



CFFWA-12-1-U Chilled/Hot Water Universal Mount Fan Coil

2-Pipe Heat / Cool Fan Coil 36,000 BTUH

HVAC Guide Specifications

Chilled and Hot Water Universal Mount Fan Coil
2-Pipe

Nominal Size:

36,000 BTUH

MultiAqua Model Number:

CFFWA-12-1-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-12-1-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-12-1-U	25.27	52.13	9.01	116.84	3-13	3/4	3/4	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-12-1-U	735	208/230-1-50/60	1/8 & 1/20	2.09	2.49	4

CFFWA-12-1-U Chilled Water Performance Data

CFFWA-12-1-U COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
			80° D.B. / 67° W.B.	
735	42	6.5	TC	33306
			SC	22298
			WPD	22.1
		7.0	TC	33989
			SC	22590
			WPD	25.3
		7.5	TC	34584
			SC	22851
			WPD	28.7
		7.75	TC	34877
			SC	22973
			WPD	30.5

***High Speed**

CFFWA-12-1-U COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
			80° D.B. / 67° W.B.	
735	45	6.5	TC	29711
			SC	20766
			WPD	21.9
		7.0	TC	30313
			SC	21022
			WPD	25.1
		7.5	TC	30866
			SC	21252
			WPD	28.5
		7.75	TC	31116
			SC	21359
			WPD	30.3

***High Speed**

Recommended minimum flow rate for this unit at ≥ 2 fps is 2.75 gpm

Recommended maximum flow rate for this unit at ≤ 6 fps is 7.75 gpm

CFFWA-12-1-U Hot Water Performance Data

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

CFFWA-12-01-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	735	6.5	20.2	26753	33450	40161	46882	53610	60345	67084	73826	80569	87312
		7.0	23.1	26974	33726	40491	47265	54048	60836	67627	74422	81218	88015
		7.5	26.2	27166	33965	40777	47598	54426	61260	68098	74938	81780	88622
		7.75	27.8	27252	34073	40906	47748	54597	61451	68310	75171	82033	88896

CFFWA-12-01-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	735	6.5	20.1	20113	26801	33503	40217	46939	53668	60402	67140	73879	80619
		7.0	23.0	20277	27020	33776	40544	47320	54102	60890	67680	74473	81266
		7.5	26.1	20418	27209	34013	40827	47650	54478	61311	68148	74986	81826
		7.75	27.8	20483	27295	34120	40955	47798	54648	61502	68359	75218	82078

CFFWA-12-01-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	735	6.5	20.1	13469	20148	26842	33548	40264	46988	53717	60450	67186	73923
		7.0	23.0	13575	20309	27058	33819	40589	47366	54148	60935	67724	74515
		7.5	26.1	13668	20450	27246	34053	40870	47693	54522	61354	68189	75026
		7.75	27.7	13709	20513	27331	34159	40997	47841	54690	61544	68399	75256

CFFWA-12-01-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	735	6.5	20.0	6822	13492	20178	26877	33587	40305	47030	53759	60491	67226
		7.0	22.9	6871	13597	20338	27092	33856	40628	47406	54188	60974	67762
		7.5	26.0	6914	13688	20477	27278	34089	40907	47731	54560	61392	68226
		7.75	27.6	6933	13729	20539	27362	34194	41033	47878	54727	61580	68435

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	6.5	47458
	7.0	47848
	7.5	48186
	7.75	48338

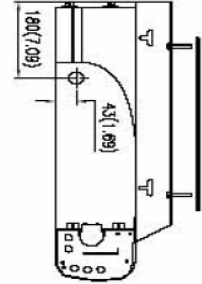
CFFWA-12-1-U Sound Data

MODEL #	CFFWA-12-1-U
Fan Speed	dB @ 1 m
H	48

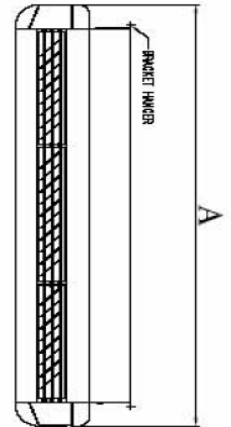
CFFWA-12-1-U Dimensional Drawing

CFFWA Certified Drawing
 Drawing # 0907 400073

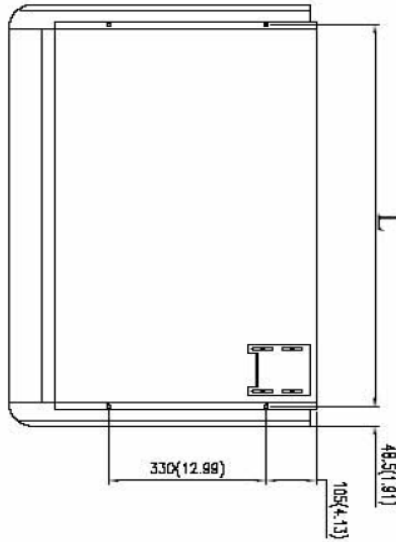
Model CFFWA			
MODEL	A	L	
04	1024(40.32)	927(36.50)	
06	1024(40.32)	927(36.50)	
08	1024(40.32)	927(36.50)	
10	1324(52.13)	1227(48.31)	
12	1324(52.13)	1227(48.31)	
16	1925(75.79)	1828(71.97)	
20	1925(75.79)	1828(71.97)	



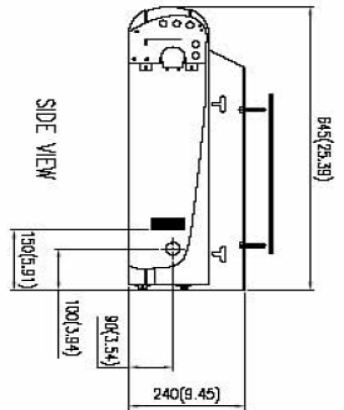
SIDE VIEW



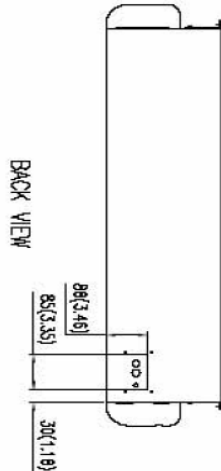
FRONT VIEW



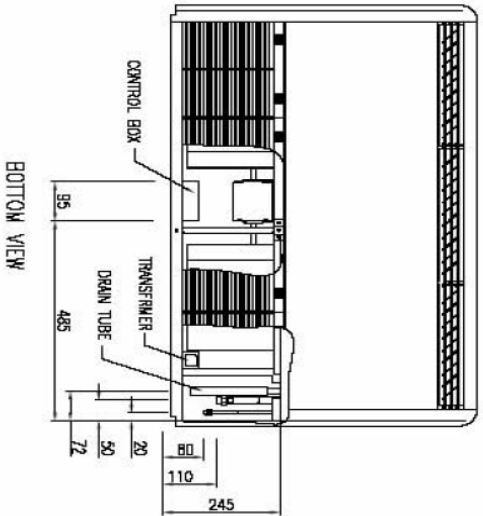
TOP VIEW



SIDE VIEW



BACK VIEW



BOTTOM VIEW

