

PH50

10 SEER, 50 Hz

5-TON

SELF-CONTAINED PACKAGED HEAT PUMP

COOLING CAPACITY: 53,500 BTU/H [15.7 kW]

HEATING CAPACITY: 54,000 BTU/H [15.8 kW]



The PH50 Packaged Heat Pump provides energy-efficient cooling and heating performance in one self-contained unit. This unit is housed in a heavy-gauge, galvanized-steel cabinet that offers a high-quality, UV-resistant powder-paint finish and allows for a ground-level or rooftop mount.

Standard Features

- Energy-efficient compressor with internal relief valve
- PSC blower motor
- Quiet horizontal discharge
- Copper tube/aluminum fin coil
- Totally enclosed, permanently lubricated condenser fan motor
- Fully charged R-22 system

Cabinet Features

- Heavy-gauge galvanized-steel cabinet with attractive Architectural Gray powder-paint finish
- Fully insulated blower compartment with convenient access panels
- Louvered condenser coil protection

Accessories

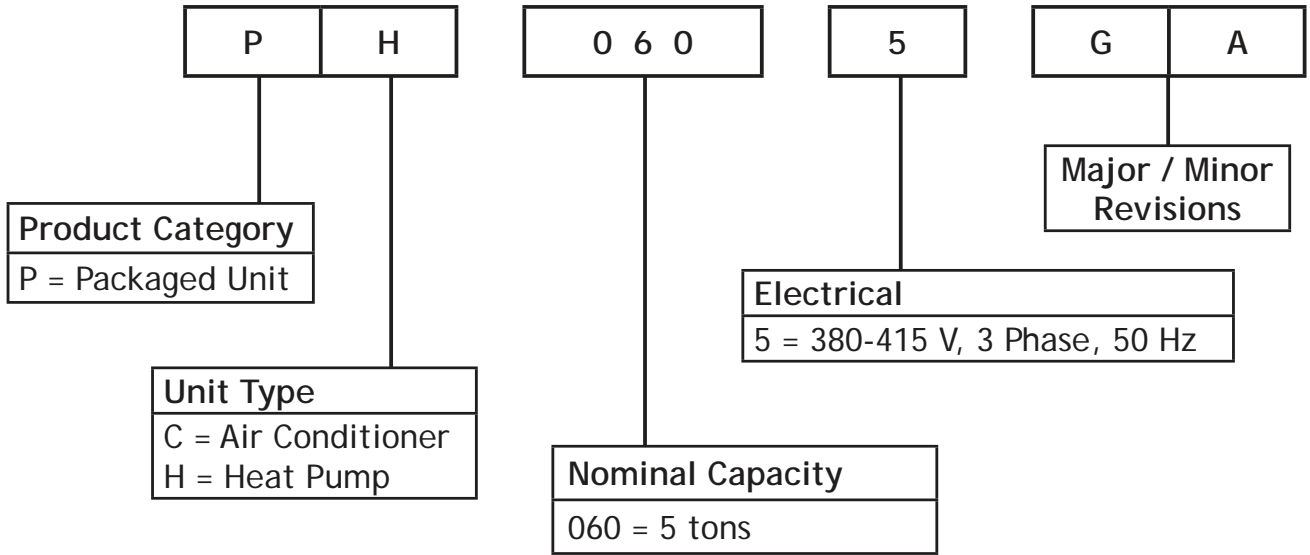
- See a full list of accessories on Page 8.

Heat Kit Selection

- HKR5-12 (12 kW)
- HKR5-15 (15 kW)
- Above electric heat kits available as field-installed options.

PRODUCT SPECIFICATIONS

NOMENCLATURE



SPECIFICATIONS

	PH060-5GA		PH060-5GA
Cooling Capacity		Heating Capacity	
Total BTU/h	53,600	BTU/h (47°F)	54,400
Sensible BTU/h	39,100	C.O.P. (47°F)	3.2
SEER	10.6	BTU/h (17°F)	29,600
EER	9.1	C.O.P. (17°F)	2.2
Decibels	80	HSPF	7.9
Evaporator Motor		Evaporator Coil	
Type	DD	Face Area (ft ²)	6.2
Wheel (D x W)	10 x 8	Rows Deep/ Fins per Inch	4/14
Nominal Cooling CFM	1,727	Filter Size (ft ²)	(2) 20 x 20 x 1
No. of Speeds	2	Drain Size (NPT)	3/4"
Horsepower - RPM	¾- 1,075	Refrigerant Charge (oz.)	181
Electrical Data		Condenser Fan / Coil	
Voltage/Phase/ Frequency	380-415/3/50	Horsepower - RPM	⅓ - 1,075
Compressor RLA/LRA	8.7 / 65	Fan Diameter/ # Fan Blades	22 / 4
Indoor Blower/ Outdoor Fan FLA	2.2/ 1.2	Face Area (ft ²)	19.1
Total Unit Amps	11.44	Rows Deep/ Fins per Inch	2 / 16
Minimum Circuit Ampacity ¹	14.3		
Maximum Overcurrent Protection ²	20 amps		
Ship Weight (lbs)	415		

