



## ELEVEN-PLUS™ HIGH EFFICIENCY PACKAGED HEAT PUMPS

Cooling Capacities: 23,000 to 55,500 BTUH

Heating Capacities: 24,400 to 56,500 BTUH

HSPF: 7.0 to 7.50 SEER: 10.20 to 11.00

REFRIGERANT 22

### Engineered Features

#### Electric Heat Strips:

- Automatic limit and thermal cut-off.
- Field-installed heater package for 2 thru 5 ton models.
- Features slide-in field assembly with various Btuh outputs.
- Permits stocking of only one unit.

#### Aluminum Finned Copper Coil:

Surfaces expel heat efficiently as required by system.

#### Electrical Components and Controls

Accessible for easier service.

#### Solid-State Electronic Heat Pump Control:

Provides efficient 30, 60 or 90 minute defrost cycle.

#### Powerful Fan Motor:

Moves air quietly with more efficiency for effective heat exchange. Built-in overload protection is standard on all models.

#### Thermostatic Expansion Valves:

For maximum heating performance and reliability.

#### High Pressure Switch:

Built-in with a lockout circuit that resets from the room thermostat.

#### Emergency Heat Circuit:

Permits continuous operation of the system.

#### Solid State Blower Control:

Controls indoor blower to provide maximum efficiency.

#### Five Minute Compressor Time Delay:

Short cycle protection is standard. Built into the heat pump control.

#### 20 Gauge Zinc Coated Galvanneal Steel Cabinet:

Heavily insulated for sound absorption and more efficiency. Both sides of galvanized steel are coated with an epoxy primer. Provides enhanced corrosion protection and over 1000 hours of salt spray exposure.



ARI 240  
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LISTED



Basic model PH11361 shown with Electric Heater Package

#### Optional Outdoor Thermostat:

Controls compressor operation and supplemental electric heat strips for maximum operating economy.

#### High Efficiency Scroll Compressor:

**Energy Efficient** -- The Scroll compressor offers a smooth continuous compression process with very few flow losses. In addition, it requires no valves and, therefore, eliminates all valve losses.

#### Volumetric Efficiency --

Scroll has no re-expansion volume, which increases compressor capacity in high compression ratio operating conditions.

**Sound** -- Scroll's low gas pulses, combined with the elimination of valves (and associated valve noise), result in a smooth and quiet compression process. When compared with piston type compressors for sound and noise, scroll is inherently superior.



**NOTE:** All models have controls and electrical components on this side.



PH 11 SERIES  
SERIES



PH 10

### Optional Field-Installed Electric Heater Packages

Optional field-installed electric heater packages are available for 5 through 20Kw capacities. The heater packages are UL listed to be field-installed into the basic unit. They feature prewired control circuit wiring

with plug-in connector. Simply slide the heater into the unit, plug in the pretested control circuit and connect the separate high voltage circuit wiring.



### Capacity and Efficiency Ratings

MODEL	PHASE	COOLING		HEATING 47°	
		BTUH	SEER	BTUH	HSPF*
PH11242	1	23,000	11.00	23,400	7.00
PH11301	1	29,000	11.00	28,200	7.00
PH11361	1	33,400	11.00	32,000	7.00
PH11361-B, -C	3	33,400	11.00	32,000	7.00
PH11422	1	41,500	11.00	40,500	7.50
PH10481	1	46,000	10.40	45,500	7.00
PH10481-B, -C	3	46,000	10.40	45,500	7.00
PH1060	1	55,500	10.20	56,500	7.50
PH1060-B, -C	3	55,500	10.20	56,500	7.50

Tested and Certified in accordance with ARI Standard 210/240-2003.

\* Heating Seasonal Performance Factor at Region IV minimum design heating requirement per DOE test procedures in effect at time of printing.



