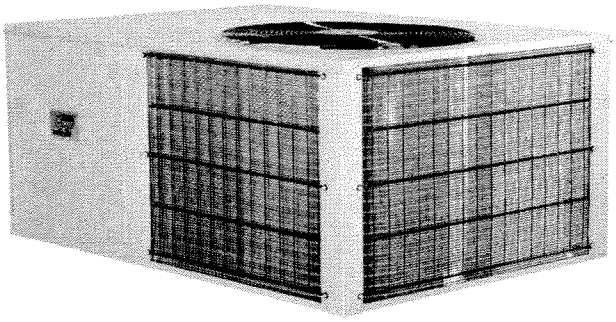
Bard
SINCE 1914
CLIMATE CONTROL SOLUTIONS

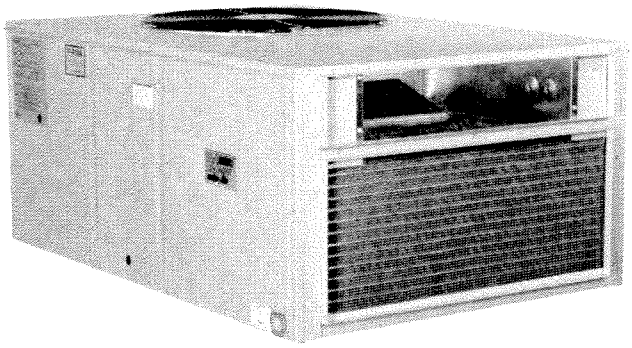
PH13-SERIES PACKAGED HEAT PUMPS

Cooling Capacities: 21,000 to 56,500 **Heating Capacities: 19,500 to 52,000**
SEER: 13.0 **HSPF: 7.7**

GREEN REFRIGERANT R-410A



BACK (OUTDOOR AIRFLOW) END OF UNIT



FRONT (INDOOR AIRFLOW) END OF UNIT

Standard Engineered Features

Heat Pump Compressor:
Scroll compressors are used on all models and no crankcase heaters are required.

R-410A Refrigerant:
Designed with R-410A (HFC) non-ozone depleting refrigerant in compliance with the Montreal protocol and 2010 EPA requirements.

ECM Indoor Blower Motor:
Features a variable speed motor providing super-high efficiency, low sound levels and soft-start capabilities. The motor is self-adjusting to provide the proper airflow rate for a broad range of static pressure in ducted installations without user adjustment or wiring changes.

Aluminum Finned Copper Coils:
Grooved tubing and enhanced louvered fin for maximum heat transfer and energy efficiency.

Outdoor coil is constructed with special corrosion resistant hydrophilic fin stock with 2-layer coating. (1st layer - blue acrylic primer; 2nd layer - clear topcoat.)

Thermal Expansion Valves:
All models contain non-bleed TXV.

Liquid Line Filter Drier:
Bi-directional drier protects system against moisture.

Solid State Electronic Heat Pump Control:
Provides efficient 30, 60 or 90-minute defrost cycle. A thermistor sensor and speed up terminal for service, along with a 10-minute defrost override are standard on the electronic heat pump control.

Five Minute Compressor Time Delay:
Provides short cycle protection for the compressor, which extends compressor life. Built into the electronic heat pump control as standard.

Phase Rotation Monitor:
Standard on PH1342, PH1348 and PH1360 3 phase scroll compressors. Protects against reverse rotation if power supply is not properly connected.

High & Low Pressure Switches are Auto-Reset
Built-in lockout circuit resets from the room thermostat. Provides commercial quality protection to the compressor.

Pre-Painted 20 Gauge Zinc Coated Steel Cabinet:
Cleaned, rinsed, sealed and dried before the polyurethane primer is applied. The cabinet is handsomely finished with a baked on textured enamel, which allows it to withstand 1000 hours of salt spray tests per ASTM B117-03.

Pre-Painted 16 Gauge Zinc Coated Unit Base:
The unit base is treated with the same paint coatings as the cabinet above, insuring years of service.

Top Discharge Outdoor Fan:
Efficiently moves air quietly for effective heat exchange.

Electrical Components and Controls:
Readily accessible for easier service.

Field Installed Accessories

Optional Field Installed Electric Heat Strips:
With automatic limit and thermal cutoff.
- Field installed heater package for all models.
- Features slide-in field assembly with various BTUH outputs.
- Permits stocking of only one unit.

Optional Field Installed Outdoor Thermostat:
Controls compressor operation and supplemental electric heat strips for maximum operating economy.

Optional Field Installed Low Ambient Control:
Cycles outdoor fan motor below 55°F outdoor temperature to maintain acceptable condensing pressure.

ARI PERFORMANCE CERTIFIED

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ISO 9001 UL REGISTERED FIRM FILE NO. A6887

Cooling & Heating Capacities and Efficiency Ratings

MODEL	Phase	COOLING		HEATING 47°F		HEATING 17°F
		BTUH	SEER	BTUH	HSPF *	BTUH
PH13241-A	1	21,000	13.00	19,500	7.7	11,500
PH13301-A	1	27,400	13.00	28,800	7.7	16,400
PH13361-A, -B	1 and 3	33,400	13.00	35,400	7.7	22,000
PH13422-A, -B, -C	1 and 3	41,500	13.00	44,000	7.7	27,000
PH13482-A, -B, -C	1 and 3	45,000	13.00	45,500	7.7	28,500
PH13602-A, -B, -C	1 and 3	56,500	13.00	52,000	7.7	32,500

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.

