



THE WALL-MOUNT™ - HI-BOY HEAT PUMPS

19 Models

Heating Capacities: 18,800 to 58,000 BTUH

Cooling Capacities: 19,000 to 56,500 BTUH

HSPF: 6.60 to 7.00 SEER: 10.00 to 11.00

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, correctional facilities, or apartments. 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. Most models feature multispeed blower motors providing air-flow adjustment for high and low static operation. Motor overload protection is standard on all models.

Heat Pump Compressor:
Reciprocating compressor designed to withstand higher compressor ratios and longer operation than normal air conditioning compressors. Equipped with crankcase heater and dual discharge muffler. Standard on all 2, 2-1/2, 3 and 3-1/2 ton models.

Scroll compressor designed for increased efficiency, quieter operation and improved reliability for longer life. Eliminates need for crankcase heater and suction accumulator. Standard on all 1-1/2, 4 and 5 ton models.

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 exposure.

Electrical Components:
Are easily accessible for routine inspection and maintenance through a right side, service panel opening. Features a lockable, hinged access cover to the circuit breaker or pull disconnect switch.

Electric Heat Strips:
Features an automatic limit and thermal cut-off safety control. Heater packages are factory or field installed for all 1-1/2 through 5 ton models. Features easy slide-in field assembly with various BTUH outputs.

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

One Inch, Disposable Air Filters:
Are standard equipment. Optional one 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.

Suction Accumulator:
Protects the reciprocating compressor from refrigerant flood back and prevents damage to the compressor bearing surfaces. Not required on scroll compressor applications.

Emergency Heat Circuit:
Permits continuous operation of the system.

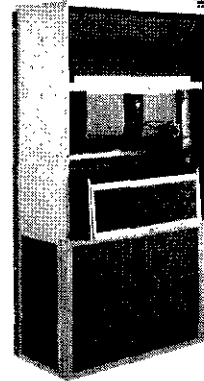
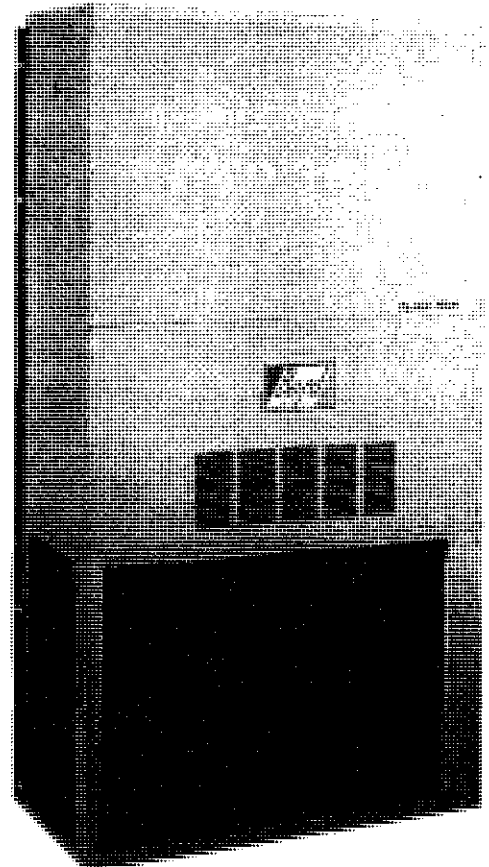
Barometric Fresh Air Damper:
Standard on all units. Allows up to 25% outside fresh air.

Built-in Circuit Breakers:
Standard on all electric heat versions of single and three phase (230/208 volt) equipment. Pull disconnects are standard on all electric heat versions of three phase (460 volt) equipment.

Rain Hood:
Standard built in feature on all models.

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

Top Rain Flashing:
Standard feature on all models.



Unit shown with optional Economizer.

Economizer

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 - Motorized Fresh Air Damper
- Optional - Blank off Plate
- Optional - Commercial Room Ventilator (CRV)
- Optional - Economizer
- Optional - Energy Recovery Ventilator

Capacity and Efficiency Ratings

MODELS	WH182-A	WH241-A	WH241-B WH241-C	WH301-A	WH301-B WH301-C	WH361-A	WH361-B WH361-C	WH421-A	WH421-B WH421-C	WH482-A	WH482-B WH482-C	WH602-A	WH602-B WH602-C
Phase	1	1	3	1	3	1	3	1	3	1	3	1	3
Cooling Cap. BTUH	19,000	23,600	23,600	30,000	30,000	35,600	35,400	41,500	41,500	47,000	47,000	56,500	56,500
SEER	11.00	10.50	10.50	10.00	10.00	10.00	10.00	10.00	10.00	10.50	10.50	10.20	10.20
Heating 47° BTUH	18,800	23,200	23,200	28,000	28,000	34,400	34,200	41,000	41,000	46,000	46,000	58,000	58,000
HSPF*	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.80	6.80	7.00	7.00	7.00	7.00

Tested and Certified in accordance with ARI Standard 210/240-89.

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

All capacity, efficiency and cost of operation information is based on high speed operation with fresh air cover plate. Cover plate must be ordered separately and is recommended for use to obtain maximum energy efficiency where fresh air is not required.