### Heating Application Data -- 2 thru 5 Ton Outdoor Temperature °F\*

MODEL		-5°	0°	5°	10°	15°	17°	20°	25°	30°	35°	40°	45°	47°	50°	55°	60°	65°
PH11242	Btuh	8,000	9,250	10,500	11,700	13,000	13,500	14,200	15,500	16,700	18,000	20,150	22,300	23,400	25,670	27,800	29,500	31,300
	Watts	1,900	1,950	2,000	2,050	2,090	2,109	2,130	2,175	2,210	2,260	2,270	2,290	2,306	2,350	2,430	2,460	2,510
	COP	1.23	1.38	1.53	1.67	1.82	1.87	1.95	2.08	2.20	2.30	2.60	2.80	3.00	3.20	3.35	3.50	3.65
PH11301	Btuh	12,300	13,100	13,900	14,700	15,500	15,900	16,300	17,100	17,900	18,800	22,700	26,600	28,200	29,300	31,100	33,000	34,900
	Watts	2,360	2,390	2,420	2,450	2,480	2,490	2,500	2,520	2,550	2,595	2,620	2,650	2,665	2,680	2,700	2,740	2,770
	COP	1.52	1.60	1.68	1.75	1.83	1.87	1.91	1.98	2.05	2.12	2.53	2.94	3.10	3.20	3.37	3.52	3.69
PH11361	Btuh	12,400	13,200	14,200	15,100	16,100	16,500	17,000	18,000	18,900	19,900	24,600	29,800	32,000	33,000	34,800	37,000	39,300
	Watts	2,730	2,760	2,790	2,820	2,850	2,864	2,880	2,910	2,940	2,970	3,000	3,070	3,125	3,140	3,190	3,240	3,280
	COP	1.33	1.40	1.49	1.56	1.65	1.68	1.72	1.81	1.88	1.96	2.40	2.84	3.00	3.07	3.20	3.34	3.51
PH11422	Btuh	18,400	19,900	21,400	22,900	24,400	25,000	25,900	27,400	28,900	30,400	34,600	38,800	40,500	42,050	44,600	47,200	49,800
	Watts	3,196	3,230	3,265	3,300	3,335	3,350	3,370	3,405	3,440	3,475	3,510	3,546	3,560	3,580	3,615	3,650	3,685
	COP	1.68	1.80	1.92	2.10	2.14	2.18	2.25	2.35	2.46	2.56	2.88	3.20	3.33	3.44	3.61	3.78	3.95
PH10481	Btuh	23,075	24,100	25,150	26,150	27,200	27,600	28,200	29,250	30,275	31,300	37,200	43,100	45,500	47,300	50,270	53,250	56,250
	Watts	3,622	3,685	3,745	3,805	3,880	3,890	3,925	3,990	4,050	4,110	4,170	4,230	4,255	4,290	4,350	4,410	4,475
	COP	1.86	1.91	1.96	2.01	2.04	2.07	2.10	2.14	2.19	2.23	2.61	2.98	3.17	3.23	3.38	3.53	3.68
PH1060	Btuh	26,600	28,475	30,330	32,200	34,050	34,800	35,900	37,775	39,640	41,500	47,750	54,000	56,500	58,700	62,300	65,900	69,500
	Watts	4,570	4,650	4,735	4,820	4,900	4,935	4,985	5,070	5,150	5,235	5,315	5,400	5,430	5,480	5,565	5,650	5,730
	COP	1.70	1.79	1.87	1.95	2.03	2.06	2.11	2.18	2.25	2.32	2.63	2.93	3.04	3.13	3.28	3.41	3.55

\* 70°F DB Indoor Return Air at rated CFM, includes defrost operation below 45 degrees.

### Optional Field-Installed Heater Packages Are Only To Be Used With The Heat Pump Models As Indicated Below

HEATER MODEL NO.	VOLTS AND PHASE	PH11242	PH11301	PH11361	PH11361-B	PH11361-C	PH11422	PH10481	PH10481-B	PH10481-C	PH1060	PH1060-B	PH1060-C
EH3PB-A05	240/208-1	S	S	S	A	A							
EH3PB-A08		S	S	S	A	A							
EH3PB-A10		S <sup>Ⓢ</sup>	S <sup>Ⓢ</sup>	S <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>							
EH3PB-A15		S	S	S	A	A							
EH3PB-B09	240/208-3		A <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	S <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>							
EH3PB-B15			A	A	S	A							
EH3PB-C09	480-3		A <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	S <sup>Ⓢ</sup>							
EH3PB-C15			A	A	A	S							
EH5PB-A05	240/208-1						S	S	A	A	S	A	A
EH5PB-A10							S <sup>Ⓢ</sup>	S <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	S <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>
EH5PB-A15							S	S	A	A	S	A	A
EH5PB-A20							S	S	A	A	S	A	A
EH5PB-B09	240/208-3						A <sup>Ⓢ</sup>	S <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	S <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>
EH5PB-B15							A	S	A	A	S	A	A
EH5PB-B18							A	S	A	A	S	A	A
EH5PC-C09	480-3						A <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	S <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	A <sup>Ⓢ</sup>	S <sup>Ⓢ</sup>
EH5PC-C18							A	A	S	A	A	A	S

Ⓢ--Max. KW that can operate with heat pump on.

