



## 18CWA2-00 Chilled Water Fan Coil With or Without Electric Heat

2-Pipe Heat / Cool Fan Coil 18,000 BTUH

Rev. 1.3

# HVAC Guide Specifications

Chilled or Hot Water with Optional Electric Heat Multi-Position Fan Coil  
2-Pipe

Nominal Size:

**18,000 BTUH**

Multiaqua Model Number:

18CWA2-00

## **Part 1-General**

### **1.01 System Description**

Multiaqua Chilled Water Fan Coils are manufactured with heavy gauge galvanized steel to resist corrosion.

### **1.02 Quality Assurance**

- A. Certified in accordance with U.L. Standard 95, latest version (U.S.A.)
- B. Manufactured in a facility registered to ISO 9002, Manufacturing Quality Standard.
- C. Fully load tested at the factory.
- D. Damage resistant packaging.

### **1.03 Delivery, Storage and Handling**

- A. Packaged and readied for shipment from the factory.
- B. Controls shall be capable of withstanding 150°F storage temperatures in the control compartment.
- C. Stored and handled per manufacturer's recommendations.

## **Part 2-Product**

### **2.01 Equipment**

- A. General:
  1. Unit shall be a factory assembled and tested multi-position chilled/ hot water with electric heat fan coil.
  2. Shall be assembled with high quality.
  3. Contained with the unit shall be all factory wiring, piping, associated controls and special accessories required prior to start up.
- B. Unit Cabinet:
  1. Composed of heavy gauge galvanized steel casing with baked polyester powder.
  2. Shall be internally insulated to ensure quiet operation.
  3. Cabinet shall be capable of being installed in a vertical or horizontal position.
- C. Fan Motors:
  1. Shall be available in 208/230-1-60 VAC.
  2. Fan motors shall be three speed, direct drive, and PSC type.
  3. Internal overload protected.
- D. Blower Wheels:
  1. Blower wheels are forward curved and dynamically balanced.
- E. Water Coil:
  1. Manufactured with water coils containing 3/8" copper tubing mechanically bonded to aluminum fins.
  2. Coils shall be factory tested to 350 psig.
  3. Coil shall contain manual air bleed port.
- F. Drain Pan:
  1. Drain pan shall be molded with high impact polymers.
  2. Pan shall contain a primary and secondary drain connection.
  3. Pan shall be capable of draining in the vertical and horizontal positions without changing the pan configuration.
- G. Filters:
  1. Unit shall contain a filter door for easy access to the filter.
  2. A filter track shall be provided.
  3. Unit shall come supplied with a 1" throwaway filter.
- H. Electric Heaters:
  1. Unit shall be capable of incorporating an electric heat package.
  2. Electric heaters shall be of the open wire type.
  3. Electric heat packages shall contain non-fused breakers, sequencers and safeties.

**Part 3-Controls and Safeties****3.01 Controls**

- A. Fan coils shall be completely factory wired and tested.
- B. Unit shall include a terminal block that is capable of incorporating a 24 VAC thermostat.

**3.02 Safeties:**

- A. Fan coil shall contain a non-reusable fuse on the secondary voltage side of the transformer.
- B. Electric heat package shall contain non-fusible breakers and high temperature limits.

**Part 4-Operating Characteristics****4.01 Electrical Requirements**

- A. Electrical shall include a terminal block.
- B. Electrical power supply shall be rated to withstand 120°F operating ambient temperatures.

**Part 5- Definitions****5.01 Abbreviations**

- A. CFM = Cubic Feet per Minute
- B. DB = Dry Bulb Temperature
- C. EWT = Entering Water Temperature
- D. GPM = US Gallons Per Minute
- E. MBH = BTU X 1000
- F. SC = Sensible Cooling
- G. TC = Total Cooling = Sensible + Latent
- H. WB = Wet Bulb Temperature
- I. WPD = Water Pressure Drop in feet of head
- J. dB = Decibel Level
- K. m = Meter
- L. In = Inches
- M. FPI = Fins per Inch
- N. OD = Outside Diameter
- O. ID = Inside Diameter
- P. MCA = Minimum Circuit Amps
- Q. MOP = Maximum Over current Protection
- R. LBS = Pounds U.S.

**5.02 Measurements**

- A. All measurements with regard to length, width, and height shall be in inches.

## 18CWA2-00 Product Specifications

<b>Physical Data</b>									
Model Number	Height (in)	Length (in)	Depth (in)	Weight (lbs.)	Cooling Rows FPI	Copper Diameter (in)	Water Inlet (in)	Water Outlet (in)	Drain (in)
18CWA2-00	39.75	17.50	21.00	118.00	4-14	3/8	1/2	1/2	3/4

<b>Electrical Data</b>						
Model Number	High Speed CFM	Volts/Phase/Hertz	Fan Motor HP	Fan Motor Full Load Ampacity	Fuse or HACR Circuit Breaker Per Circuit	
					MCA	MOP
18CWA2-00	672	208/230-1-60	1/4	1.7	2.13	4

Model Number	Nominal CFM	KW Electric Heat		Minimum Ampacity		Maximum Breaker	
		240V	208V	240V	208V	240V	208V
18CWA2-XX	672	0	0	2.1	1.9	15	15
		5	3.8	29	25	30	25
		8	6	44	39	45	40
		10	7.5	55	48	60	50

## 18CWA2-00 Chilled Water Performance Data

18CWA2-00 COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
672	42	2.0	TC	17578
			SC	14624
			WPD	.6
		2.5	TC	19726
			SC	15678
			WPD	.7
		3.0	TC	21836
			SC	16548
			WPD	1.0
		3.5	TC	23668
			SC	17362
			WPD	1.5

