THE WALL-MOUNT™ "QUIET-CLIMATE" HEAT PUMPS

Models: WH262, WH311, WH381, WH431, WH491, WH612
Heating Capacities: 21,000 to 55,000 BTUH
Cooling Capacities: 23,600 to 55,000 BTUH ***Refrigerant 22***

- **High Efficiency**
- **Ultra Low Sound Level**

The Bard Wall-Mount Heat Pump is a self-contained energy efficient heating and cooling system, which is designed to offer maximum indoor comfort at a minimal cost without using valuable indoor floor space or outside ground space. This unit is the ideal product for versatile applications such as: new construction, modular offices, school modernization, telecommunication structures, portable structures or correctional facilities. Factory or field installed accessories are available to meet specific job requirements.

Engineered Features

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

Twin Blowers:
Move air quietly. All models feature multispeed blower motors providing airflow adjustment for free blow or ducted applications at a very low sound level. Motor overload protection is standard on all models.

Heat Pump Compressor:
Scroll compressor designed for increased efficiency, quieter operation and improved reliability for longer life. Eliminates need for a suction accumulator.

Phase Rotation Monitor:
Standard on all 3 phase scroll compressors. Protects against reverse rotation if power supply is not properly connected.

Galvanized 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, beige textured enamel, which allows it to withstand 1000 hours of salt spray tests per ASTM B117-03.

Electrical Components:
Are easily accessible for routine inspection and maintenance through a right side, service panel opening. Features a lockable (key lock CAT60), hinged access cover to the circuit breaker.

Electric Heat Strips:
Features an automatic limit and thermal cut-off safety control. Heater packages are factory or field installed. Features easy slide-in field assembly with various BTUH outputs.

Two Speed Condenser Fan Motor:
Is controlled with outdoor thermostat and operates on low speed below 80ºF outdoor temperature on cooling. In heating mode operates on high speed only. WH262 and WH311 are one speed only.

Condenser Fan and Motor Shroud Assembly:
Slide out for easy access.

One-Inch, Disposable Air Filters:
Are standard equipment. Optional 1-inch washable filters available and filter racks permit the addition of 2" pleated filter. Factory or field installed.

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

High Pressure Switch:
Is built-in with a lockout circuit that resets from the room thermostat.

Five Minute Compressor Time Delay:
Short cycle protection is standard. Built into the heat pump control.

Thermal Expansion Valve:
Non-bleed TXV is standard on 2 through 4 ton. The 5 ton uses an orifice.

Emergency Heat Circuit:
Permits continuous operation of the system.

Barometric Fresh Air Damper:
Standard on all units. Allows up to 25% outside fresh air.

Built-in Circuit Breakers:
Standard on all models.

Slope Top:
Standard feature for water run-off.

Full Length Mounting Brackets:
Built into cabinet for improved appearance and easy installation.
NOTE: Bottom mounting bracket included to assist in installation.

Liquid Line Filter/Drier:
Is standard for maximizing refrigerant circuit protection.

Outdoor Coil Drain Pan:
Standard built in feature. Optional 8620-160 Drain Connection Kit is available (recommended for non-freezing climates only).

Top Rain Flashing:
Standard feature on all models.

Ventilation System Packages

All packages are designed to meet your specific ventilation requirements utilizing one of six ventilation options for the product. The ventilation package is mounted within the unit eliminating the need for an exterior mounted hood or damper assembly on the unit. All assemblies can be factory installed, installed in the field at time of installation or as a retrofit system after installation.

- Standard - Barometric Fresh Air Damper
- Optional - Adjustable Fresh Air Damper
- Optional - Motorized Fresh Air Damper
- Optional - Blank Off Plate
- Optional - Commercial Room Ventilator (CRV)
- Optional - Commercial Room Ventilator (CRV) with power exhaust
- Optional - Energy Recovery Ventilator with built-in exhaust

- Complies with efficiency requirements of ANSI/ASHRAE/IESNA 90.1-2007.
- Certified to ANSI/ARI Standard 390-2003 for SPVU (Single Package Vertical Units).
- Commercial Product - Not intended for Residential application.

ARI PERFORMANCE CERTIFIED — ARI Standard 390 Single Package Vertical HP — www.ahridirectory.org

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ISO 9001 UL REGISTERED FIRM FILE NO. A6887

Form No. S3341-209
Supersedes S3341-808

Capacity and Efficiency Ratings

MODELS	WH262	WH311	WH381	WH431	WH491	WH612
Cooling BTUH ①	24,000	26,400	35,400	42,000	46,500	55,000
EER ②	11.00	10.00	10.30	10.30	10.20	9.60
High Temp Heating (47F) BTUH ①	21,000	25,000	33,000	37,400	45,000	54,000
COP ②	3.00	3.00	3.10	3.00	3.00	3.00
Low Temp Heating (17F) BTUH ①	12,400	15,000	18,500	22,000	28,000	32,000
COP ②	2.00	2.00	1.90	2.00	2.10	2.00

① Capacity is certified in accordance with ANSI/ARI Standard 390-2003.
② EER = Energy Efficiency Ratio, COP = Coefficient of Performance, and are certified in accordance with ANSI/ARI Standard 390-2003.
All ratings based on fresh air intake being 100% closed (no outside air introduction).

