

THE WALL-MOUNT™ SIX TON AIR CONDITIONER

WA - 6 Ton Refrigerant 22 64,000 to 68,000 Btuh Right Side Control Panel

60Hz

The Bard Wall-Mount Six Ton Air Conditioner is a self contained energy efficient 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 copper tubing and enhanced louvered aluminum fin for maximum heat transfer and energy efficiency.

Twin Blowers:

Move air quietly. Models WA701-A, WA701-B and WA721-B feature multispeed blower motors providing airflow adjustment for high and low static operation. Motor overload protection is standard on all models.

Air Conditioner Compressor:

Copeland scroll compressor designed for increased efficiency, quieter operation and improved reliability for longer life. Equipped with crankcase heater.

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:

Feature an automatic limit and thermal cut-off safety control. Heater packages are factory or field installed for all models. Features easy slide-in field assembly with various BTUH outputs.

High Pressure Switch is Auto-Reset:

Built-in lock-out circuit resets from the room thermostat. Provides commercial quality protection to the compressor.

Low Pressure Switch is Auto-Reset:

Built-in lock-out circuit and low pressure timed bypass circuit. Resets from room thermostat.

Compressor Control Module:

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

Low Ambient Control:

Permits operation down to 0°F outdoor ambient.

Dry Contacts for Remote Alarm on High or Low Pressure Lock-out:

Built-in Circuit Breakers:

Standard on all KW versions of models WA701-A, WA701-B and WA721-B. Toggle disconnects are standard on all KW types of model WA701-C (460 volt-3ph).

One Inch, Disposable Air Filters:

Are standard equipment. Optional 1inch washable filters available and filter racks permit the addition of 2" pleated filter. Factory or field installed.

Condenser Fan and Motor Shroud Assembly:

Slide out for easy access.

Barometric Fresh Air Damper:

Standard on all units. Allows up to 25% outside fresh air.

Slope Top:

Standard feature for water runoff.

Top Rain Flashing:

Standard 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.



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 w/Exhaust
 - CRV Spring Return
 - CRVP Power Return
- Optional Economizer w/ Exhaust
- Optional Energy Recovery Ventilator

Form No. Supersedes

S3274-1005

Capacity and Efficiency Ratings

			Operating	Compressor		Cooling	CFM / ESP		
	Models	Volts	Voltage Range	Type	Phase	Cap. BTUH ①	(Rated — Wet Coil)	EER ②	SEER ③
	WA702-A	230/208	197 - 253	SCROLL	1	64,000	1,800 / .2	9.0	10.0
	WA701-B	230/208	197 - 253	SCROLL	3	67,000	1,800 / .2	9.0	_
	WA701-C	460	414 - 506	SCROLL	3	67,000	1,800 / .2	9.0	_
_	WA721-B	230/208	197 - 253	SCROLL	3	68,000	1,800 / .2	9.0	

- ① Capacity is certified in accordance with ARI Standard 210/240-2003 and ARI Standard 390-2003.
- ② EER = Energy Efficiency Ratio and is certified in accordance with ARI Standard 390-2003.
- ① SEER = Seasonal Energy Efficiency Ratio and is certified in accordance with ARI Standard 210/240-2003.
- All ratings based on fresh air intake being 100% closed (no outside air introduction).

Specifications

	Electrical	Compressor		Outdoor	Outdoor Fan Motor			Indoor Blower Motor			
Models	Rating — 60 HZ	RLA	BCSC	LRA	HP/RPM/SPD	FLA	DIA/CFM	HP/RPM/SPD	FLA	(Inches) Std.	Weight
WA702-A	230/208-1	29.1 / 31.0	32	176 / 176	1/3 / 850 / 2-Spd	2.5	24" / 2,600	1/2 / 1,070 / 2-Spd.	3.3	20 x 30 x 1	520
WA701-B	230/208-3	20.5 / 21.5	22	150 / 156	1/3 / 850 / 2-Spd	2.5	24" / 2,600	1/2 / 1,070 / 2-Spd	3.3	20 x 30 x 1	520
WA701-C	460-3	10.2	10.2	75	1/3 / 850 / 1-Spd	1.3	24" / 2,600	1/2 / 1,070 / 2-Spd	1.9	20 x 30 x 1	520
WA721-B	230/208-3	20.5 21.5	22	150 / 156	1/2 / 1,075 / 1-Spd	3.0	24" / 3,500	1/2 / 1,070 / 2-Spd	3.3	20 x 30 x 1	520

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.

