan Motor
PEC — Power Exhaust Contactor
PEM — Power Exhaust Motor
PL — Plug
QT — Quadruple Terminal

RAS — Remote Air Sensor
SAT — Supply-Air Temperature
TB — Terminal Block
TRAN — Transformer
 Terminal Block
 Terminal (Unmarked)
 Terminal (Marked)
 Splice
 Factory Wiring
 Field Wiring
 To indicate common potential only. Not to represent wiring.
 To indicate FIOP or Accessory

THERMOSTAT MARKINGS

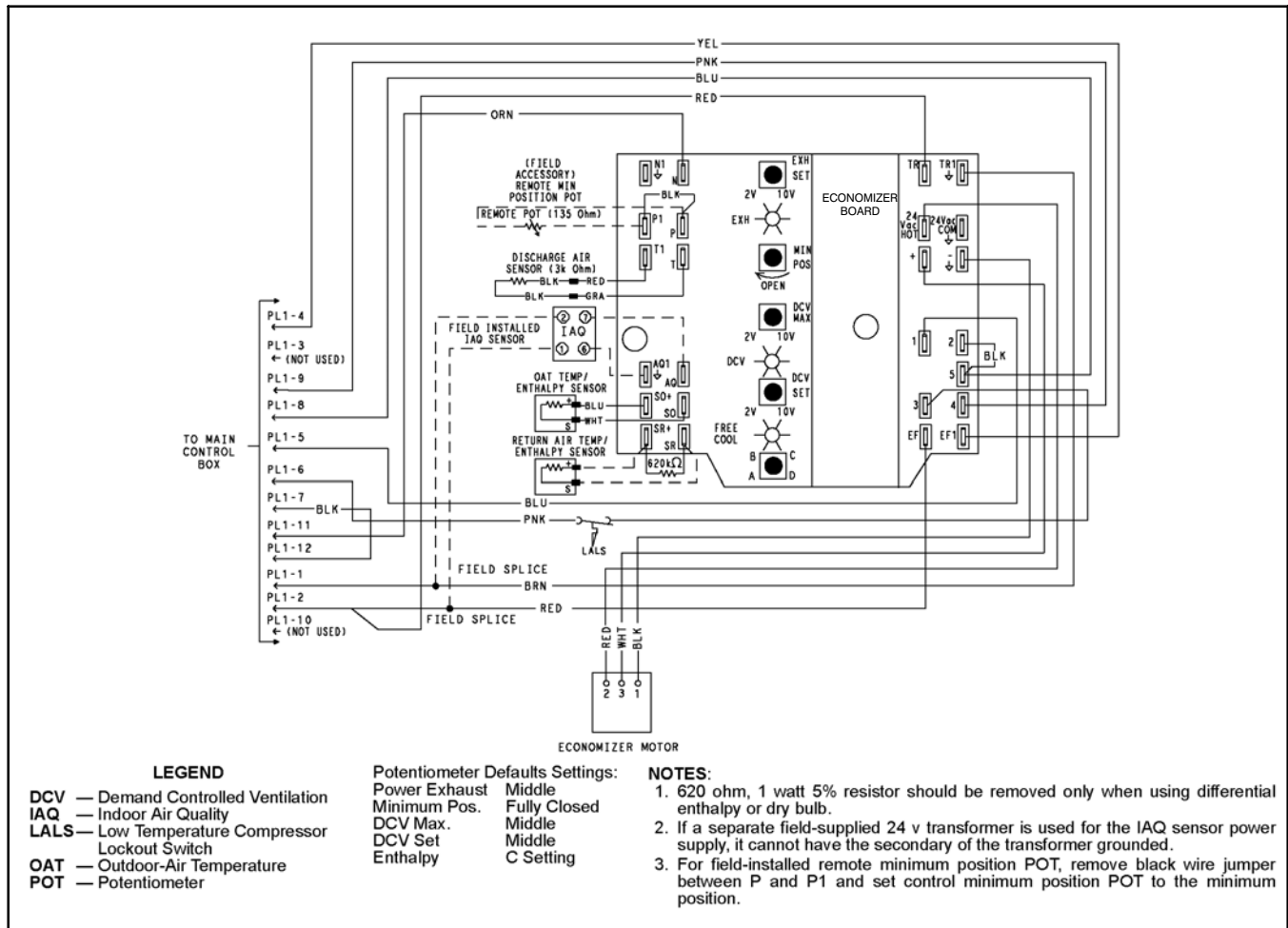
BM — Blower Motor	RT — Power Supply
C — Common	SS — Speed Sensor
CM — Combustion Motor	W — Thermostat Heat
CS — Centrifugal Switch	W1 — 1st Stage of Heating
G — Fan	W2 — 2nd Stage of Heating
IFO — Indoor Fan On	X — Alarm Output
L1 — Line 1	Y1 — 1st Stage of Cooling
R — Thermostat Power	Y2 — 2nd Stage of Cooling