Specifications 2 through 3 Ton

MODELS	WH262-A	WH262-B	WH262-C	WH311-A	WH311-B	WH311-C	WH381-A	WH381-B	WH381-C
Electrical Rating -- 60 HZ	230/208-1	230/208-3	460-3	230/208-1	230/208-3	460-3	230/208-1	230/208-3	460-3
Operating Voltage Range	197-253	197-253	414-506	197-253	197-253	414-506	197-253	197-253	414-506
Compressor -- Circuit A									
Voltage	230/208	230/208	460	203/208	230/208	460	230/208	230/208	460
Rated Load Amps	8/9	7.5/9.3	4.7	13.9/16.7	9.6/11.5	5.3	15.3/19.5	10.3/13.0	6.2
Branch Circuit Selection Current	11	9.3	4.7	16.7	11.5	5.3	19.5	13.0	6.2
Lock Rotor Amps	54/54	45/45	22.4	67/67	55/55	27.0	88/88	77/77	39
Fan Motor & Condenser									
Fan Motor -- HP - RPM - SPD	1/5-1050-1	1/5-1050-1	1/5-1050-1	1/5-1050-1	1/5-1050-1	1/5-1050-1	1/3-825-2	1/3-825-2	1/3-825-2
Fan Motor -- Amps	1.5	1.5	1.1	1.5	1.5	1.1	2.5	2.5	1.1
Fan -- DIA - CFM	20"-1900	20"-1900	20"-1900	20"-1900	20"-1900	20"-1900	24"-2900	24"-2900	24"-2900
Motor & Evaporator									
Blower Motor -- HP - RPM - SPD	1/5-850-2	1/5-850-2	1/5-850-2	1/5-850-2	1/5-850-2	1/5-850-2	1/4-800-3	1/4-800-3	1/4-800-3
Blower Motor -- Amps	1.4	1.4	.65	1.4	1.4	.65	1.9	1.9	1.3
CFM Cooling & E.S.P. w/Filter (Rated - Wet Coil)	800 - .10	800 - .10	800 - .10	800 - .10	800 - .10	800 - .10	1100 - .15	1100 - .15	1100 - .15
Filter Sizes (inches) STD	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	16 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1
Shipping Weight -- LBS.	365	365	365	380	380	380	510	510	510

Specifications 3-1/2 through 5 Ton

MODELS	WH431-A	WH431-B	WH431-C	WH491-A	WH491-B	WH491-C	WH612-A	WH612-B	WH612-C
Electrical Rating -- 60 HZ	230/208-1	230/208-3	460-3	230/208-1	230/208-3	460-3	230/208-1	230/208-3	460-3
Operating Voltage Range	197-253	197-253	414-506	197-253	197-253	414-506	197-253	197-253	414-506
Compressor -- Circuit A									
Voltage	230/208	230/208	460	230/208	230/208	460	230/208	230/208	460
Rated Load Amps	18.2/21.7	12.7/15.1	7.0	21.5/26.7	14.4/17.9	9.0	25.8/30.4	16.9/19.7	8.7
Branch Circuit Selection Current	21.7	15.1	7.0	26.7	17.9	9.0	30.4	19.7	9.0
Lock Rotor Amps	104/104	88/88	44	129/129	91/91	46	148/148	123/123	62
Fan Motor & Condenser									
Fan Motor -- HP - RPM - SPD	1/3-825-2	1/3-825-2	1/3-825-1	1/3-825-2	1/3-825-2	1/3-825-1	1/3-825-2	1/3-825-2	1/3-825-1
Fan Motor -- Amps	2.5	2.5	1.1	2.5	2.5	1.1	2.5	2.5	1.1
Fan -- DIA - CFM	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900	24"-2900
Motor & Evaporator									
Blower Motor -- HP - RPM - SPD	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3	1/4-800-3
Blower Motor -- Amps	1.9	1.9	1.3	1.9	1.9	1.3	1.9	1.9	1.3
CFM Cooling & E.S.P. w/Filter (Rated - Wet Coil)	1300 - .15	1300 - .15	1300 - .15	1250 - .20	1250 - .20	1250 - .20	1350 - .20	1350 - .20	1350 - .20
Filter Sizes (inches) STD	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1	20 x 30 x 1
Shipping Weight -- LBS.	510	510	510	510	510	510	520	520	520

Ventilation System Packages

Bard Wall-Mounts are designed to provide optional ventilation packages to meet all of your ventilation and indoor air quality requirements. All units are equipped with a barometric fresh air damper as the standard ventilation package. All ventilation packages can be built-in at the factory, or field-installed at a later date.

Barometric Fresh Air Damper

BAROMETRIC FRESH AIR DAMPER - BFAD **STANDARD**

The barometric fresh air damper is a standard feature on all models. It is installed on the inside of the service door and allows outside ventilation air, up to 25% of the total airflow rating of the unit, to be introduced through the air inlet openings and to be mixed with the conditioned air. The damper opens during blower operation and closes when the blower is off. Adjustable blade stops allow different amounts of outside air to be introduced into the building and can be easily locked closed if required.