Specifications 1-1/2 through 3 Ton

MODELS	WH182-A	WH241-A	WH241-B	WH241-C	WH301-A	WH301-B	WH301-C	WH361-A	WH361-B	WH361-C
Cooling Capacity BTUH	19,000	23,600	23,600	23,600	30,000	30,000	30,000	35,600	35,400	35,400
* Hi-Temp Heating BTUH (47)	18,800	23,200	23,200	23,200	28,000	28,000	28,000	34,400	34,200	34,200
Electrical Rating—80 HZ	230/208 - 1	230/208 - 1	230/208 - 3	460-3	230/208 - 1	230/208 - 3	480 - 3	230/208 - 1	230/208 - 3	460 - 3
Operating Voltage Range	197-253	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	230/208	460	230/208	203/208	460	230/208	230/208	460
Rated Load Amps	8.5/9.5	10.0/11.0	6.9/7.6	3.9	12.9/14.0	8.1/8.7	4.8	16.3/17.0	9.8/10.5	5.2
Branch Circuit Selection Current	10.0	11.0	8.0	4.0	14.0	10.0	5.0	17.0	11.0	6.0
Lock Rotor Amps	50/50	56/56	51/51	25	75/75	68/68	34	96/96	75/75	40
Fan Motor & Condenser										
Fan Motor—HP-RPM-SPD	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075	1/5 - 1075
Fan Motor—Amps	1.2	1.2	1.2	1.4	1.5	1.5	1.4	1.5	1.5	1.4
Fan—DIA-CFM	18" - 1600	18" - 1600	18" - 1600	18" - 1600	20" - 2000	20" - 2000	20" - 2000	20" - 2000	20" - 1900	20" - 1900
Motor & Evaporator										
Blower Motor—HP-RPM-SPD	1/6-1100-1	1/6-1100-1	1/6-1100-1	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2	1/3-1100-2
Blower Motor—Amps	1.0	1.0	1.0	1.1	2.2	2.2	1.1	2.2	2.2	1.1
CFM Cooling & E.S.P. w/Filter (Rated - Wet Coil)	650 - .4	800 - .2	800 - .2	800 - .2	1000 - .4	1000 - .4	1000 - .4	1100 - .3	1100 - .3	1100 - .3
Filter Sizes (inches) STD.	16 x 25 x 1	16 x 25 x 1	16 x 25 x 1	16 x 25 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	16 x 30 x 1
Shipping Weight—LBS.	300	300	300	300	365	365	365	380	380	380

Specifications 3-1/2 through 5 Ton

MODELS	WH421-A	WH421-B	WH421-C	WH482-A	WH482-B	WH482-C	WH602-A	WH602-B	WH602-C
Cooling Capacity BTUH	41,500	41,500	41,500	47,000	47,000	47,000	56,500	56,500	56,500
* Hi-Temp Heating BTUH (47)	41,000	41,000	41,000	46,000	46,000	46,000	58,000	58,000	58,000
Electrical Rating—80 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	18.3/20.4	12.2/13.1	6.1	22.0/23.0	13.5/14.7	7.1	25.9/29.6	16.5/20.1	8.6
Branch Circuit Selection Current	21.0	14.0	7.0	24.0	15.0	8.0	30.0	20.0	9.0
Lock Rotor Amps	102/102	91/91	42/42	129/129	120/120	49.5/49.5	169/169	137/137	62/62
Fan Motor & Condenser									
Fan Motor—HP-RPM-SPD	1/3-850-2	1/3-850-2	1/3-850-2	1/3-850-2	1/3-850-2	1/3-850-2	1/3-850-2	1/3-850-2	1/3-850-2
Fan Motor—Amps	2.5	2.5	1.4	2.5	2.5	1.4	2.5	2.5	1.4
Fan—DIA-CFM	24" - 2750	24" - 2750	24" - 2750	24" - 2750	24" - 2750	24" - 2750	24" - 2750	24" - 2750	24" - 2750
Motor and Evaporator									
Blower Motor—HP-RPM-SPD	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2	1/2-1070-2
Blower Motor—AMPS	3.3	3.3	1.9	3.3	3.3	1.9	3.3	3.3	1.9
CFM Cooling & E.S.P. w/Filter (Rated-Wet Coil)	1400 - .3	1400 - .3	1400 - .3	1550 - .2	1550 - .2	1550 - .2	1700 - .3	1700 - .3	1700 - .3
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	610	610	510	510	510	510

* For additional heating capacity add the KW from the electric heat table.

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.



All models ARI certified.



Underwriters listed for outdoor installation.



Heating and cooling equipment certified for Canada.

Ventilation System Packages

Bard Wall-Mounts are designed to provide optional ventilation packages to meet all of your ventilation and indoor air quality requirements. Standard on all units is the barometric fresh air damper. All packages can be ordered built-in at the factory or can be easily field installed at the time of installation of the Wall-Mount, or can be retrofitted 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 up to 25% outside fresh air through the air inlet openings and is 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 or can be easily locked closed if required.



