



# CR

*Vertical Hydronic Fan Coil*

Chilled Water w/Optional Hot Water, Electric Heat

3-Speed ECM

400 – 1,200 CFM



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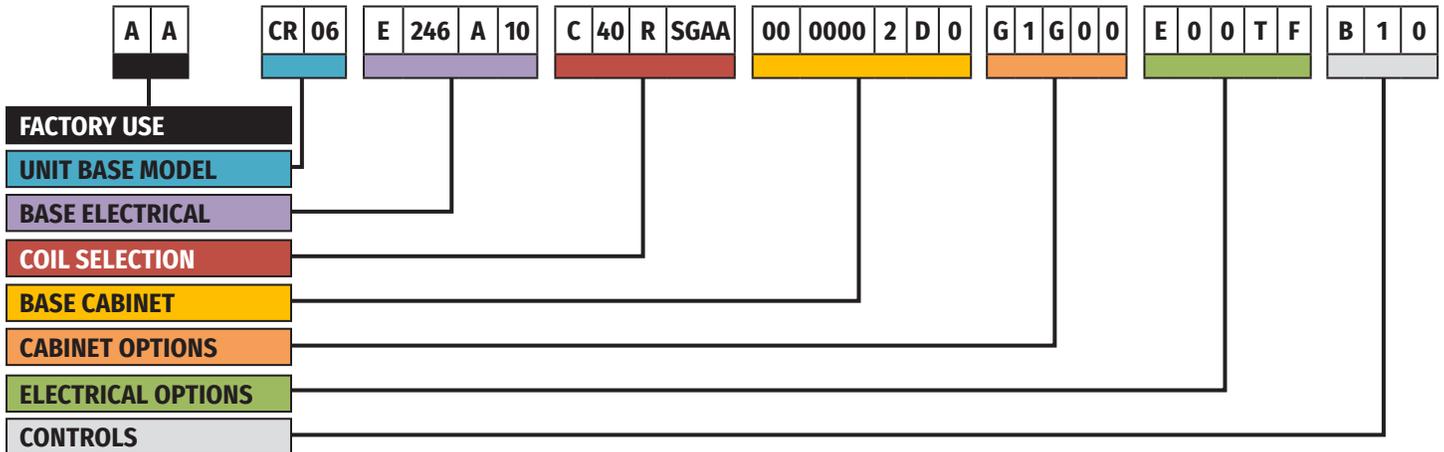
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AE-Air’s customer is ultimately responsible for confirming which fan coil models are compatible with selected outdoor unit(s) and which expansion valves (if any) are required. To determine certified indoor/outdoor combinations, go to [www.ae-air.com](http://www.ae-air.com) or contact the factory.

In keeping with its policy of continuous progress and product improvement, AE-Air reserves the right to make changes without notice.

# NOMENCLATURE



FACTORY USE	
REVISION	A - Revision A
BRAND	A - AE Air      F - First Co.

UNIT BASE MODEL	
MODEL	CR Commercial Vertical Hydronic Fan Coil with Chilled/Hot Water or Electric Heat
SIZE	04 - 400 Nominal CFM 06 - 600 Nominal CFM 08 - 800 Nominal CFM 10 - 1,000 Nominal CFM 12 - 1,200 Nominal CFM

BASE ELECTRICAL	
MOTOR TYPE	E ECM (3-Speed)
VOLTAGE	126 - 120V / 1PH / 60Hz 246 - 208-240V / 1PH / 60Hz 276 - 277V / 1PH / 60Hz 208 - 208V / 1PH / 60Hz
CONTROL VOLTAGE	A - 24V CONTROL
ELECTRIC HEAT	00 - None 01 - 1kW 02 - 2kW 03 - 3kW 04 - 4kW 05 - 5kW 06 - 6kW 08 - 8kW 10 - 10kW

COIL SELECTION	
SYSTEM	A - 2 Pipe Cooling B - 2 Pipe Heating C - 2 Pipe Heat/Cool D - 2 Pipe Heat/Cool/Aux Heat E - 2 Pipe Cool/Electric Heat F - 4 Pipe Heat/Cool
COIL ROWS	20 - 2 Row      31 - 3/1 Row 21 - 2/1 Row    32 - 3/2 Row 22 - 2/2 Row    41 - 4/1 Row 30 - 3 Row      42 - 4/2 Row 40 - 4 Row
COIL HANDLING	L - Left Hand Coil R - Right Hand Coil
CONNECTION	S - Single Hand Side
COIL WRAPPER	G - Galvanized Steel
FIN MATERIAL	A - Aluminum
PRESSURE TEST	A - 350 PSI (2,413 kPa)

BASE CABINET	
HEIGHT	00 - 00" STD (Standard)
CONFIGURATION	0000 - STD Cabinet
INSULATION THICKNESS	2 - 0.5" Insulation
INSULATION TYPE	D - Fiberglass Dual Density F - Foil Faced C - Closed Cell
INSTALLATION	0 - STD (Standard)

CABINET OPTIONS	
DRAIN PAN	G - Galvanized S - Stainless Steel
FILTER FRAME	1 - 1.0" - 2.0" Frame (Convertible)
FILTER OPTION	0 - 1.0" TA Standard A - 2.0" MERV 10 B - 2.0" MERV 11 C - 2.0" MERV 13 G - 1.0" MERV 10
OPTION 1	0 - None
OPTION 2	0 - None

ELECTRICAL OPTIONS	
SERVICE SWITCH	0 - None A - 15A Toggle Switch D - 30A Toggle Switch E - 40A Toggle Switch F - 50A Toggle Switch P - 60A Pull Switch
FUSES	0 - None
HEATER RELAY	0 - None E - Electro-Mechanical
TSTAT CONNECTION	T - Terminal Block
FLOAT SWITCH	0 - None F - Float Switch

CONTROLS	
THERMOSTATS	0 - None F - Fan Switch Only (T422) A - Non Programmable Manual (T420) B - Non Programmable Auto (T421) C - Non Programmable w/LCD (T426) D - Programmable w/LCD (T427) E - Programmable w/Large LCD (T428) G - Non Programmable Manual (T200) H - Non Programmable Auto (T201)
TSTAT LOCATION	2 - Remote Mount
TSTAT OPTION	A - Auto Changeover    M - Manual Changeover

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# NOMENCLATURE (CONT'D)