NOTES:

1. Factory wiring is in accordance with the National Electrical Codes. Any field modifications or additions must be in compliance with all applicable codes.
2. Use 75° C min wire for field power supply. Use copper wires for all units.
3. All circuit breakers "Must Trip Amps" are equal to or less than 156% RLA.
4. Compressor and fan motors are thermally protected. Three-phase motors protected against primary single-phase conditions.
5. The CLO locks out the compressor to prevent short cycling on compressor overload and safety devices. Before replacing CLO, check these devices.

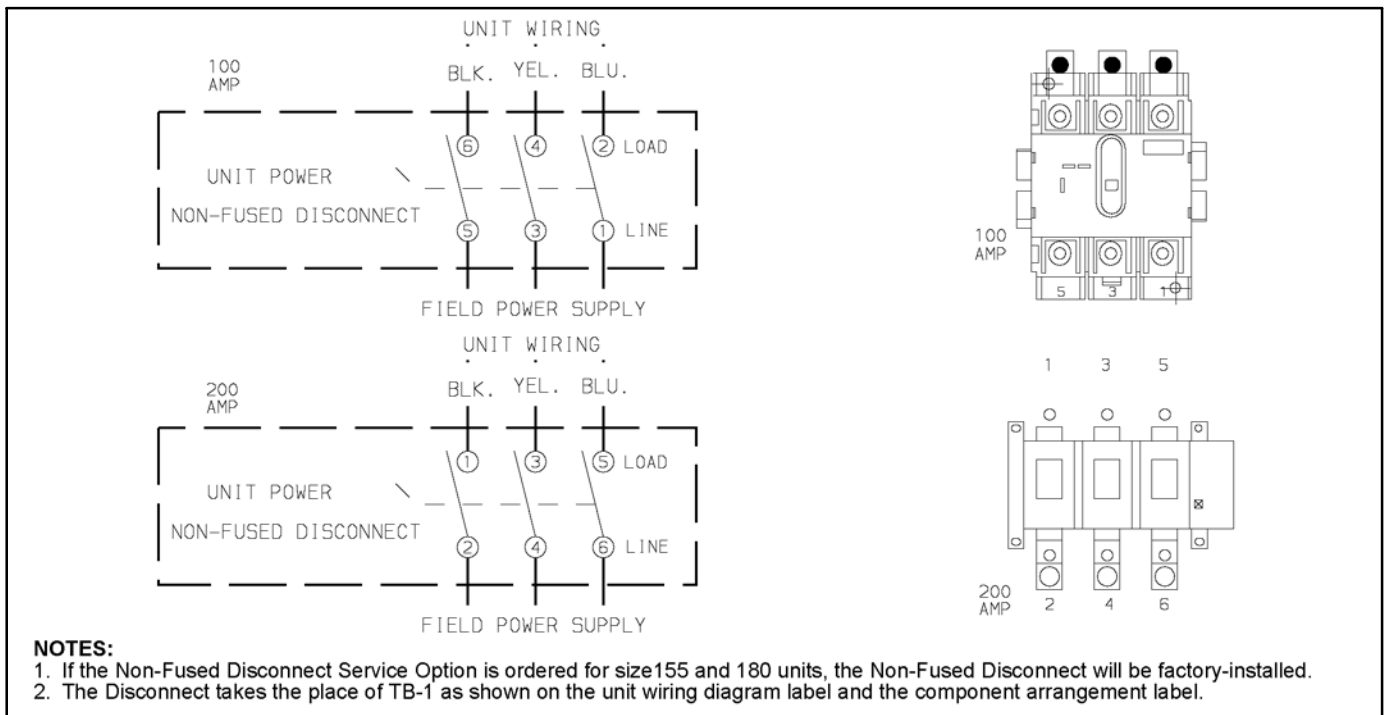
TYPICAL WIRING SCHEMATICS — PAH (cont)