General Specifications

Model	PH13241-A	PH13301-A	PH13361-A	PH13361-B	PH13422-A	PH13422-B	PH13422-C	PH13482-A	PH13482-B	PH13482-C	PH13602-A	PH13602-B	PH13602-C
Electric Rating 60 Hz - Ckt A	230/208-60-1	230/208-60-1	230/208-60-1	230/208-60-3	230/208-60-1	230/208-60-3	460-60-3	230/208-60-1	230/208-60-3	460-60-3	230/208-60-1	230/208-60-3	460-60-3
Operating Votage Range	197-253	197-253	197-253	187-253	197-253	187-253	414-506	197-253	187-253	414-506	197-253	187-253	414-506
Minimum Circuit Ampacity ④	20	22	27	18	33	25	12	36	29	14	39	26	17
BCSC	13	14	17.5	11	21	15	8	22	14	8	26	16	9
Field Wire Size ③	12	10	10	12	10	10	14	8	10	12	8	10	10
Ground Wire Size	12	10	8	12	10	10	14	8	10	14	8	10	12
Delay Fuse - Max. ②	30	30	40	25	50	35	15	50	40	20	60	40	25
Total Unit Amps	11.2/12.2	14.8/16.3	19.4/21.9	13.9/15.4	21.9/22.9	17.1/17.9	10.4	24.7/26.6	18.0/19.2	10.7	25.3/28.9	17.7/19.9	11.9
Compressor - Circuit A													
Compressor Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Volts	230/208	230/208	230/208	230/208	230/208	230/208	460	230/208	230/208	460	230/208	230/208	460
Rated Load Amps	8/9	11/12.5	15/17.5	9.5/11	16.1/17.1	11.3/12.0	7.7	18.7/20.6	12.0/13.2	7.7	19.3/22.9	11.7/13.9	8.6
Lock Rotor Amps	58.3/58.3	73/73	79/79	88/88	115/115	115/115	50	117/117	83.1/83.1	50	134/134	110/110	52
Fan Motor and Condenser													
Fan Motor - HP/RPM	1/6 / 825	1/6 / 825	1/6 / 825	1/6 / 825	1/4 / 825	1/4 / 825	1/4 / 825	1/4 / 825	1/4 / 825	1/4 / 825	1/4 / 825	1/4 / 825	1/4 / 825
Fan Motor Amps	1.1	1.1	1.1	1.1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Fan Dia/CFM	24"/2800	24"/2600	24"2600	24"/2600	24"/3400	24"/3400	24"/3400	24"/3400	24"/3400	24"/3400	24"/3400	24"/3400	24"/3400
Motor and Evaporator													
Blower Motor - HP/RPM ①	1/3 Variable	1/2 Variable	1/2 Variable	1/2 Variable	1/2 Variable	1/2 Variable	1/2 Variable	3/4 Variable	3/4 Variable	3/4 Variable	3/4 Variable	3/4 Variable	3/4 Variable
Blower Motor - Amps	2.1	2.7	3.3	3.3	3.9	3.9	3.9	4.5	4.5	4.5	5.0	5.0	5.0
Charge (R-410A oz.)	75	136	136	136	170	170	160	180	180	160	190	190	160
Shipping Weight (pounds)	360	410	410	410	440	440	490	440	440	490	450	450	500

① VS = Variable Speed Programmable Motor
② Maximum time delay fuse or HACR type circuit breaker for protection of field wiring devices.
③ Based on 75°C copper wire. All wiring must conform to the National Electrical Code and all local codes.
④ These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to National Electric Code (latest revision), Article 310 for power conductor sizing.

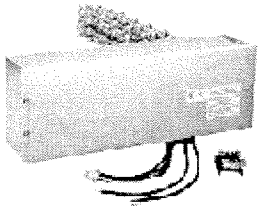
Indoor Blower Performance ①

MODEL	Rated ESP	MAX ESP	② Continuous Airflow	③ Rated Cooling CFM	④ Rated Heat Pump CFM	⑤ Rated Electric Heat CFM
PH1324	0.10	0.50	600	800	800	1000
PH1330	0.15	0.50	750	1000	1000	1000
PH1336	0.15	0.50	825	1100	1100	1100
PH1342	0.20	0.50	925	1400	1400	1400
PH1348	0.20	0.50	1025	1550	1550	1750
PH1360	0.20	0.50	1150	1750	1750	1750

① Motor will deliver consistent CFM through voltage supply range with no deterioration (197-253V for all 230/208V models or 414-506V for 460V models).
② Continuous CFM is the total air being circulated during continuous (manual fan) mode.
③ Will occur automatically with a call for "Y" for cooling mode operation.
④ Will occur automatically with a call for "W1" for heat pump mode operation.
⑤ Will occur automatically with a call for "W2" for electric heat operation

Optional Field Installed Electric Heater Packages

Optional field-installed electric heater packages are available for 5 through 15Kw 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.



IMPORTANT: While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses and conductor wires in accordance with the National Electrical Code and all existing local codes.

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

Heater Package Model	Volts and Phase	PH13241-A	PH13301-A	PH13361-A	PH13361-B	PH13422-A	PH13422-B	PH13422-C	PH13482-A	PH13482-B	PH13482-C	PH13602-A	PH13602-B	PH13602-C
EHP313-A05	240/208-1	X	X	X										
EHP313-A10	240/208-1	X	X	X										
EHP313-A15	240/208-1		X ①	X ①										
EHP313-B09	240/208-3				X									
EHP313-B15	240/208-3				X ②									
EHP513-A05	240/208-1					X			X			X		
EHP513-A10	240/208-1					X			X			X		
EHP513-A15	240/208-1					X ①			X ①			X ①		
EHP513-B09	240/208-3						X			X			X	
EHP513-B15	240/208-3						X ②			X ②			X ②	
EHP513-C09	460-3							X			X			X
EHP513-C15	460-3							X ②			X ②			X ②

① Max. KW that can operate with Heat Pump on is 10 KW. 15 KW will operate during emergency heat.

② Max. KW that can operate with Heat Pump on is 9 KW. 15 KW will operate during emergency heat.

