



CFFWA4P-08-1-U Chilled/Hot Water Universal Mount Fan Coil (4-Pipe)

4-Pipe Heat / Cool Fan Coil 24,000 BTUH

HVAC Guide Specifications

Chilled and Hot Water Universal Mount Fan Coil

4-Pipe Nominal Size:

24,000 BTUH

Multiaqua Model Number:

CFFWA4P-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 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 modulate 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-08-1-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-08-1-U	11.3	64.9	28.3	94.8	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-08-1-U	879	208/230-1-50/60	(1)87	.85	1.06	3.0

CFFWA4P-08-1-U Chilled Water Performance Data

CFFWA4P-08-01-U COOLING CAPACITIES (Primary Coil)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
879*	42	3.5	TC	23457
			SC	18414
			WPD	4.2
		4.0	TC	25220
			SC	19231
			WPD	5.4
		4.5	TC	26763
			SC	19870
			WPD	6.7
		5.0	TC	28023
			SC	20501
			WPD	8.2

***High Speed**

CFFWA4P-08-01-U COOLING CAPACITIES (Primary Coil)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
879*	45	3.5	TC	21149
			SC	17505
			WPD	4.2
		4.0	TC	22654
			SC	18166
			WPD	5.4
		4.5	TC	23864
			SC	18768
			WPD	6.7
		5.0	TC	25039
			SC	19332
			WPD	8.2

***High Speed**

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

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

CFFWA4P-08-1-U Hot Water Performance Data

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

CFFWA4P-08-01-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	879	3.5	4.0	24416	30618	36859	43132	49431	55750	62086	68435	74792	81155
		4.0	5.1	25227	31630	38072	44544	51042	57560	64093	70639	77193	83753
		4.5	6.4	25883	32448	39049	45681	52336	59011	65701	72403	79113	85830
		5.0	7.8	26423	33120	39852	46613	53397	60199	67016	73844	80681	87523

CFFWA4P-08-01-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	879	3.5	4.0	18384	24562	30781	37035	43316	49620	55942	62277	68623	74975
		4.0	5.1	18986	25366	31786	38239	44719	51221	57740	64272	70815	77365
		4.5	6.3	19472	26014	32595	39207	45845	52505	59181	65870	72569	79275
		5.0	7.7	19874	26548	33259	40002	46769	53556	60359	67175	74000	80833

CFFWA4P-08-01-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	879	3.5	3.9	12333	18490	24689	30925	37190	49786	56110	56110	62444	68788
		4.0	5.1	12729	19087	25487	31922	38385	51378	57898	57898	64430	70791
		4.5	6.3	13049	19569	26129	32724	39346	52653	59330	59330	66019	72716
		5.0	7.7	13312	19965	26657	33381	40133	53696	60500	60500	67315	74139

CFFWA4P-08-01-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	879	3.5	3.9	6265	12401	18582	24800	31049	37324	43619	49931	56255	62589
		4.0	5.1	6457	12794	19175	25592	32040	38512	45005	51514	58036	64567
		4.5	6.3	6611	13110	19652	26229	32835	39466	46116	52782	59460	66147
		5.0	7.7	6739	13371	20044	26752	33487	40246	47024	53817	60622	67437

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

CFFWA4P-08-01-U HOT WATER CAPACITY (Primary Coil)		
ENTERING AIR TEMPERATURE	GPM	ENTERING WATER TEMPERATURE 140F
70F DB / 60F WB	3.5	43752
	4.0	45171
	4.5	46310
	5.0	47244

CFFWA4P-08-1-U Chilled Water Performance Data

CFFWA4P-08-01-U COOLING CAPACITIES (Secondary Coil)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
879*	42	3.5	TC	10234
			SC	9393
			WPD	2.6
		4.0	TC	10919
			SC	9730
			WPD	3.4
		4.5	TC	11828
			SC	10132
			WPD	4.2
		5.0	TC	12495
			SC	10435
			WPD	5.2

***High Speed**

CFFWA4P-08-01-U COOLING CAPACITIES (Secondary Coil)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
879*	45	3.5	TC	9247
			SC	8659
			WPD	2.6
		4.0	TC	9715
			SC	9293
			WPD	3.4
		4.5	TC	10423
			SC	9618
			WPD	4.2
		5.0	TC	10882
			SC	9840
			WPD	5.2