MOTORIZED FRESH AIR DAMPER

BLANK OFF PLATE - BOP

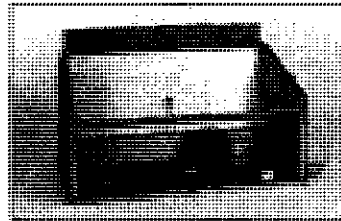
OPTIONAL

A blank off plate is installed on the inside of the service door. It covers the air inlet openings which eliminate outside air from entering into 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 - MFAD

OPTIONAL

The motorized fresh air damper is internally mounted behind the service door and allows up to 25% outside fresh air through the air inlet openings and is mixed with the conditioned air. The two position damper can be fully open or closed. The damper blade is powered open by a 24 VAC 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

COMMERCIAL ROOM VENTILATOR - CRV

OPTIONAL

The built-in commercial room ventilator is internally mounted behind the service door and allows up to 50% outside air through the air inlet openings. It includes a built-in exhaust air damper.

The commercial room ventilator (CRV) is a simple and innovative approach to improve the indoor air quality by providing fresh air intake and exhaust capability 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 ASHRAE Standard 62-89 "Ventilation for Acceptable Indoor Air Quality."



ECONOMIZER

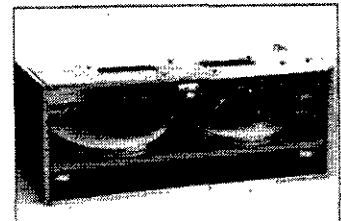
ECONOMIZER - EIFM

OPTIONAL

The built-in economizer system is internally mounted behind the service door and allows up to 100% outside air through the air inlet openings. It includes a built-in exhaust air damper. The economizer is designed to provide "free cooling" when the outside air temperature is cool enough to provide needed cooling without running the compressor. This in turn, provides lower operating costs, while extending the life of the compressor.

Standard Features:

- One Piece Construction - Easy to install with no mechanical linkage adjustment required.
- Exhaust Air Damper - Built-in with positive closed position. Provides exhaust air capability to prevent pressurization of tight buildings.
- Actuator Motor - 24 volt, power open, spring return with built-in torque limiting switch.
- Proportioning Type Control - for maximum "free cooling" economy and comfort with up to 100% outside air.
- Moisture Eliminator & Prefilter - permanent, washable aluminum construction.
- Enthalpy Control - adjustable to monitor outdoor temperature and humidity.
- Minimum Position Potentiometer - adjustable to control minimum damper blade position.
- Mixed Air Sensor - to monitor outside and return air to automatically modulate damper position.



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 ASHRAE Standard 62-89. The WERV allows from 200 to 450 CFM 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 sensible and latent capability providing effective heat transfer 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 or WH model wall-mount units. It can be built-in at the factory or field installed as an option. (See Form F1403 for complete performance & application details.)

Manufactured under U.S. Patent Nos. 5,485,878;
5,301,744; 5,002,116; 4,924,934; 4,875,520;
4,825,936; 4,432,409.

Clearances Required for Service Access and Adequate Condenser Air Flow

MODELS	LEFT SIDE	RIGHT SIDE
WH18, WH24, WH30, WH36	15"	20"
WH42, WH48, WH60	20"	20"