BLANK OFF PLATE - BOP **OPTIONAL**

A blank off plate is installed on the inside of the service door. It covers the air inlet openings which restricts any outside air from entering the unit. The blank off plate should be utilized in applications where outside air is not required to be mixed with the conditioned air.

Motorized Fresh Air Damper

MOTORIZED FRESH AIR DAMPER - MFAD **OPTIONAL**

The motorized fresh air damper is internally mounted behind the service door and allows outside ventilation air, up to 25% of the total airflow rating of the unit, to be introduced through the air inlet openings and to be mixed with the conditioned air. The two position damper can be fully open or closed. The damper blade is powered open by a 24VAC motor with spring return on power loss. The damper can be controlled by indoor blower operation or can be field connected to be managed based on building occupancy.

COMMERCIAL ROOM VENTILATOR - CRV **OPTIONAL**

The built-in commercial room ventilator is internally mounted behind the service door and allows outside ventilation air, up to 50% of the total airflow rating of the unit, to be introduced through the air inlet openings.

Commercial Room Ventilator

The commercial room ventilator (CRV) is a simple and innovative approach to improving the indoor air quality by providing fresh air through the CRV. The damper can be easily adjusted to control the amount of fresh air supplied into the building. The CRV can be controlled by indoor blower operation or field controlled based on room occupancy. The CRV is power open - spring return on power loss. Complies with ANSI/ASHRAE Standard 62.1 “Ventilation for Acceptable Indoor Air Quality.”

ADJUSTABLE FRESH AIR DAMPER - AFAD **OPTIONAL**

Similar to commercial room ventilator (CRV) in design and construction except is non-motorized. The damper is manually set and locked into position. The AFAD has the same ventilation capacity as the CRV.

NOTE: The above vent systems are intake only without built-in exhaust capability. Building will likely require separate field installed barometric relief or mechanical exhaust elsewhere within the conditioned space. Balancing dampers in the return air grille may be required to achieve specified amount of outdoor air intake.

COMMERCIAL POWER EXHAUST VENTILATOR - CPVE **OPTIONAL**

The built-in commercial power exhaust ventilator is internally mounted in the heat pump and allows outside ventilation air, up to 485 CFM, to be introduced through the air inlet openings.

The commercial power exhaust ventilator (CPVE) is a simple and innovative approach to improving the indoor air quality by providing fresh air through the heat pump system. The ventilation airflow can be easily adjusted by changing speed tap on the 3-speed power exhaust blower motor. The CPVE can be controlled by indoor blower motor or field controlled by thermostats with independent ventilation control capability or other occupancy sensing controls. Complies with ANSI/ASHRAE Standard 62.1 “Ventilation for Acceptable Indoor Air Quality”.

Energy Recovery Ventilator

WALL-MOUNT ENERGY RECOVERY VENTILATOR - WERV **OPTIONAL**

The wall-mount energy recovery ventilator (WERV) is a highly innovative approach to meeting indoor air quality ventilation requirements as established by ANSI/ASHRAE Standard 62.1. The WERV allows from 200 to 450 CFM (depending upon model) of fresh air and exhaust through the unit while maintaining superior indoor comfort and humidity levels. In most cases this can be accomplished without increasing equipment sizing or operating costs. Heat transfer efficiency is up to 67% during summer and 75% during winter conditions.

The WERV consists of a unique “rotary energy recovery cassette” that provides effective sensible and latent heat transfer capabilities during summer and winter conditions. Various control schemes are addressed including limiting ventilation during building occupancy only.

The WERV is designed to be internally mounted behind the service door in the WA, WH or WL model wall-mount units. It can be built-in at the factory or field installed as an option. WERV-*3C and WERV-*5C can be independently adjusted for intake and exhaust rates.

Clearances Required for Service Access and Adequate Condenser Air Flow

MODELS	LEFT SIDE	RIGHT SIDE
All Models	20"	20"