Economizer Wiring (PAH155,180 Units)



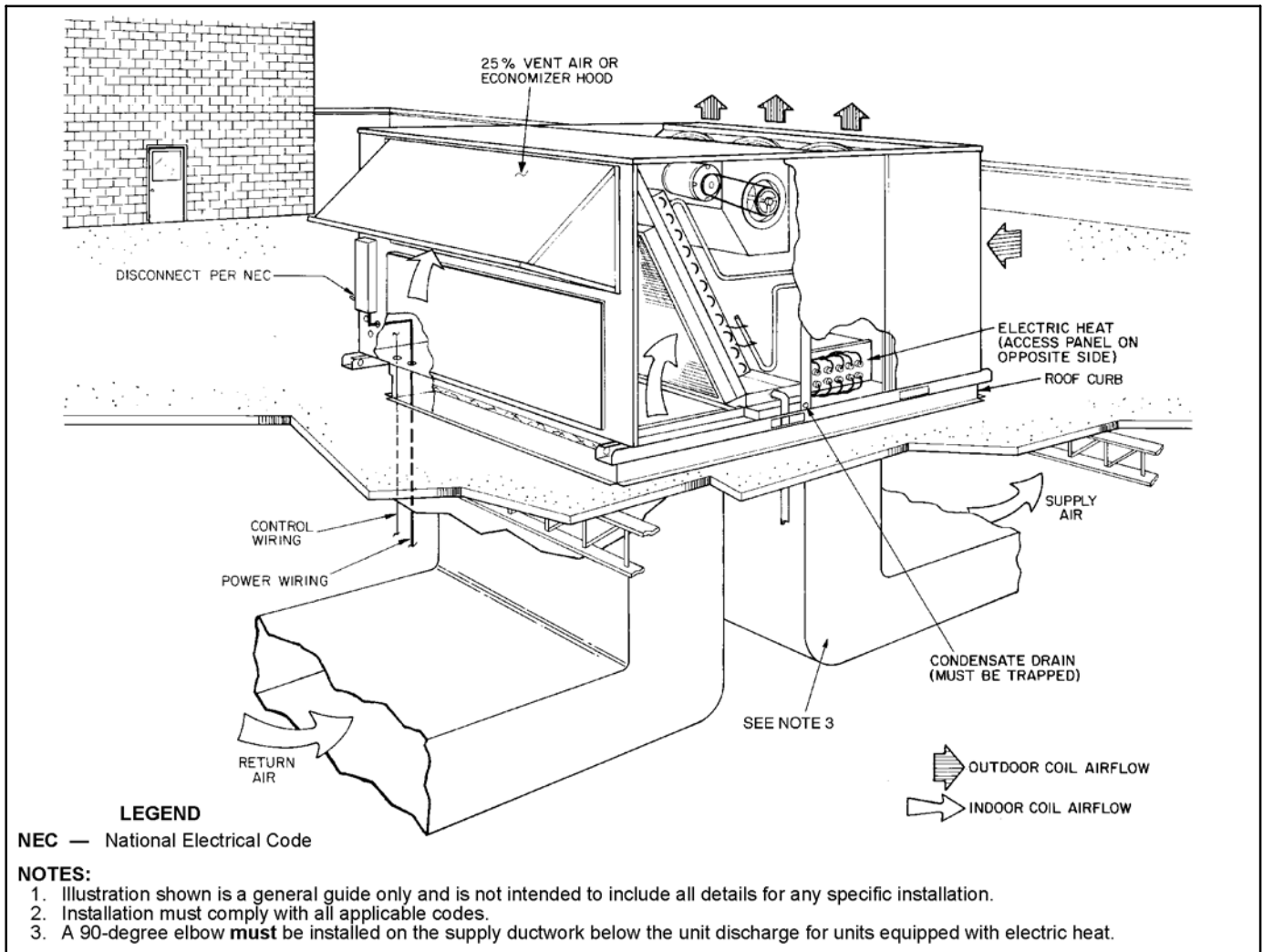
NOTE: Electrical wiring is for DN series economizer.