Optional Field Installed Electric Heater Table — 2 through 5 Ton

Heater Pkg. Model No.	Unit Volts & Phases	Heater KW & Capacity @ 240 Volts (480)		Heater KW & Capacity @ 208 Volts		240/208V Heater Amps (480)	Heater Internal Fuse	Circuit B				
		KW	BTUH	KW	BTUH			No. Field Circuits	Min. Circuit Ampacity	① Max. Over Current Protection	② Field Power Wiring	③ Ground Wire Size
EHP313-A05	240/208-1	5	17,100	3.75	12,800	20.8/18.1	30/60	1	26/23	30/25	10/10	10
EHP313-A10	240/208-1	10	34,100	7.50	26,000	41.6/36.2		1	53/46	60/50	6/8	10
EHP313-A15	240/208-1	15	51,200	11.25	38,400	62.5/54.1		1	79/68	80/70	4/4	8
EHP513-A05	240/208-1	5	17,100	3.75	12,800	20.8/18.1	30/60	1	26/23	30/25	10/10	10
EHP513-A10	240/208-1	10	34,100	7.50	26,000	41.6/36.2		1	53/46	60/50	6/8	10
EHP513-A15	240/208-1	15	51,200	11.25	38,400	62.5/54.1		1	79/68	80/70	4/4	8
EHP313-B09	240/208-3	9	30,700	6.75	23,000	21.7/18.7	None	1	28/24	30/25	10/10	10
EHP313-B15	240/208-3	15	51,200	11.25	38,400	36.2/31.2		1	46/39	50/40	8/8	10
EHP513-B09	240/208-3	9	30,700	6.75	23,000	21.7/18.7	None	1	28/24	30/25	10/10	10
EHP513-B15	240/208-3	15	51,200	11.25	38,400	36.2/31.2		1	46/39	50/40	8/8	10
EHP513-C09	480-3	9	30,700			10.8	None	1	14	15	14	14
EHP513-C15	480-3	15	51,200			18		1	28	30	10	12

① Maximum size of the time delay fuse or HACR circuit breaker for protection of field wiring devices.

② Based on wire suitable for 75°C. Other wiring materials must be rated for marked "Minimum Circuit Ampacity" or greater. Based on 75°C copper wire. All wiring must conform to the National Electric Code and all local codes.

③ These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to the National Electric Code (latest revision), Article 310 for power conductor sizing.

IMPORTANT: While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses and conductor wires in accordance with the National Electrical Code and all existing local codes.

Cooling Application Data — Outdoor Temperature ①

Model	D.B./W.B. ②	Cooling Capacity	Outdoor Temperature°F													
			55°F	60°F	65°F	70°F	75°F	80°F	85°F	90°F	95°F	100°F	105°F	110°F	115°F	120°F
PH1324	75/62	Total Cooling	25,800	25,000	24,200	23,450	22,650	21,850	21,050	20,250	19,450	18,700	17,950	17,250	16,500	15,750
		Sensible Cooling	20,300	19,900	19,500	19,100	18,650	18,250	17,800	17,400	17,000	16,600	16,200	15,800	15,400	15,000
	80/67	Total Cooling	27,300	26,550	25,750	25,000	24,200	23,400	22,600	21,800	21,000	20,300	19,650	18,950	18,300	17,600
		Sensible Cooling	20,500	20,050	19,600	19,100	18,650	18,150	17,650	17,100	16,600	16,300	16,050	15,750	15,500	15,200
	85/72	Total Cooling	30,450	29,650	28,800	27,950	27,150	26,300	25,500	24,700	23,850	23,000	22,100	21,200	20,350	19,450
		Sensible Cooling	20,700	20,200	19,750	19,300	18,850	18,350	17,850	17,350	16,850	16,600	16,300	16,000	15,700	15,450
PH1330	75/62	Total Cooling	34,700	33,600	32,550	31,400	30,350	29,250	28,150	27,050	25,950	24,900	23,850	22,850	21,800	20,750
		Sensible Cooling	25,250	24,850	24,550	24,050	23,600	23,250	22,900	22,550	22,200	21,550	20,900	20,250	19,600	18,950
	80/67	Total Cooling	36,700	35,600	34,550	33,450	32,400	31,300	30,200	29,100	27,400	27,050	26,100	25,100	24,150	23,200
		Sensible Cooling	25,500	25,050	24,550	24,100	23,600	23,150	22,650	22,200	21,700	21,200	20,700	20,200	19,700	19,200
	85/72	Total Cooling	40,950	39,800	38,650	37,500	36,350	35,200	34,050	32,950	31,800	30,600	29,350	28,100	26,900	25,650
		Sensible Cooling	27,700	25,250	24,800	24,300	23,850	23,400	22,950	22,500	22,050	21,550	21,050	20,500	20,000	19,500
PH1336	75/62	Total Cooling	39,500	38,500	37,500	36,500	35,500	34,400	33,250	32,150	31,050	30,450	29,850	29,250	28,650	28,100
		Sensible Cooling	28,300	27,900	27,500	27,100	26,700	26,400	26,050	25,700	25,350	24,750	24,150	23,550	22,950	22,350
	80/67	Total Cooling	41,750	40,800	39,850	38,850	37,900	36,800	35,700	34,600	33,400	33,100	32,650	32,250	31,800	31,400
		Sensible Cooling	28,550	28,100	27,650	27,150	26,700	26,250	25,750	25,300	24,800	24,350	23,900	23,500	23,050	22,600
	85/72	Total Cooling	46,600	45,550	44,550	43,500	42,500	41,400	40,300	39,150	38,050	37,400	36,700	36,050	35,400	34,700
		Sensible Cooling	28,800	28,350	27,900	27,450	27,000	26,550	26,100	25,650	25,200	24,750	24,300	23,850	23,400	22,950
PH1342	75/62	Total Cooling	50,400	48,850	47,350	45,850	44,350	42,850	41,400	39,900	38,450	36,750	35,050	33,350	31,650	29,950
		Sensible Cooling	36,950	36,350	35,750	35,150	34,550	34,150	33,750	33,350	32,950	31,600	30,300	28,950	27,600	26,300
	80/67	Total Cooling	53,300	51,800	50,350	48,850	47,350	45,900	44,450	42,950	41,500	39,900	38,300	36,700	35,100	33,500
		Sensible Cooling	37,350	36,650	35,950	35,250	34,550	33,950	33,400	32,800	32,200	31,100	29,950	28,850	27,700	26,600
	85/72	Total Cooling	53,000	52,150	51,250	50,400	49,500	48,900	48,300	47,750	47,150	45,100	43,100	41,100	39,050	37,050
		Sensible Cooling	37,600	36,950	36,252	35,600	34,950	34,350	33,800	33,250	32,700	31,550	30,450	29,300	28,150	27,000
PH1348	75/62	Total Cooling	54,700	53,050	51,400	49,750	48,050	46,500	44,900	43,300	41,700	39,750	37,850	35,900	33,950	32,000
		Sensible Cooling	39,250	38,650	38,100	37,500	36,950	36,550	36,150	35,800	36,400	34,050	32,650	31,300	29,950	28,550
	80/67	Total Cooling	57,900	56,250	54,650	53,000	51,350	49,750	48,200	46,600	45,000	43,150	41,300	39,500	37,650	35,800
		Sensible Cooling	39,650	39,000	38,300	37,600	36,900	36,350	35,750	35,200	34,600	33,450	32,300	31,200	30,050	28,900
	85/72	Total Cooling	64,600	62,850	61,100	59,350	57,600	55,950	54,350	52,750	51,100	48,800	46,500	44,200	41,900	39,600
		Sensible Cooling	39,950	39,300	38,650	37,950	37,300	36,750	36,200	35,700	35,150	34,000	32,850	31,650	30,500	29,350
PH1360	75/62	Total Cooling	66,300	64,450	62,600	60,750	58,900	57,250	55,600	54,000	52,350	49,650	46,900	44,200	41,450	38,750
		Sensible Cooling	46,400	45,700	45,000	44,300	43,650	43,150	42,650	42,150	41,650	40,200	38,700	37,200	35,700	34,200
	80/67	Total Cooling	70,150	68,300	66,500	64,700	62,900	61,300	59,700	58,100	56,500	53,850	51,250	48,600	45,950	43,300
		Sensible Cooling	46,850	46,050	45,250	44,400	43,600	42,900	42,150	41,450	40,750	39,500	38,300	37,100	35,850	34,650
	85/72	Total Cooling	78,250	76,300	74,400	72,450	70,550	69,950	67,350	65,750	64,200	60,900	57,650	54,400	51,150	47,900
		Sensible Cooling	47,250	46,450	45,650	44,850	44,100	43,400	42,700	42,050	41,350	40,150	38,900	37,650	36,400	35,150