Minimum Clearances Required to Combustible Materials

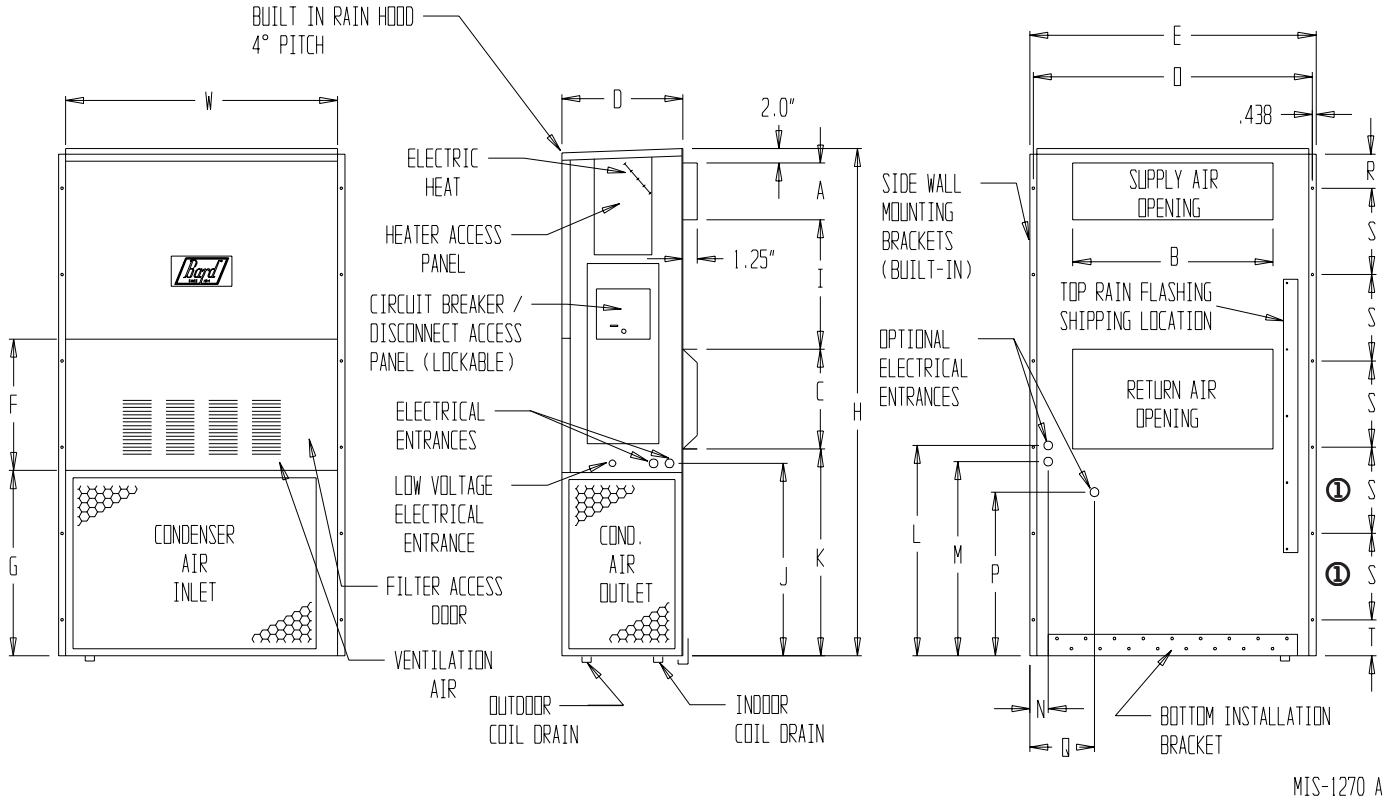
MODELS ①	SUPPLY AIR DUCT FIRST THREE FEET	CABINET
All Models	1/4"	0"

① Refer to the Installation Manual for more detailed information.

Dimensions of Basic Unit for Architectural and Installation Requirements (Nominal)

MODEL	WIDTH (W)	DEPTH (D)	HEIGHT (H)	SUPPLY		RETURN																
				A	B	C	B	E	F	G	I	J	K	L	M	N	O	P	Q	R	S	T
WH262 WH311	38.200	17.125	70.563	7.88	27.88	13.88	27.88	40.00	18.50	25.75	17.93	26.75	28.75	29.25	27.00	2.75	39.13	22.75	9.14	4.19	12.00	5.00
WH381 WH431 WH491	42.075	22.432	84.875	9.88	29.88	15.88	29.88	43.88	19.10	31.66	30.00	32.68	26.94	34.69	32.43	3.37	43.00	23.88	10.00	1.44	16.00	1.88
WH612	42.075	22.432	94.875	9.88	29.88	15.88	29.88	43.88	19.10	41.66	30.00	42.68	36.94	44.69	42.43	3.37	43.00	33.88	10.00	1.44	16.00	1.88

All dimensions are in inches. Dimensional drawings are not to scale.