S--Standard application -- Heater volts and phase same as basic unit.

A--Alternate application -- Heater volts and phase different from basic unit.

### Optional Field-Installed Electric Heater Table

HEATER PACKAGE MODEL NO.	HEATER PACKAGE VOLTS PHASE	HTR. KW & CAPACITY @ 240V (OR 480V IF APPLICABLE)		HEATER KW & CAPACITY @ 208 VOLTS (OR 460V IF APPLICABLE)		HEATER AMPS @ 240/208V (OR 480/460V IF APPLICABLE)	CIRCUIT B					
		KW	BTUH	KW	BTUH		HEATER INTERNAL FUSES	NUMBER FIELD CKTS.	MINIMUM CIRCUIT AMPACITY	MAX. OVER-CURRENT <sup>Ⓢ</sup> PROTECTION	FIELD <sup>Ⓢ</sup> POWER WIRING	GROUND WIRE <sup>Ⓢ</sup> SIZE
EH3PB-A05	240/208-1	5	17,100	3.75	12,800	20.8/18.1		1	26/23	30/25	10/10	10
EH3PB-A08		8	27,300	6.0	20,500	33.3/28.8		1	42/36	45/40	6/8	10
EH3PB-A10		10	34,100	7.5	26,000	41.6/36.2		1	53/46	60/50	6/6	10
EH3PB-A15		15	51,200	11.25	38,400	62.5/54.1	30/60	1	79/68	80/70	3/4	8
EH3PB-B09	240/208-3	9	30,700	6.75	23,000	21.7/18.7		1	28/24	30/25	10/10	10
EH3PB-B15		15	51,200	11.25	38,400	36.2/31.2		1	46/39	50/40	6/8	10
EH3PB-C09	480-3	9	30,700	6.75	23,000	10.8/9.9		1	15	15	14	14
EH3PB-C15		15	51,200	11.25	38,400	18.0/16.6		1	23	25	10	10
EH5PB-A05	240/208-1	5	17,100	3.75	12,800	20.8/18.1		1	26/23	30/25	10/10	10
EH5PB-A10		10	34,100	7.5	26,000	41.6/36.2		1	53/46	60/50	6/6	10
EH5PB-A15		15	51,200	11.25	38,400	62.5/54.1	30/60	1	79/68	80/70	3/4	8
EH5PB-A20		20	68,200	15.0	51,200	83.2/72.1	60/60	1	104/91	110/100	2/3 <sup>Ⓢ</sup>	6
EH5PB-B09	240/208-3	9	30,700	6.75	23,000	21.7/18.7		1	28/24	30/25	10/10	10
EH5PB-B15		15	51,200	11.25	38,400	36.2/31.2		1	46/39	50/40	6/8	10
EH5PB-B18		18	61,400	13.5	46,100	43.4/37.5		1	55/47	60/50	6/6	10
EH5PC-C09	480-3	9	30,700	6.75	23,000	10.8/9.9		1	15	15	14	14
EH5PC-C18		18	61,400	13.5	46,100	21.7/20.0		1	28	30	10	10

Ⓢ If field installed heaters are added to the basic unit, a second separate power supply circuit will be required.

Ⓢ Time delay fuses or "HACR Type" circuit breakers must be used for 60 and smaller sizes. Standard fuses or circuit breakers are suitable for sizes 70 and larger. 480V circuit breakers are not "HACR Type".

Ⓢ Based on wire suitable for 60°C. Other wiring materials must be marked "Minimum Circuit Ampacity" or greater.

Ⓢ Based upon Table 250-95 of N.E.C. 1996. See electrical data for basic heat pump for Circuit A wiring specification requirements.

Ⓢ For ampacities over 100 amperes use wire suitable for at least 75°C.

