

THE WALL-MOUNT™ ONE TON AIR CONDITIONER

W12A1 **60Hz**
10,800 Btuh **9.00 EER**
Right Side Control Panel

**GREEN REFRIGERANT
R-410A**

The Bard Wall-Mount One Ton Air Conditioner 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. The One Ton 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 (evaporator coil only) and enhanced louvered fin for maximum heat transfer and energy efficiency.

Quiet Twin Blowers:

Designed to accept full ducted system or for non-ducted free blow installations.

High Efficiency Rotary Compressor

R-410A Refrigerant:

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

Liquid Line Filter Drier:

Standard on all units. Protects system against moisture.

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 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.

One Inch, Disposable Air Filter:

Easily removed for replacement from the outside. Optional two-inch pleated filter, factory or field installed.

Top Rain Flashing:

Standard feature on all models.

Slope Top:

Standard feature for water run-off.

Compressor Control Module:

Standard on all units. Built-in off-delay timer adjustable from 30 seconds to 5-minutes. 2-minute on-delay if power interrupt. 120-second bypass for low pressure control, and both soft and manual lockouts for high and low pressure controls. Alarm output for alarm relay.

High & Low Pressure Switches are Auto-Reset:

Standard on all units. Built-in lockout circuit resets from the room thermostat. Provides commercial quality protection to the compressor.

Barometric Fresh Air Damper:

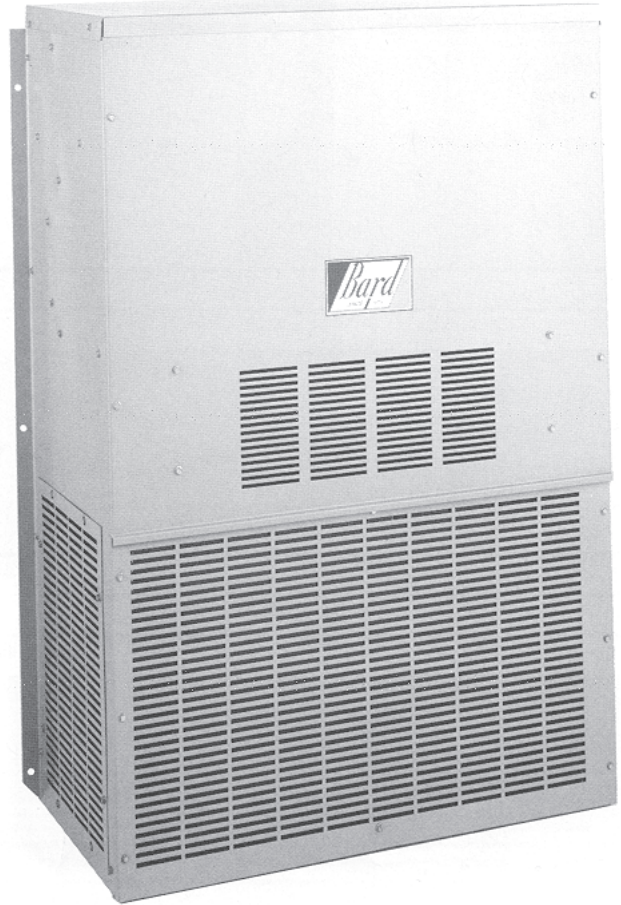
Allows up to 100 CFM of fresh air.

Automatic Condensate Disposal System:

Eliminates the need to provide a separate condensate drain. The drain valve closes at temperatures above 40° and opens when the temperature drops below 40°. Built-in slinger ring fan blade.

Full Length Mounting Flanges:

Built into cabinet for improved appearance and easy installation.



Optional Product Features

Alarm Relay:

Dry contacts for remote alarm on high or low pressure lockouts.

Low Ambient Control:

Permits operation down to 0°F outdoor ambient. Can be factory or field installed.

Fully Modulating Economizer:

Can be factory or field installed.

- 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.



Capacity and Efficiency Ratings

Models	Volts	Phase	Heat Strip	Cooling Cap. BTUH ①	EER ②
W12A1-A00	230/208	1	NONE	10,800	9.0
W12A1-A03	230/208	1	3.6 KW	10,800	9.0
W12A1-A05	230/208	1	5.0 KW	10,800	9.0
W12A1-K00	115	1	NONE	10,800	9.0
W12A1-K02	115	1	2.2 KW	10,800	9.0

① Capacity is certified in accordance with ANSI/ARI Standard 390-2003 and tested in accordance with ARI Standard 210/240-2006.