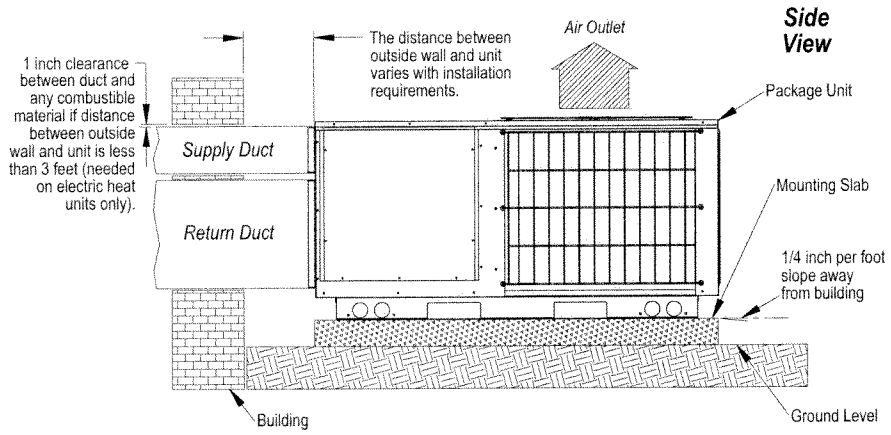
① Below 55°F, unit requires a field installed low ambient control model CMH-15.
② Return air temperature °F.

