



CFFWA4P-06-1-U Chilled/Hot Water Universal Mount Fan Coil (4-Pipe)

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

HVAC Guide Specifications

Chilled and Hot Water Universal Mount Fan Coil

4-Pipe Nominal Size:

18,000 BTUH

MultiAqua Model Number:

CFFWA4P-06-1-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 electrically 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.
- B. Unit Cabinet:
 - 1. Composed of galvanized steel with baked polyester powder and high impact polymers.
 - 2. Coil Compartment 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 distribute the discharge air.
- D. Blower Wheels:
 - 1. Blower wheels are double entry and dynamically balanced.
- E. Water Coils:
 - 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
 - 4. Primary coil and Secondary coil connections are opposite ends and are non reversible.
 - 5. Pressure independent flow control required on both coils to not exceed max flow for each coil.
 - i. Consult primary coil and secondary coil data for proper sizing
- 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 insulation 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 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 field supplied 24 VAC thermostat.
- C. Controls shall be capable of incorporating a field supplied three speed fan speed switch and or thermostat.

3.02 Safeties:

- A. Fan coil shall contain a field renewable fuse on the secondary voltage side of the transformer.
- B. Fan coil shall contain a non renewable thermal protector on the primary voltage side of the transformer.

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

- A. Electrical shall include a terminal block for both high voltage and low voltage.
- 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.

CFFWA4P-06-1-U Product Specifications

Physical Data									
Model Number	Height (in)	Length (in)	Depth (in)	Weight (lbs.)	Primary Coil Rows FPI	Water Inlet / Outlet OD (in)	Secondary Coil Rows FPI	Water Inlet/ Outlet OD (in)	Drain Connection ID (in)
CFFWA4P-06-1-U	11.3	53.3	28.3	88.1	3-14	.625	1/14	.625	1" tube

All dimensions rounded up to nearest tenth of an inch. All dimensions are as the unit is horizontal/ceiling mounted.

Electrical Data						
Model Number	High Speed CFM	Volts/ Phase/ Hertz	Fan Motor (Qty) Watts	Fan Motor Full Load Ampacity	Fuse or HACR Circuit Breaker Per Circuit	
					MCA	MOP
CFFWA4P-06-1-U	638	208/230-1-50/60	(1)60	0.74	.93	1.0

CFFWA4P-06-1-U Chilled Water Performance Data

CFFWA4P-06-01-U COOLING CAPACITIES (Primary Coil)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
638*	42	3.5	TC	18854
			SC	14143
			WPD	3.8
		4.0	TC	20100
			SC	14700
			WPD	4.9
		4.5	TC	21103
			SC	15169
			WPD	6.1
		5.0	TC	22050
			SC	15577
			WPD	7.5

***High Speed**

CFFWA4P-06-01-U COOLING CAPACITIES (Primary Coil)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
638*	45	3.5	TC	16864
			SC	13389
			WPD	3.8
		4.0	TC	17874
			SC	13871
			WPD	4.9
		4.5	TC	18839
			SC	14259
			WPD	6.1
		5.0	TC	19669
			SC	14606
			WPD	7.4

***High Speed**

Recommended minimum flow rate for the primary coil at ≥ 2 fps is 9.75 gpm

Recommended maximum flow rate for the primary coil at ≤ 6 fps is 3.50 gpm

CFFWA4P-06-1-U Hot Water Performance Data

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

CFFWA4P-06-01-U HOT WATER CAPACITIES (Primary Coil)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
50	638	3.5	3.6	18637	23375	28144	32940	37758	42593	47442	52302	57171	62046
		4.0	4.6	19125	23981	28868	33779	38711	43659	48620	53591	58571	63856
		4.5	5.8	19515	24465	29443	34445	39466	44502	49551	54610	59676	64748
		5.0	7.1	19834	24859	29912	34987	40079	45187	50305	55433	60569	65709

CFFWA4P-06-01-U HOT WATER CAPACITIES (Primary Coil)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
60	638	3.5	3.6	14032	18749	23501	28280	33083	37904	42741	47590	52449	57315
		4.0	4.6	14393	19230	24099	28994	36912	38846	43796	48757	53727	58704
		4.5	5.8	14682	19613	24575	29561	34568	39592	44630	49678	54735	59799
		5.0	7.1	14919	19926	24963	30023	35102	40197	45306	50424	55551	60684