② EER = Energy Efficiency Ratio and is certified in accordance with ANSI/ARI Standard 390-2003.

All ratings based on fresh air intake being 100% closed (no outside air introduction).

Electrical Specifications

Models	Rated Volts and Phase	Operating Voltage Range	No. Field Power Ckts.	Minimum Circuit Ampacity	Maximum External Fuse ^① or Circuit Breaker	Field Power ^② Wire Size	Ground ^② Wire Size
W12A1-A00	230/208-1	197-253	1	9	15	14	14
A03			1	20	20	12	12
A05			1	28	30	10	10
W12A1-K00	115-1	104-126	1	20	30	10	10
K02			1	29	30	10	10

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

② Based on 75°C copper wire. All wiring must conform to NEC and all local codes.

③ These "Minimum Circuit Ampacity" values are to be used for sizing the field power conductors.

Refer to the National Electrical Code (latest revision), article 310 for power conductor sizing.

CAUTION! When more than one field power conductor 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 3 conductors are in a raceway.

Specifications

Models	Electrical	Compressor		Outdoor Fan Motor		Indoor Blower Motor		CFM/ESP (Rated-WET Coil)	Shipping Weight
	Rating - 60 HZ	RLA	LRA	HP-RPM-SP	FLA	HP-RPM-SP	FLA		
W12A1-A	230/208-1	5.5/4.8	32.5	1/10-1075-1	.70	1/8-1650-2	.85	400/1.10	155 lbs.
W12A1-K	115-1	11.6	63.0	1/10-1075-1	1.40	1/8-1650-2	1.60	400/1.10	155 lbs.

Electric Heat Table

Models	W12A1-A				W12A1-K	
	240V-1		208V-1		120V-1	
	KW	AMPS	BTUH	AMPS	BTUH	AMPS
3.0	15.0	12,285	13.0	9,230	-	-
5.0	20.8	17,065	18.1	12,800	-	-
2.0	-	-	-	-	18.3	7,510

Indoor Blower Performance - CFM at 230

E.S.P. IN H ₂ O	High Speed Dry/Wet Coil	Low Speed Dry/Wet Coil
.0	530/500	465/425
.1	485/460	415/400
.2	440/425	365/350
.3	390/375	315/300
.4	325/300	300/285

Cooling Application Data - Outdoor Temperature °F ①

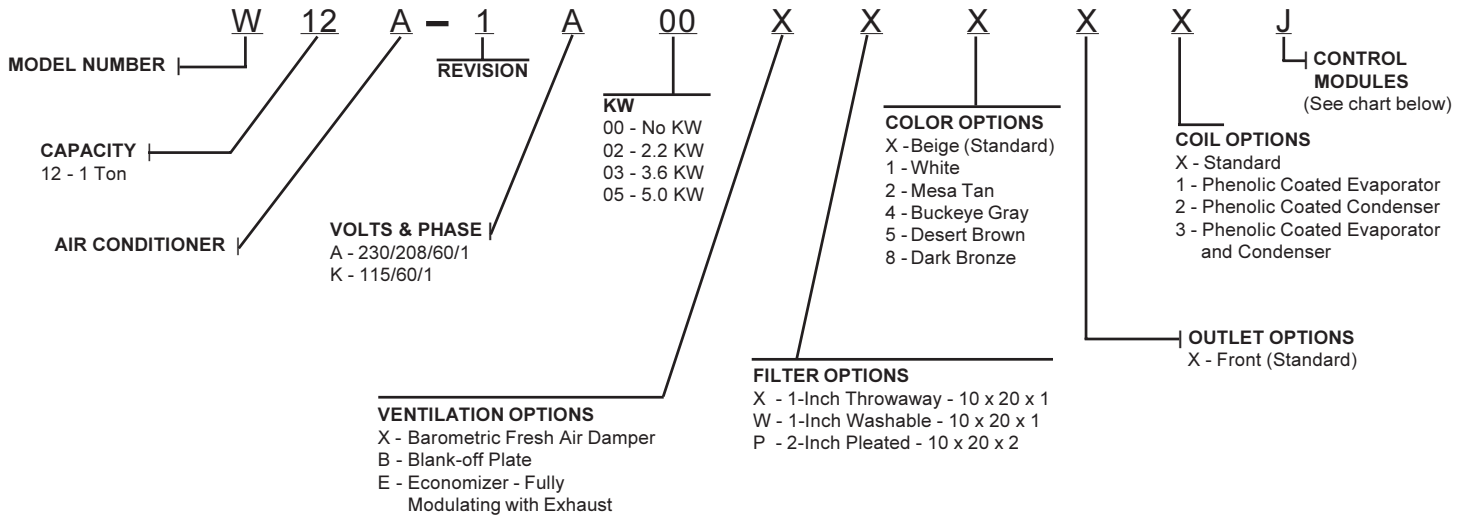
Models	D.B./W.B.②	Cooling Capacity	75°	80°	85°	90°	95°	100°	105°	110°	115°	120°
W12A1	75/	Total Cooling	11,400	11,000	10,500	10,000	9,400	9,000	8,300	7,800	7,100	6,400
	62	Sensible Cooling	9,100	8,900	8,800	8,600	8,400	8,100	7,800	7,500	7,100	6,600
	80/	Total Cooling	12,100	11,900	11,600	11,300	10,800	10,400	9,800	9,200	8,500	7,700
	67	Sensible Cooling	8,800	8,700	8,700	8,600	8,400	8,200	8,000	7,700	7,300	6,900
	85/	Total Cooling	14,500	14,000	13,400	12,800	12,000	11,400	10,600	9,800	9,000	8,000
	72	Sensible Cooling	9,100	8,900	8,800	8,600	8,300	8,000	7,700	7,300	6,800	6,300