## CHILLED WATER AND HOT WATER VALVES

HEATING AND COOLING CIRCUITS USE THE SAME NOMENCLATURE STRING

A	2	S	S	4	30	0	0	B	0	B	E
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<b>VALVE SIZE</b>	A – 1/2" Piping B – 3/4" Piping
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<b>VALVE TYPE</b>	2 – 2-Way 3 – 3-Way
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<b>ACTUATOR TYPE</b>	0 – None S – On/Off 24V
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<b>PRESSURE DIFFERENTIAL</b>	0 – None S – 30.0 PSI (206 kPa)	M – 75.0 PSI (51.0 kPa) H – 125 PSI (861 kPa)
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<b>FLOW CONTROL</b>	0 – None 4 – 1/2" Autoflow 6 – 3/4" Autoflow M – 1/2" Circuit Setter N – 3/4" Circuit Setter
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<b>AUTOFLOW</b>	00 – NONE	15 – 1.50 GPM	32 – 3.25 GPM	65 – 6.50 GPM
	05 – 0.50 GPM	16 – 1.63 GPM	35 – 3.50 GPM	70 – 7.00 GPM
	06 – 0.63 GPM	17 – 1.75 GPM	40 – 4.00 GPM	75 – 7.50 GPM
	07 – 0.75 GPM	20 – 2.00 GPM	45 – 4.50 GPM	80 – 8.00 GPM
	10 – 1.00 GPM	22 – 2.25 GPM	50 – 5.00 GPM	90 – 9.00 GPM
	11 – 1.13 GPM	25 – 2.50 GPM	55 – 5.50 GPM	
	12 – 1.25 GPM	30 – 3.00 GPM	60 – 6.00 GPM	

<b>ISOLATION VALVE</b>	0 – None B – Ball Valve
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<b>PRESSURE PORTS</b>	0 – None C – PT Ports Coil Manifold E – PT Ports Water Connection
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<b>STRAINER</b>	0 – None S – Strainer B – Strainer With Blowdown
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<b>AQUASTAT</b>	0 – None 1 – Changeover 2 – Changeover Aux. Heat
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<b>COIL CONNECTION</b>	B – Brazed U – Union
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<b>END CONNECTION</b>	E – Swaged T – Threaded (MPT)	H – Threaded (FPT)(STD) S – Cut
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## VERTICAL HYDRONIC FAN COIL

### STANDARD FEATURES

#### CABINET

External and internal parts are fabricated from galvanized steel. Construction allows for large access panels to permit full access to internal components. The structural integrity of the cabinets remain unaffected by the removal of any or all access panels.

#### INSULATION

Insulation shall be 1/2" thick antimicrobial coated Tuf-skin RX providing effective acoustical and thermal control, fire safety, and resistance to air erosion. This insulation meets the requirements of ASTM C 1071, ASTM G 21, ASTM G22, NFPA 90A and UL-181.

#### COILS

Coils are 3/8" staggered tube type construction with seamless copper tubes and headers and deep corrugated aluminum fins with straight edges. Fins are manufactured with full depth collars, drawn in the fin stock to provide accurate control of fin spacing and completely cover the copper tubes to lengthen coil life. The tubes are to be expanded into the fins for a permanent primary to secondary surface bond, assuring maximum heat transfer efficiency.

The coils are to be tested at 350 PSI [2,413 KPa] air pressure for operation at 300 PSI [2,068 KPa] gauge working pressure.

Coils include a manual air vent.

#### COOLING/HEATING

Options include 2-pipe, 4-pipe or 2-pipe with electric heat.

#### DRAIN PANS

Removable and formed from heavy gauge galvanized steel or optional stainless steel and is coated inside with insulation. The drain pan is factory piped to a removable "p-trap" for easy cleaning.

#### FAN WHEELS

Double width, double inlet (DWDI), forward curved, centrifugal type. They are statically and dynamically balanced for smooth, quiet operation. The housing is constructed of heavy gauge galvanized steel with die-formed inlet cones.

#### MOTOR

Three-speed, single-phase ECM motor, 60.0 Hz, with selectable 115V, 208/240V, or 277V operation. The motor is factory mounted to the blower housing and factory programmed.

#### FILTERS

1.0" or 2.0" disposable type. Standard 1.0" throw-away filter is provided.

#### ELECTRIC HEATERS

Equipped with open wound nichrome wire including automatic and manual reset safety cutout switch and 24V control circuit.

#### VALVE PACKAGES

Various optional factory installed valve packages.

#### 24V CONTROLS

Includes a customer contact terminal block for controls from the thermostat.



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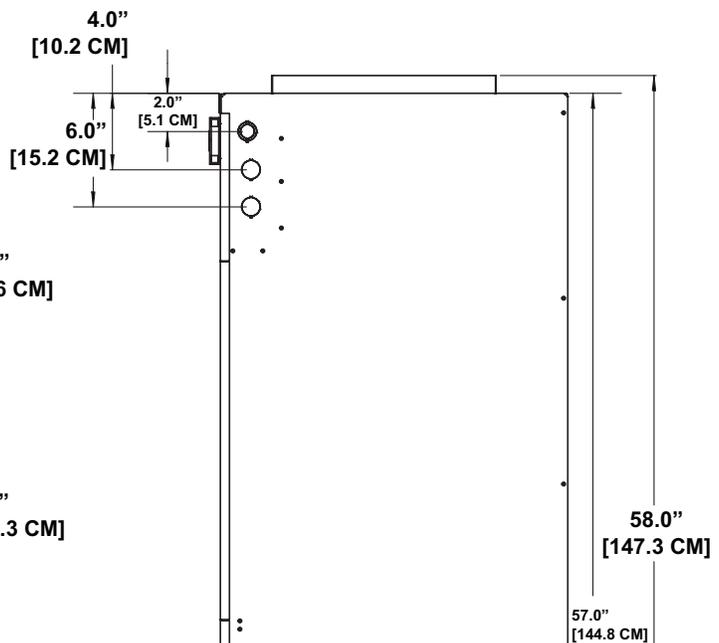
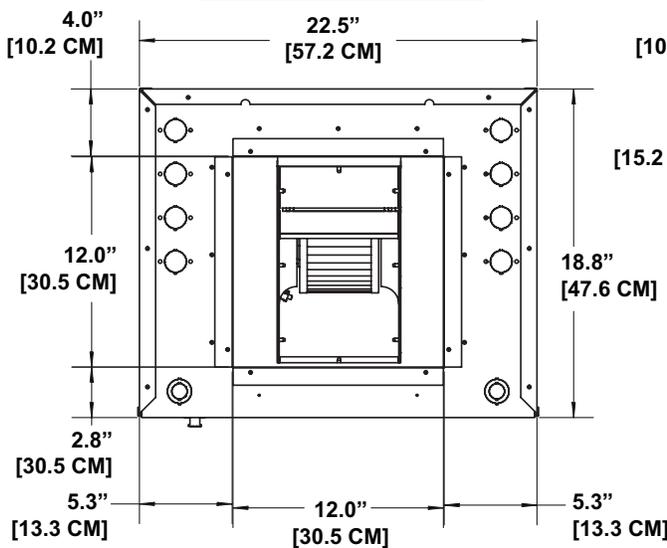
## VERTICAL HYDRONIC FAN COIL