Heating Application Data — 2 through 5 Ton Outdoor Temperature °F*

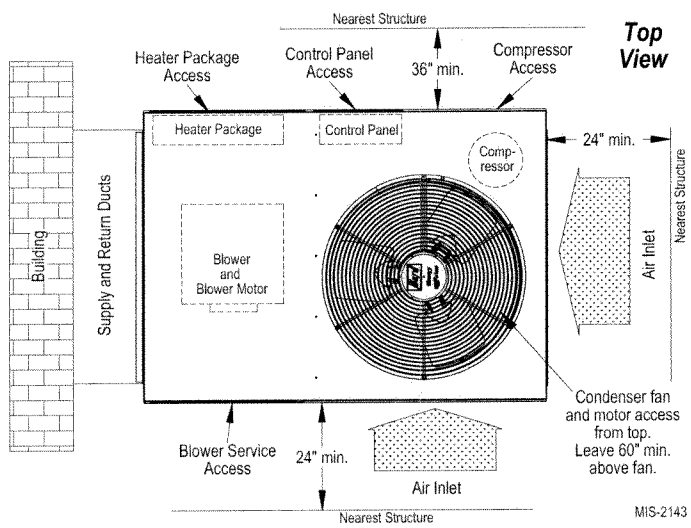
Model		-5°F	0°F	5°F	10°F	15°F	20°F	25°F	30°F	35°F	40°F	45°F	50°F	55°F	60°F	65°F	70°F
PH1324	Btuh	5,350	6,650	8,000	9,350	10,650	12,800	14,150	15,450	16,800	18,150	19,450	20,800	22,100	23,450	24,750	26,100
	Watts	1540	1580	1620	1640	1660	1682	1690	1700	1710	1720	1720	1770	1850	1930	2000	2070
	COP	1.02	1.23	1.45	1.67	1.88	2.23	2.45	2.66	2.88	3.10	3.31	3.44	3.50	3.57	3.63	3.70
PH1330	Btuh	5,700	7,800	9,900	12,000	14,100	17,450	19,550	21,650	23,750	25,850	27,950	30,250	32,650	35,000	37,400	39,800
	Watts	1510	1740	1900	2030	2130	2250	2310	2360	2400	2440	2470	2560	2680	2790	2890	2990
	COP	1.11	1.32	1.53	1.73	1.94	2.28	2.48	2.69	2.90	3.10	3.32	3.47	3.57	3.68	3.79	3.90
PH1336	Btuh	10,750	13,000	15,250	17,500	19,750	23,350	25,600	27,850	30,100	32,350	34,600	36,900	39,300	41,650	44,050	46,400
	Watts	2280	2430	2550	2650	2730	2840	2890	2940	2980	3020	3050	3150	3300	3450	3590	3730
	COP	1.38	1.57	1.75	1.93	2.12	2.41	2.59	2.78	2.96	3.14	3.33	3.43	3.49	3.54	3.60	3.65
PH1342	Btuh	14,350	17,050	19,800	22,550	25,250	29,650	32,350	35,100	37,850	40,550	43,300	45,950	48,500	51,050	53,650	56,200
	Watts	2850	3030	3180	3300	3400	3540	3610	3670	3720	3770	3810	3900	4020	4130	4230	4330
	COP	1.48	1.65	1.83	2.00	2.18	2.46	2.63	2.81	2.98	3.16	3.33	3.45	3.54	3.63	3.71	3.80
PH1348	Btuh	14,350	17,150	20,000	22,850	25,650	30,200	33,050	35,850	38,700	41,550	44,350	47,600	51,150	54,650	58,200	61,700
	Watts	2850	3050	3210	3350	3460	3600	3680	3750	3810	3860	3900	4060	4300	4520	4740	4950
	COP	1.48	1.65	1.83	2.00	2.18	2.46	2.63	2.81	2.98	3.16	3.33	3.43	3.49	3.54	3.60	3.65
PH1360	Btuh	16,250	19,500	22,750	26,000	29,250	34,450	37,700	40,950	44,200	47,450	50,700	54,050	57,500	60,950	64,350	67,800
	Watts	3400	3570	3700	3810	3900	4010	4060	4110	4150	4190	4220	4380	4610	4850	5070	5300
	COP	1.40	1.60	1.80	2.00	2.20	2.52	2.72	2.92	3.12	3.32	3.52	3.62	3.65	3.68	3.72	3.75