Minimum Clearances Required to Combustible Materials

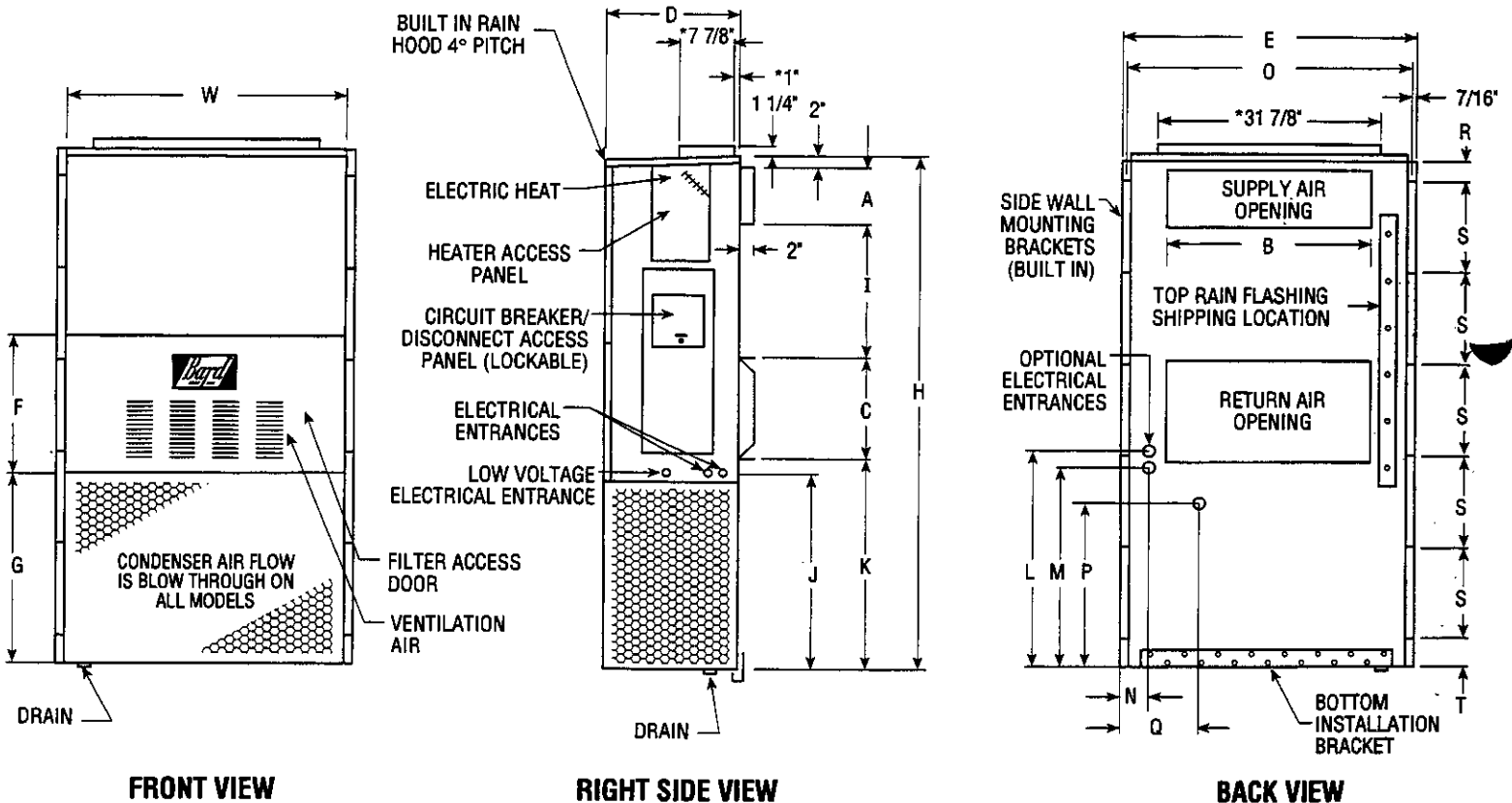
MODELS ϕ	SUPPLY AIR DUCT FIRST THREE FEET	CABINET
WH18, WH24	0"	0"
WH30, WH36	1/4"	0"
WH42, WH48, WH60	1/4"	0"

ϕ 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
WH18				7.88	19.88	11.88	19.88	35.00	18.50	25.75	20.56	26.75	28.06	29.25	27.00	2.63	34.13	22.06	10.55	4.19	12.00	5.00
WH24	33.300	17.125	70.563	7.88	19.88	11.88	19.88	35.00	18.50	25.75	20.56	26.75	28.06	29.25	27.00	2.63	34.13	22.06	10.55	4.19	12.00	5.00
WH30				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	39.19	22.75	9.14	4.19	12.00	5.00
WH36	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	39.19	22.75	9.14	4.19	12.00	5.00
WH42				9.88	29.88	15.88	29.88	43.88	19.10	30.00	30.00	32.68	26.94	34.69	32.43	3.37	42.88	23.88	10.00	1.44	16.00	1.88
WH48	42.075	22.432	84.875	9.88	29.88	15.88	29.88	43.88	19.10	30.00	30.00	32.68	26.94	34.69	32.43	3.37	42.88	23.88	10.00	1.44	16.00	1.88
WH60																						

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



*NOTE: Top supply opening is optional and available factory-built only on models WH30 and WH36.

MANUAL CHANGEOVER (Mercury)		
Thermostat	Part No. 8403-017	(Honeywell T874R1129)
Subbase	Part No. 8404-009	(Honeywell Q674L1189)
Thermostat	Part No. 8403-024	(White-Rodgers 1F58-45 - Subbase included)
Thermostat	Part No. 8403-045	(Honeywell T841A1761 - Integral Subbase)
AUTOMATIC CHANGEOVER (Mercury)		
Thermostat	Part No. 8403-018	(Honeywell T874N1024)
Subbase	Part No. 8404-010	(Honeywell Q674F1261)
MANUAL OR AUTOMATIC CHANGEOVER		
Electronic Digital	Part No. 8403-042	(Honeywell T8511G1070)
Non-Programmable, does not require batteries		
Electronic Digital	Part No. 8403-034	(White-Rodgers 1F94-80)
Programmable, requires batteries		
Note: Required when economizer or energy recovery ventilator are used with heat pump		