Electrical Specifications

Licotificat	<u> </u>													
			SINGLE CIRCUIT							DUAL C	IRCUIT			
Models	Rated Volts & Phase	No. Field Power Circuits	3 Minimum Circuit Ampacity	Maximum External Fuse or Circuit Breaker	② Field Power Wire Size	② Ground Wire Size		imum cuit acity	Extern or C	kimum al Fuse ircuit aker		ield wer Size	W	round /ire ize
							Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B	Ckt. A	Ckt. B
WA702-A00, A0Z		1	48	60	8	10								
A05		1	48	60	8	10								
A10	230/208-1	1	59	60	6	10								
A15		1 or 2	85	90	4	8	59	26	60	30	6	10	10	10
A20		1 or 2	110	110	2	8	59	52	60	60	6	6	10	10
WA701 or WA721:														
B00, B0Z		1	36	50	8	10								
B09	230/208-3	1	36	50	8	10								
B15		1	52	60	6	10								
B18		1	60	60	6	10								
WA701-C00, C0Z		1	17	25	12	12								
C09	460-3	1	17	25	12	12								
C15		1	26	30	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 (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 Electric 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.

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

Nominal		At 240V (1)				At 208V (1)				At 480V (2)			At 460V (2)		
KW	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	
5.0	5.0	20.8		17,065	3.75	18.0		12,799							
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							
15.0	15.0	62.5	36.1	51,195	11.25	54.1	31.2	38,396	15.0	18.0	51,195	13.80	17.3	47,099	
18.0	18.0		43.3	61,434	13.50		37.5	46,076	18.0	21.7	61,434	16.56	20.8	56,519	
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 Circuit Breaker Stan			- Pull Disconr Standard on 460V		– UL Listed – CUL Listed		
Air Conditioner Models	-A00 Mode 230/208-		-B00 Mode 230/208-		-C00 Models 460-3		
iviodeis	Heater Model #	KW	Heater Model #	KW	Heater Model #	KW	
WA70	EHWA60-A05 EHWA05-A10 EHWA05-A15 EHWA05-A20	5 10 15 20	EHWA60-B09 EHWA05-B15 EHWA05-B18	9 15 18	EHWA05A-C09 EHWA05A-C15	9 15	
WA72	N/A		EHWA60-B09 EHWA05-B15 EHWA05-B18	9 15 18	N/A		

Form No. S3274-1005 Supersedes S3274-804 Page 2 of 6

Indoor Blower Performance - CFM at 230 Volts

	WA	70
	WA	72
E.S.P.	HIGH SPEED	LOW SPEED
In H₂O	DRY/WET COIL	DRY/WET COIL
.0	2,200/2,000	1,600 / 1,450
.1	2,100 / 1,900	1,525 / 1,375
.2	2,000 / 1,800	- / -
.3	1,875 / 1,700	- / -
.4	1,775 / 1,600	- / -
.5	1,650 / 1,475	- / -

Clearances Required for Service Access and Adequate Condenser Air Flow

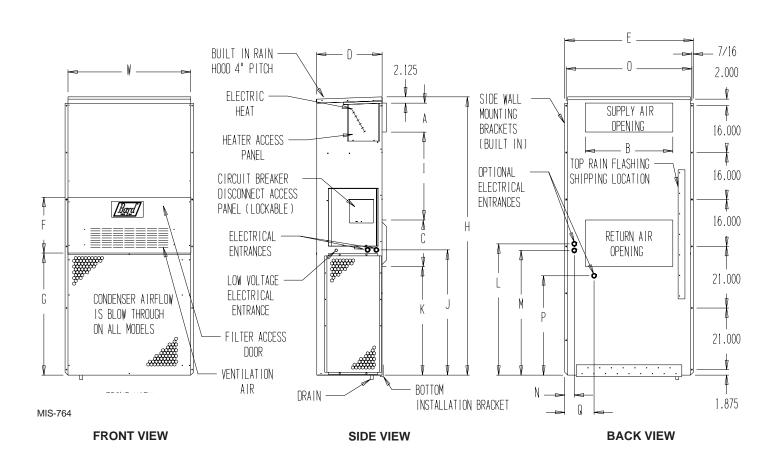
MODELS	LEFT SIDE	RIGHT SIDE
WA70, WA72	20"	20"

Minimum Clearances Required to Combustible Materials

MODELS ①	SUPPLY AIR DUCT FIRST THREE FEET	CABINET	
WA70, WA72	1/4"	0"	_

① Refer to installation manual 2100-266 for more detailed information.