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

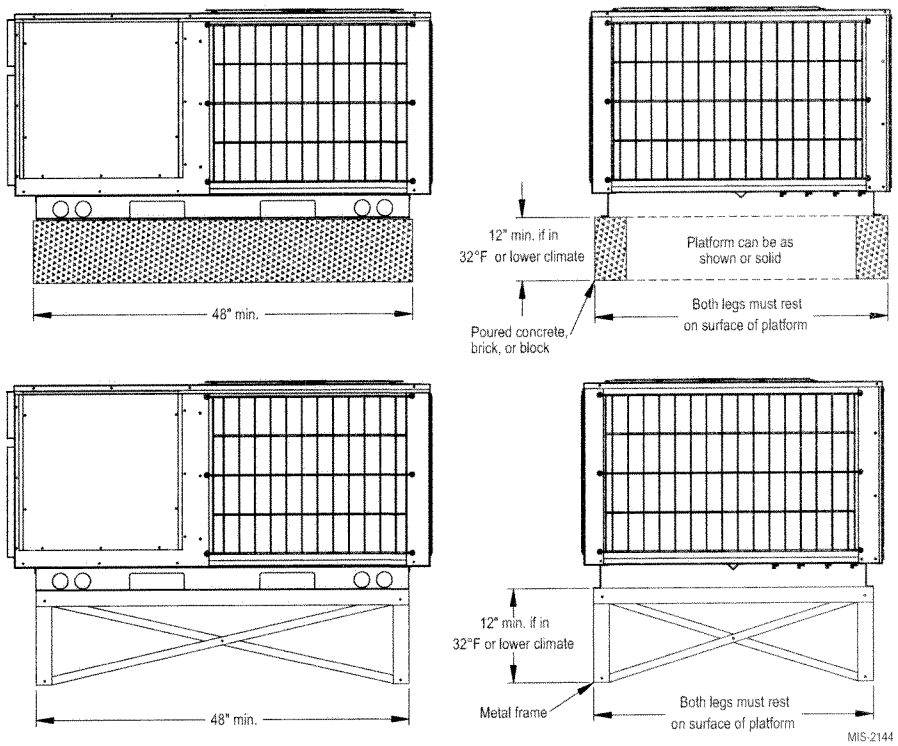
Slab Mounting at Ground Level



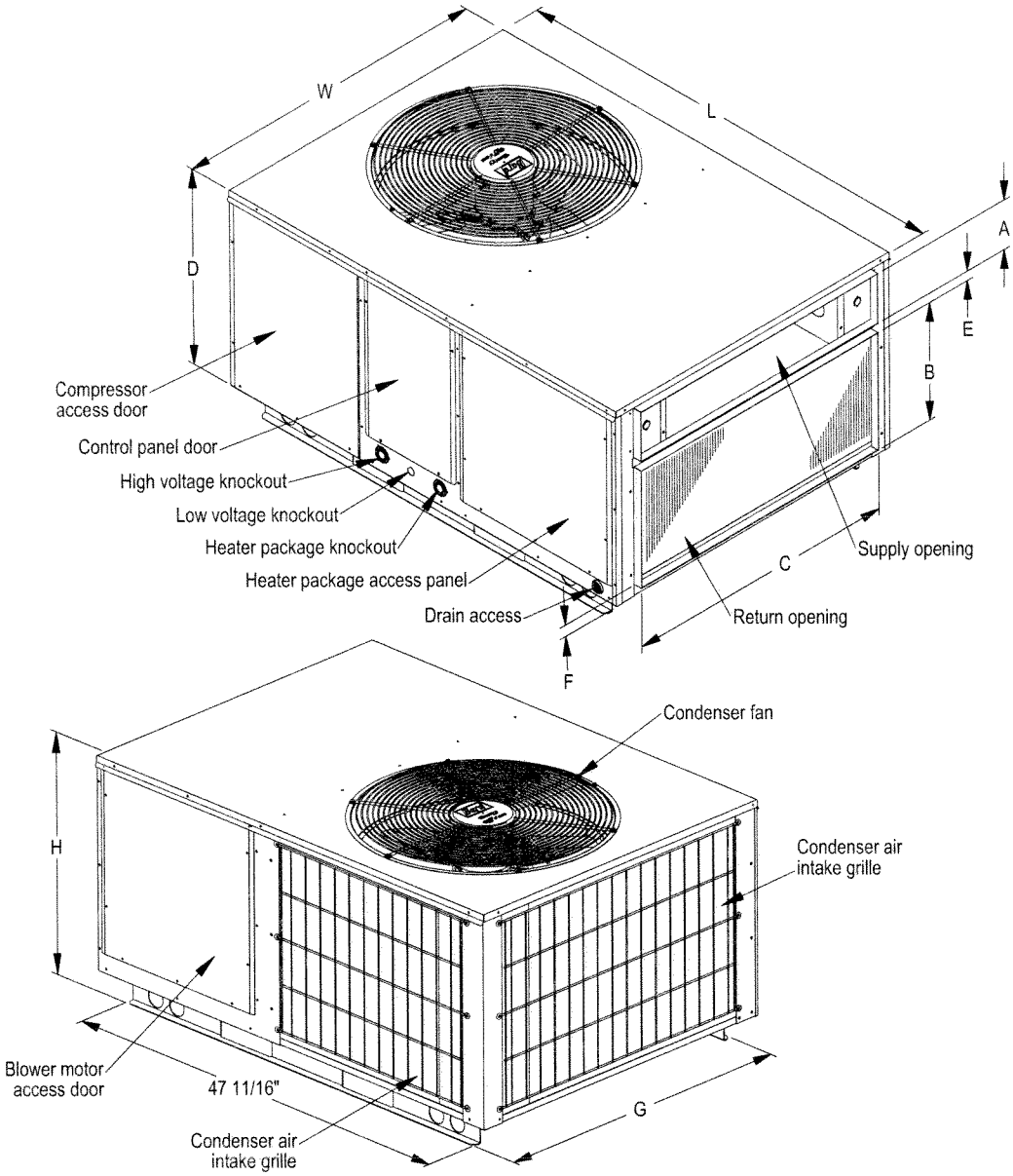
Airflow & Service Access Clearances



Elevated Mounting Platforms (Field Constructed)



Unit Dimensions



Unit Dimension Chart

Unit	Supply Size		Return Size		Unit Overall Dimensions			Unit General Dimensions			
	A	C	B	C	H (height)	L (length)	W (width)	D	E	F	G
PA/PH1324,1330,1336	5.875	32.875	13.875	32.875	26.25	53.25	38.125	23.25	1.125	1.375	35.625
PA/PH1342,1348,1360	9.875	37.875	15.875	37.875	33.25	55.25	42.375	30.25	1.5	2.375	38.125

MIS-2142

Optional Control Modules — Field Installed

Field Installed Part	Applicable To	Description
CMH-15	All Models	Low Ambient Control with Relay
CMH-16	All Models	Outdoor Thermostat with Relay
CMC-15	All -A Models	Compressor Start Kit

Optional Equipment — Roof Hood

- Shipped knocked down
- Polyester baked enamel galvanneal cabinet
- Heavy insulation - 1/2 inch
- Built-in filter
- Fresh air damper assembly provides up to 15% outside air.
- **Requires prefabricated roof curb 9042-003 or 9042-004. Order separately.**

Model No.	Applicable To	Shipping Weight
RHP313-A	2, 2-1/2 and 3 ton models	110
RHP513-A	3-1/2, 4 and 5 ton models	120

† Equivalent units - Shipping

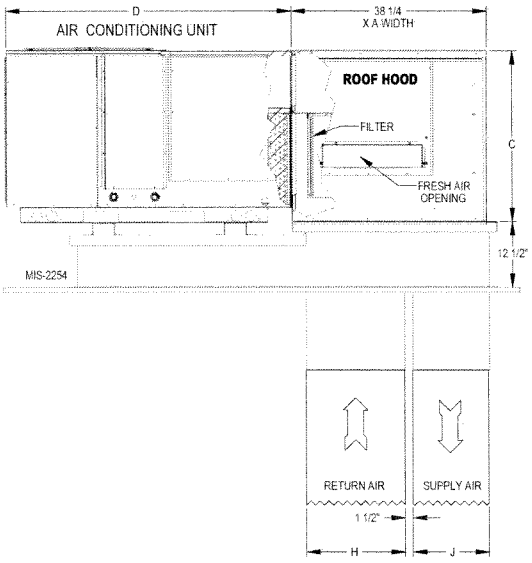
Performance and Application Data — RHP

RHP313-A Ventilation Air

Supply Air Static	Ventilation Air (CFM)										
0.00	N/A	N/A	133	183	226	260	283	290	304	320	370
0.20	N/A	N/A	133	183	226	260	283	290	304	N/A	N/A
0.40	N/A	N/A	133	183	2.26	260	283	290	N/A	N/A	N/A
Return Static	**0.00**	**0.05**	**0.10**	**0.15**	**0.20**	**0.25**	**0.30**	**0.35**	**0.40**	**0.45**	**0.50**

