



## **CFFWA-20-1-U Chilled/Hot Water Universal Mount Fan Coil**

**2-Pipe Heat / Cool Fan Coil 60,000 BTUH**

# HVAC Guide Specifications

Chilled and Hot Water Universal Mount Fan Coil  
2-Pipe

Nominal Size:  
**60,000 BTUH**

MultiAqua Model Number:  
**CFFWA-20-1-U**

## **Part 1-General**

### **1.01 System Description**

MultiAqua Chilled Water Fan Coils are manufactured with galvanized steel and high impact molded polymers.

### **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 chilled and hot water 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 galvanized steel with baked polyester powder and high impact polymers.
  - 2. Shall be internally insulated to ensure quiet operation.
- C. Fan Motors:
  - 1. Shall be available in 208/230-1-50/60 VAC.
  - 2. Fan motors shall be three speed, direct drive, and PSC type.
  - 3. Totally enclosed.
  - 4. Internal overload protected.
  - 5. Unit shall contain a swing motor to modulate the discharge air.
- D. Blower Wheels:
  - 1. Blower wheels are tangential and dynamically balanced.
- E. Water Coil:
  - 1. Manufactured with water coils containing 3/8" copper tubing mechanically bonded to aluminum fins.
  - 2. Maximum operating pressure is 150 psig.
  - 3. Maximum inlet water temperature 160° F
- F. Drain Pan:
  - 1. All drain pans shall be coated on both the interior and exterior with baked polyester powder to resist corrosion.
  - 2. The exterior of all drain pans shall be insulated with closed cell to prevent condensation.
  - 3. Pans shall contain drain tubing that is accessible from the back, bottom and side of the unit.
- G. Filters:
  - 1. Unit shall contain 65% washable filters.

**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.
- C. Controls shall be capable of incorporating an optional hard-wired thermostat.

**3.02 Safeties:**

- A. Fan coil shall contain a non reusable fuse on the secondary voltage side of the transformer.

**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.

# CFFWA-20-1-U Product Specifications

Physical Data								
Model Number	Height (in)	Length (in)	Depth (in)	Weight (lbs.)	Cooling Rows FPI	Water Inlet (in)	Water Outlet (in)	Drain (in)
CFFWA-20-1-U	25.27	75.78	9.01	163.14	4-14	1	1	1/2

Electrical Data						
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
CFFWA-20-1-U	1335	208/230-1-50/60	1/8 & 1/8	3.18	3.59	5

# CFFWA-20-1-U Chilled Water Performance Data

<b>CFFWA-20-1-U COOLING CAPACITIES</b>				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
			80° D.B. / 67° W.B.	
1335	42	13.0	TC	55402
			SC	37921
			WPD	12.6
		15.0	TC	58147
			SC	39083
			WPD	16.6
		17.0	TC	60225
			SC	39993
			WPD	21.0
		19.0	TC	61816
			SC	40686
			WPD	25.9

**\*High Speed**

<b>CFFWA-20-1-U COOLING CAPACITIES</b>				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
			80° D.B. / 67° W.B.	
1335	45	13.0	TC	49650
			SC	35548
			WPD	12.6
		15.0	TC	52083
			SC	36553
			WPD	16.5
		17.0	TC	53723
			SC	37266
			WPD	20.9
		19.0	TC	55122
			SC	37835
			WPD	25.8

**\*High Speed**

**Recommended minimum flow rate for this unit at  $\geq 2$  fps is 6.75 gpm**

**Recommended maximum flow rate for this unit at  $\leq 6$  fps is 19.75 gpm**

# CFFWA-20-1-U Hot Water Performance Data

This heating performance data is at dry bulb temperature indicated / wet bulb temperature not considered

CFFWA-20-01-U 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	1335	13.0	11.9	46710	58470	70267	82094	93945	105816	117700	129596	141499	153408
		15.0	15.6	47467	59407	71382	83385	95409	107450	119505	131570	143641	155718
		17.0	19.7	48053	60133	72244	84381	96538	108710	120895	133089	145289	157494
		19.0	24.3	48520	60710	72930	85173	97434	109710	121997	134293	146595	158901

CFFWA-20-01-U 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	1335	13.0	11.9	35109	46841	58615	70421	82253	94107	105976	117859	129750	141649
		15.0	15.5	35670	47585	59538	71521	83528	95554	107595	119647	131708	143776
		17.0	19.7	36104	48161	60252	72370	84511	96669	108841	121024	133215	145411
		19.0	24.3	36450	48619	60820	73046	85292	97555	109830	122115	134408	146706