### DIMENSIONS

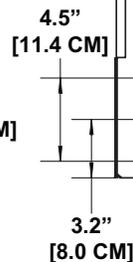
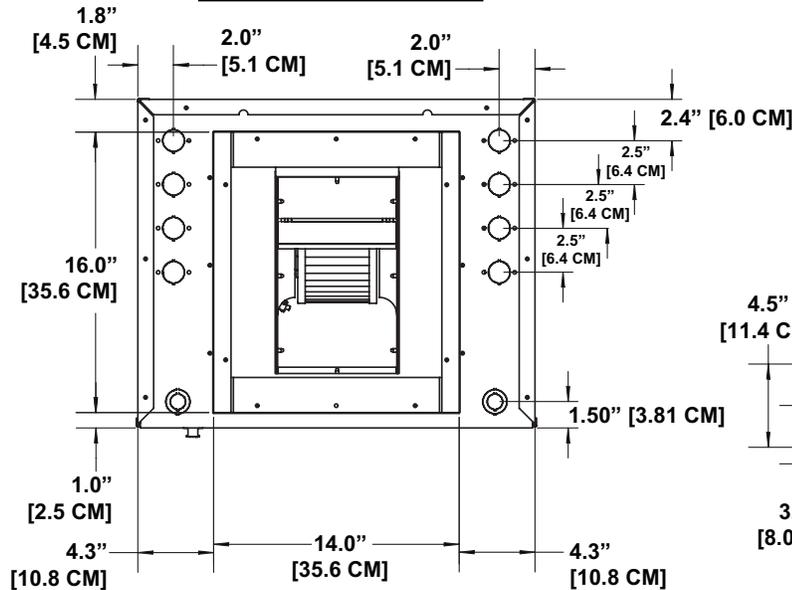
CR – PHYSICAL DIMENSIONS			
Unit Model	Filter Size (in) [cm]	CW and HW Coil Connections	Dust Opening (in) [cm]
4 – 6 CR	14.0 x 18.0 [35.6 x 45.7]	5/8" O. D.	12.0 x 12.0 [30.5 x 30.5]
8 CR	18.0 x 18.0 [45.7 x 45.7]	5/8" O. D.	12.0 x 12.0 [30.5 x 30.5]
10 CR	18.0 x 18.0 [45.7 x 45.7]	5/8" O. D.	16.0 x 14.0 [40.6 x 35.6]
12 CR	18.0 x 20.0 [45.7 x 50.8]	5/8" O. D.	16.0 x 14.0 [40.6 x 35.6]

**NOTE:**  
FNPT connection on top of unit. Optional sweat methods provided in the NOMENCLATURE section.

#### 12.0" x 12.0" DUCTING



#### 16.0" x 14.0" DUCTING

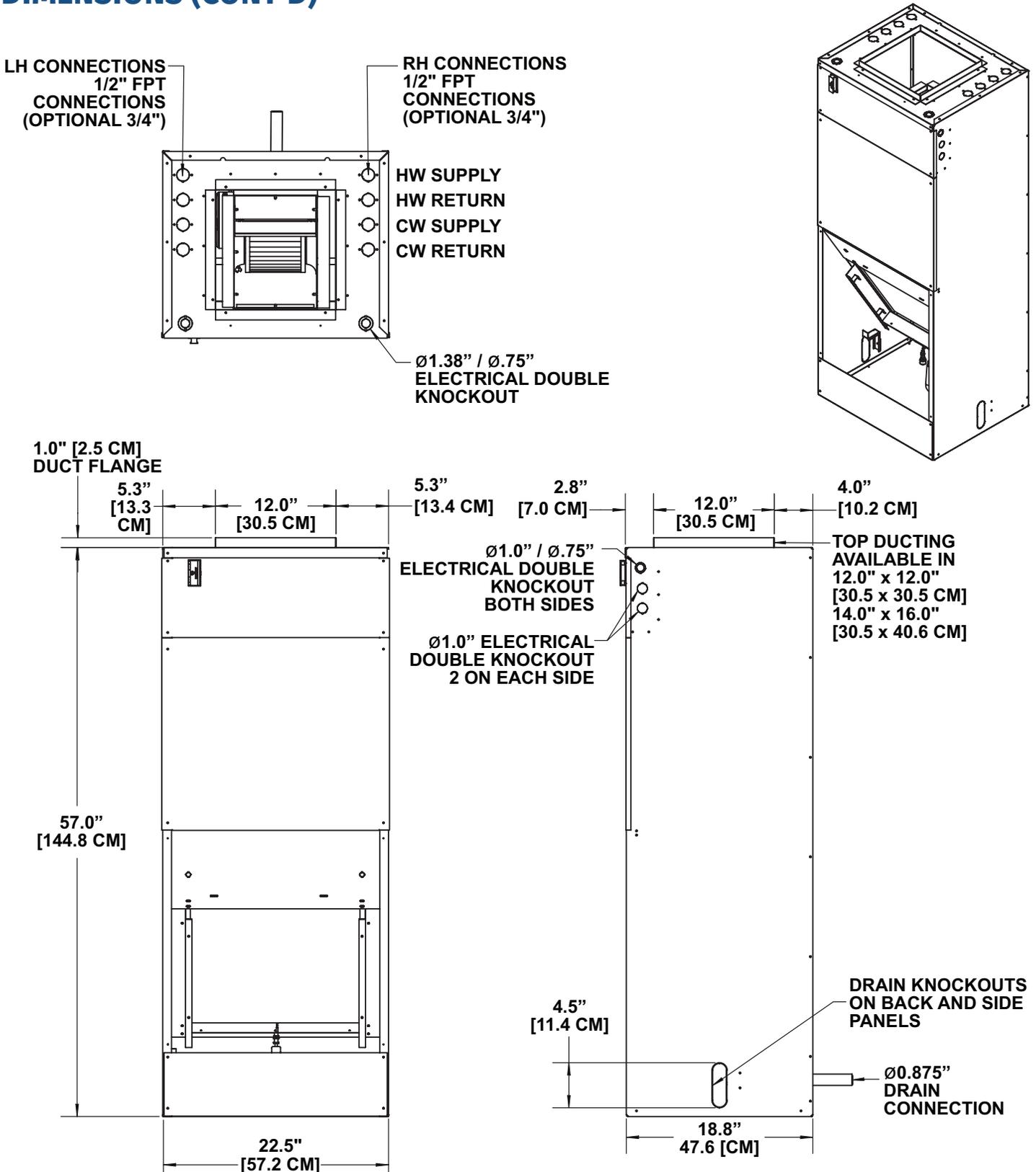


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## VERTICAL HYDRONIC FAN COIL

### DIMENSIONS (CONT'D)



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## VERTICAL HYDRONIC FAN COIL