Non-Fused Disconnect (Optional) – PAH155,180



TYPICAL PIPING AND WIRING — PAH

PAH155-300 (PAH155 Shown)



GUIDE SPECIFICATIONS — PAH155, 180, 210, 300

PACKAGED ROOFTOP ELECTRIC COOLING UNIT WITH ELECTRIC HEAT — CONSTANT VOLUME APPLICATIONS

HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 12 TO 25 TONS NOMINAL (COOLING)
14 to 80 kW, NOMINAL (ELECTRIC HEATING)

MODEL
NUMBERS:

PAH



PART 1 – GENERAL

1.01 SYSTEM DESCRIPTION

Unit is an outdoor rooftop mounted, electrically controlled heating and cooling unit utilizing scroll hermetic compressors for cooling duty and electric or glycol coils for heating duty. Supply air shall be discharged downward or horizontally (with horizontal supply/return curb adapter assembly), as shown on contract drawings. Standard unit shall include a manual outdoor-air inlet.

1.02 QUALITY ASSURANCE

A. Unit shall well exceed the energy efficiency requirements of ASHRAE Standard 90.1 – 2001. PAH units are Energy Star qualified.

NOTE: Size 300 units are beyond the scope of ARI certification guidelines.

B. Unit shall be rated in accordance with ARI Standards 270 and 360 and all units shall be designed in accordance with UL Standard 1995.

C. Unit shall be designed to conform to ASHRAE 15.

D. Unit shall be ETL and ETL, Canada, tested and certified in accordance with ANSI Z21.47 Standards as a total package.

E. Roof curb shall be designed to conform to NRCA Standards.

F. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

G. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).

H. Unit shall be manufactured in a facility registered to ISO 9001:2000.

1.03 DELIVERY, STORAGE, AND HANDLING

A. Unit shall be stored and handled per manufacturer's recommendations.

PART 2 – PRODUCTS

2.01 EQUIPMENT (STANDARD)

A. General:

Each unit shall be a factory assembled, single-piece heating and cooling unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:

1. Constructed of galvanized steel (G90 — 1.8 oz. of zinc per square foot of sheet metal), bonderized and primer-coated on both sides and coated with a baked polyester thermosetting powdercoating finish on the outer surface.

2. Indoor blower compartment interior surfaces shall be insulated with a minimum $\frac{1}{2}$ -in. thick, 1 lb density fiberglass insulation. Fiberglass insulation shall be bonded with a thermosetting resin (8 to 12% by weight nominal, phenol formaldehyde typical), and coated with an acrylic or other material that meets the NFPA 90 flame retardance requirements and has an "R" Value of 3.70.

3. Cabinet panels shall be easily removable for servicing. Cabinet panels are minimum 20 gage. Panels shall have $\frac{1}{2}$ -in. thick, 1.5-lb density insulation.