CFFWA-20-01-U 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	1335	13.0	11.8	23498	35204	46954	58740	70554	82390	94246	106115	117995	129883
		15.0	15.5	23864	35756	47687	59651	71640	83651	95679	107719	119769	131827
		17.0	19.7	24149	36183	48254	60354	72479	84623	96783	108954	121135	133322
		19.0	24.3	24375	36523	48704	60914	73145	85395	97658	109933	122217	134507

CFFWA-20-01-U 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	1335	13.0	11.8	11879	23561	35289	47055	58852	70674	82515	94372	106242	118121
		15.0	15.5	12053	23922	35833	47778	59752	71749	83764	95793	107834	119884
		17.0	19.6	12188	24201	36253	48337	60447	72578	84726	96888	109060	121240
		19.0	24.2	12296	24424	36588	48782	60999	73237	85490	97755	110031	122314

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

ENTERING AIR TEMPERATURE	GPM	ENTERING WATER TEMPERATURE 140°F
70°F DB / 60°F WB	13.0	83180
	15.0	84475
	17.0	85475
	19.0	86269

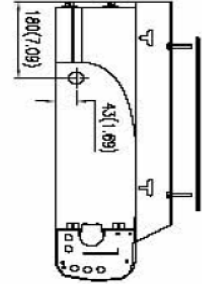
## CFFWA-20-1-U Sound Data

MODEL #	CFFWA-20-1-U
Fan Speed	dB @ 1 m
H	50

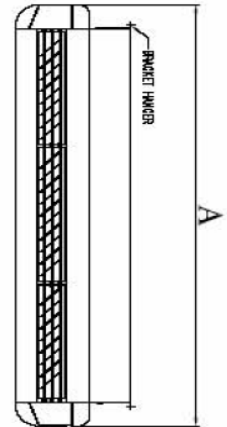
# CFFWA-20-1-U Dimensional Drawing

CFFWA Certified Drawing  
 Drawing # 0907 400073

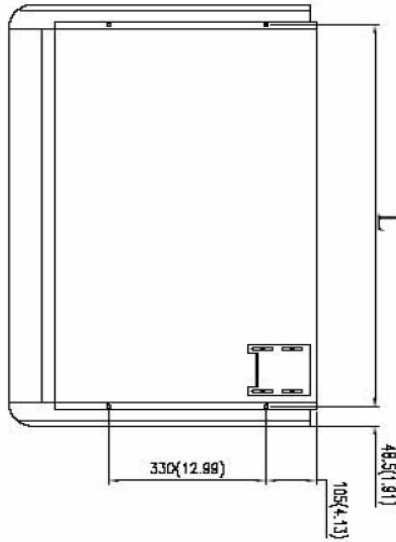
Model CFFWA			
MODEL	A	L	
04	1024(40.32)	927(36.50)	
06	1024(40.32)	927(36.50)	
08	1024(40.32)	927(36.50)	
10	1324(52.13)	1227(48.31)	
12	1324(52.13)	1227(48.31)	
16	1925(75.79)	1828(71.97)	
20	1925(75.79)	1828(71.97)	



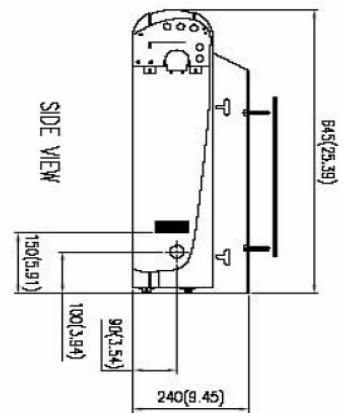
SIDE VIEW



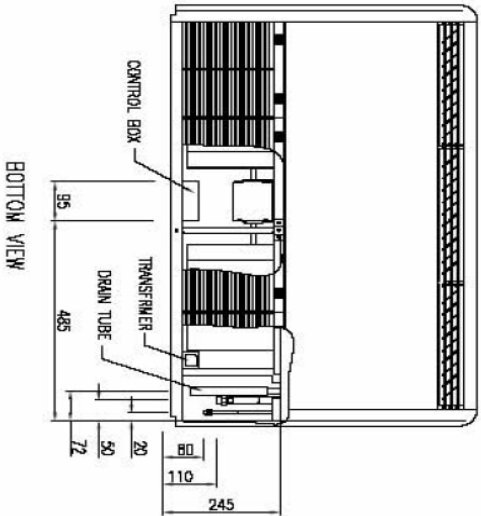
FRONT VIEW



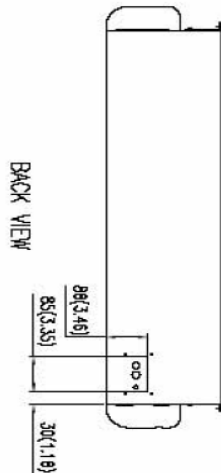
TOP VIEW



SIDE VIEW



BOTTOM VIEW



BACK VIEW