### COOLING DATA

CR – COOLING CAPACITIES																						
Model	Nom. CFM	Rows	GPM	ΔP (ft H <sub>2</sub> O)	75.0°F [23.9°C] DB / 63.0°F [17.2°C] WB									80.0°F [26.7°C] DB / 67.0°F [19.4°C] WB								
					40.0°F [4.4°C] EWT			45.0°F [7.2°C] EWT			50.0°F [10.0°C] EWT			40.0°F [4.4°C] EWT			45.0°F [7.2°C] EWT			50.0°F [10.0°C] EWT		
					TH	SH	TR	TH	SH	TR	TH	SH	TR	TH	SH	TR	TH	SH	TR	TH	SH	TR
04	400	2	1.5	5.6	TH	SH	TR	TH	SH	TR	TH	SH	TR	TH	SH	TR	TH	SH	TR	TH	SH	TR
			2.0	9.5	10.2	8.3	13.5	8.4	7.5	11.2	6.9	6.8	9.1	12.2	9.1	16.1	10.3	8.3	13.6	8.5	7.7	11.2
			2.5	14.4	11.5	8.9	11.4	9.4	8.0	9.3	7.5	7.2	7.4	13.8	9.9	13.7	11.6	9.0	11.5	9.4	8.1	9.3
04	400	3	1.5	7.3	12.5	9.4	9.9	10.1	8.4	8.0	7.9	7.5	6.3	15.1	10.5	12.0	12.6	9.4	10.0	10.1	8.5	8.1
			2.0	10.2	11.5	9.2	15.2	9.5	8.4	12.6	7.8	7.6	10.3	13.7	10.2	18.2	11.6	9.3	15.3	10.7	9.0	10.7
			2.5	13.6	13.1	10.0	13.1	10.7	9.0	10.6	8.5	8.0	8.4	15.9	11.1	15.8	13.2	10.0	13.1	11.6	9.4	9.3
06	600	3	3.0	5.3	14.4	10.6	11.4	11.6	9.4	9.2	9.0	8.3	7.2	17.4	11.8	13.8	14.5	10.6	11.5	12.3	9.8	8.2
			3.5	7.1	18.7	14.5	10.6	15.2	13.1	8.6	12.1	11.6	6.9	22.6	16.1	12.8	18.9	14.6	10.7	15.3	13.2	8.7
			4.0	9.1	19.7	15.0	9.8	15.9	13.4	7.9	12.5	11.8	6.2	23.8	16.6	11.8	19.8	15.0	9.9	16.0	13.5	8.0
06	600	4	3.0	5.1	21.3	15.9	10.6	17.2	14.2	8.6	13.6	12.6	6.8	25.8	17.7	12.8	21.5	15.9	10.7	17.3	14.3	8.6
			3.5	6.3	22.3	16.4	9.9	18.0	14.5	7.9	14.0	12.8	6.2	27.1	18.3	11.9	22.5	16.4	10.0	18.0	14.6	8.0
			4.0	7.7	23.2	16.8	9.2	18.6	14.8	7.4	14.4	13.0	5.7	28.2	18.8	11.2	23.4	16.8	9.3	18.7	14.9	7.4
08	800	3	4.0	6.7	23.2	18.5	11.5	19.0	16.7	9.4	15.4	15.0	7.7	27.9	20.4	13.8	23.3	18.6	11.6	19.1	17.0	9.5
			5.0	10.2	25.3	19.5	10.1	20.5	17.5	8.2	16.3	15.5	6.5	30.6	21.6	12.2	25.5	19.6	10.2	20.6	17.7	8.2
			6.0	14.4	27.0	20.3	8.9	21.8	18.1	7.2	17.0	16.0	5.6	32.8	22.6	10.8	27.2	20.3	9.0	21.9	18.3	7.3
08	800	4	4.0	5.8	26.8	20.5	10.6	21.8	18.4	8.7	17.3	16.4	6.9	32.5	22.8	12.9	27.0	20.6	10.7	21.9	18.6	8.7
			5.0	8.1	28.8	21.5	9.5	23.3	19.0	7.7	18.2	16.9	6.0	35.2	23.9	11.6	29.1	21.5	9.6	23.4	19.2	7.8
			6.0	10.9	30.5	22.2	8.6	24.5	19.6	7.0	18.9	17.2	5.4	37.1	24.8	10.5	30.9	22.2	8.8	24.6	19.7	7.0
10	1,000	3	5.0	12.2	28.8	23.0	10.4	23.5	20.7	8.5	19.0	18.6	6.9	34.7	25.3	12.5	29.0	23.1	10.5	23.6	21.0	8.6
			5.5	14.3	29.8	23.4	9.9	24.2	21.1	8.0	19.4	18.8	6.4	35.9	25.9	11.9	29.9	23.6	9.9	24.3	21.4	8.1
			6.0	16.7	30.6	23.8	9.4	24.9	21.4	7.6	19.8	19.0	6.1	37.0	26.4	11.3	30.9	23.9	9.4	24.9	21.6	7.6
10	1,000	4	5.5	6.8	30.6	24.2	11.1	25.0	21.8	9.0	20.3	19.7	7.4	36.8	26.8	13.3	30.8	24.4	11.2	25.2	22.1	9.1
			6.0	8.1	31.7	24.8	10.5	25.9	22.3	8.6	20.8	20.0	6.9	38.5	27.5	12.7	32.0	24.9	10.6	26.0	22.5	8.6
			6.5	9.4	32.7	25.3	10.0	26.6	22.6	8.1	21.2	20.2	6.5	39.8	28.1	12.2	33.0	25.4	10.1	26.7	22.9	8.2
12	1,200	4	6.0	8.4	35.5	28.4	11.7	29.1	25.7	9.6	23.8	23.2	7.9	42.6	31.4	14.1	35.7	28.7	11.8	29.2	26.1	9.7
			7.0	11.2	37.8	29.5	10.7	30.8	26.5	8.7	24.8	23.8	7.1	45.6	32.8	12.9	38.0	29.7	10.8	30.9	26.8	8.8
			8.0	14.5	39.8	30.5	9.9	32.3	27.2	8.0	25.6	24.3	6.4	48.4	33.9	12.0	40.1	30.6	10.0	32.4	27.5	8.1