RHP513-A BFAD Ventilation Air

Supply Air Static	Ventilation Air (CFM)										
0.00	N/A	N/A	80	165	215	250	280	310	340	370	400
0.20	N/A	N/A	80	165	215	250	280	310	340	370	400
0.40	N/A	N/A	80	165	215	250	280	310	340	370	400
Return Static	**0.00**	**0.05**	**0.10**	**0.15**	**0.20**	**0.25**	**0.30**	**0.35**	**0.40**	**0.45**	**0.50**



Unit Dimensions

Roof Hood Model	Model	Nominal Tonnage	A	C	D	1" Filter
RHP313-A	PA1324 / PH1324 PA1330 / PH1330 PA1336 / PH1336	2 Ton 2½ Ton 3 Ton	38-1/8	26	53-1/4	(1) 16 x 16 and (1) 16 x 20
RHP513-A	PA1342 / PH1342 PA1348 / PH1348 PA1360 / PH1360	3½ Ton 4 Ton 5 Ton	42	33	55-1/4	(2) 16 x 20

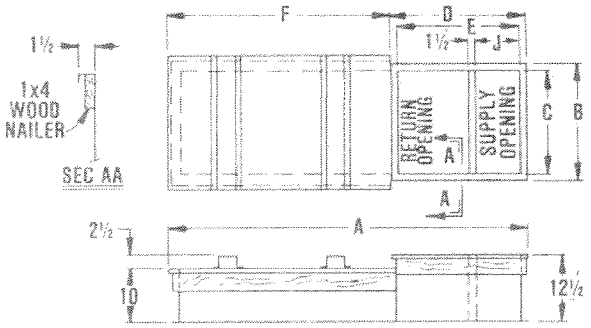
Optional Equipment — Pre-Fabricated Roof Curb

- Heavy gauge galvanized with wood nailing strip.
- **Prefabricated roof curb requires roof hood RHP313-A & RHP513-A. Order separately.**

Model No.	Applicable To	E.U.†	Shipping Weight
9042-003	2, 2-1/2 and 3 ton models	.80	144
9042-004	3-1/2, 4 and 5 ton models	.80	160

† Equivalent units - Shipping

Heavy gauge galvanized with wood nailing strip, welded/leakproof one piece construction - ready to install.



Model	Used With Roof Hood Model	A	B	C ①	D	E	F	J ①	H ①	Heat Pump and Air Conditioning Units
9042-003 (P36 Curb)	RHP313-A	80-3/8	40-1/4	37-1/4	38-3/8	35-3/8	42	14-3/4	19-1/8	All 2, 2-1/2, & 3 Ton Models
9042-004 (P60 Curb)	RHP513-A	82-3/8	44-1/8	41-1/8	38-3/8	35-3/8	44	14-3/4	19-1/8	All 3-1/2, 4 & 5 Ton Models

① Duct Sizing Information:
Return air dimension "C" is length / Supply air dimension "C" is length.
Return air dimension "H" is width / Supply air dimension "J" is width.

Optional Equipment — Energy Recovery Ventilator

- Assures continuous supply of fresh air and reduction of all indoor air pollutants. IAQ ASHRAE 62.1
- Provides 250 to 400 CFM (adjustable) of outside air and exhaust. Efficiencies up to 77% heating and 65% cooling.
- Designed for easy installation on roof hoods RHP313-A and RHP513-A.

Model No.	Shipping Weight
ERVR-A3D-X (230/208V)	125 lbs.
ERVR-C3D-X (460)	125 lbs.

PERFORMANCE AND APPLICATION DATA - ERVR-A3C

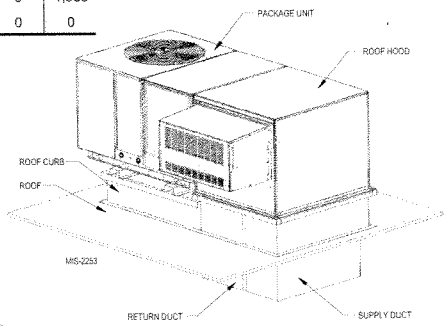
Summer Cooling Performance
(Indoor Design Conditions 75° DB/62° WB)