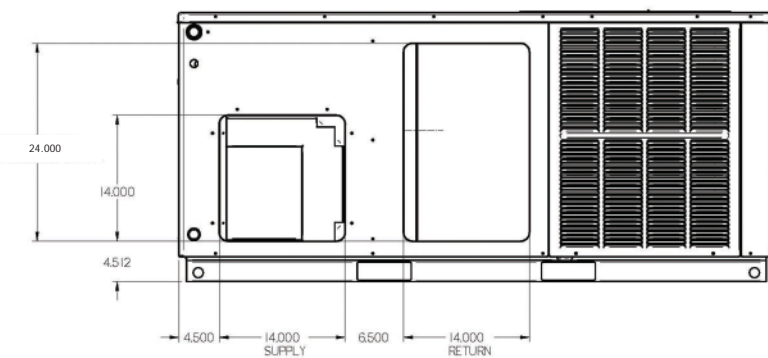
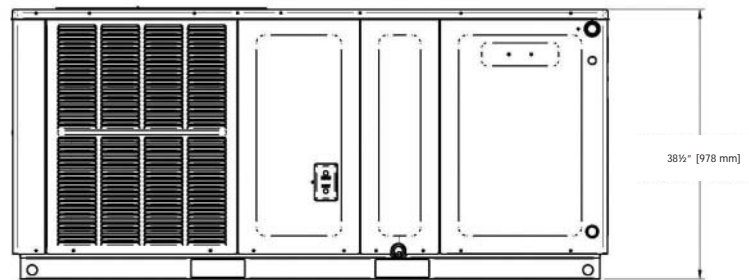
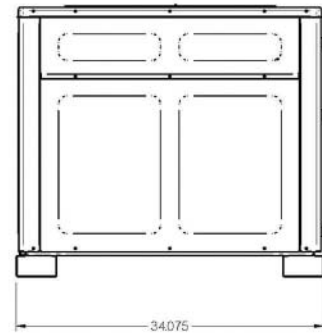
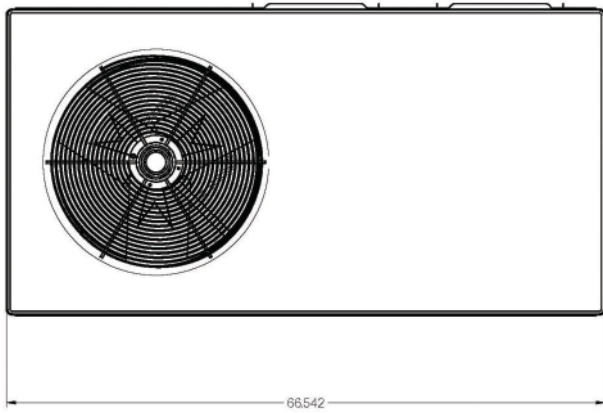
¹ Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.

² Must use time-delay fuses or HACR-type circuit breakers of the same size as noted.

Note: Always check the S&R plate for electrical data on the unit being installed.

PRODUCT SPECIFICATIONS

DIMENSIONS



BACK VIEW
(DUCT OPENINGS)