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# CR

## VERTICAL HYDRONIC FAN COIL

### HEATING DATA

CR – HEATING CAPACITIES 1 ROW												
Unit Model	Nominal CFM	Rows	GPM	Heating Data (70.0°F [21.11°C] Entering Air)								
				ΔP (ft H <sub>2</sub> O)	BTUH @180°F [82.2°C]	Lvg Air°F	BTUH @160°F [71.1°C]	Lvg Air°F	BTUH @140°F [60.0°C]	Lvg Air°F	BTUH @120°F [48.9°C]	Lvg Air°F
4CR	400	1	1.3	2.0	20.8	120.4	16.8	111.3	12.8	102.3	8.9	93.3
			1.5	2.8	21.8	122.6	17.6	113.1	13.5	103.7	9.4	94.3
			1.8	3.8	22.6	124.4	18.2	114.6	14.0	104.8	9.7	95.1
6CR	600	1	1.0	1.3	22.9	107.8	18.5	101.1	14.1	94.5	9.8	87.9
			1.5	2.8	26.5	113.2	21.4	105.5	16.3	97.8	11.3	90.2
			2.0	4.9	28.6	116.4	23.1	108.1	17.7	99.8	12.3	91.7
8CR	800	1	1.0	1.6	27.3	104.1	22.1	98.2	16.9	92.2	11.7	86.4
			1.5	3.4	32.3	109.8	26.1	102.7	19.9	95.7	13.9	88.8
			2.0	5.7	35.4	113.3	28.6	105.6	21.9	97.9	15.2	90.3
10CR	1,000	1	1.5	3.4	35.1	105.0	28.4	98.8	21.7	92.7	15.0	86.7
			2.0	5.7	38.9	108.5	31.4	101.7	24.0	94.9	16.7	88.2
			2.5	8.6	41.6	110.9	33.6	103.6	25.7	96.4	17.9	89.3
12CR	1,200	1	2.0	2.0	43.2	105.8	35.0	99.5	26.7	93.3	18.6	87.1
			2.5	3.1	46.5	108.3	37.6	101.6	28.8	94.9	20.0	88.2
			3.0	4.3	49.0	110.2	39.6	103.1	30.3	96.0	21.1	89.0

**NOTE:**

1. Above capacities are at nominal CFM conditions. Maximum discharge air temperature must not exceed 145°F [62.8°C] at actual CFM.

CR – HEATING CAPACITIES 2 ROW												
Unit Model	Nominal CFM	Rows	GPM	Heating Data (70.0°F [21.11°C] Entering Air)								
				ΔP (ft H <sub>2</sub> O)	BTUH @180°F [82.2°C]	Lvg Air°F	BTUH @160°F [71.1°C]	Lvg Air°F	BTUH @140°F [60.0°C]	Lvg Air°F	BTUH @120°F [48.9°C]	Lvg Air°F
4CR	400	2	1.0	2.1	26.7	133.8	21.6	122.3	16.6	110.9	11.6	99.4
			1.3	3.2	29.0	139.1	23.5	126.6	18.0	114.1	12.6	101.7
			1.5	4.5	30.7	142.9	24.9	129.7	19.1	116.5	13.3	103.4
6CR	600	2	1.5	4.9	37.8	130.3	30.6	119.5	23.5	108.6	16.4	97.9
			2.0	8.3	41.6	136.2	33.7	124.2	25.9	112.3	18.0	100.4
			2.5	12.4	44.1	140.1	35.8	127.4	27.5	114.7	19.2	102.1
8CR	800	2	2.5	7.7	56.2	137.0	45.5	124.8	34.9	112.7	24.3	100.7
			3.0	10.2	58.4	139.5	47.3	126.9	36.3	114.3	25.3	101.8
			3.5	13.1	60.1	141.4	48.7	128.5	37.3	115.5	26.0	102.7
10CR	1,000	2	3.0	7.7	62.9	130.3	50.9	119.4	39.0	108.6	27.2	97.8
			3.5	10.3	65.8	133.0	53.3	121.6	40.8	110.2	28.5	98.9
			4.0	13.1	68.1	135.1	55.2	123.3	42.3	111.6	29.5	99.9
12CR	1,200	2	4.0	7.4	75.5	130.3	61.1	119.4	46.7	108.5	32.5	97.7
			4.5	9.2	78.0	132.2	63.1	120.9	48.3	109.7	33.6	98.5
			5.0	11.3	80.0	133.8	64.8	122.2	49.6	110.7	34.6	99.2

**NOTE:**

Above capacities are at nominal CFM conditions. Maximum discharge air temperature must not exceed 145°F [62.8°C] at actual CFM.

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## VERTICAL HYDRONIC FAN COIL

### ELECTRICAL DATA

CR – ELECTRICAL DATA															
Unit Model	Electrical Heat Capacity						Total Amps			Minimum Circuit Ampacity (MCA)			Max Overcurrent Protection (MOP)		
	kW			BTUH											
	240V	208V	277V	240V	208V	277V	240V	208V	277V	240V	208V	277V	240V	208V	277V
4CR	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.5	2.6	3.0	3.0	3.0	15.0	15.0	15.0
	1.0	0.8	1.0	3,400	2,600	3,400	6.8	6.1	6.2	8.0	8.0	8.0	15.0	15.0	15.0
	2.0	1.5	2.0	6,800	5,100	6,800	10.9	9.7	9.8	14.0	12.0	12.0	20.0	20.0	20.0
	3.0	2.3	3.0	10,200	7,700	10,200	15.1	13.3	13.4	19.0	17.0	17.0	25.0	20.0	20.0
	4.0	3.0	4.0	13,600	10,200	13,600	19.3	16.9	17.0	24.0	21.0	21.0	30.0	25.0	25.0
6CR	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.5	2.6	3.0	3.0	3.0	15.0	15.0	15.0
	2.0	1.5	2.0	6,800	5,100	6,800	10.9	9.7	9.8	14.0	12.0	12.0	20.0	20.0	20.0
	3.0	2.3	3.0	10,200	7,700	10,200	15.1	13.3	13.4	19.0	17.0	17.0	25.0	20.0	20.0
	4.0	3.0	4.0	13,600	10,200	13,600	19.3	16.9	17.0	24.0	21.0	21.0	30.0	25.0	25.0
	5.0	3.8	5.0	17,000	12,800	17,000	23.4	20.5	20.7	29.0	26.0	26.0	30.0	30.0	30.0
	6.0	4.5	6.0	20,500	15,400	20,500	27.6	24.1	24.3	35.0	30.0	30.0	35.0	30.0	35.0
8CR	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.5	2.6	3.0	3.0	3.0	15.0	15.0	15.0
	3.0	2.3	3.0	10,200	7,700	10,200	15.1	13.3	13.4	19.0	17.0	17.0	25.0	20.0	20.0
	4.0	3.0	4.0	13,600	10,200	13,600	19.3	16.9	17.0	24.0	21.0	21.0	30.0	25.0	25.0
	5.0	3.8	5.0	17,000	12,800	17,000	23.4	20.5	20.7	29.0	26.0	26.0	30.0	30.0	30.0
	6.0	4.5	6.0	20,500	15,400	20,500	27.6	24.1	24.3	35.0	30.0	30.0	35.0	30.0	35.0
	8.0	6.0	8.0	27,300	20,500	27,300	35.9	31.3	31.5	45.0	39.0	39.0	50.0	40.0	40.0
10CR	0.0	0.0	0.0	0.0	0.0	0.0	3.8	3.7	3.6	5.0	5.0	5.0	15.0	15.0	15.0
	3.0	2.3	3.0	10,200	7,700	10,200	16.3	14.5	14.4	20.0	18.0	18.0	25.0	25.0	25.0
	5.0	3.8	5.0	17,000	12,800	17,000	24.6	21.7	21.7	31.0	27.0	27.0	35.0	35.0	30.0
	6.0	4.5	6.0	20,500	15,400	20,500	28.8	25.3	25.3	36.0	32.0	32.0	40.0	35.0	35.0
	8.0	6.0	8.0	27,300	20,500	27,300	37.1	32.5	32.5	46.0	41.0	41.0	50.0	50.0	50.0
	10.0	7.5	10.0	34,100	25,600	34,100	45.5	39.8	39.7	57.0	50.0	50.0	60.0	50.0	50.0
12CR	0.0	0.0	0.0	0.0	0.0	0.0	3.8	3.7	3.6	5.0	5.0	5.0	15.0	15.0	15.0
	3.0	2.3	3.0	10,200	7,700	10,200	16.3	14.5	14.4	20.0	18.0	18.0	25.0	25.0	25.0
	5.0	3.8	5.0	17,000	12,800	17,000	24.6	21.7	21.7	31.0	27.0	27.0	35.0	35.0	30.0
	6.0	4.5	6.0	20,500	15,400	20,500	28.8	25.3	25.3	36.0	32.0	32.0	40.0	35.0	35.0
	8.0	6.0	8.0	27,300	20,500	27,300	37.1	32.5	32.5	46.0	41.0	41.0	50.0	50.0	50.0
	10.0	7.5	10.0	34,100	25,600	34,100	45.5	39.8	39.7	57.0	50.0	50.0	60.0	50.0	50.0