Ambient O.D.		VENTILATION RATE - 400 CFM 63% Efficiency						VENTILATION RATE - 325 CFM 64% Efficiency						VENTILATION RATE - 250 CFM 65% Efficiency					
DB/WB°F		VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL	VLT	VLS	VLL	HRT	HRS	HRL
	75	19,080	12,960	6,120	12,020	8,164	3,855	15,502	10,530	4,972	9,921	6,739	3,182	11,925	8,100	3,825	7,751	5,265	2,486
105	70	12,960	12,960	0	8,164	8,164	0	10,530	10,530	0	6,739	6,739	0	8,100	8,100	0	5,265	5,265	0
	65	12,960	12,960	0	8,164	8,164	0	10,530	10,530	0	6,739	6,739	0	8,100	8,100	0	5,265	5,265	0
	80	28,080	10,800	17,280	17,690	6,804	10,886	22,815	8,775	14,040	14,601	5,616	8,985	17,550	6,750	10,800	11,407	4,387	7,019
	75	19,080	10,800	8,280	12,020	6,804	5,216	15,502	8,775	6,727	9,921	5,616	4,305	11,925	6,750	5,175	7,751	4,387	3,363
100	70	10,980	10,800	180	6,917	6,804	113	8,921	8,775	146	5,709	5,616	93	6,862	6,750	112	4,460	4,387	73
	65	10,800	10,800	0	6,804	6,804	0	8,775	8,775	0	5,616	5,616	0	6,750	6,750	0	4,387	4,387	0
	60	10,800	10,800	0	6,804	6,804	0	8,775	8,775	0	5,616	5,616	0	6,750	6,750	0	4,387	4,387	0
	80	28,080	8,640	19,440	17,690	5,443	12,247	22,815	7,020	15,795	14,601	4,492	10,108	17,550	5,400	12,150	11,407	3,510	7,897
	75	19,080	8,640	10,440	12,020	5,443	6,577	15,502	7,020	8,482	9,921	4,492	5,428	11,925	5,400	6,525	7,751	3,510	4,241
95	70	10,980	8,640	2,340	6,917	5,443	1,474	8,921	7,020	1,901	5,709	4,492	1,216	6,862	5,400	1,462	4,460	3,510	950
	65	8,640	8,640	0	5,443	5,443	0	7,020	7,020	0	4,492	4,492	0	5,400	5,400	0	3,510	3,510	0
	60	8,640	8,640	0	5,443	5,443	0	7,020	7,020	0	4,492	4,492	0	5,400	5,400	0	3,510	3,510	0
	80	28,080	6,480	21,600	17,690	4,082	13,608	22,815	5,265	17,550	14,601	3,369	11,232	17,550	4,050	13,500	11,407	2,632	8,774
	75	19,080	6,480	12,600	12,020	4,082	7,938	15,502	5,265	10,237	9,921	3,369	6,552	11,925	4,050	7,875	7,751	2,632	5,118
90	70	10,980	6,480	4,500	6,917	4,082	2,835	8,921	5,265	3,656	5,709	3,369	2,340	6,862	4,050	2,812	4,460	2,632	1,828
	65	6,480	6,480	0	4,082	4,082	0	5,265	5,265	0	3,369	3,369	0	4,050	4,050	0	2,632	2,632	0
	60	6,480	6,480	0	4,082	4,082	0	5,265	5,265	0	3,369	3,369	0	4,050	4,050	0	2,632	2,632	0
	80	28,080	4,320	23,760	17,690	2,721	14,968	22,815	3,510	19,305	14,601	2,246	12,355	17,550	2,700	14,850	11,407	1,755	9,652
	75	19,080	4,320	14,760	12,020	2,721	9,298	15,502	3,510	11,992	9,921	2,246	7,675	11,925	2,700	9,225	7,751	1,755	5,996
85	70	10,980	4,320	6,660	6,917	2,721	4,195	8,921	3,510	5,411	5,709	2,246	3,463	6,862	2,700	4,162	4,460	1,755	2,705
	65	4,320	4,320	0	2,721	2,721	0	3,510	3,510	0	2,246	2,246	0	2,700	2,700	0	1,755	1,755	0
	60	4,320	4,320	0	2,721	2,721	0	3,510	3,510	0	2,246	2,246	0	2,700	2,700	0	1,755	1,755	0
	75	19,080	2,160	16,920	12,020	1,360	10,659	15,502	1,755	13,747	9,921	1,123	8,798	11,925	1,350	10,575	7,751	877	6,873
80	70	10,980	2,160	8,820	6,917	1,360	5,556	8,921	1,755	7,166	5,709	1,123	4,586	6,862	1,350	5,512	4,460	877	3,583
	65	3,780	2,160	1,620	2,381	1,360	1,020	3,071	1,755	1,316	1,965	1,123	842	2,362	1,350	1,012	1,535	877	658
	60	2,160	2,160	0	1,360	1,360	0	1,755	1,755	0	1,123	1,123	0	1,350	1,350	0	877	877	0
	70	10,980	0	10,980	6,917	0	6,917	8,921	0	8,921	5,709	0	5,709	6,862	0	6,862	4,460	0	4,460
75	65	3,780	0	3,780	2,381	0	2,381	3,071	0	3,071	1,965	0	1,965	2,362	0	2,362	1,535	0	1,535
	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Legend:
VLT = Ventilation Load - Total
VLS = Ventilation Load - Sensible
VLL = Ventilation Load - Latent
HRT = Heat Recovery - Total
HRS = Heat Recovery - Sensible
HRL = Heat Recovery - Latent
WVL = Winter Ventilation Load
WHR = Winter Heat Recovery

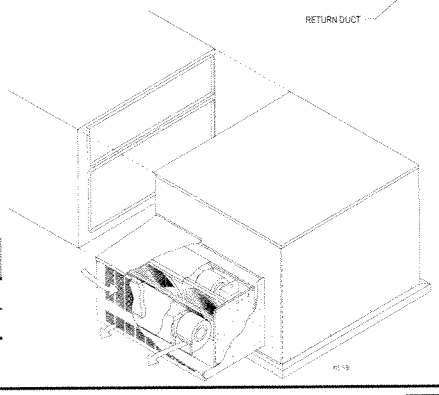
Winter Heating Performance
(Indoor Design Conditions 70°F DB)

Ambient O.D.	VENTILATION RATE					
	400 CFM 75% Efficiency		325 CFM 76% Efficiency		250 CFM 77% Efficiency	
DB°F	WVL	WHR	WVL	WHR	WVL	WHR
65	2,160	1,620	1,755	1,333	1,350	1,039
60	4,320	3,240	3,510	2,667	2,700	2,079
55	6,480	4,860	5,265	4,001	4,050	3,118
50	8,640	6,480	7,020	5,335	5,400	4,158
45	10,800	8,100	8,775	6,669	6,750	5,197
40	12,960	9,720	10,530	8,002	8,100	6,237
35	15,120	11,340	12,285	9,336	9,450	7,276
30	17,280	12,960	14,040	10,670	10,800	8,316
25	19,440	14,580	15,795	12,004	12,150	9,355
20	21,600	16,200	17,550	13,338	13,500	10,395
15	23,760	17,820	19,305	14,671	14,850	11,434



UNIT DIMENSIONS

Model	Width	Depth	Height	Shipping Weight
ERVR	* 32-3/4	18-3/4	18-3/4	125 lbs.



* Does not include 1" mounting brackets on each side of ERVR.

Bard Manufacturing Company, Inc.
Bryan, Ohio 43506
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CLIMATE CONTROL SOLUTIONS

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

Form No. S3384
July, 2008
Supersedes: 408