



# THE WALL-MOUNT<sup>TM</sup> CHILLED WATER COIL UNIT

## Description

The Bard Wall-Mount Chilled Water Coil packaged air handling unit provides cooling when connected to the schools existing or new chiller system. All units come standard with the 'energy recovery ventilator' providing increased ventilation to meet indoor air quality requirements per ASHRAE 62-89. Provisions are also made to utilize electric heater packages if desired. The unit is installed on the exterior of the building; therefore, not sacrificing valuable indoor floor space. The air flow system can be ducted or non-ducted as required.

## Product Features

### Energy Recovery Ventilator

The Energy Recovery Ventilator allows from 250 to 400 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.

### Aluminum Finned Copper Coils

Grooved tubing and enhanced louvered fin for maximum heat transfer and energy efficiency. Features 'split face' coil in an upper and lower section allowing two stage cooling.

### Twin Blowers

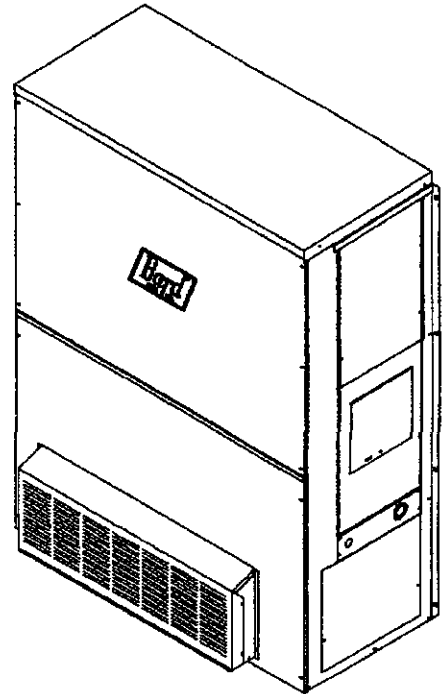
Move air quietly and features a multispeed blower motor providing airflow adjustment for high and low static operation. Motor overload protection is standard on all models.

### Galvanized 20 Gauge Zinc Coated Steel Cabinet

Finished with a baked on, beige polyester enamel.

### 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.



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### One Inch, Disposable Air Filters

Are standard equipment. Optional one inch washable filters available and filter racks permit addition of 2" pleated filter.

### Built-in Circuit Breakers

Standard on all KW versions of single and three phase (203/208 volt) equipment. Pull disconnects are standard on all KW 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.

### Stainless Steel Drain Pan

Provides added protection for evaporator coil and water access valves.

## Capacity Ratings

Model	Volts	Phase	Heat Strip	Cooling Capacity BTUH			
				GPM	EWT	TR	TC
WC391-M00RXXX	230/208	1,3	NONE	8.1	45°F	10°	40,300
WC391-M05RXXX	230/208	1	5.0 KW	8.1	45°F	10°	40,300
WC391-M10RXXX	230/208	1	10.0 KW	8.1	45°F	10°	40,300
WC391-M06RXXX	230/208	3	6.0 KW	8.1	45°F	10°	40,300
WC391-M09RXXX	230/208	3	9.0 KW	8.1	45°F	10°	40,300
WC391-C00RXXX	460	3	NONE	8.1	45°F	10°	40,300
WC391-C09RXXX	460	3	9.0 KW	8.1	45°F	10°	40,300

# Specifications

Models	Electrical Rating	Operating Voltage	Indoor Blower Motor		CFM/ESP	Shipping Weight
	60HZ	Range	H/P - RPM - Spd	AMPS	(Rated-Wet Coil)	
WC391-M	230/208-1 & 3	197-253	1/3 - 1100 - 2 Spd	2.2	1100 - .1	290 lbs.
WC391-C	460-3	414-506	1/3 - 1100 - 2 Spd	1.1	1100 - .1	290 lbs.

# Electrical Specifications

Model	Rated Volts and Phase	No. Field Power Ckts.	SINGLE CIRCUIT				DUAL CIRCUIT			
			(3) Minimum Circuit Ampacity	(1) Maximum External Fuse Or Circuit Breaker	(2) Field Power Wire Size	(2) Ground Wire Size	(3) Minimum Circuit Ampacity		(1) Maximum External Fuse Or Ckt. Breaker	
							Ckt A	Ckt B	Ckt A	Ckt B
WC391-M00	230/208-1	1	5	15	14	14	N/A	N/A	N/A	N/A
WC391-M05		1	32	35	8	10	N/A	N/A	N/A	N/A
WC391-M10		1	58	60	6	10	47	26	50	30
WC391-M06	230/208-3	1	24	25	10	10	N/A	N/A	N/A	N/A
WC391-M09		1	33	35	8	10	N/A	N/A	N/A	N/A
WC391-C00	460-3	1	3	10	14	14	N/A	N/A	N/A	N/A
WC391-C06		1	12	15	14	14	N/A	N/A	N/A	N/A
WC391-C09		1	17	20	12	12	N/A	N/A	N/A	N/A

- (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 Electric Code (latest revision), article 310 for power conductor sizing.

