



## **CFFWA-08-1-U Chilled/Hot Water Universal Mount Fan Coil**

**2-Pipe Heat / Cool Fan Coil 24,000 BTUH**

# HVAC Guide Specifications

Chilled and Hot Water Universal Mount Fan Coil  
2-Pipe

Nominal Size:  
**24,000 BTUH**

MultiAqua Model Number:  
**CFFWA-08-1-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-08-1-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-08-1-U	25.27	40.31	9.01	88.18	4-13	1/2	1/2	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-08-1-U	650	208/230-1-50/60	1/8	0.83	1.04	3

# CFFWA-08-1-U Chilled Water Performance Data

CFFWA-08-1-U COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
650*	42	5.0	TC	23818
			SC	16613
			WPD	21.6
		5.25	TC	24163
			SC	16753
			WPD	23.7
		5.50	TC	24506
			SC	16893
			WPD	25.8
		5.75	TC	24813
			SC	17022
			WPD	28.1

**\*High Speed**

CFFWA-08-1-U COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
650*	45	5.0	TC	21199
			SC	15555
			WPD	21.5
		5.25	TC	21502
			SC	15677
			WPD	23.6
		5.50	TC	21804
			SC	15800
			WPD	25.7
		5.75	TC	22072
			SC	15907
			WPD	27.9

**\*High Speed**

**Recommended minimum flow rate for this unit at  $\geq$  2fps is 2.0 gpm**

**Recommended maximum flow rate for this unit at  $\leq$  6fps is 5.75 gpm**

# CFFWA-08-1-U Hot Water Performance Data

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

CFFWA-08-01-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	650	5.0	20.0	20318	25417	30531	35659	40798	45944	51097	56254	61415	66577
		5.25	21.9	20454	25585	30733	35893	41064	46242	51427	56616	61808	67002
		5.5	23.9	20579	25740	30918	36108	41308	46516	51729	56947	62168	67391
		5.75	25.9	20693	25883	31088	36305	41532	46767	52007	57525	62499	67749

CFFWA-08-01-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	650	5.0	20.0	15290	20377	25481	30600	35730	40869	46016	51167	56322	61480
		5.25	21.9	15391	20511	25648	30799	35962	41133	46312	51495	56682	61872
		5.5	23.8	15483	20633	25801	30982	36174	41375	46583	51795	57011	62230
		5.75	25.9	15568	20747	25942	31151	36370	41598	46832	52071	57314	62559

CFFWA-08-01-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	650	5.0	19.9	10257	15332	20427	25537	30659	35791	40931	46077	51227	56381
		5.25	21.8	10323	15432	20559	25702	30857	36021	41193	46371	51553	56739
		5.5	23.8	10383	15523	20681	25853	31038	36232	41433	46640	51852	57066
		5.75	25.8	10439	15607	20793	25993	31205	36426	41654	46888	52126	57367

CFFWA-08-01-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	650	5.0	19.8	5220	10285	15370	20741	25586	30712	35846	40987	46133	51282
		5.25	21.8	5252	10350	15468	20603	25750	30908	36074	41247	46425	51607
		5.5	23.7	5280	10410	15558	20723	25900	31088	36284	41486	46693	51904
		5.75	25.8	5307	10465	15641	20834	26038	31252	36476	41705	46939	52177

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	5.0	25406
	5.25	26778
	5.5	28127
	5.75	28746

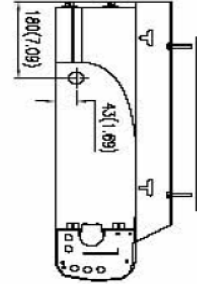
## CFFWA-08-1-U Sound Data

MODEL #	CFFWA-08-1-U
Fan Speed	dB @ 1 m
H	44

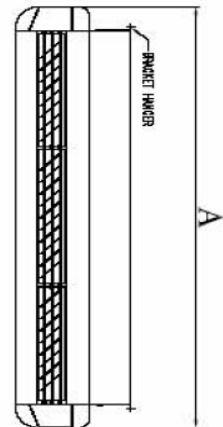
# CFFWA-08-1-U Dimensional Drawing

CFFWA Certified Drawing  
 Drawing # 0907 400073

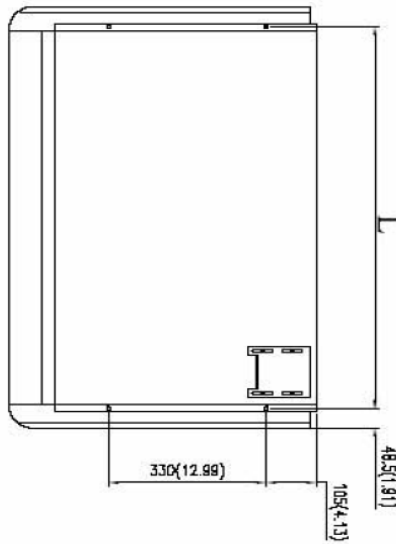
Model CFFWA			
MODEL	A	L	
04	1024(40.32)	927(36.50)	
06	1024(40.32)	927(36.50)	
08	1024(40.32)	927(36.50)	
10	1324(52.13)	1227(48.31)	
12	1324(52.13)	1227(48.31)	
16	1925(75.79)	1828(71.97)	
20	1925(75.79)	1828(71.97)	



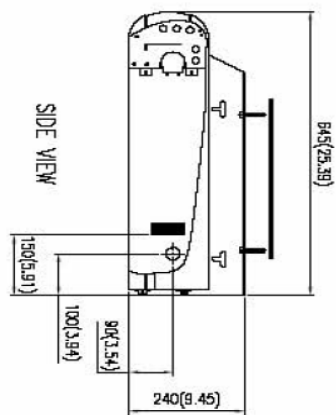
SIDE VIEW



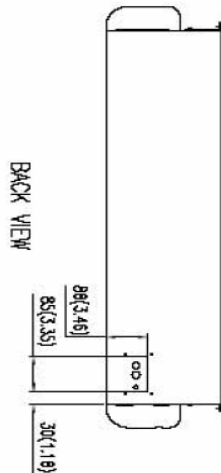
FRONT VIEW



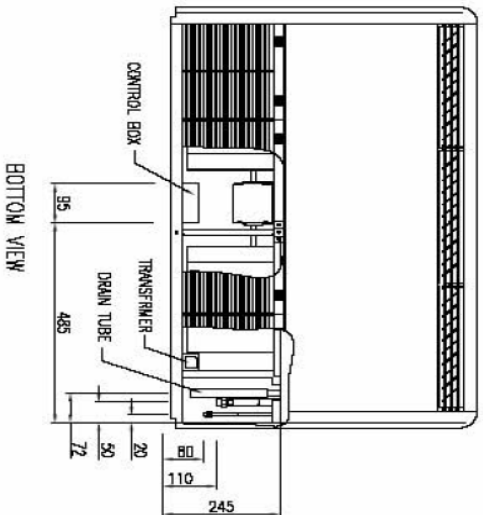
TOP VIEW



SIDE VIEW



BACK VIEW



BOTTOM VIEW