Electrical Specifications

Model	Rated Volts and Phase	Single Circuit					Dual Circuit							
		No. Field Power Circuits	⊕ Minimum Circuit Ampacity	⊕ Maximum External Fuse or Ckt. Brkr.	⊕ Field Power Wire Size	⊕ Ground Wire Size	⊕ Minimum Circuit Ampacity		⊕ Maximum External Fuse or Ckt. Breaker		⊕ Field Power Wire Size		⊕ Ground Wire Size	
							Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B
WH182- A00, A0Z A04 ⊕ A08	230/208-1	1 1 1	17 38 59	20 40 60	12 8 6	12 10 10								
WH241- A00, A0Z A04 ⊕ A08	230/208-1	1 1 1	18 39 60	25 40 60	10 8 6	10 10 10								
WH241- B00, B0Z B06	230/208-3	1 1	15 33	20 35	12 8	12 10								
WH241- C00, C0Z C06	460-3	1 1	8 17	15 20	14 12	14 12								
WH301- A00, A0Z* A05* ⊕ A10*	230/208-1	1 1 1 or 2	24 50 76	35 50 80	8 8 4	10 10 8	50	26	50	30	8	10	10	10
WH301- B00, B0Z* B06 ⊕ B09*	230/208-3	1 1 1	19 37 46	25 40 50	10 8 8	10 10 10								
WH301- C00, C0Z* C06 ⊕ C09* C15	460-3	1 1 1 1	10 19 24 26	15 20 25 30	14 12 10 10	14 12 10 10								
WH361- A00, A0Z* A05* ⊕ A10* A15	230/208-1	1 1 1 or 2 1 or 2	27 53 79 83	40 60 80 90	8 8 4 4	10 10 8 8	53	26	60	30	6	10	10	10
WH361- B00, B0Z* B06 ⊕ B09* B15	230/208-3	1 1 1 1	20 38 47 50	25 40 50 50	10 8 8 8	10 10 10 10								
WH361- C00, C0Z* C06 ⊕ C09* C15	460-3	1 1 1 1	11 20 26 26	15 20 25 30	14 12 10 10	14 12 10 10								
WH421- A00, A0Z A05 ⊕ A10 A15	230/208-1	1 1 or 2 1 or 2 1 or 2	34 60 86 86	50 70 90 90	8 8 3 3	10 8 8 8	34	26	50	30	8	10	10	10
WH421- B00, B0Z ⊕ B09 B15	230/208-3	1 1 1	26 53 53	35 60 60	8 6 6	10 10 10								
WH421- C00, C0Z C06 ⊕ C09 C15	460-3	1 1 1 1	13 23 27 27	20 25 30 30	12 10 10 10	12 10 10 10								
WH482- A00, A0Z A05 ⊕ A10 A15 A20	230/208-1	1 1 or 2 1 or 2 1 or 2 1 or 2	38 64 90 90 110	50 80 100 100 110	8 6 3 3 2	10 8 8 8 8	38	26	60	30	8	10	10	10
WH482- B00, B0Z ⊕ B09 B15 B18	230/208-3	1 1 1 1	27 54 54 60	36 60 60 60	8 6 6 6	10 10 10 10								
WH482- C00, C0Z ⊕ C09 C15	460-3	1 1 1	15 29 29	20 30 30	12 10 10	12 10 10								
WH602- A00, A0Z A05 ⊕ A10 A15 A20	230/208-1	1 1 or 2 1 or 2 1 or 2 1 or 2	45 71 97 97 110	60 90 110 110 110	8 4 3 3 2	10 8 6 6 6	45	26	60	30	8	10	10	10
WH602- B00, B0Z ⊕ B09 B15 B18	230/208-3	1 1 1 1	33 60 60 60	45 60 60 60	8 6 6 6	10 10 10 10								
WH602- C00, C0Z ⊕ C09 C15	460-3	1 1 1	16 29 29	20 30 35	12 8 8	12 10 10								

⊕ Maximum size of the time delay fuse or HACR type circuit breaker for protection of field wiring conductors.

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

⊕ Maximum KW that can operate with the heat pump on.

⊕ These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors. Refer to the 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) conductors are in a raceway.

* Available factory-built only with top outlet supply as an option.

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 Volts

ESP in H ₂ O	WH18 WH24	WH30 WH36		WH42 WH48		WH60	
	Dry/Wet Coil	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil
0	1020/975	1395/1315	950/935	1885/1800	1650/1800	2200/2000	1600/1450
.1	960/905	1340/1270	930/915	1770/1665	1550/1500	2100/1900	1525/1375
.2	865/800	1285/1190	910/885	1635/1550	1450/1400	2000/1800	1460/1200
.3	820/735	1205/1100	855/830	1500/1400	1350/1300	1875/1700	-/-
.4	735/650	1110/1000	600/755	1370/1285	1300/1175	1775/1600	-/-
.5	615/535	1005/870	-/-	1250/1150	-/-	1650/1475	-/-

Above data is with 1" standard throwaway filter and 1" washable filter.
 For optional 2" pleated filter - reduce ESP by .15 in.
 See installation instructions for maximum ESP information on various KW applications.