***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-08-1-U Hot Water Performance Data

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

CFFWA4P-08-01-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	879	3.5	2.5	12599	15800	19041	22314	25615	28938	32280	35638	39008	42389
		4.0	3.3	12971	16262	19590	22948	26333	29739	33163	36602	40052	43513
		4.5	4.1	13280	16644	20043	23472	26925	30399	33889	37393	40909	44434
		5.0	5.0	13541	16966	20425	23912	27422	30952	34497	38056	41625	45203

CFFWA4P-08-01-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	879	3.5	2.5	9548	12726	15944	19197	22478	25784	29111	32454	35811	39180
		4.0	3.2	9824	13091	16397	19736	23103	26493	29901	33326	36764	40213
		4.5	4.1	10053	13394	16772	20182	23618	27076	30552	34043	37546	41060
		5.0	5.0	10247	13650	17088	20557	24050	27564	31096	34642	38200	41767

CFFWA4P-08-01-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	879	3.5	2.5	6488	9642	12838	16071	19335	22624	25936	29265	32610	35967
		4.0	3.2	6669	9913	13198	16518	19867	23240	26635	30046	33472	36910
		4.5	4.1	6819	10138	13495	16886	20305	23748	27210	30688	34180	37683
		5.0	5.0	6946	10327	13746	17196	20674	24173	27691	31225	34772	38329

CFFWA4P-08-01-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	879	3.5	2.5	3417	6548	9724	12938	16184	19458	22754	26070	29403	32749
		4.0	3.2	3505	6726	9991	13292	16624	19982	23363	26761	30175	33603
		4.5	4.1	3578	6874	10212	13585	16987	20415	23863	27329	30809	34302
		5.0	5.0	3639	6999	10398	13831	17292	20777	24282	27804	31340	34887

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

CFFWA4P-08-01-U HOT WATER CAPACITY (Secondary Coil)		
ENTERING AIR TEMPERATURE	GPM	ENTERING WATER TEMPERATURE 140F
70F DB / 60F WB	3.5	22691
	4.0	23311
	4.5	23822
	5.0	24250

CFFWA4P-08-1-U Chilled Water Performance Data

CFFWA4P-08-01-U COOLING CAPACITIES (Both Coils)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
879*	42	7.0	TC	32396
			SC	23163
			WPD	7.3
		8.0	TC	34178
			SC	23956
			WPD	9.4
		9.0	TC	35969
			SC	24713
			WPD	11.9
		10.0	TC	37259
			SC	25286
			WPD	14.6

***High Speed**

CFFWA4P-08-01-U COOLING CAPACITIES (Both Coils)				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
879*	45	7.0	TC	28911
			SC	21763
			WPD	7.2
		8.0	TC	30455
			SC	22479
			WPD	9.4
		9.0	TC	32032
			SC	23113
			WPD	11.8
		10.0	TC	33177
			SC	23615
			WPD	14.6

***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 \geq 2fps is 6.75 gpm

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

CFFWA4P-08-1-U Hot Water Performance Data

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

CFFWA4P-08-01-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	879	7.0	7.0	30350	38085	45867	53688	61541	69420	77321	85238	93169	101110
		8.0	9.1	30903	38764	46669	54610	62579	70573	78585	86613	94654	102705
		9.0	11.5	31331	39290	47288	55319	63376	71455	79552	87662	95785	103916
		10.0	14.2	31675	39710	47782	55884	64010	72157	80319	88495	96681	104875

CFFWA4P-08-01-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	879	7.0	7.0	22808	30512	38266	46061	53891	61749	69630	77530	85445	93373
		8.0	9.1	23217	31049	38928	46845	54793	62766	70761	78774	86800	94838
		9.0	11.5	23535	31466	39439	47448	55485	63546	71626	79722	87831	95951
		10.0	14.1	23789	31799	39847	47929	56036	64166	72313	80475	88649	96832

CFFWA4P-08-01-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	879	7.0	7.0	15253	22927	30654	38424	46232	54070	61933	69817	77717	85632
		8.0	9.1	15521	23325	31178	39072	47000	54955	62933	70930	78943	86968
		9.0	11.5	15729	23634	31583	39571	47589	55633	63697	71780	79876	87984
		10.0	14.1	15896	23881	31907	39968	48058	56172	64305	72454	80616	88789