MIS-1270 A

FRONT VIEW **RIGHT SIDE VIEW** **BACK VIEW**

Electrical Specifications

Models	Rated Volts, HZ and Phase	No. of Field Power Circuits	Single Circuit				Dual Circuit							
			Minimum Circuit Ampacity ①	Maximum External Fuse or Circuit Breaker ②	Field Power Wire Size ③	Ground Wire Size ③	Min. Circuit Ampacity		Max. Circuit Exterior Fuse or Crt. Bkr.		Field Power Wire Size		Ground Wire Size	
							Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B
WH262-A0Z	230/208-60-1	1	19	25	8	10								
-A04	230/208-60-1	1	40	50	8	10								
-A08	230/208-60-1	1	48	50	8	10								
WH262-B0Z	230/208-60-3	1	18	25	10	10								
-B06	230/208-60-3	1	35	40	8	10								
WH262-C0Z	460-60-3	1	10	15	14	14								
-C06	460-60-3	1	18	20	12	12								
WH311-A0Z	230/208-60-1	1	26	40	8	10								
-A04	230/208-60-1	1	48	50	8	10								
-A08	230/208-60-1	1	48	50	8	10								
WH311-B0Z	230/208-60-3	1	20	30	10	10								
-B06	230/208-60-3	1	38	45	8	10								
WH311-C0Z	460-60-3	1	11	15	14	14								
-C06	460-60-3	1	19	20	12	12								
WH381-A0Z	230/208-60-1	1	31	45	8	10								
-A05	230/208-60-1	1 or 2	57	70	6	8	31/26		50/30		8/10		10/10	
-A08	230/208-60-1	1 or 2	73	80	4	8	31/42		50/45		8/8		10/10	
-A10	230/208-60-1	1 or 2	83	90	4	8	31/52		50/60		8/6		10/10	
WH381-B0Z	230/208-60-3	1	23	35	10	10								
-B06	230/208-60-3	1	41	45	8	10								
-B09	230/208-60-3	1	50	50	6	10								
WH381-C0Z	460-60-3	1	13	15	14	14								
-C06	460-60-3	1	21	25	10	10								
-C09	460-60-3	1	25	30	10	10								
WH431-A0Z	230/208-60-1	1	34	50	8	10								
-A05	230/208-60-1	1 or 2	60	70	6	8	34/26		50/30		8/10		10/10	
-A08	230/208-60-1	1 or 2	76	80	4	8	34/42		50/45		8/8		10/10	
-A10	230/208-60-1	1 or 2	86	90	3	8	34/52		50/60		8/6		10/10	
WH431-B0Z	230/208-60-3	1	25	35	10	10								
-B06	230/208-60-3	1	43	50	8	10								
-B09	230/208-60-3	1	52	60	6	10								
WH431-C0Z	460-60-3	1	14	20	12	12								
-C06	460-60-3	1	22	25	10	10								
-C09	460-60-3	1	26	30	10	10								
WH491-A0Z	230/208-60-1	1	40	60	8	10								
-A05	230/208-60-1	1 or 2	66	70	4	8	40/26		50/30		8/10		10/10	
-A08	230/208-60-1	1 or 2	82	90	4	8	40/42		50/45		8/8		10/10	
-A10	230/208-60-1	1 or 2	92	100	3	8	40/52		50/60		8/6		10/10	
WH491-B0Z	230/208-60-3	1	29	45	10	10								
-B06	230/208-60-3	1	47	60	8	10								
-B09	230/208-60-3	1	57	60	6	10								
WH491-C0Z	460-60-3	1	16	20	12	12								
-C06	460-60-3	1	24	30	10	10								
-C09	460-60-3	1	29	30	10	10								
WH612-A0Z	230/208-60-1	1	46	60	8	10								
-A05	230/208-60-1	1 or 2	72	90	4	8	46/26		60/30		8/10		10/10	
-A08	230/208-60-1	1 or 2	88	90	3	6	46/42		60/50		8/8		10/10	
-A10	230/208-60-1	1 or 2	98	100	3	6	46/52		60/60		8/6		10/10	
④ -A20	230/208-60-1	1 or 2	111	120	2	6	46/52		60/60		8/6		10/10	
WH612-B0Z	230/208-60-3	1	33	45	8	10								
-B09	230/208-60-3	1	59	60	8	10								
WH612-C0Z	460-60-3	1	15	20	12	10								
-C09	460-60-3	1	29	30	10	10								

① These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to National Electrical Code (latest version), Article 310 for power conductor sizing.
Caution: When more than one field power circuit is run through one conduit, the conductors must be derated. Pay special attention to note 8 of Table 310 regarding Ampacity Adjustment Factors when more than three (3) current carrying conductors are in a raceway.

② Maximum size of time delay fuse or HACR type circuit breaker for protection of field power conductors.

③ Based on 75C copper wire. All wiring must conform to National Electrical Code and all local codes.

④ Maximum KW that can operate concurrently with heat pump on is 10KW. All 20KW will operate during emergency heat condition.

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 local codes.

Indoor Blower Performance - CFM at 230 or 460 Volts

ESP in Inches Water Column	WH262, WH311		WH381			WH431, WH491			WH612		
	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Med. Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Med. Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Med. Speed Dry/Wet Coil	Low Speed Dry/Wet Coil
.0	1050/1000	950/900	1625/1475	1425/1325	1125/1100	1700/1550	1475/1375	N/A	1700/1600	1475/1425	N/A
.1	900/850	840/800	1475/1350	1325/1200	1100/1000	1550/1400	1375/1250	N/A	1550/1500	1375/1350	N/A
.2	750/700	700/650	1350/1150	1200/1025	1000/850	1400/1250	1250/1100	N/A	1400/1350	1250/1200	N/A

- Above data is with 1" standard disposable or 1" washable filter N/A = Not Applicable
- For optional 2" pleated filter - reduce ESP by 0.08 in.
- Recommended (factory connected) motor speed for ducted installation:
  WH262, WH311, WH381: Medium Speed WH431, WH491, WH611: High Speed
- Reconnect to next lower speed for free blow (non-ducted) installation.