W	D	H
Dimensions (Inches)		
66"	33"	38½"
Dimensions (mm)		
1,676	838	978

EXPANDED COOLING RATINGS

Indoor Air		Condenser Air Temperature														
		75			85			95			105			115		
SCFM	WB	Total MBTU	Sens MBTU	Watts kWh	Total MBTU	Sens MBTU	Watts kWh	Total MBTU	Sens MBTU	Watts kWh	Total MBTU	Sens MBTU	Watts kWh	Total MBTU	Sens MBTU	Watts kWh
1511	71	55.5	27.6	5.27	54.2	27.6	5.61	52.9	27.8	5.92	50.2	27.4	6.17	46.5	25.6	6.40
	67	51.9	34.5	5.10	50.7	34.5	5.43	49.5	34.8	5.72	47.0	34.3	5.97	43.5	32.0	6.18
	63	48.6	39.7	4.94	47.5	39.7	5.25	46.3	40.0	5.54	44.0	39.4	5.78	40.7	36.8	5.98
	59	47.6	41.4	4.83	46.5	41.4	5.14	45.3	41.7	5.41	43.1	41.1	5.65	39.9	38.4	5.85
1727	71	60.2	31.0	5.40	58.7	31.0	5.76	57.3	31.2	6.07	54.4	30.8	6.34	50.4	28.8	6.57
	67	56.3	38.8	5.23	54.9	38.8	5.57	53.6	39.1	5.87	50.9	38.5	6.13	47.2	36.0	6.35
	63	52.7	44.6	5.06	51.4	44.6	5.39	50.2	44.9	5.68	47.7	44.3	5.93	44.1	41.4	6.14
	59	51.6	46.5	4.95	50.3	46.6	5.27	49.1	46.9	5.56	46.6	46.2	5.80	43.2	43.2	6.00
1943	71	62.0	33.4	5.45	60.5	33.5	5.81	59.0	33.7	6.13	56.1	33.2	6.39	51.9	31.1	6.63
	67	58.0	41.9	5.27	56.6	41.9	5.62	55.2	42.2	5.92	52.4	41.6	6.18	48.6	38.9	6.40
	63	54.3	48.1	5.10	53.0	48.2	5.44	51.7	48.5	5.73	49.1	49.1	5.98	45.5	45.5	6.19
	59	53.1	50.2	4.99	51.8	50.3	5.32	50.6	50.6	5.60	48.0	48.0	5.85	44.5	44.5	6.05

Sensible heat capacities shown are based on 80°F DB entering air at the evaporator coil.
 For sensible heat capacities at other than 80°F DB, deduct 84 BTU/h per 100 CFM of evaporator coil air for each degree below 80°F,
 or add 84 BTU/h per 100 CFM of evaporator coil air per degree above 80°F.

Capacities at 95°F Outdoor, 75°F DB and 63°F WB Indoor

TOTAL MBTU/h 49.7 SENSIBLE MBTU/h 38.7 LATENT MBTU/h 11.0

	Outdoor Ambient Temperature																	
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5	-10
MBh	68.4	64.7	60.9	57.0	54.4	52.7	49.0	45.2	36.9	34.0	31.3	29.6	28.5	25.6	22.7	19.8	16.9	13.8
T/R	36.7	34.7	32.7	30.5	29.2	28.3	26.2	24.2	19.8	18.3	16.8	15.9	15.3	13.7	12.2	10.6	9.0	7.4
kW	5.39	5.29	5.18	5.07	5.01	4.96	4.86	4.75	4.18	4.09	3.99	3.94	3.90	3.81	3.71	3.62	3.52	3.43
Amps	12.7	11.9	11.2	10.7	10.4	10.2	9.7	9.3	9.0	8.7	8.4	8.2	8.1	7.8	7.4	7.1	6.7	6.2
COP	3.71	3.58	3.44	3.29	3.18	3.11	2.95	2.78	2.58	2.44	2.30	2.20	2.14	1.97	1.79	1.60	1.40	1.18
EER	12.7	12.2	11.8	11.2	10.9	10.6	10.1	9.5	8.8	8.3	7.8	7.5	7.3	6.7	6.1	5.5	4.8	4.0
HI PR	253	243	233	223	218	214	206	197	189	181	173	169	166	160	154	147	142	137
LO PR	74	68	64	59	55	53	49	44	39	35	31	29	28	23	20	17	15	12

Above information is for nominal CFM and 70 degree indoor dry bulb. Instantaneous capacity listed.