Dime	nsion	s of B	Basic L	Jnit f	or A	rchit	ectu	ral ai	nd Ir	stal	latio	n Re	quire	emei	nts (l	Nom	inal))	
MODEL	1	DEPTH	_	SUF	PLY	RET	URN												
WODEL	(W)	(D)	(H)	Α	В	С	В	Е	F	G	-	J	K	L	М	N	0	Р	Q
WA70 WA72	42.075	22.432	94.875	9.88	29.88	15.88	29.88	43.88	19.00	41.66	30.00	42.68	36.94	44.69	42.43	3.37	42.88	33.88	10.00



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



Motorized Fresh Air Damper



Commercial Room Ventilator



Economizer



Energy Recovery Ventilator

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 - 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 opened 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.

NOTE: The above vent systems are without exhaust capability. May require separate field installed barometric relief and/or mechanical exhaust elsewhere within the conditioned space.

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. It includes a built-in exhaust air damper.

The commercial room ventilator (CRV) is a simple and innovative approach to improving 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. Two versions are available: the CRVS is power open - spring return on power loss; the CRVP is power open and power return. Complies with ASHRAE Standard 62.1 "Ventilation for Acceptable Indoor Air Quality."

ECONOMIZER - EIFM 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.

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.

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 62.1. 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. (See Form F1403 for complete performance and 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.

Cooling	g Appli	cation Data	— Oı	ıtdoor	Temp	eratur	e °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	120°F	125°F
	75/ 62	Total Cooling Sensible Cooling	66,200 50,600	63,600 47,900	61,000 45,400	58,400 43,500	55,700 42,000	53,200 40,800	50,700 40,100	48,100 39,600	45,500 39,500		
WA702-A	80/ 67	Total Cooling Sensible Cooling	70,700 49,100	69,300 46,900	67,700 45,000	66,000 43,500	64,000 42,400	62,000 41,500	59,800 41,100	57,400 40,900	54,800 41,100		_
	85/ 72	Total Cooling Sensible Cooling	84,200 50,300	81,000 47,600	77,700 45,200	74,500 43,200	71,100 41,600	67,800 40,200	64,500 39,200	61,100 38,400	57,600 37,900		_
	75/ 62	Total Cooling Sensible Cooling	69,700 49,500	66,800 48,000	63,900 46,600	61,100 45,300	58,300 44,000	55,550 42,800	52,800 41,600	50,150 40,550	47,500 39,500		_
WA701-B,C	80/ 67	Total Cooling Sensible Cooling	74,550 48,050	72,850 47,100	71,050 46,200	69,100 45,300	67,000 44,450	64,800 43,600	62,400 42,750	59,900 41,950	57,250 41,150	-	_
	85/ 72	Total Cooling Sensible Cooling	88,700 49,150	85,100 47,750	81,550 46,350	77,950 44,950	74,400 43,550	70,800 42,134	67,250 40,700	63,650 39,300	60,100 37,850		_
	75/ 62	Total Cooling Sensible Cooling	70,700 50,500	67,800 49,000	64,900 47,600	62,100 46,300	59,300 45,000	56,500 43,800	53,800 42,600	51,200 41,600	48,500 40,500	46,800 39,800	45,600 38,600
WA721	80/ 67	Total Cooling Sensible Cooling	75,600 49,100	73,900 48,100	72,100 47,200	70,100 46,300	68,000 45,500	65,800 44,600	63,400 43,800	60,900 43,000	58,300 42,200	57,400 41,800	54,500 40,850
	85/ 72	Total Cooling Sensible Cooling	89,700 50,200	86,100 48,800	82,600 47,400	79,000 46,000	75,400 44,600	71,800 43,200	68,300 41,700	64,700 40,300	61,100 38,900	59,500 37,800	56,900 35,800

 $^{\ \, \}bigcirc \,$ Below 65°F, unit requires a factory or field installed low ambient control.