Electric Heat Table - Refer to Electrical Specifications for Availability by Unit Model

Nominal KW	At 240V (1)				At 208V (1)				At 480V (2)			At 460V (2)		
	Kw	1-Ph Amps	3-Ph Amps	Btuh	Kw	1-Ph Amps	3-Ph Amps	Btuh	Kw	3-Ph Amps	Btuh	Kw	3-Ph Amps	Btuh
4.0	4.0	16.7		13,652	3.00	14.4		10,239						
5.0	5.0	20.8		17,065	3.75	18.0		12,799						
6.0	6.0		14.4	20,478	4.50		12.5	15,359	6.0	7.2	20,478	5.52	6.9	18,840
8.0	8.0	33.3		27,304	6.00	28.8		20,478						
9.0	9.0		21.7	30,717	6.75		18.7	23,038	9.0	10.8	30,717	8.28	10.4	28,260
10.0	10.0	41.7		34,130	7.50	36.1		25,598						
20.0	20.0	83.3		68,260	15.00	72.1		51,195						

(1) These electric heaters are available in 230/208V units only.

(2) These electric heaters are available in 480V units only.

Heater Packages - Field Installed

- Designed for adding Electric Heat to 0 KW Units
- Circuit Breaker Standard on All Models
- UL Listed
- CUL Listed

Heat Pump Models	-A00 Models 230/208-1		-B00 Models 230/208-3		-C00 Models 460-3	
	Heater Model #	KW	Heater Model #	KW	Heater Model #	KW
WH262	EHSH31-A04 EHSH31-A08	4 8	EHSH31-B06	6	EHWH31-C06	6
WH311	EHSH31-A04 EHSH31-A08	4 8	EHSH31-B06	6	EHWH31-C06	6
WH381	EHWH38-A05 EHWH49-A08 EHWH49-A10	5 8 10	EHWH38-B06 EHWH38-B09	6 9	EHWH49-C06 EHWH49-C09	6 9
WH431 WH491	EHWH49-A05 EHWH49-A08 EHWH49-A10	5 8 10	EHWH49-B06 EHWH49-B09	6 9	EHWH49-C06 EHWH49-C09	6 9
WH612	EHWH61-A05 EHWH61-A08 EHWH61-A10 EHWH61A-A20	5 8 10 20	EHWH49-B09	9	EHWH61-C09	9

Performance Data for Commercial Power Exhaust Ventilator

Indoor Blower Speed Tap	Power Exhaust Speed	CFM of Fresh Air
Low	Low	310
Medium	Medium	385
High	High	485
Low	High	450
Medium	Low	305
High	Medium	390
Low	Medium	375
Medium	High	480
High	Low	335

Cooling Application Data - Outdoor Temperature °F ①

Model	D.B./W.B. ②	Cooling Capacity	75°F	80°F	85°F	90°F	95°F	100°F	105°F	110°F	115°F
WH262	75/62	Total Cooling	23,800	23,200	22,500	21,700	20,900	20,200	19,500	18,700	18,000
		Sensible Cooling	19,200	18,700	18,300	17,800	17,400	16,900	16,500	16,000	15,600
	80/67	Total Cooling	25,400	25,200	24,900	24,500	24,000	23,500	23,000	22,300	21,600
		Sensible Cooling	18,600	18,300	18,100	17,800	17,500	17,200	16,900	16,500	16,200
	85/72	Total Cooling	30,300	29,500	28,600	27,700	26,700	25,700	24,800	23,800	22,700
		Sensible Cooling	19,100	18,600	18,200	17,700	17,200	16,700	16,100	15,500	15,000
WH311	75/62	Total Cooling	27,900	26,600	25,400	24,300	23,100	22,100	21,100	20,200	19,400
		Sensible Cooling	20,400	20,000	19,500	19,000	18,500	17,900	17,300	16,700	16,000
	80/67	Total Cooling	29,800	29,000	28,200	27,400	26,500	25,700	24,900	24,100	23,300
		Sensible Cooling	19,800	19,600	19,300	19,000	18,600	18,200	17,700	17,200	16,600
	85/72	Total Cooling	35,500	33,900	32,400	31,000	29,500	28,100	26,900	25,700	24,500
		Sensible Cooling	20,300	19,900	19,400	18,900	18,300	17,600	16,900	16,200	15,300
WH381	75/62	Total Cooling	38,700	36,500	34,400	32,600	30,900	29,500	28,400	27,400	26,500
		Sensible Cooling	30,000	29,200	28,300	27,500	26,800	26,100	25,500	24,800	24,200
	80/67	Total Cooling	41,300	39,700	38,200	36,800	35,400	34,400	33,500	32,600	31,900
		Sensible Cooling	29,100	28,600	28,000	27,500	27,000	26,500	26,100	25,600	25,200
	85/72	Total Cooling	49,200	46,400	43,900	41,600	39,500	37,700	36,100	34,700	33,500
		Sensible Cooling	29,800	29,100	28,200	27,300	26,500	25,700	24,900	24,000	23,200
WH431	75/62	Total Cooling	44,000	42,200	40,400	38,500	36,600	34,700	32,700	30,700	28,700
		Sensible Cooling	35,600	34,300	33,000	31,900	30,900	30,000	29,100	28,300	27,600
	80/67	Total Cooling	47,000	46,000	44,800	43,500	42,000	40,400	38,600	36,600	34,500
		Sensible Cooling	34,500	33,600	32,700	31,900	31,200	30,500	29,800	29,200	28,700
	85/72	Total Cooling	56,000	53,800	51,500	49,100	46,700	44,200	41,600	39,000	36,300
		Sensible Cooling	35,400	34,100	32,900	31,700	30,600	29,500	28,400	27,400	26,500
WH491	75/62	Total Cooling	48,900	46,900	44,800	42,700	40,500	38,400	36,200	34,000	31,800
		Sensible Cooling	36,000	35,000	34,000	33,100	32,100	31,300	30,200	29,300	28,500
	80/67	Total Cooling	52,200	51,100	49,700	48,200	46,500	44,700	42,700	40,500	38,200
		Sensible Cooling	34,900	34,300	33,700	33,100	32,400	31,800	31,000	30,300	29,600
	85/72	Total Cooling	62,200	59,800	57,100	54,400	51,700	48,900	46,100	43,100	40,200
		Sensible Cooling	35,800	34,800	33,900	32,900	31,800	30,800	29,600	28,400	27,300
WH612	75/62	Total Cooling	56,000	54,200	52,100	50,100	48,000	45,800	43,600	41,300	39,000
		Sensible Cooling	40,100	39,400	38,600	37,700	36,800	35,800	34,600	33,500	32,200
	80/67	Total Cooling	59,800	59,000	57,900	56,600	55,000	53,300	51,400	59,200	46,900
		Sensible Cooling	38,900	38,600	38,200	37,700	37,100	36,400	35,550	34,600	33,500
	85/72	Total Cooling	71,200	69,000	66,500	63,900	61,200	58,300	55,400	52,400	49,300
		Sensible Cooling	39,900	39,200	38,400	37,500	36,400	35,200	33,800	32,500	30,900