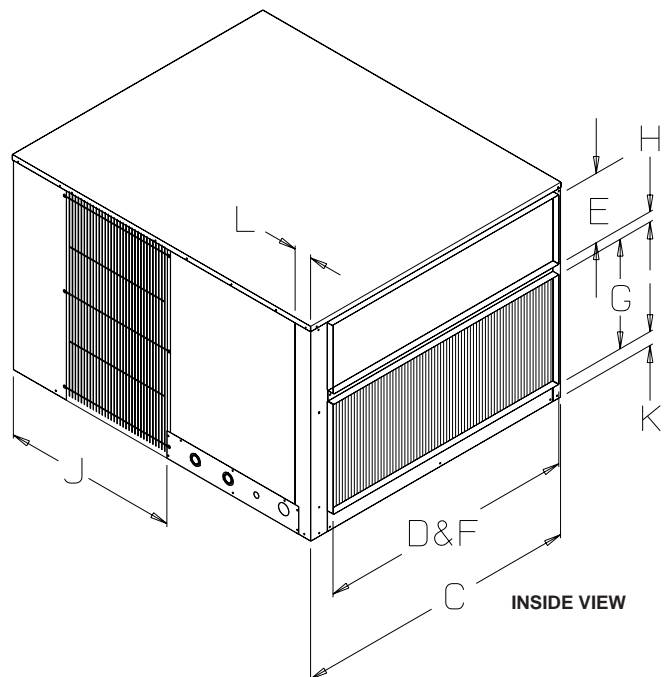
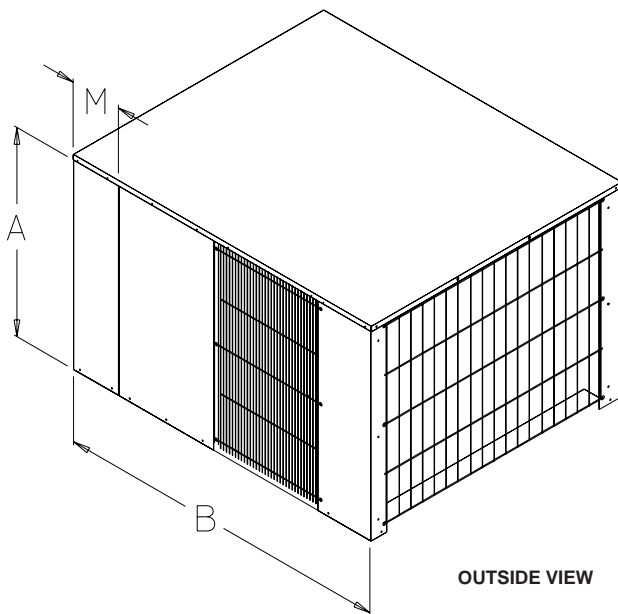
### Optional Control Modules - Field-Installed

FIELD INSTALLED PART	APPLICABLE TO	DESCRIPTION
CMH-3	All Models	Low Pressure Control (Auto Reset)
CMH-7	All Models	Low Ambient Control with Relay
CMH-9	All Models	Low Ambient Control with Relay, and Low Pressure Control (Auto Reset)
CMH-14	All Models	Outdoor Thermostat

### General Information

#### Indoor Blower Performance CFM - With Filter

E.S.P. IN H <sub>2</sub> O	PH11242	PH11301 PH11361	PH11422	PH10481	PH1060
	Dry / Wet	Dry / Wet	Dry / Wet	Dry / Wet	Dry / Wet
.0	915 / 900	1320 / 1250	1650 / 1625	1950 / 1920	1850 / 1850
.10	860 / 835	1280 / 1175	1550 / 1525	1860 / 1830	1800 / 1780
.20	815 / 800	1230 / 1100	1435 / 1400	1780 / 1750	1725 / 1700
.30	785 / 750	1180 / 1000	1340 / 1310	1680 / 1660	1660 / 1625
.40	750 / 710	1130 / 950	1230 / 1210	1580 / 1550	1580 / 1540
.50	740 / 700	1070 / 890	1120 / 1100	1500 / 1480	-- / --



Underwriters Listed  
for outdoor installation

MIS-1305

### Dimensions For All Models

MODEL	NOMINAL CABINET DIMENSIONS (INCHES)									DUCT OPENINGS (IN)				
	A	B	C	H	J	K	L	M	DISCHARGE			RETURN AIR		
									D	E	F	G	H	
PH11242 PH11301 PH11361	24-1/4	48-3/16	38-1/8	7/8	26-1/8	2-1/8	9/16	9/16	33	6	33	14	7/8	
PH11422 PH10481 PH1060	31-1/4	50	42	1-3/8	26	3	2-3/4	7-9/16	38	10	38	16	1-3/8	

**NOTE:** For roof application, roof hoods & roof curbs are available, see Form No. S3002 and Bard Commercial Products - Complete Pricing and Products Guide, Form No. F1402.



BARD MANUFACTURING CO.  
BRYAN, OHIO 43506

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**Due to our continuous product improvement policy, all specifications subject to change without notice.**

Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.

**Form No.  
S3207  
May, 2004**

Supersedes S3207-603