PRODUCT SPECIFICATIONS

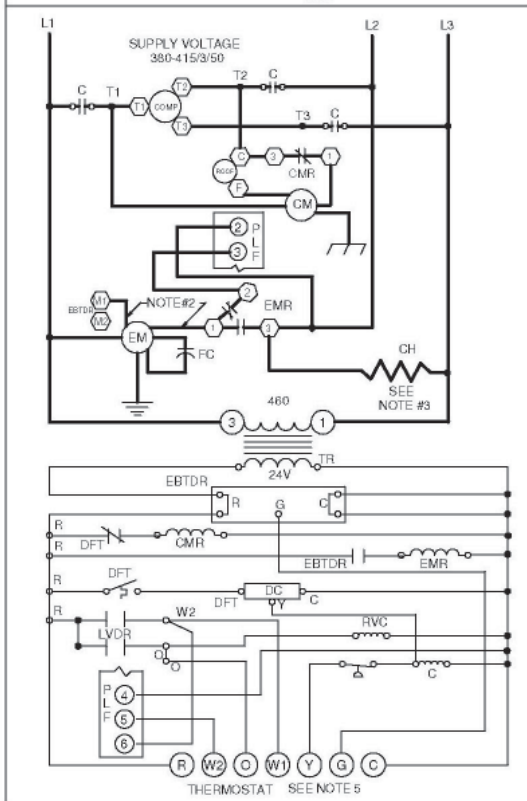
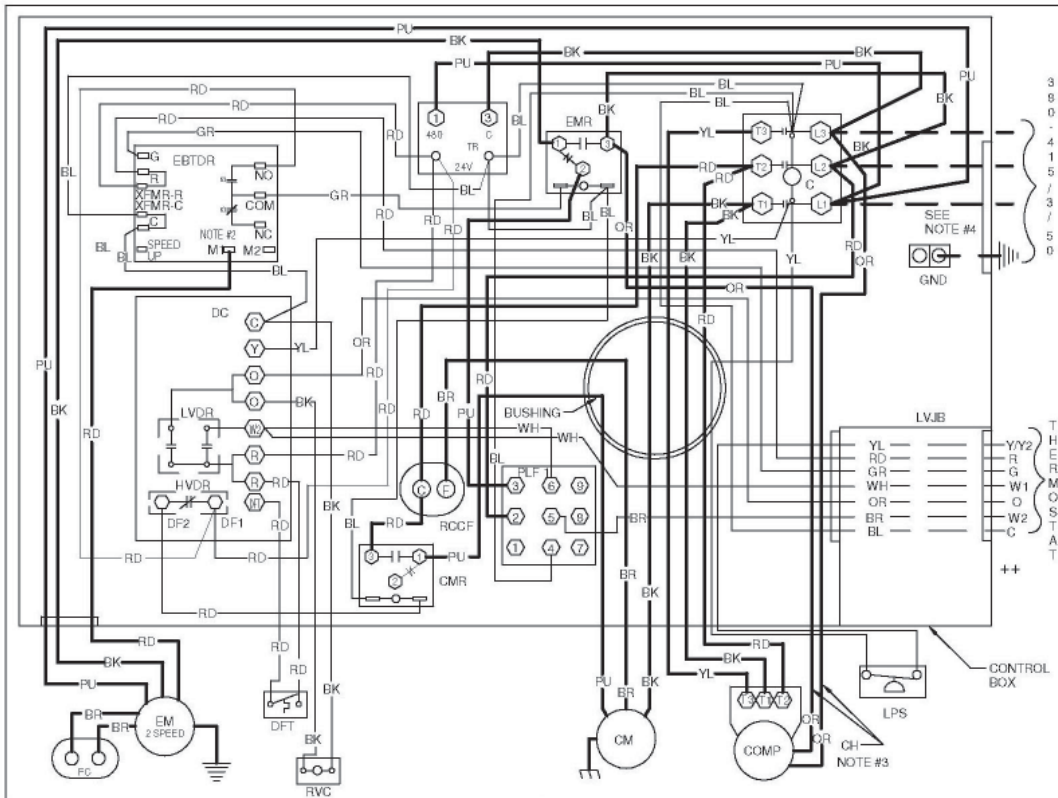
EVAPORATOR BLOWER SPECIFICATIONS

Model	Speed	Airflow		E.S.P (In. of H2O)									
				Volts	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
PH060-5	Low	415	CFM	1,695	1,605	1,565	1,540	1,520	1,435	1,395			
			Watts	590	555	530	515	495	460	440			
		380	CFM	1,560	1,520	1,490	1,465	1,425	1,340	1,230			
			Watts	570	535	510	490	460	410	370			
	High	415	CFM	1,970	1,900	1,820	1,710	1,610	1,460	1,360	1,295	1,160	1,050
			Watts	690	650	600	560	510	470	440	410	380	360
		380	CFM	1,830	1,785	1,720	1,630	1,530	1,415	1,290	1,195	1,075	950
			Watts	620	580	540	500	460	420	390	340	310	300

Notes:

- Data shown is dry coil. Wet coil pressure drop is approximately 0.1" H2O, for two-row indoor coil; 0.2" H2O, for three-row indoor coil; and 0.3" H2O, for four-row indoor coil.
- Data shown does not include filter pressure drop, approx. 0.08" H2O.
- ALL MODELS SHOULD RUN NO LESS THAN 350 CFM/TON. USE HIGHER SPEED TAP OR NEXT SIZE LARGER BLOWER ASM. See Repair Parts list.