① Below 55°F, unit requires a factory or field installed low ambient control.

② Return air temp. °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

Air Conditioning Model Nomenclature



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-1

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.

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.

BLANK OFF PLATE - BOP-1A

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.

ECONOMIZER - EIFM-1B

OPTIONAL

The built-in economizer system is internally mounted behind the service door and allows outdoor air to be introduced through the air inlet openings. The amount of outdoor air varies in response to the system controls and settings defined by the end user. It includes a built-in exhaust air damper. The economizer is designed to provide "free cooling" when outside air conditions are cool and dry enough to satisfy cooling requirements without running the compressor. This in turn provides lower operating costs, while extending the life of the compressor.



Economizer

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.
- 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 for ventilation purposes.
- Mixed Air Sensor - to monitor outside and return air to automatically modulate damper position.

Air Conditioning Control Modules

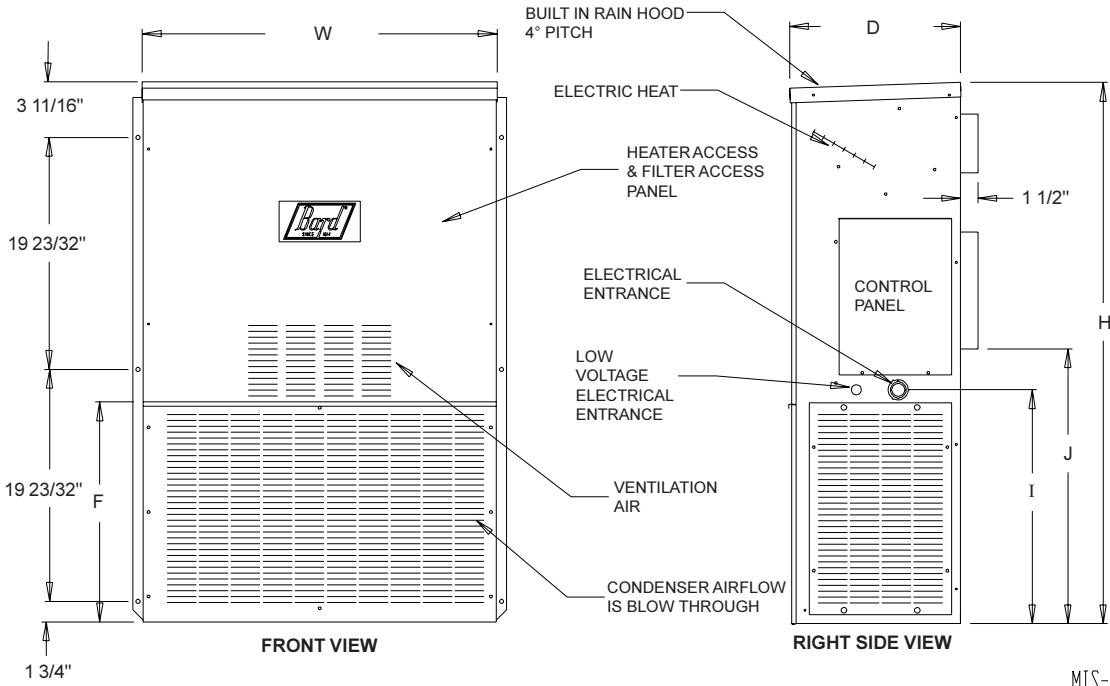