CFFWA4P-06-01-U HOT WATER CAPACITIES (Primary Coil)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
70	638	3.5	3.6	9415	14113	18847	23610	28398	33207	38031	42869	47718	52575
		4.0	4.6	9652	14470	19321	24201	29104	34026	38964	43915	48875	53844
		4.5	5.8	9841	14754	19698	24670	29664	34675	39702	44740	49788	54884
		5.0	7.0	9996	14986	20006	25052	30118	35202	40299	45408	50526	55652

CFFWA4P-06-01-U HOT WATER CAPACITIES (Primary Coil)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
80	638	3.5	3.6	4787	9467	14185	18933	23707	28503	33317	38145	42984	47833
		4.0	4.6	4901	9701	14537	19402	24292	29202	34129	39069	44021	48982
		4.5	5.8	4992	9887	14817	19774	24755	29755	34771	39800	44840	49888
		5.0	7.0	5066	10039	15045	20077	25131	30204	35291	40391	45501	50619

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

CFFWA4P-06-01-U HOT WATER CAPACITY (Primary Coil)		
ENTERING AIR TEMPERATURE	GPM	ENTERING WATER TEMPERATURE 140F
70F DB / 60F WB	3.5	33436
	4.0	34272
	4.5	34935
	5.0	35474

These specifications are subject to change without notice.
Check www.multiaqua.com for the latest information.

CFFWA4P-06-1-U Chilled Water Performance Data

CFFWA4P-06-01-U COOLING CAPACITIES (Secondary Coil)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
638*	42	3.5	TC	7919
			SC	7160
			WPD	2.5
		4.5	TC	9187
			SC	7712
			WPD	4.0
		5.5	TC	10059
			SC	8093
			WPD	5.9
		6.5	TC	10750
			SC	8393
			WPD	8.2

***High Speed**

CFFWA4P-06-01-U COOLING CAPACITIES (Secondary Coil)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
638*	45	3.5	TC	7049
			SC	6846
			WPD	2.5
		4.5	TC	7954
			SC	7258
			WPD	4.0
		5.5	TC	8889
			SC	7656
			WPD	5.9
		6.5	TC	9503
			SC	7922
			WPD	8.2

***High Speed**

Recommended minimum flow rate for the secondary coil at ≥ 2 fps is 3.5 gpm

Recommended maximum flow rate for the secondary coil at ≤ 6 fps is 9.75 gpm

CFFWA4P-06-1-U Hot Water Performance Data

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

CFFWA4P-06-01-U HOT WATER CAPACITIES (Secondary Coil)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
50	638	3.5	2.4	9606	12038	14502	16991	19501	22029	24752	27127	29692	32266
		4.5	3.9	10069	12610	15178	17769	20379	23005	25644	28293	30952	33617
		5.5	5.7	10396	13013	15654	18315	20993	23686	26390	29103	31825	34552
		6.5	8.0	10641	13313	16007	18720	21449	24189	26941	29701	32468	35241

CFFWA4P-06-01-U HOT WATER CAPACITIES (Secondary Coil)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
60	638	3.5	2.4	7289	9702	12148	14620	17116	19630	22161	24704	27259	29824
		4.5	3.9	7632	10155	12707	15283	17880	20493	23120	25760	28409	31066
		5.5	5.7	7875	10474	13100	15748	18414	21095	23789	26493	29206	31926
		6.5	8.0	8057	10713	13393	16093	18810	21540	24282	27034	29793	32559

CFFWA4P-06-01-U HOT WATER CAPACITIES (Secondary Coil)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
70	638	3.5	2.4	4966	7360	9788	12245	14726	17227	19745	22278	24823	27378
		4.5	3.9	5190	7696	10231	12793	15376	17977	20594	23223	25863	28512
		5.5	5.7	5349	7932	10543	13177	15831	18501	21185	23880	26584	29297
		6.5	8.0	5469	8109	10775	13463	16168	18889	21622	24365	27116	29875