CFFWA4P-08-01-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	879	7.0	7.0	7684	15329	23030	30777	38563	46381	54227	62094	69980	77881
		8.0	9.1	7813	15590	23419	31290	39198	47134	55096	63078	71077	79090
		9.0	11.5	7914	15793	23719	31686	39685	47712	55761	63829	71913	80010
		10.0	14.1	7995	15955	23960	32001	40073	48171	56289	64425	72576	80738

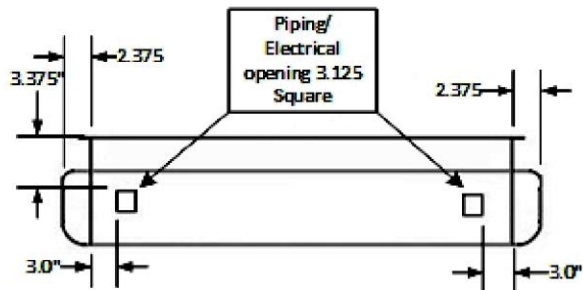
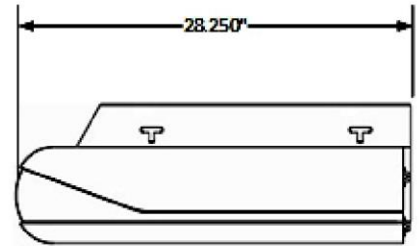
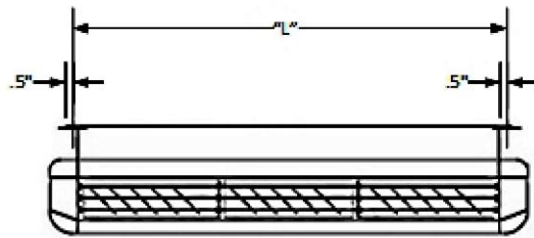
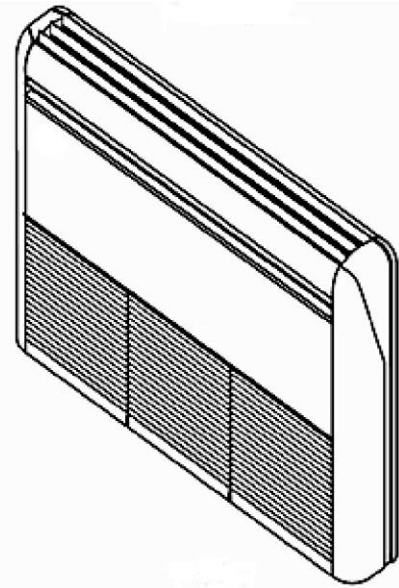
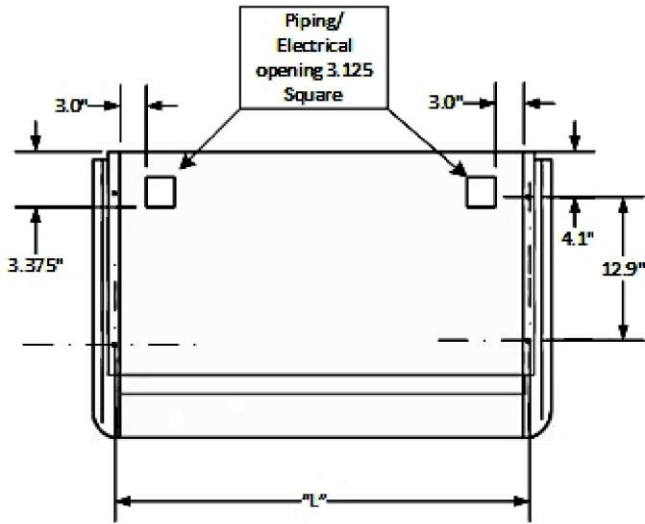
Heating at ANSI/AHRI 440 with addendum 1, 6.3.2 Table 1 as follows:

CFFWA4P-08-01-U HOT WATER CAPACITY (Both Coils)		
ENTERING AIR TEMPERATURE	GPM	ENTERING WATER TEMPERATURE 140F
70F DB / 60F WB	7.0	54550
	8.0	55463
	9.0	56162
	10.0	56719

CFFWA4P-08-01-U CFM Data

MODEL #	CFFWA4P-08-01-U
Fan Speed	CFM
L	650
M	750
H	879
Wattage @ High Speed	146

CFFWA4P-08-01-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

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