SCHEMATIC WIRING DIAGRAMS



COMPONENT LEGEND

C	CONTACTOR	FACTORY WIRING	— LINE VOLTAGE
CH	CRANKCASE HEATER	— LOW VOLTAGE	— OPTIMAL HIGH
CM	CONDENSER MOTOR	— VOLTAGE	
CMR	CONDENSER MOTOR RELAY		
COMP	COMPRESSOR	FIELD WIRING	— HIGH VOLTAGE
DC	DEFROST CONTROL	— LOW VOLTAGE	
DFT	DEFROST THERMOSTAT		
ECON	ECONOMIZER		
EBTD	ELECTRONIC BLOWER TIME DELAY		
EMR	EVAPORATOR MOTOR RELAY		
R	RELAY	WIRE CODE	
EM	EVAPORATOR MOTOR	BK	BLACK
FC	FAN CAPACITOR	BL	BLUE
GND	EQUIPMENT GROUND	BR	BROWN
HVDR	HIGH VOLTAGE DEFROST RELAY	GR	GREEN
LPS	LOW PRESSURE SWITCH	OR	ORANGE
LVDR	LOW VOLTAGE DEFROST RELAY	PU	PURPLE
LVJB	LOW VOLTAGE JUNCTION BOX	RD	RED
PLF	FEMALE PLUG / CONNECTOR	WH	WHITE
RVC	REVERSING VALVE COIL	YL	YELLOW
RCCF	RUN CAPACITOR FOR COMPRESSOR AND FAN		
TR	TRANSFORMER		

NOTES:

- REPLACEMENT WIRE MUST BE SAME SIZE AND TYPE INSULATION AS ORIGINAL (AT LEAST 105°C) USE COPPER CONDUCTOR ONLY.
- TO CHANGE EVAPORATOR MOTOR SPEED REPLACE LEAD ON EMR "1" WITH LEAD ON EBTD "M1" OR "M2"
- CRANKCASE HEAT NOT SUPPLIED ON ALL UNITS.
- USE COPPER CONDUCTORS ONLY
++ USE N.E.C. CLASS 2 WIRE
- WITH ECONOMIZER OPTION USE PURPLE WIRE FOR Y1 AND YELLOW WIRE FOR Y2. WITHOUT ECONOMIZER OPTION USE YELLOW WIRE FOR Y.
- ECONOMIZER PLUG LOCATED IN THE RETURN AIR COMPARTMENT. REMOVE MALE PLUG, ATTACH FEMALE PLUG TO THE ECONOMIZER ACCESSORY.

SEE UNIT RATING PLATE FOR TYPE AND SIZE OF OVER CURRENT PROTECTION

380-415/3/50 0140G00589 REV. A

PRODUCT SPECIFICATIONS

ACCESSORIES

Item #	Description
PCCP101-103	Roof Curb for PH- Electric/Electric Package Unit
PCP101-103	Downflow Plenum Kit for PH- Package Unit
PCP101-103R8	Downflow Plenum Kit for PH- Package Unit with R-8 Insulation
PCE101-103	Downflow Economizer for PH- Package Unit to be used with PCP101-103
PCMD101-103	Manual Damper for PH- Package Unit to be used with PCP101-103
PCMDM101-103	Motorized Damper for PH- Package Unit to be used with PCP101-103
PCMDH101-103	Manual Damper for PH- Package Unit Horizontal Applications
SQRPCH101	Square-to-Round Adapters for PH- Package Unit 16" & 14"
SQRPCH102-103	Square-to-Round Adapters for PH- Package Unit 18" & 14"
SQRPC101	Square-to-Round Adapter for PH- Package Unit for use with PCCP101-103 Curb 16" Rounds
SQRPC102-103	Square-to-Round Adapter for PH- Package Unit for use with PCCP101-103 Curb 18" Rounds
PCFR101-103	External Horizontal Filter Rack
PCEF101-103	Elbow & Flashing with R-8 Liner for PH- Package Unit

The above accessories are offered by McDaniel Metals • Main: (281) 987-8400 • Fax: (281) 987-9494

QUALITY MAKES THE DIFFERENCE!

All of our systems are designed and manufactured with the same high-quality standards, regardless of size or efficiency. We have designed these units to significantly reduce the most frequent causes of product failure and use quality materials and components. They are simple to service and forgiving to operate. Finally, every unit is run-tested before it leaves the factory. That's why we know... there's no better quality.

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