① Below 65°F, unit requires a factory or field installed low ambient control.
② Return air temperature °F.

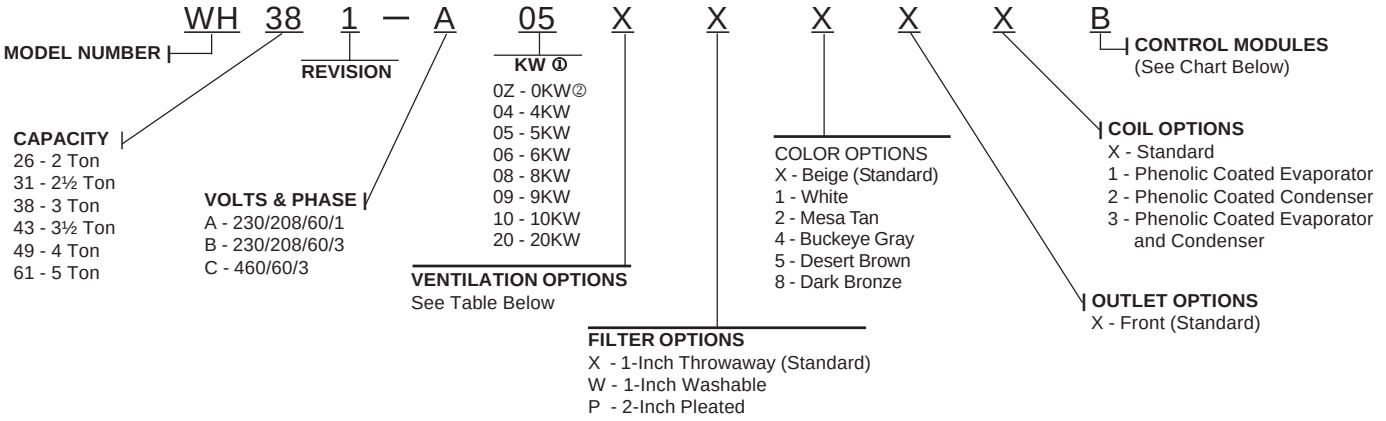
Capacity Multiplier Factors			
% of Rated Airflow	-10	Rated	+10
Total BTUH	0.975	1.0	1.02
Sensible BTUH	0.950	1.0	1.05