4. Filters shall be accessible through an access panel.

5. Holes shall be provided in the base rails (minimum 12 gage) for rigging shackles to facilitate overhead rigging.

6. Unit shall contain a sloped drain pan, to prevent standing water from accumulating. Pan shall be fabricated of hot dipped zinc coated minimum spangle steel. Zinc coating shall be G90 designation according to ASTM Standard A653. Unit shall contain a factory-installed nonferrous main condensate drain connection.

C. Fans:

1. Indoor blower (evaporator fan):

a. Fan shall be belt driven. Belt drive shall include an adjustable pulley. The standard fan drive shall have a factory-installed low-medium external static pressure capable fan drive. The alternate fan drive option shall have a factory-installed high external static pressure capable fan drive.

b. Fan wheel shall be made from steel with a corrosion resistant finish. It shall be a dynamically balanced, double-inlet type with forward-curved blades.

2. Condenser fans shall be of the direct-driven propeller type, with corrosion-resistant blades riveted to corrosion-resistant steel supports. They shall be dynamically balanced and discharge air upwards.

D. Compressor(s):

1. Fully hermetic, scroll type, internally protected.

2. Factory spring-shock mounted and internally spring mounted for vibration isolation.

3. On electrically and mechanically independent refrigerant circuits.

4. All compressors shall have 70 W crankcase heaters.

E. Coils:

1. Standard evaporator and condenser coils shall have aluminum plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.

2. Coils shall be leak tested at 150 psig and pressure tested at 450 psig.

3. Copper-fin coils shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets. Galvanized steel tube sheets shall not be from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan. All copper construction shall provide protection in moderate coastal environments.

F. Refrigerant Components:

Refrigerant circuit components shall include:

1. Thermostatic expansion valve (TXV).

2. Filter driers.

3. Gage port and connections on suction, discharge, and liquid lines.

GUIDE SPECIFICATIONS — PAH155,180, 210, 300 (cont)

G. Filter Section:

Standard filter section shall consist of 2 sizes of factory-installed 2-in. thick throwaway fiberglass filters of commercially available sizes. Filters shall be approximately 10% efficient with an airside pressure drop of approximately 0.07 in. wg (clean).

H. Controls and Safeties:

1. Unit Controls:

- a. Economizer control (optional)
- b. Capacity control (2-step)
- c. Unit shall be complete with self-contained low-voltage control circuit.

2. Safeties:

- a. Unit shall incorporate a solid-state compressor lockout which provides reset capability at the space thermostat, should any of the following safety devices trip and shut off compressor:

- (1.) Compressor lockout protection provided for either internal or external overload.
- (2.) Low-pressure switch.
- (3.) Dual freezestats (evaporator coil).
- (4.) High-pressure switch.

- b. Supply-air thermostat shall be located in the unit.

- c. Heating section shall be provided with a high-temperature limit switch.

I. Operating Characteristics:

1. Unit shall be capable of starting and running at 120°F (size 180–300) or 125°F (size 155) ambient outdoor temperature per maximum load criteria of ARI Standard 360.
2. Unit with standard controls will operate in cooling down to an outdoor ambient temperature of 40°F.
3. Unit shall be provided with fan time delay to prevent cold air delivery (PAH155–180).
4. Size PAH210–240 units shall have 3 fully independent refrigerant circuits to allow for 33% capacity per circuit.

J. Electrical Requirements:

All unit power wiring shall enter unit cabinet at a single location.

K. Motors:

1. Compressor motors shall be cooled by refrigerant gas passing through motor windings and shall have line break thermal and current overload protection.
2. All fan motors shall have permanently lubricated, sealed bearings and inherent automatic-reset thermal overload protection or manual reset calibrated circuit breakers. Evaporator motors do NOT have conventional horsepower (hp) ratings listed on the motor nameplate. Motors are designed and qualified in the “air-over” location downstream of the cooling coil and carry a “maximum continuous bhp” rating that is the maximum application bhp rating for the motor; no “safety factors” above that rating may be applied.
3. All indoor-fan motors 5 hp and larger shall meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.