CR – 120V ELECTRICAL DATA					
Unit Model	HP	Voltage	FLA	MCA	MOP
4CR	1/3	120v	4.8	6.0	15.0
6CR	1/3	120v	4.8	6.0	15.0
8CR	1/3	120v	6.8	8.5	15.0
10CR	1/2	120v	6.8	8.5	15.0
12CR	1/2	120v	6.8	8.5	15.0

In keeping with its policy of continuous progress and product improvement, AE-Air reserves the right to make changes without notice.

# CR

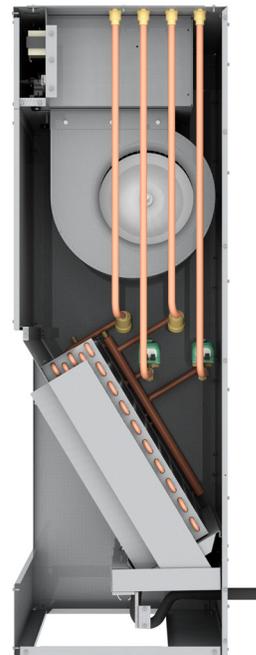
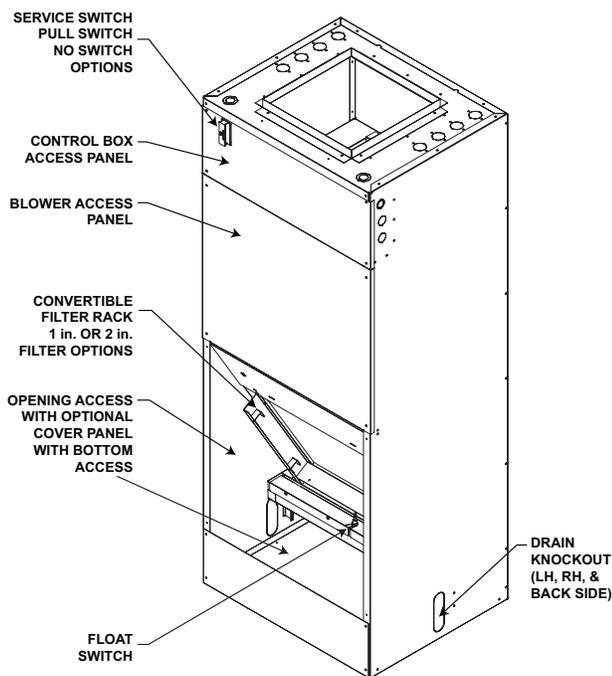
## VERTICAL HYDRONIC FAN COIL

### BLOWER DATA – ECM

CR – PERFORMANCE DATA: BLOWER											
Unit Model	Motor HP	Speed Tap	CFM vs External Static Pressure								
			0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
4CR	1/3	High	555	520	495	465	440	410	315	—	—
		Medium High	485	455	430	395	360	340	315	—	—
		Medium Low	420	370	345	310	275	270	—	—	—
		Low	355	310	265	235	220	—	—	—	—
6CR	1/3	High	785	760	740	720	700	680	665	645	625
		Medium High	690	675	645	615	585	560	540	530	525
		Medium Low	550	515	490	465	445	420	395	375	360
		Low	430	400	365	330	305	285	255	220	200
8CR	1/3	High	990	960	930	910	870	850	780	720	660
		Medium High	845	815	785	765	740	720	690	665	620
		Medium Low	715	680	655	625	595	565	540	515	505
		Low	595	555	520	485	445	435	—	—	—
10CR	1/2	High	1,250	1,225	1,195	1,155	1,120	1,090	1,045	1,020	985
		Medium High	1,000	970	940	910	880	860	830	810	790
		Medium Low	910	870	840	810	785	760	735	705	680
		Low	770	730	695	660	630	600	575	545	515
12CR	1/2	High	1,310	1,285	1,265	1,240	1,215	1,190	1,160	1,135	1,095
		Medium High	1,175	1,150	1,125	1,105	1,065	1,040	1,010	990	945
		Medium Low	1,100	1,075	1,050	1,020	990	960	935	890	860
		Low	960	930	900	865	825	785	750	725	695

**NOTES:**

1. Airflow data shown is with a dry coil at 70.0°F [21.1°C] DB EAT and with standard 1.0" [2.5 cm] throwaway filter.
2. "—" denotes operation not recommended.