Caution: When more than one field power conductor circuit is run thru 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.

## INDOOR BLOWER PERFORMANCE -CFM at 230 VOLTS

### ELECTRIC HEAT TABLE

Model	WC391-M				WC391-C	
	240-1		208-1		460-3	
	KW	AMPS	BTUH	AMPS	BTUH	AMPS
5	20.8	17,065	18.1	12,800	--	--
10	41.6	34,130	36.2	25,600	--	--
6	14.4	20,500	12.5	15,360	7.2	20,500
9	21.7	30,600	18.7	23,030	10.8	30,600

E.S.P. In H2O	WC391	
	Lo Speed Dry/Wet Coil	High Speed Dry/Wet Coil
.0	1010 / 980	1300 / 1220
.1	950 / 925	1225 / 1130
.2	900 / 860	1125 / 1020
.3	825 / 785	1025 / 925
.4	738 / 675	900 / 810
.5	—	765 / 675

# Cooling Application Data

Model	45° F Entering Water Temperature						42° F Entering Water Temperature				
	W.B. / D.B. ①	GPM	PD	TR	TC②	SC	GPM	PD	TR	TC②	SC
WC391 @ 1130 CFM	80°F 67°F	8.1	20.0	10°	40,300	27,800	9.0	27.7	10°	52,000	30,900
		6.7	15.0	12°	37,700	27,100	7.5	17.5	12°	43,000	29,350
		5.4	10.2	14°	35,250	26,400	6.2	11.6	14°	34,400	27,900
	75°F 63°F	7.0	15.2	10°	32,300	25,450	8.9	27.0	10°	42,650	29,650
		5.2	8.5	12°	29,200	23,800	7.3	17.0	12°	35,250	24,675
		3.9	4.7	14°	26,400	22,250	6.0	10.7	14°	29,100	20,500
WC391 @ 925 CFM	80°F 67°F	7.8	19.0	10°	35,400	24,000	9.2	28.5	10°	44,700	27,700
		6.2	12.0	12°	32,400	22,900	7.6	18.2	12°	36,950	26,300
		5.0	8.1	14°	29,650	21,850	6.2	11.6	14°	30,700	24,950
	75°F 63°F	6.1	10.5	10°	28,400	22,000	9.2	28.5	10°	36,650	26,600
		4.4	7.1	12°	25,000	20,100	7.6	18.2	12°	30,300	22,100
		3.2	3.8	14°	22,200	18,400	6.2	11.6	14°	26,000	18,300

① Return air temp° F.  
② Includes upper and lower circuit of coil.

% OF RATED AIR FLOW	-10	RATED	+10
Total Btuh	0.975	1.0	1.02
Sensible Btuh	.95	1.0	1.05

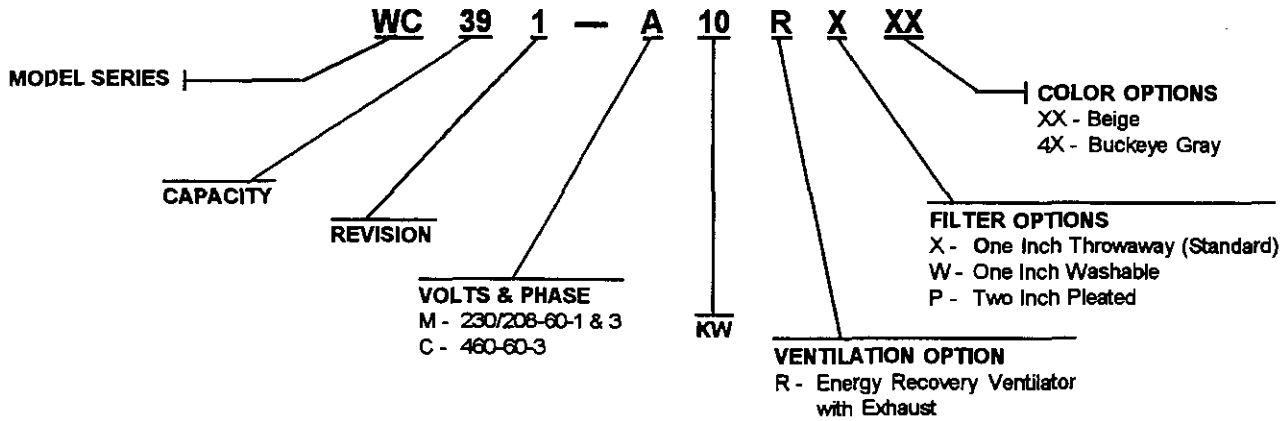
Model	45° F Entering Water Temperature					
	W.B. / D.B. ①	GPM	PD	TR	TC②	SC
WC391 @ 1130 CFM	80°F 67°F	4.6	16.0	10°	21,600	14,700
	75°F 63°F	3.4	9.0	10°	15,350	12,100
WC391 @ 925 CFM	80°F 67°F	4.0	12.0	10°	18,500	12,800
	75°F 63°F	3.0	6.0	10°	12,750	10,100

- ① Return air temp° F.  
② Lower circuit of coil only.