Heating Application Rating & Outdoor Temperature °F*

Model		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
WH262	BTUH	7,600	9,000	10,400	11,900	13,000	14,000	15,000	15,900	18,100	20,200	21,900	23,300	24,800
	WATTS	1690	1730	1770	1810	1850	1900	1950	2000	2030	2050	2080	2120	2160
	COP	1.32	1.53	1.73	1.93	2.06	2.16	2.26	2.33	2.62	2.89	3.09	3.23	3.37
WH311	BTUH	9,400	11,000	12,700	14,400	15,300	15,700	16,100	16,600	20,100	23,600	26,000	27,700	29,400
	WATTS	2060	2100	2150	2190	2220	2240	2270	2290	2360	2420	2470	2510	2550
	COP	1.34	1.54	1.74	1.93	2.02	2.06	2.08	2.13	2.50	2.86	3.09	3.24	3.38
WH381	BTUH	10,300	12,700	15,200	17,600	19,400	20,800	22,200	23,600	27,500	31,500	34,500	36,900	39,300
	WATTS	2710	2750	2800	2850	2870	2890	2900	2910	3010	3110	3180	3230	3270
	COP	1.12	1.36	1.60	1.81	2.00	2.11	2.25	2.38	2.68	2.97	3.18	3.35	3.53
WH431	BTUH	13,300	15,900	18,400	21,000	23,600	26,200	28,800	31,400	33,900	36,500	39,100	41,700	44,300
	WATTS	3010	3070	3130	3180	3240	3300	3360	3420	3470	3530	3590	3650	3710
	COP	1.30	1.52	1.73	1.94	2.14	2.33	2.52	2.70	2.87	2.95	3.15	3.35	3.50
WH491	BTUH	18,400	21,300	24,100	26,700	29,600	32,600	34,400	38,300	41,100	43,900	46,800	49,600	52,400
	WATTS	3500	3590	3690	3780	3880	3970	4070	4160	4260	4350	4450	4540	4640
	COP	1.55	1.74	1.92	2.09	2.26	2.41	2.55	2.70	2.83	2.96	3.09	3.21	3.31
WH612	BTUH	22,600	26,200	29,700	33,200	35,000	36,100	37,100	37,900	45,900	53,900	59,200	62,900	66,600
	WATTS	4540	4720	4900	5080	5180	5230	5280	5330	5700	6080	6330	6510	6690
	COP	1.46	1.63	1.79	1.87	1.96	2.04	2.06	2.09	2.36	2.60	2.75	2.84	2.92

*70°F DB indoor return air at rated CFM includes defrost operation below 45°.

Heat Pump Wall-Mount Model Nomenclature



① Not all KW available on all models. See pages 5 & 6 for details
② 0Z is 0KW and circuit breaker (230/208V) or toggle disconnect (460V). Use 00 for 0KW and no circuit breaker or disconnect.

Ventilation Options

MODELS	WH262, WH311		WH381, WH431, WH491, WH612	
DESCRIPTION	Factory Installed Code No.	Field Installed Part No.	Factory Installed Code No.	Field Installed Part No.
Barometric Fresh Air Damper - Standard	X	BFAD-3	X	BFAD-5
Blank-Off Plate	B	BOP-3	B	BOP-5
Motorized Fresh Air Damper	M	MFAD-3	M	MFAD-5
Commercial Ventilator - Motorized	C	CRV-3	C	CRV-5
Commercial Power Exhaust Ventilator 230V	Not Available	Not Available	G	CPVE6-A
Commercial Power Exhaust Ventilator 460V	Not Available	Not Available	G	CPVE6-C
Adjustable Fresh Air Damper	A	AFAD-3	A	AFAD-5
Energy Recovery Ventilator w/Built-in Exhaust 230V	R	WERV-A3C-✳ ①	R	WERV-A5C-✳ ①
Energy Recovery Ventilator w/Built-in Exhaust 460V	R	WERV-C3C-✳ ①	R	WERV-C5C-✳ ①

Note: All vent systems, except Energy Recovery Ventilator and Commercial Power Exhaust Ventilator, are without exhaust capability and may require separate field installed barometric relief elsewhere within the conditioned space.

① Intake and exhaust can be independently adjusted.

✳ Color option must be specified to match unit (X = Beige, 4 = Buckeye Gray)

Heat Pump Control Modules

Factory Installed Code Number	Field Installed Part Number	Description			
		Low Pressure Control ①	Low Ambient Control and Relay ②	Start Kit	Outdoor Thermostat ③
B	CMH-3	●			
E	CMH-7		●		
O	CMH-9	●	●		
Q	CMH-14A				●
Field Installed Only	CMC-15 ④			●	
Field Installed WH26 - WH49	SK111 ⑤			●	
Field Installed WH61	SK113 ⑤			●	

① The low pressure control is auto reset. It includes a lockout feature and is resettable from the wall thermostat. All low pressure controls use a timed bypass circuit to prevent nuisance tripping during low temperature start-up.
② The low ambient control includes an 8201-008 (fan relay) and permits cooling operation down to 0°F.
③ For use only on WH381, WH431, WH491 and WH612 models only. The outdoor thermostat is adjustable from 0°F to 50°F. It is suitable for use as a compressor cut-off thermostat.
④ PTCR start kit can be used with all -A single phase models. Increases starting torque 2-3x. Not used for -B or -C three phase models. Do not use if SK111 or SK113 is used.
⑤ Start capacitor and potential relay start kit can be used with all -A single phase models. Increases starting torque 9x. Not used for -B or -C three phase models. Do not use if CMC-15 is used.

Bard Manufacturing Company, Inc.
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. S3341 February, 2009

Supersedes S3341-808