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# CR

## VERTICAL HYDRONIC FAN COIL

### OPTIONAL ACCESSORIES

CR – OPTIONAL ACCESSORIES					
Description	Part Number	Dimensions (in) [cm]			
		Inside		Outside	
		Width	Height	Width	Height
Wall Panel (Louvered)	9PWCR01L	24.5 [62.2]	57.5 [146.1]	27.0 [68.6]	60.5 [153.7]
Wall Panel (Solid)	9PWCR01S	24.5 [62.2]	57.5 [146.1]	27.0 [68.6]	60.5 [153.7]

CR – PANEL OPTIONS	
Wall Panel (Louvered)	Wall Panel (Solid)
Part Number: 9PWCR01L	Part Number: 9PWCR01S

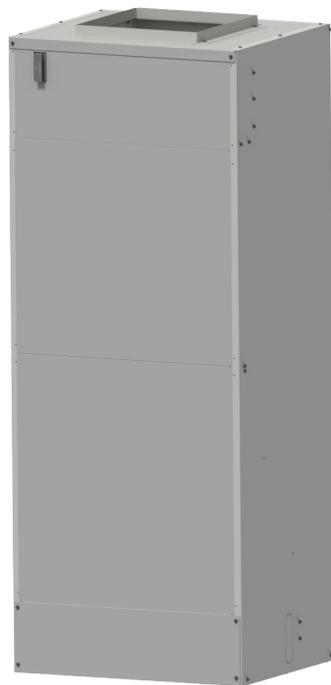
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# CR

## VERTICAL HYDRONIC FAN COIL

### OPTIONAL THERMOSTATS

DESCRIPTION	PART NUMBER	RENDERING
Wall Thermostat 3-SPD, Manual Changeover	<b>T420</b> (24V)	
Wall Thermostat 3-SPD, Auto CHANGEOVER	<b>T421</b> (24V)	
24V Wall Thermostat 3-SPD Manual Changeover (Autospeed 24V)	<b>T200</b> (24V)	
24V Wall Thermostat 3-SPD Manual Changeover (Autospeed 24V)	<b>T201</b> (24V)	
Wall Thermostat 3-SPD Manual Changeover (Autospeed/Manual 24V OR 110-277)	<b>T426</b> (24V)	
Programmable Wall Thermostat 3-SPD Manual Changeover (Autospeed/Manual 24V OR 110-277)	<b>T427</b> (24V)	
Proportional Programmable Wall Thermostat 3-SPD W/ LARGE LCD	<b>T428</b> (24V)	



CR Unit  
(Shown w/Optional Bottom Return Kit)

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# CR

## VERTICAL HYDRONIC FAN COIL

### VALVE PACKAGES AND ACCESSORIES

ACTUATOR		
2-POSITION (ON-OFF) 50/60HZ		
VOLTAGE	PART #	2-Way Valve and Actuator
24V	E50131180	

VALVE BODY (2-POSITION) MATERIALS								
Body	Stem	Two O-Rings Seals	Paddle	Fluid	Maximum % of Glycol	Temperature Range	Max. Static Pressure	Sweat Connection
Brass	Stainless Steel	EPDM	EPDM	Water/Glycol	50%	32.0°F TO 230°F	300 PSI	6", 3/4", 1"
E431213 3-WAY				E421213 2-WAY				
								

ACTUATOR MATERIALS								
Base	Cover	Base plate	Wire Lead Length	Power Requirements	Ambient Temp. Range	Micro Switch	Humidity	Approvals
Poly-Carbonate	Poly-Carbonate	Aluminum	6" - (24V 18")	6.5W, 7 VA	32.0°F TO 170°F	5 A, 250 V	95% Non-Condensing	ETL, Cul, CE

VALVE PACKAGE ACCESSORIES		
<b>Automatic Fixed Flow Control</b>		
1/2"		
CP65417XXX		
Pete's Plug CP6025		
<b>Manual Adjustment Flow Setter</b>		
1/2"	3/4"	
CP601	CP6011	
<b>Y-Strainer (Sweat)</b>		
1/2"		
CP603	CP603B	
<b>Ball Valves (Sweat) Full Port (T-Handle)</b>		
1/2"		
CP9		

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# CR

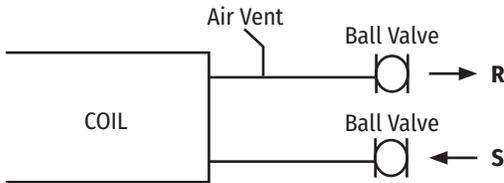
## VERTICAL HYDRONIC FAN COIL

### PIPING PACKAGE OPTIONS

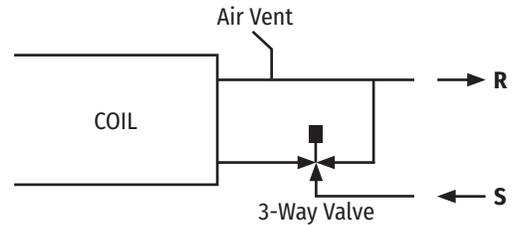
#### TWO POSITION OR MODULATING

Manual air vents are standard and are factory mounted on all chilled water and hot water coils. All pre-piped on/off or modulating valve packages are factory assembled with sweat connections.

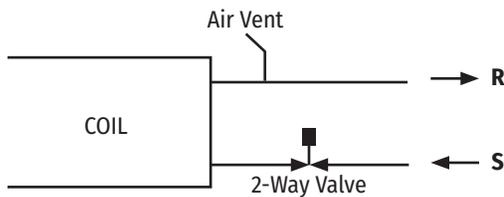
##### Ball Valves only, No Control Valve



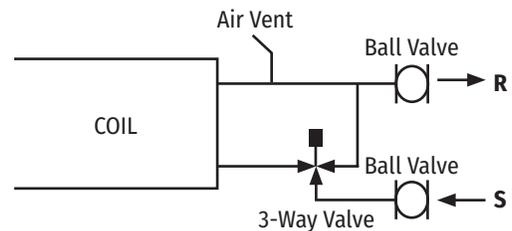
##### 3-Way Valve, No Ball Valves



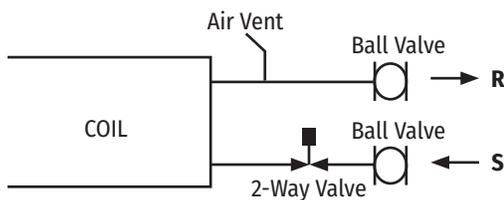
##### 2-Way Valve, No Ball Valves



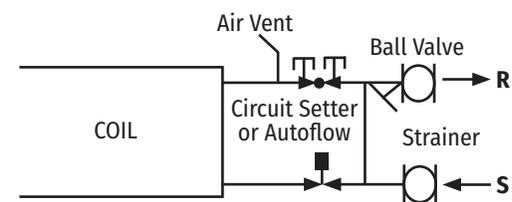
##### 3-Way Valve, with 2-Ball Valves



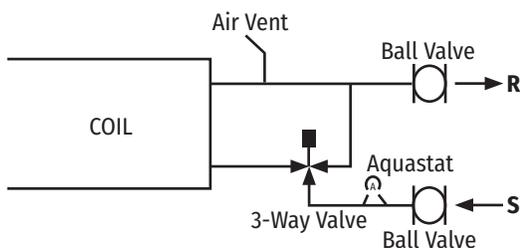
##### 2-Way Valve with 2-Ball Valves



##### 3-Way Valve, with 2-Ball valve and Manual Circuit Setter or Automatic Flow Control, Y-Strainer, PT's



##### 3-Way Valve with 2-Ball Valves and Aquastat



#### Additional Options:

Y-Strainers, Pete's Plugs, Cleanout Blow-down, SS hose kits, Aquastats.