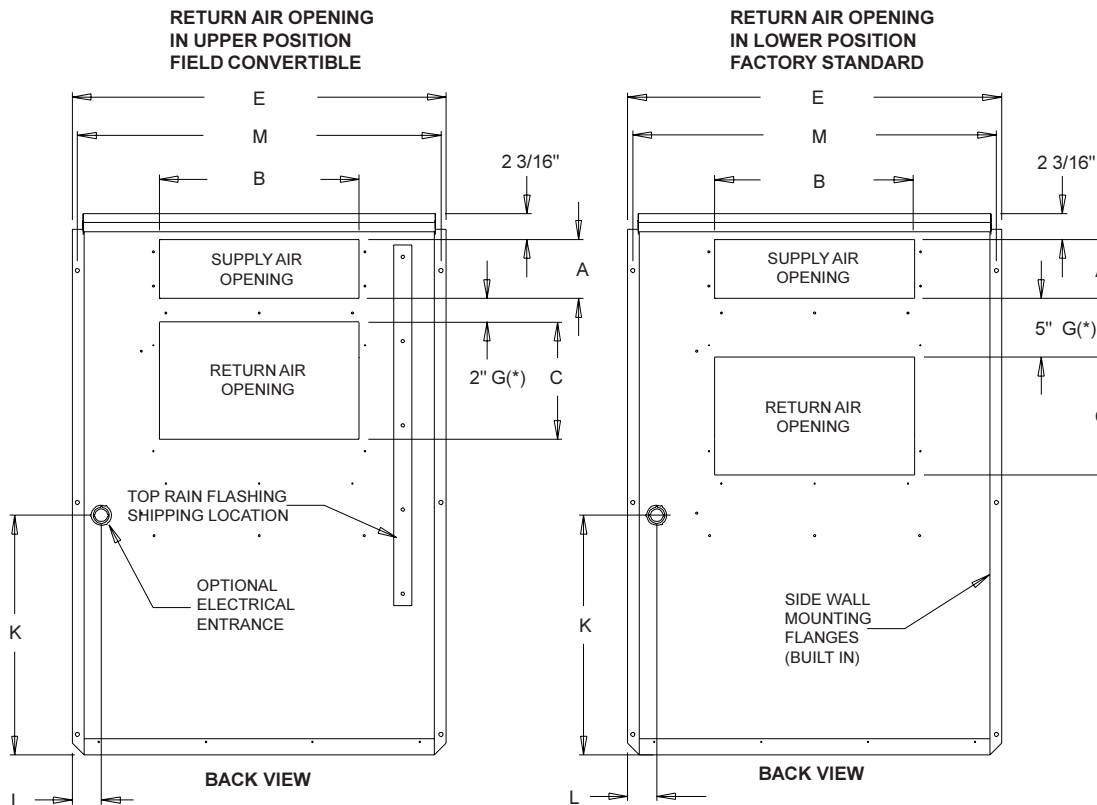
Factory Installed Code No.	Field Installed Part No.	MODULE DESCRIPTION				
		High Pressure Control	Compressor Control Module	Low Pressure Control	Low Ambient Control	Alarm Relay
X	—	STD	STD	STD		
E	CMA-28	STD	STD	STD	•	
J	Factory only	STD	STD	STD	•	•

STD: High pressure control and compressor control module with TDR are standard on all W12A1-A and W12A1-K models.

NOTE: For electronic and communication equipment shelter application, control module "J" is recommended.

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

UNIT	WIDTH (W)	DEPTH (D)	HEIGHT (H)	SUPPLY		RETURN		E	F	G(*)	I	J	K	L	M
				A	B	C	B								
W12A1	30-1/8	14-5/8	46	5	17	10	17	32	18-1/4	2 or 5	19-7/8	23-3/4 or 26-3/4	20-1/4	2-1/2	31-1/16



MIS-524 A

(*) Position of return air flanges are interchangeable between two positions. Factory built at 5 inches.
 NOTE: Maintain a minimum of 20 inches clearance on right side to allow access to control panel and allow proper airflow to outdoor condenser coil. Allow 15 inches on left side.



Bard Manufacturing Company, Inc.
 Bryan, Ohio 43506
 www.bardhvac.com
 Manufactured under U.S. Patent Nos.
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 4,875,520; 4,825,936.
 Other Patents pending.

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.

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