CFFWA4P-06-01-U HOT WATER CAPACITIES (Secondary Coil)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
80	638	3.5	2.4	2636	5012	7423	9864	12331	14819	17326	19848	22383	24929
		4.5	3.9	2744	5232	7752	10299	12869	15459	18065	20684	23315	25956
		5.5	5.7	2820	5387	7983	10604	13246	15905	18579	21265	23962	26667
		6.5	7.9	2877	5503	8156	10831	13525	16236	18959	21694	24439	27191

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

CFFWA4P-06-01-U HOT WATER CAPACITY (Secondary Coil)		
ENTERING AIR TEMPERATURE	GPM	ENTERING WATER TEMPERATURE 140F
70F DB / 60F WB	3.5	17280
	4.5	18036
	5.5	18564
	6.5	18954

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CFFWA4P-06-1-U Chilled Water Performance Data

CFFWA4P-06-01-U COOLING CAPACITIES (Both Coils)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
638*	42	7.0	TC	25227
			SC	17528
			WPD	7.0
		8.5	TC	27148
			SC	18394
			WPD	10.2
		10.0	TC	28508
			SC	18996
			WPD	14.1
		11.5	TC	29617
			SC	19518
			WPD	18.5

***High Speed**

CFFWA4P-06-01-U COOLING CAPACITIES (Both Coils)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
638*	45	7.0	TC	22476
			SC	16414
			WPD	7.0
		8.5	TC	24149
			SC	17124
			WPD	10.2
		10.0	TC	25508
			SC	17738
			WPD	14.0
		11.5	TC	26482
			SC	18160
			WPD	18.5

***High Speed**

Pressure independent flow control required on both coils to not exceed max flow for each coil
Consult primary coil and secondary coil data for proper sizing

Recommended minimum flow rate for both coils piped in parallel at ≥ 2 fps is 6.75 gpm

Recommended minimum flow rate for both coils piped in parallel at ≤ 6 fps is 19.5 gpm

CFFWA4P-06-1-U Hot Water Performance Data

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

CFFWA4P-06-01-U HOT WATER CAPACITIES (Both Coils)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
50	638	7.0	6.8	22486	28212	33971	39758	45568	51397	57242	63098	68965	74840
		8.5	10.0	22950	28777	34634	40515	46416	52332	58262	64202	70151	76107
		10.0	13.7	23277	29175	35099	41045	47007	52984	58972	64969	70974	76985
		11.5	18.0	23520	29470	35443	41435	47443	53463	59493	65531	71576	77627

CFFWA4P-06-01-U HOT WATER CAPACITIES (Both Coils)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
60	638	7.0	6.8	16898	22600	28339	34107	39901	45715	51545	57389	63245	69110
		8.5	9.9	17241	23048	28886	34751	40637	46540	52458	58388	64327	70274
		10.0	13.7	17483	23363	29271	35202	41151	47116	53094	59082	65078	71081
		11.5	18.0	17663	23597	29555	35534	41530	47540	53561	59591	65628	71672

CFFWA4P-06-01-U HOT WATER CAPACITIES (Both Coils)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
70	638	7.0	6.8	11301	16981	22699	28449	34225	40024	45841	51673	57517	63372
		8.5	9.9	11525	17312	23132	28981	34852	40742	46648	52567	58496	64435
		10.0	13.7	11684	17546	23537	29353	35290	41243	47210	53188	59176	65171
		11.5	18.0	11802	17719	23662	29628	35612	41611	47622	53644	59674	65710

CFFWA4P-06-01-U HOT WATER CAPACITIES (Both Coils)													
ENTERING AIR (°F)	NOMINAL CFM	GPM	WPD	ENTERING WATER TEMPERATURE (°F)									
				90°	100°	110°	120°	130°	140°	150°	160°	170°	180°
80	638	7.0	6.8	5697	11355	17054	22786	28547	34331	40135	45956	51790	57638
		8.5	9.9	5805	11572	17375	23208	29065	34943	40837	46746	52666	58596
		10.0	13.7	5881	11725	17601	23503	29427	35369	41326	47295	53275	59263
		11.5	18.0	5937	11839	17768	23722	29694	35683	41685	47699	53721	59751