L. Special Features

1. Integrated Economizers

- a. Integrated integral modulating type capable of simultaneous economizer and compressor operation.

- b. Available as a factory-installed option in vertical supply/return configuration only.

- c. Includes all hardware and controls to provide cooling with outdoor air.

- d. Equipped with low-leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.

- e. Capable of introducing up to 100% outdoor air.

- f. Economizer shall be equipped with a barometric relief damper.

- g. Designed to close damper(s) during loss-of power situations with spring return built into motor.

- h. Dry bulb outdoor-air temperature sensor shall be provided as standard. Outdoor air sensor set point is adjustable and shall range from 40° to 100° F. For the economizer, the return air sensor, indoor enthalpy sensor, and outdoor enthalpy sensor shall be provided as field installed accessories to provide enthalpy control, differential enthalpy control, and differential dry bulb temperature control.

- i. Economizer controller shall use a mixed air thermistor mounted on the evaporator fan housing to control economizer operation to a supply air temperature of 55° F.

- j. The economizer shall have a gear-driven parallel blade design.

- k. Economizer controller shall provide control of internal building pressure through its accessory power exhaust function. Factory set at 100%, with a range of 0% to 100%.

- l. Economizer Controller Occupied Minimum Damper Position Setting maintains the minimum airflow into the building during occupied period providing design ventilation rate for full occupancy (damper position during heating). A remote potentiometer may be used to override the set point.

- m. Economizer Controller Unoccupied Minimum Damper Position Setting – The economizer damper shall be completely closed when the unit is in the occupied mode.

- n. Economizer Controller IAQ/DCV Maximum Damper Position Setting – Setting the maximum position of the damper prevents the introduction of large amounts of hot or cold air into the space. This position is intended to satisfy the base minimum ventilation rate.

- o. Economizer controller IAQ/DCV control modulates the outdoor-air damper to provide ventilation based on the optional 2 to 10 vdc CO2 sensor input.

- p. Compressor lockout sensor (opens at 35° F, closes at 50° F).

- q. Actuator shall be direct coupled to economizer gear, eliminating linkage arms and rods.

r. Control LEDs:

1. When the outdoor-air damper is capable of providing free cooling, the “Free Cool” LED shall illuminate.

2. The IAQ LED indicates when the module is on the DCV mode.

3. The EXH LED indicates when the exhaust fan contact is closed.

- s. Remote Minimum Position Control – A field-installed accessory remote potentiometer shall allow the outdoor-air damper to be opened or closed beyond the minimum position in the occupied mode for modified ventilation.

CONTROLS

OPERATING SEQUENCE, SIZE 036–120 UNITS

Cooling, Units Without Economizer

When thermostat calls for cooling, terminals G and Y1 are energized. The indoor (evaporator) fan contactor (IFC) and compressor contactor no. 1 (C1) are energized, and evaporator-fan motor (IFM), compressor no. 1, and condenser fan(s) start. The liquid line solenoid valve for compressor no. 1 is de-energized open. The condenser-fan motor(s) runs continuously while unit is cooling. For units with 2 stages of cooling, if the thermostat calls for a second stage of cooling by energizing Y2, compressor contactor no. 2 (C2) is energized and compressor no. 2 starts.

Heating, Units Without Economizer (Units With Electric Heat)

Upon a call for heating through W1, indoor (evaporator) fan contactor (IFC) and heater contactor no. 1 (HC1) are energized. On units equipped for 2 stages of heat, when additional heat is needed, heater contactor no. 2 is energized through W2.

Cooling, Units With Economizer

When free cooling is not available, the compressors will be controlled by the zone thermostat. When free cooling is available, the outdoor-air damper is modulated by the Economizer control to provide a 50° to 55°F mixed-air temperature into the zone. As the mixed-air temperature fluctuates above 55° or below 50°F, the dampers will be modulated (open or close) to bring the mixed-air temperature back within control.