Additional options and configurations may be available. Contact factory for availability.

Valve packages are available as kits or factory mounted on certain products. Contact factory for availability.

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# CR

## VERTICAL HYDRONIC FAN COIL

### SPECIFICATION GUIDE

#### SYSTEM DESCRIPTION

Vertical fan coil units, 2-pipe, 4-pipe, or 2-pipe electric heat for closet or wall furred-in applications for single or multi-story buildings. Units shall be completely assembled and complete with water coils, fan, motor, drain pan, and all required wiring, piping, controls and special features.

#### WATER COILS

All coils shall have 3/8" copper tubes mechanically bonded to a configured aluminum plate fin. The copper tubes comply with the ASTM B-75. Coils shall be leak tested at the factory to ensure the pressure integrity. The coil shall be leak tested under water to 350 PSIG [2,413 KPa] for operation to 300 PSIG [2,068 KPa]. Coils are equipped with two manual air vents for the supply and return lines.

#### VALVE PACKAGES (OPTIONAL)

**CR Valve Package Components – (OPTIONAL)** Valve Packages are available and can be configured with the following components to meet specific specifications:

**FH - Flexible Hoses (OPTIONAL)** - enable the Supply and Return water connections between the Unit and the water Loop Risers. The two stainless steel FH are made of a stainless-steel outer braid with an inner core of tube made of a nontoxic synthetic polymer material. Fire rated materials per ASTM E84-00 (NFPA 255, ANSI/UL 723 & UBC 8-1). The FH terminations are swivel MPT (Male Pipe Thread) fitting at one end and at the opposite end with an MPT connector sealed with a fiber or EPDM washer, shipped inside the connection. Swivel connection provides union between chassis and risers. The FH have a max working pressure of 400 PSI, temperature-operating range of 15.0°F [-9.4°C] to 180°F [82.2°C] however, operation below 32.0°F [0.0°C] requires antifreeze.

**AWBV - Automatic Water Balancing Valve (OPTIONAL)** - regulates the amount of water into each unit to enable a proper Water System balance. The AWBV shall be factory set to a rated flow, and shall automatically control the flow to within 10% of the rated value over a 40 to 1 differential pressure, operating range (2.0 to 80.0 PSID). Valve Body Suitable for 600 PSIG. Operational temperature shall be rated from fluid freezing, to 225°F [107°F]. The valve body shall be constructed from hot forged brass UNS C37700 per ASTM B-283 latest revision.

**ST - Strainer (OPTIONAL)** - The ST valve body is constructed from dezincification resistant brass with a 600 PSI and a max working temperature of 325°F [163°C]. The ST filter screen is made of a 20-mesh screen constructed of 304 stainless steel and removable via a cap with an FKM sealing O-Ring. The ST cap has a 1/4" or 1/2" FNPT Port to which a blowdown ball valve is attached including a hose bib threaded connection and cap.

**IBV - Isolation Valves (OPTIONAL)** - Isolation ball valves mounted between the unit and the supply and return lines of the loop to isolate the water flow to the unit in a maintenance or service situation. The IBV are rated to 600 PSI non-shock cold working pressure. Full port, two-piece body with blowout-proof stem and PTFE Seats. ASME B16.33: 125 PSIG (maximum) and operating temperature of -4.0°F [-20.0°C] to 194°F [90.0°C].

**MCV - Motorized Control Valves (OPTIONAL)** - The MCV actuator is easily removed, ON/OFF type, 2-way, normally close with a spring close actuation and actuates with a 24VAC control signal. The MCV valve body comes in two options. Option 1 can operate at a maximum operating pressure of 300 PSI, a max allowable glycol percentage of 30.0 PSI, operating with fluid temperatures between 32.0°F [0.0°C] to 240°F [115°C] and a max glycol percentage allowable of 50%. Option 2 can operate at a maximum operating pressure of 360.0 psi, a maximum pressure differential of 75.0 PSI, operating with fluid temperatures between 36.0°F [2.2°C] to 212°F [100°C] and a max allowable glycol percentage allowable of 60%.

#### CABINET

Fabricated from heavy gauge galvanized steel. Large access panels permit full access to internal components. The structural integrity of the cabinets shall remain unaffected by the removal of any or all access panels. All panels shall be insulated with 1/2" Tuf-Skin RX™, which offers greater sound absorption and better thermal efficiency. Insulation to have a special acrylic coating that's formulated with an EPA registered anti-microbial agent. The insulation meets the erosion requirements of UL 181.

It has a flame spread of less than 25 FSI and a smoke developed classification of less than 50 SDI per ASTM E-84 and UL 723. Access for inspection and cleaning of the unit drain pan, coils and fan section shall be provided. The unit shall be installed for proper access.

#### BASIC CONTROLS

Basic controls include 24V transformer, terminal block for customer connection, optional service switch & relays for optional electric heat.

# CR

## VERTICAL HYDRONIC FAN COIL

### SPECIFICATION GUIDE (CONT'D)

#### DRAIN PAN

Removable drain pan shall be formed of heavy gauge galvanized steel and shall be coated inside with insulation. The drain is factory installed with a removable "P-trap" allowing easy cleaning.

#### ELECTRICAL

The unit control box shall contain all necessary devices to allow heating and cooling operation to occur from a remote wall thermostat. These devices shall be as follows:

- 24 VAC energy limiting class II [40 VA] (minimum) transformer] 24 VAC 3-speed control board.
- Thermostat connections shall be provided for ease of hook-up to a terminal strip located in the unit's control box.

#### ELECTRIC HEAT

Unit shall be equipped with nichrome wire electric strip heaters for total or auxiliary electric heat as specified on equipment schedule. Heaters shall be protected by an automatic reset safety cutout switch.

Heater capacity shall be as specified on the equipment schedule.

Heaters shall be single phase, 60.0 Hz for 240 or 277 volts as specified on the equipment schedule.

For total electric heat, unit controls may include a sequenced heating and cooling thermostat.

\*For auxiliary electric heat or twilight heat, optional unit controls shall include 2 additional automatic changeover devices.

#### FILTERS

1.0" or 2.0" filters shall be standard and factory installed.

#### INDOOR BLOWER WHEELS

Double width, double inlet (DWDI), forward curved, centrifugal type. They are statically and dynamically balanced for a smooth, quiet operation. The Class I housing is constructed of heavy gauge steel with die-formed inlet cones.

#### MOTORS

To be multi-speed, 120V, 208/240V, or 277V single-phase, 60.0 Hz, electrically commutated motor (ECM) type factory mounted to the blower assembly with rubber isolators, with three factory-programmed speeds.



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YOUR VISION. YOUR BUILD. OUR EXPERTISE.



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