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

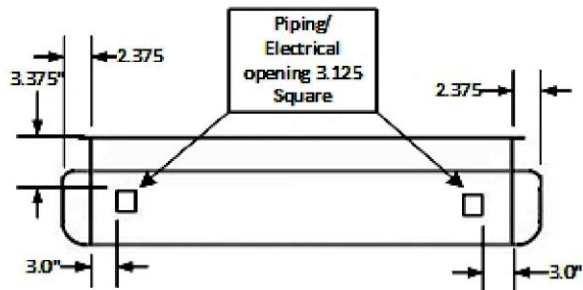
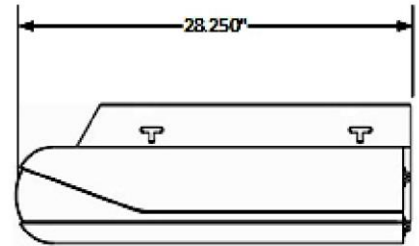
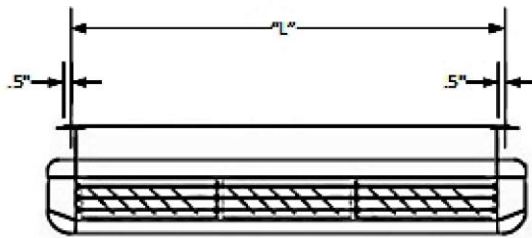
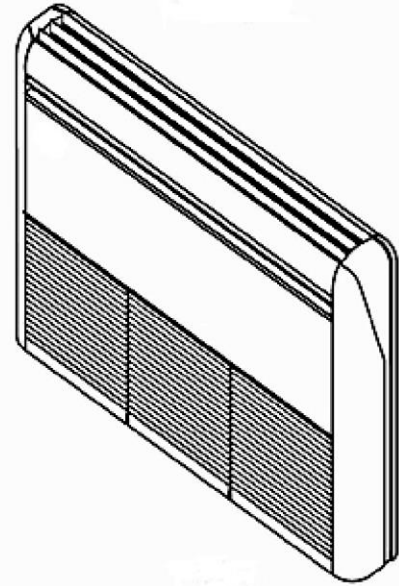
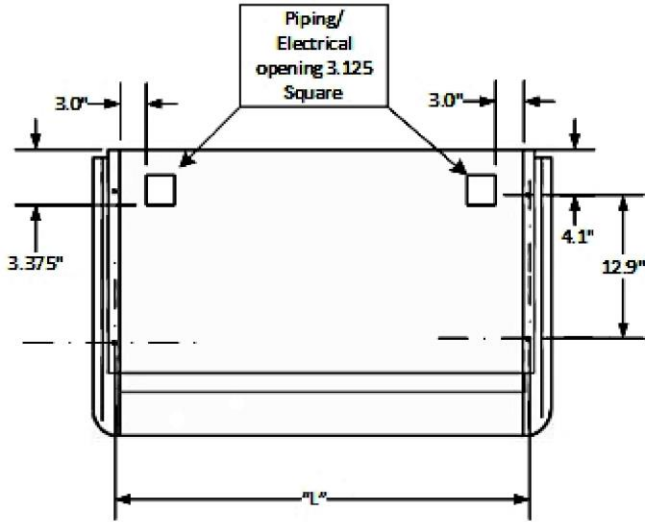
CFFWA4P-06-01-U HOT WATER CAPACITY (Both Coils)		
ENTERING AIR TEMPERATURE	GPM	ENTERING WATER TEMPERATURE 140F
70F DB / 60F WB	7.0	40400
	8.5	41141
	10.0	41659
	11.5	42040

*These specifications are subject to change without notice.
Check www.multiaqua.com for the latest information.*

CFFWA4P-06-01-U CFM Data

MODEL #	CFFWA4P-06-01-U
Fan Speed	CFM
L	475
M	500
H	638
Wattage @ High Speed	133

CFFWA4P-06-01-U Dimensional Drawing



Model	"L" Dimension
CFFWA4P-04	48.3
CFFWA4P-06	48.3
CFFWA4P-08	60.1
CFFWA4P-12	71.9
CFFWA4P-16	83.7
CFFWA4P-20	83.7

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