## LEGEND

- EWT = Entering Water Temperature °F  
 TR = Water Temperature Rise  
 TC = Total Cooling Capacity Btu/hr  
 SC = Sensible Cooling Capacity Btu/hr  
 GPM = Water Flow Rate - Gallons Per Minute  
 PD = Water Pressure Drop Ft. H<sub>2</sub>O

# Chilled Water Coil Wall-Mount Model Nomenclature



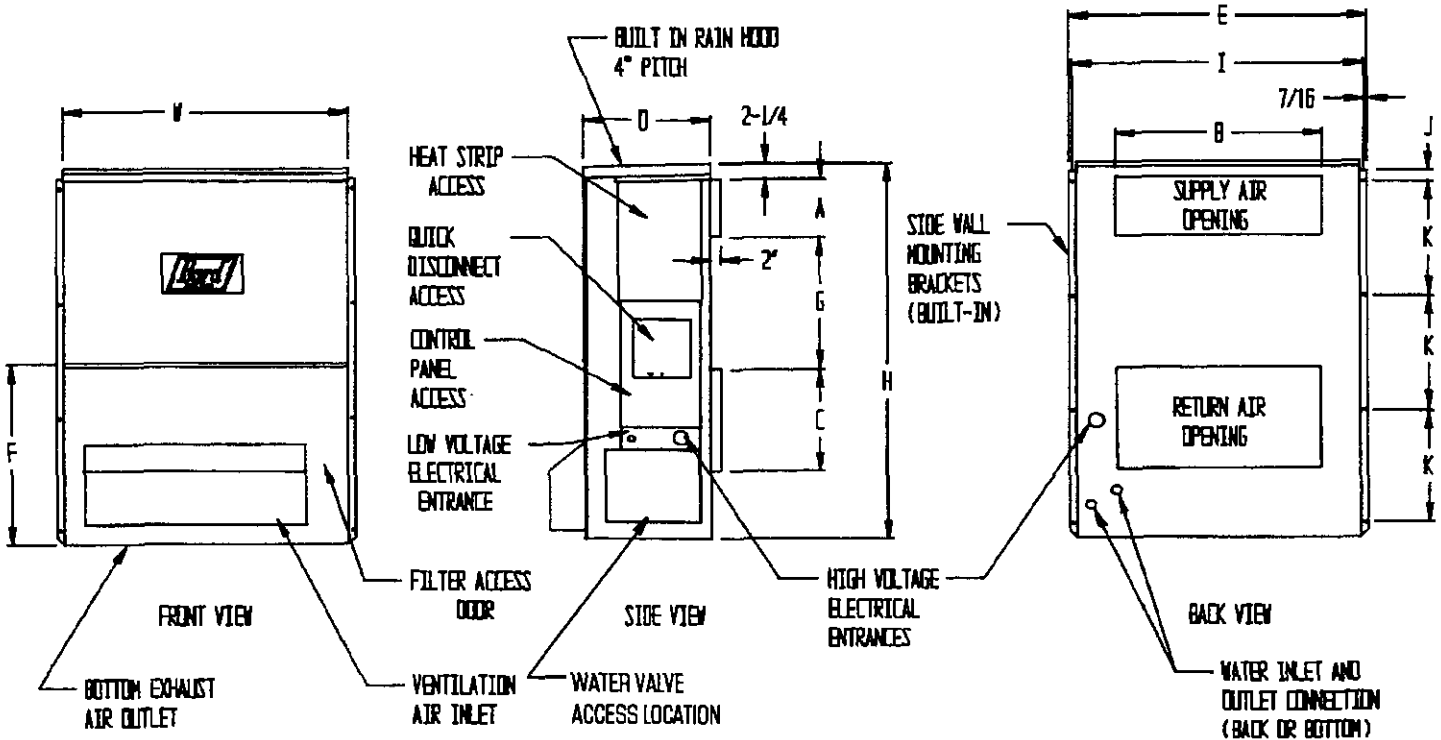
## Minimum Clearances Required to Combustible Materials

Model ①	Supply Air Duct First Three Feet	Cabinet
WC391	1/4"	0"

① Refer to the installation manual for more detailed information.

## Dimensions of Basic Unit for Architectural and Installation Requirements (M)

UNIT	WIDTH (W)	DEPTH (D)	HEIGHT (H)	SUPPLY		RETURN		E	F	G	I	J	K
				A	B	C	B						
WC391	38-1/8	17-1/4	51-3/16	7-7/8	27-7/8	13-7/8	27-7/8	39-7/8	24-3/8	18	39	1-3/8	15-1/2



**BARD MANUFACTURING CO.**  
BRYAN, OHIO 43506  
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just as planned.

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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