Electric Heat Table

MODELS	WH182-A WH241-A		WH241-B		WH241-C		WH301-A		WH301-B		WH301-C		WH361-A		WH361-B		WH361-C		WH421-A WH482-A WH602-A		WH421-B WH482-B WH602-B		WH421-C WH482-C WH602-C		
	240V-1 BTUH	208V-1 BTUH	240V-3 BTUH	208V-3 BTUH	480V-3 BTUH	240V-1 BTUH	208V-1 BTUH	240V-3 BTUH	208V-3 BTUH	480V-3 BTUH	240V-1 BTUH	208V-1 BTUH	240V-3 BTUH	208V-3 BTUH	480V-3 BTUH	240V-1 BTUH	208V-1 BTUH	240V-3 BTUH	208V-3 BTUH	480V-3 BTUH	240V-1 BTUH	208V-1 BTUH	240V-3 BTUH	208V-3 BTUH	480V-3 BTUH
4.0	13,850	10,240																							
5.0						17,085	12,800					17,065	12,800					17,065	12,800						
8.0	27,300	20,475																							
10.0						34,130	25,600					34,130	25,600					34,130	25,600						
15.0												51,200	38,400					51,200	38,400						
20.0																		68,250	51,200						
6.0			20,500	15,360	20,475			20,500	15,360	20,475			20,500	15,360	20,475										
9.0								30,600	23,030	30,700			30,600	23,030	30,700					30,600	23,030	20,475			
15.0										51,200			51,200	38,400	51,200					51,200	38,400	51,200			
18.0																				61,400	48,050				

Heater Packages - Field Installed

Heat Pump Models	-A00 Models 230/208-1		-B00 Models 230/208-3		-C00 Models 480-3	
	Heater Model #	KW	Heater Model #	KW	Heater Model #	KW
WH18	EHWH02-A04 EHWH02-A08	4 8	N/A		N/A	
WH24	EHWH02-A04 EHWH02-A08	4 8	EHWH24-B06	6	EHWH24A-C06	6
WH30	EHWH30-A05 EHWH30-A10	5 10	EHWH03-B06 EHWH03-B09	6 9	EHWC03A-C06 EHWC03A-C09 EHWH03A-C15	6 9 15
WH36	EHWH36-A05 EHWH36-A10 EHWH36-A15	5 10 15	EHWH03-B06 EHWH03-B09 EHWH36-B15	6 9 15	EHWC03A-C06 EHWC03A-C09 EHWH03A-C15	6 9 15
WH42	EHWH42-A05 EHWH42-A10 EHWH42-A15	5 10 15	EHWH05-B09 EHWH05-B15	9 15	EHWH05A-C09 EHWH05A-C15	9 15
WH48 WH60	EHWH04-A05 EHWH04-A10 EHWH04-A15 EHWH04-A20	5 10 15 20	EHWH05-B09 EHWH05-B15 EHWH04-B18	9 15 18	EHWH05A-C09 EHWH05A-C15	9 15

NOTE: Field installed Heater Packages are not approved for use with top supply opening models.