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

② Return air temp. °F.

Air Conditioning Wall-Mount Model Nomenclature **70** 10 MODEL NUMBER 1 KW **CONTROL MODULES** 00 - No KW 0Z - No KW (See chart below) CAPACITY |-**OUTLET OPTIONS** w/Circuit 70 - 6 Ton X - Front (Standard) Breaker 72 - 6 Ton or Pull REVISIONS |-Disconnect COIL OPTIONS **COLOR OPTIONS** 05 - 5KW X - Standard X - Beige (Standard) **VOLTS & PHASE |** 09 - 9KW 1 - Phenolic Coated Evaporator 1 - White A - 230/208/60/1 10 - 10KW 2 - Phenolic Coated Condenser 2 - Mesa Tan B - 230/208/60/3 15 - 15KW 3 - Phenolic Coated Evaporator 4 - Gray C - 460/60/3 18 - 18KW and Condenser 5 - Desert Brown 20 - 20KW 8 - Dark Bronze **FILTER OPTIONS** X - 1 inch Disposable (Standard) **VENTILATION OPTIONS** W - 1 inch Washable See Table Below P - 2 inch Pleated

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

MODELS	WA70, ¹	WA72
DESCRIPTION	Factory Installed Code No.	Field Installed Part No.
Barometric Fresh Air Damper	Х	BFAD-5
Blank-Off Plate	В	BOP-5
Motorized Fresh Air Damper	M	MFAD-5
Commercial Ventilator - Spring Return w/Exhaust	V	CRVS-5
Commercial Ventilator - Power Return w/Exhaust	Р	CRVP-5
Economizer (Internal) - Fully Modulating ①	E	EIFM-5C
Economizer (Internal) - Fully Modulating ① ②	D	N/A
Energy Recovery Ventilator - 230 Volt	R ③	WERV-A5B 3
Energy Recovery Ventilator - 460 Volt	R ③	WERV-C5B ③

- ① Low ambient control is required with economizer for low temperature compressor operation.
- $\ensuremath{\mathbb{Q}}$ For use only with "V" Control Module and TCS22 Controller.
- 3 The Energy Recovery Ventilator is available on the WA70 model series only.

Air Conditioning Control Modules									
HPC ①	LPC ②	CCM ③	LAC ④	ALR ©	SK ®	ODT Ø	DDC ®	Factory Installed Code	Field Installed Part
STD	STD	STD	STD	STD				J	N/A
STD	STD	STD	STD	STD			•	V (9)	CMA-24
STD	STD	STD	STD	STD	•			Field Installed Only	CMC-15
STD	STD	STD	STD	STD		•		Field Installed Only	CMA-14

- STD = Standard equipment for these specified models.
- ① HPC. High pressure control is auto reset. Always used with compressor control module (CCM), which is included. See note ③.
- ② LPC. Low pressure control is auto reset. Always used with compressor control module (CCM), which is included. See note ③.
- ③ CCM. Compressor control module has adjustable 30-second to 5-minute delay-on-break timer. On initial power-up, or any time the power is interrupted, the delay-on-make will be 2 minutes, plus 10% of the delay-on-break setting. There is no delay-on-make during routine operation of the unit. The module also provides the lockout feature (with 1 retry) for high and/or low-pressure controls, and a 2-minute timed bypass for low-pressure control.
- $\ensuremath{\textcircled{4}}$ LAC. Low ambient control permits cooling operation down to 0°F.
- 3 ALR. The alarm relay has a set of normally open and normally closed dry contacts to provide the ability to signal a condition of shutdown on either high or low pressure controls.
- © SK. Start kit can be used with all -A single phase models only. Is not used or available for -B or -C three phase models.
- ODT. Outdoor thermostat is adjustable from 0 to 50°F. It is suitable for use as a compressor cut-off thermostat.
- ® DDC. Incorporates 4 additional sensors: discharge air temperature, indoor blower airflow, compressor current, and dirty filter. These sensing devices function to input analog data such as temperature, as well as digital data such as air flow, compressor status or filter status.
- (9) "V" control module should be ordered in conjunction with direct digital controller (DDC) model TCS22. Refer to DDC specification sheet S3280 for more information.