If mechanical cooling is utilized with free cooling, the outdoor-air damper will maintain its current position at the time the compressor is started. If the increase in cooling capacity causes the mixed-air temperature to drop below 45°F, then the outdoor-air damper position will be decreased to the minimum position. If the mixed-air temperature continues to fall, the outdoor-air damper will close. Control returns to normal once the mixed-air temperature rises above 48°F.

If optional power exhaust is installed, as the outdoor-air damper opens and closes, the power exhaust fans will be energized and deenergized.

If field-installed accessory CO₂ sensors are connected to the Economizer control, a demand controlled ventilation strategy will begin to operate. As the CO₂ level in the zone increases above the CO₂ set point, the minimum position of the damper will be increased proportionally. As the CO₂ level decreases because of the increase in fresh air, the outdoor-air damper will be proportionally closed.

For Economizer operation, there must be a thermostat call for the fan (G). If the unit is occupied and the fan is on, the damper will operate at minimum position. Otherwise, the damper will be closed when the thermostat is satisfied.

When the Economizer control is in the occupied mode and a call for cooling exists (Y1 on the thermostat), the control will first check for indoor fan operation. If the fan is not on, then cooling will not be activated. If the fan is on, then the control will open the Economizer damper to the minimum position.

On the initial power to the Economizer control, it will take the damper up to 2½ minutes before it begins to position itself. Any change in damper position will take up to 30 seconds to initiate. Damper movement from full closed to full open (or vice versa) will take between 1½ and 2½ minutes.

If free cooling can be used as determined from the appropriate changeover command (switch, dry bulb, enthalpy curve, differential dry bulb, or differential enthalpy), then the control will modulate the dampers open to maintain the mixed-air temperature set point at 50° to 55° F.

If there is a further demand for cooling (cooling second stage — Y2 is energized), then the control will bring on compressor stage 1 to maintain the mixed-air temperature set point. The Economizer damper will be open at maximum position. Economizer operation is limited to a single compressor.

Heating, Units With Economizer

NOTE: The units have 2 stages of electric heat.

When the thermostat calls for one stage of heating, W1 is energized. The thermostat must be configured such that the blower output (G) is energized when there is a W1 call for heating. The indoor fan contactor (IFC) and first stage electric heat contactor(s) are energized, and the indoor-fan motor and first stage electric heater are started. The Economizer damper modulates to the minimum position.

If additional heating is required, the thermostat will call for a second stage of heating, energizing W2. This will energize the second stage of electric heat. The Economizer damper modulates to the minimum position.

OPERATING SEQUENCE, PAH155,180

Cooling, Units Without Economizer

When thermostat calls for cooling, terminals G and Y1 are energized. The indoor (evaporator) fan contactor (IFC) and compressor contactor no. 1 (C1) are energized, and evaporator-fan motor (IFM), compressor no. 1 and condenser fan(s) start. The condenser-fan motor(s) runs continuously while unit is cooling. When the thermostat calls for a second stage of cooling by energizing Y2, compressor contactor no. 2 (C2) is energized and compressor no. 2 starts.

Heating, Units Without Economizer (If Accessory Or Optional Heater Is Installed)

Upon a call for heating through terminal W1, IFC and heater contactor no. 1 (HC1) are energized. On units equipped for 2 stages of heat, when additional heat is needed, HC2 is energized through W2.

Cooling, Units With Economizer

When free cooling is not available, the compressors will be controlled by the zone thermostat. When free cooling is available, the outdoor-air damper is modulated by the Economizer control to provide a 50° to 55°F mixed-air temperature into the zone. As the mixed-air temperature fluctuates above 55° or below 50°F, the dampers will be modulated (open or close) to bring the mixed-air temperature back within control.