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
WH182	75/62	Total Cooling	20,680	19,550	18,470	17,470	16,530	15,660	14,850	14,110	13,435
		Sensible Cooling	16,150	15,490	14,900	14,380	13,920	13,520	13,200	12,930	12,730
	80/67	Total Cooling	22,130	21,320	20,530	19,750	19,000	18,270	17,550	16,860	16,190
		Sensible Cooling	15,690	15,200	14,770	14,390	14,060	13,780	13,560	13,380	13,260
85/72	Total Cooling	26,320	24,910	23,560	22,290	21,090	19,960	18,900	17,920	17,000	
	Sensible Cooling	16,050	15,415	14,830	14,280	13,780	13,320	12,900	12,530	12,200	
WH241	75/82	Total Cooling	24,780	23,800	23,760	21,670	20,530	19,330	18,080	16,780	15,420
		Sensible Cooling	19,600	19,090	18,570	18,040	17,495	16,940	16,380	15,800	15,220
	80/67	Total Cooling	26,450	25,940	25,300	24,520	23,600	22,550	21,360	20,040	18,575
		Sensible Cooling	19,030	18,730	18,410	18,050	17,670	17,260	16,820	16,350	15,855
85/72	Total Cooling	31,520	30,320	29,030	27,660	26,200	24,650	23,020	21,300	19,500	
	Sensible Cooling	19,490	19,000	18,470	17,910	17,315	16,680	16,020	15,320	14,585	
WH301	75/62	Total Cooling	31,600	30,290	28,930	27,540	26,100	24,620	23,100	21,530	19,920
		Sensible Cooling	24,370	24,210	23,940	23,560	23,075	22,480	21,770	20,960	20,040
	80/67	Total Cooling	33,760	33,030	32,160	31,150	30,000	28,710	27,280	25,710	24,000
		Sensible Cooling	24,000	23,830	23,650	23,485	23,310	22,900	22,360	21,690	20,880
85/72	Total Cooling	40,220	38,600	36,910	35,140	33,300	31,390	29,400	27,340	25,200	
	Sensible Cooling	24,220	24,090	23,810	23,400	22,845	22,150	21,310	20,330	19,210	
WH361	75/62	Total Cooling	36,960	35,600	34,150	32,600	30,972	29,250	27,440	25,540	23,550
		Sensible Cooling	28,730	28,320	27,820	27,220	26,530	25,740	24,850	23,875	22,800
	80/67	Total Cooling	39,475	38,820	37,960	36,880	35,600	34,100	32,400	30,500	28,375
		Sensible Cooling	27,870	27,790	27,580	27,250	26,800	26,220	25,520	24,700	23,750
85/72	Total Cooling	45,360	45,000	43,910	42,080	39,515	37,000	34,650	32,200	29,790	
	Sensible Cooling	28,570	28,190	27,670	27,030	26,260	25,350	24,320	23,150	21,850	
WH421	75/62	Total Cooling	46,330	43,420	40,680	38,350	36,100	33,920	31,800	29,770	27,800
		Sensible Cooling	36,530	34,230	33,380	32,970	32,300	31,370	30,180	28,720	27,000
	80/67	Total Cooling	49,670	47,390	45,220	43,380	41,500	39,570	37,600	35,570	33,500
		Sensible Cooling	35,900	34,900	33,020	32,900	32,600	32,110	31,430	30,560	29,500
85/72	Total Cooling	59,150	55,450	51,740	48,590	45,600	42,770	40,090	37,570	35,200	
	Sensible Cooling	36,750	35,400	33,100	32,600	31,900	31,000	29,900	28,600	27,100	
WH482	75/62	Total Cooling	50,250	47,770	45,375	43,100	40,900	38,800	36,800	34,900	33,100
		Sensible Cooling	39,550	38,500	37,500	36,525	35,600	34,700	33,875	33,050	32,300
	80/67	Total Cooling	53,700	52,050	50,400	48,700	47,000	45,250	43,500	41,700	39,900
		Sensible Cooling	38,500	37,850	37,200	36,600	36,000	35,400	34,850	34,250	33,700
85/72	Total Cooling	63,800	60,800	57,840	54,980	52,200	49,500	46,890	44,350	41,900	
	Sensible Cooling	39,250	38,300	37,300	36,325	35,300	34,250	33,200	32,100	31,000	
WH602	75/62	Total Cooling	58,200	56,300	54,200	51,800	49,100	46,150	42,950	39,450	35,700
		Sensible Cooling	44,100	43,000	41,900	40,750	39,500	38,200	36,800	35,300	33,800
	80/67	Total Cooling	62,000	61,400	60,250	58,625	56,500	53,900	50,750	47,100	43,000
		Sensible Cooling	42,800	42,200	41,600	40,800	39,900	38,900	37,800	36,600	35,600
85/72	Total Cooling	74,000	71,750	69,150	66,100	62,725	58,900	54,700	50,125	45,150	
	Sensible Cooling	43,800	42,800	41,700	40,475	39,100	37,600	36,000	34,250	32,400	

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		-5°	0°	5°	10°	15°	17°	20°	25°	30°	35°	40°	45°	47°	50°	55°	60°	65°
WH182	BTUH	6,000	7,000	8,000	9,000	10,000	11,100	11,500	12,000	13,000	14,000	16,000	18,000	18,800	19,500	20,800	22,000	23,400
	WATT	1,600	1,630	1,680	1,700	1,730	1,739	1,760	1,795	1,820	1,860	1,890	1,920	1,925	1,950	1,980	2,020	2,040
	COP	1.09	1.25	1.39	1.55	1.69	1.87	1.91	1.95	2.09	2.35	2.48	2.74	2.86	2.93	3.07	3.19	3.36
WH241	BTUH	6,960	8,030	9,090	10,160	11,230	12,400	12,775	13,360	14,430	15,500	18,700	21,910	23,200	24,280	26,080	27,880	29,680
	WATT	1,726	1,775	1,825	1,875	1,925	1,942	1,970	2,020	2,070	1,976	2,165	2,215	2,236	2,265	2,315	2,365	2,412
	COP	1.18	1.32	1.45	1.58	1.70	1.87	1.90	1.93	2.04	2.29	2.53	2.88	3.04	3.14	3.30	3.45	3.60
WH301	BTUH	8,295	9,875	11,450	13,025	14,600	16,200	16,790	17,750	19,325	20,900	23,860	26,815	28,000	29,180	31,150	33,115	35,080
	WATT	2,100	2,165	2,230	2,290	2,350	2,373	2,400	2,470	2,530	2,662	2,650	2,710	2,735	2,770	2,830	2,890	2,952
	COP	1.15	1.33	1.50	1.66	1.82	2.00	2.05	2.10	2.23	2.30	2.63	2.89	3.00	3.08	3.22	3.57	3.48
WH361	BTUH	12,490	13,970	15,445	16,920	18,400	20,200	20,900	21,830	22,825	24,303	28,510	32,720	34,400	35,820	38,180	40,550	42,920
	WATT	2,600	2,680	2,780	2,845	2,925	2,959	3,000	3,090	3,170	3,185	3,335	3,420	3,451	3,500	3,580	3,664	3,750
	COP	1.40	1.52	1.64	1.74	1.84	2.00	2.05	2.07	2.10	2.23	2.50	2.80	2.92	2.99	3.12	3.24	3.35
WH421	BTUH	13,700	15,750	17,825	19,900	21,975	22,800	24,050	26,100	28,200	30,250	34,725	39,200	41,000	42,800	45,850	48,875	51,900
	WATT	2,975	3,075	3,175	3,275	3,350	3,400	3,450	3,550	3,650	3,750	3,825	3,925	3,950	4,025	4,100	4,200	4,300
	COP	1.34	1.50	1.64	1.78	1.92	1.96	2.08	2.15	2.26	2.36	2.65	2.92	3.03	3.11	3.27	3.41	3.53
WH482	BTUH	17,950	19,900	21,875	23,850	25,800	26,600	27,775	29,750	31,700	33,675	38,800	43,900	46,000	47,950	51,175	54,400	57,650
	WATT	3,450	3,550	3,625	3,700	3,800	3,840	3,900	3,975	4,075	4,150	4,250	4,300	4,375	4,425	4,500	4,600	4,700
	COP	1.52	1.64	1.76	1.88	1.98	2.03	2.08	2.19	2.27	2.37	2.67	2.99	3.08	3.17	3.33	3.46	3.59
WH602	BTUH	24,775	26,500	28,300	30,100	31,900	32,900	33,650	35,450	37,200	39,000	46,900	54,800	58,000	60,500	64,700	68,900	73,000
	WATT	4,100	4,225	4,325	4,425	4,525	4,575	4,625	4,750	4,850	4,950	5,050	5,150	5,200	5,250	5,375	5,475	5,575
	COP	1.76	1.83	1.91	1.99	2.06	2.10	2.12	2.19	2.24	2.30	2.71	3.11	3.26	3.36	3.53	3.69	3.83