**\*Fan factory wired on Low Speed**

18CWA2-00 COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
672	45	2.0	TC	15984
			SC	14024
			WPD	.6
		2.5	TC	17788
			SC	14842
			WPD	.7
		3.0	TC	19550
			SC	15694
			WPD	1.1
		3.5	TC	21122
			SC	16344
			WPD	1.5

**\*Fan factory wired on Low Speed**

**Recommended minimum flow rate for this unit at  $\geq 2$  fps is 2.75 gpm**

**Recommended maximum flow rate for this unit at  $\leq 6$  fps is 7.75 gpm**

## 18CWA2-00 Hot Water Performance Data

### 18CWA2-00 HOT WATER CAPACITIES

ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
50	672	2.0	.4	19482	24478	29554	34706	39926	45208	50548	55748	60936	66132
		2.5	.7	21168	26614	32146	37756	43432	48992	54568	60162	65764	71374
		3.0	1.1	22390	28154	34000	39856	45674	51516	57374	63248	69134	75026
		3.5	1.5	23298	29290	35296	41290	47312	51516	59412	65486	71570	77662

### 18CWA2-00 HOT WATER CAPACITIES

ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
60	672	2.0	.5	14786	19748	24792	29912	35102	40356	45630	50798	55976	61162
		2.5	.8	16022	21430	26926	32500	38104	43648	49210	54790	60380	65980
		3.0	1.1	16916	22640	28448	34250	40050	45874	51718	57578	63452	69332
		3.5	1.5	17580	23532	29492	35466	41470	47496	53540	59600	65672	71752

### 18CWA2-00 HOT WATER CAPACITIES

ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
70	672	2.0	.5	10048	14978	19992	25082	30244	35472	40674	45830	50998	56176
		2.5	.8	10840	16212	21672	27212	32758	38286	43836	49402	54982	60572
		3.0	1.1	11412	17096	22868	28626	34410	40220	46050	51896	57758	63628
		3.5	1.5	11836	17748	23672	29628	35614	41624	47656	53704	59764	65834

### 18CWA2-00 HOT WATER CAPACITIES

ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
80	672	2.0	.5	5270	10170	15154	20216	25352	30554	35698	40844	46004	51172
		2.5	.8	5624	10960	16386	21894	27396	32910	38446	44000	49570	55150
		3.0	1.1	5880	11526	17254	22988	28756	34550	40368	46202	52052	57914
		3.5	1.5	6068	11938	17840	23778	29748	35744	41762	47798	53846	59908

Heating at ANSI/AHRI 440 with addendum 1, 6.3.2 Table 1 as follows:

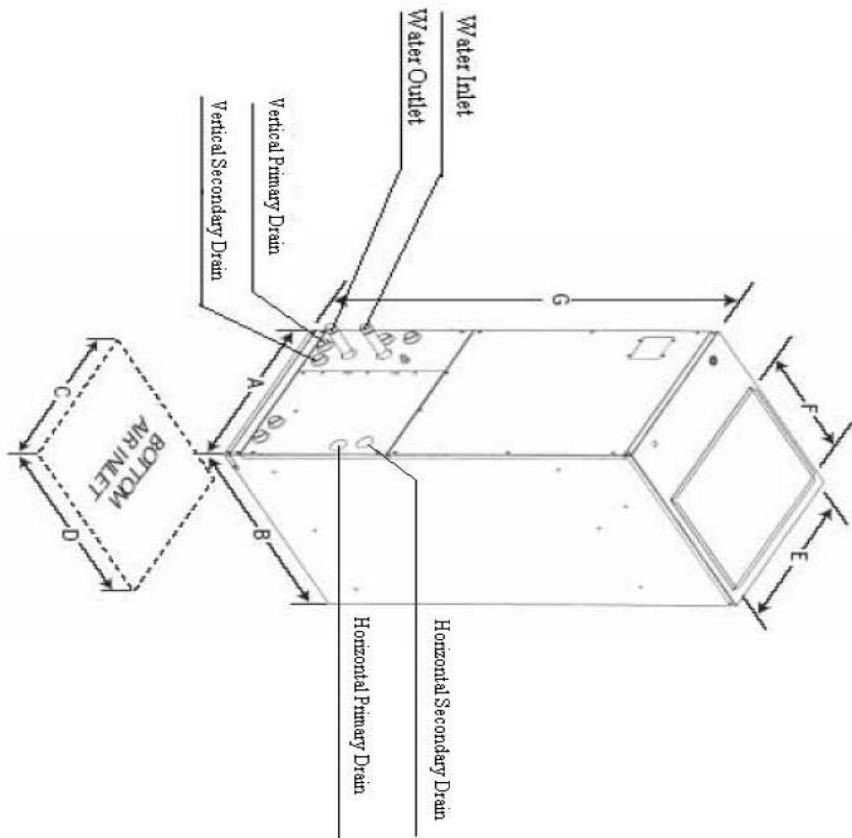
ENTERING AIR TEMPERATURE	GPM	ENTERING WATER TEMPERATURE 140F
70F DB / 60F WB	2.0	35674
	2.5	38546
	3.0	40522
	3.5	41964

## 18CWA2-00 Sound Data

MODEL #	18CWA2-00
Fan Speed	dB @ 1 m
H	41

# 18CWA2-00 Dimensional Drawing

CWA2 Certified Drawing  
 Drawing # 0907400078



Model No.	A	B	C	D	E	F	G
18 & 24CWA2-XX	17 1/2	21	15	17 1/2	16	12 3/8	39 1/4
36CWA2-XX	17 1/2	21	15	17 1/2	16	12 3/8	39 1/4
48 & 60CWA2-XX	21 1/2	25	19 1/4	22 1/4	19 3/4	17 1/4	49 1/4

Note: "-XX" indicates electric heat (KW) size.