If mechanical cooling is utilized with free cooling, the outdoor-air damper will maintain its current position at the time the compressor is started. If the increase in cooling capacity causes the mixed-air temperature to drop below 45°F, then the outdoor-air damper position will be decreased to the minimum position. If the mixed-air temperature continues to fall, the outdoor-air damper will close. Control returns to normal once the mixed-air temperature rises above 48°F.

If optional power exhaust is installed, as the outdoor-air damper opens and closes, the power exhaust fans will be energized and deenergized.

If field-installed accessory CO₂ sensors are connected to the Economizer control, a demand controlled ventilation strategy will begin to operate. As the CO₂ level in the zone increases above the CO₂ set point, the minimum position of the damper will be increased proportionally. As the CO₂ level decreases because of the increase in fresh air, the outdoor-air damper will be proportionally closed.

For Economizer operation, there must be a thermostat call for the fan (G). If the unit is occupied and the fan is on, the damper will operate at minimum position. Otherwise, the damper will be closed when the thermostat is satisfied.

When the Economizer control is in the occupied mode and a call for cooling exists (Y1 on the thermostat), the control will first check for indoor fan operation. If the fan is not on, then cooling will not be activated. If the fan is on, then the control will open the Economizer damper to the minimum position.

On the initial power to the Economizer control, it will take the damper up to 2½ minutes before it begins to position itself. Any change in damper position will take up to 30 seconds to initiate. Damper movement from full closed to full open (or vice versa) will take between 1½ and 2½ minutes.

If free cooling can be used as determined from the appropriate changeover command (switch, dry bulb, enthalpy curve,

differential dry bulb, or differential enthalpy), then the control will modulate the dampers open to maintain the mixed-air temperature set point at 50° to 55°F.

If there is a further demand for cooling (cooling second stage — Y2 is energized), then the control will bring on compressor stage 1 to maintain the mixed-air temperature set point. The Economizer damper will be open at maximum position. Economizer operation is limited to a single compressor.

Heating, Units With Economizer

NOTE: The units have 2 stages of electric heat.

When the thermostat calls for one stage of heating, W1 is energized. The thermostat must be configured such that the blower output (G) is energized when there is a W1 call for heating. The indoor fan contactor (IFC) and first stage electric heat contactor(s) are energized, and the indoor-fan motor and first stage electric heater are started. The Economizer damper modulates to the minimum position.

If additional heating is required, the thermostat will call for a second stage of heating, energizing W2. This will energize the second stage of electric heat. The Economizer damper modulates to the minimum position.

OPERATING SEQUENCE PAH210–300

Cooling, Units Without Economizer

When thermostat calls for cooling, terminals G and Y1 are energized. Compressor contactors A1 and B1 (except 300 units) are energized and indoor-fan motor, compressor, and outdoor fan starts. The outdoor fan motor runs continuously while unit is cooling. If further cooling is required, the Y2 output from the

thermostat energizes compressor contactor C1 (B1 on 300 units).

Heating, Units Without Economizer (If Accessory Or Optional Heater Is Installed)

Upon a call for heating through terminal W1, IFC and heater contactor no. 1 (HC1) are energized. On units equipped for 2 stages of heat, when additional heat is needed, HC2 is energized through W2.

Cooling, Units with Economizer

When free cooling is not available, the compressors will be controlled by the zone thermostat. When free cooling is available, the outdoor-air damper is modulated by the Economizer control to provide a 50° to 55°F mixed-air temperature into the zone. As the mixed-air temperature fluctuates above 55° or below 50°F, the dampers will be modulated (open or close) to bring the mixed-air temperature back within control.

If mechanical cooling is utilized with free cooling, the outdoor-air damper will maintain its current position at the time the compressor is started. If the increase in cooling capacity causes the mixed-air temperature to drop below 45°F, then the outdoor-air damper position will be decreased to the minimum position. If the mixed-air temperature continues to fall, the outdoor-air damper will close. Control returns to normal once the mixed-air temperature rises above 48°F.