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

Heat Pump Wall-Mount Model Nomenclature

MODEL NUMBER | WH 24 1 —A 08 X X X X B

CAPACITY | 18 - 1-½ Ton
24 - 2 Ton
30 - 2-½ Ton
36 - 3 Ton
42 - 3-½ Ton
48 - 4 Ton
60 - 5 Ton

REVISION |

KW |

VENTILATION OPTIONS
X - Barometric Fresh Air Damper (Standard)
B - Blank-off Plate
M - Motorized Fresh Air Damper
V - Commercial Ventilator-Motorized with Exhaust
E - Economizer (Internal) - Fully Modulating with Exhaust
R - Energy Recovery Ventilator with Exhaust

VOLTS & PHASE |
A - 230/208/60/1
B - 230/208/60/3
C - 460/60/3

COLOR OPTIONS
X - Beige (Standard)
1 - White
2 - Mesa Tan
4 - Buckeye Gray
5 - Desert Brown

CONTROL MODULES
(See Chart Below)

COIL OPTIONS
X - Standard
1 - Phenolic Coated Evaporator
2 - Phenolic Coated Condenser
3 - Phenolic Coated Evaporator and Condenser

FILTER OPTIONS
X - 1 inch Throwaway (Standard)
W - 1 inch Washable
P - 2 inch Pleated

OUTLET OPTIONS
X - Front (Standard)
T - Top (on WH30 and WH36 Models)

Note: For 0 KW and circuit breakers (230/208 Volt) or pull disconnects (460 Volt) applications, insert 0Z in the KW field of the model number.

Ventilation Options

MODELS	WH18, WH24		WH30, WH36		WH42, WH48, WH60	
	Factory Installed Code No.	Field Installed Part No.	Factory Installed Code No.	Field Installed Part No.	Factory Installed Code No.	Field Installed Part No.
Barometric Fresh Air Damper	X	BFAD-2	X	BFAD-3	X	BFAD-5
Blank-Off Plate	B	BOP-2	B	BOP-3	B	BOP-5
Motorized Fresh Air Damper	M	MFAD-2	M	MFAD-3	M	MFAD-5
Commercial Ventilator - Motorized	V	CRV-2	V	CRV-3	V	CRV-5
Economizer (Internal) - Fully Modulating ①	E	EIFM-2	E	EIFM-3	E	EIFM-5
Energy Recovery Ventilator - 230 Volt	R	WERV-A2B	R	WERV-A3B	R	WERV-A5B
Energy Recovery Ventilator - 460 Volt	R	WERV-C2B	R	WERV-C3B	R	WERV-C5B

① Low ambient control is required with economizer for low temperature compressor operation. Requires the 8403-034 (IF94-80) thermostat.

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 ③	Outdoor Thermostat ④
B	CMH-3	•			
E	CMH-7		•		
O	CMH-9	•	•		
Q	CMH-14				•
R	---	•	•		•
S	---	•	•	•	
T	---	•	•	•	•
P	CMC-15 ⑤			•	
U	---	•			•

① The low pressure control is auto reset. It includes a lock-out 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 WH241-A, WH301-A, WH361-A and WH421-A models. The CMC-15 can be used with any control module combination.

NOTE: The compressor anti-cycle relay is standard on all heat pump models.

④ The outdoor thermostat is adjustable from 0°F to 50°F. It is suitable for use as a compressor cut-off thermostat.



BARD MANUFACTURING CO.
BRYAN, OHIO 43506

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April, 1999

Supersedes S3210-898