



## 48CWA4-HW 4-Pipe Chilled & Hot Water Fan Coil (120V)

4-Pipe Heat & Cool Fan Coil 48,000 BTUH

# HVAC Guide Specifications

Chilled & Hot Water Multi-Position Fan Coil  
4-Pipe

Nominal Size:  
**48,000 BTUH**

Multiaqua Model Number:  
48CWA4-HW

## **Part 1-General**

### **1.01 System Description**

Multiaqua Chilled Water Fan Coils are manufactured with heavy gauge galvanized steel to resist corrosion.

### **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 multi-position chilled & 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 heavy gauge galvanized steel casing with baked polyester powder.
  - 2. Shall be internally insulated to ensure quiet operation.
  - 3. Cabinet shall be capable of being installed in a vertical or horizontal position.
- C. Fan Motors:
  - 1. Shall be available in 120-1-60 VAC.
  - 2. Fan motors shall be three speed, direct drive, and PSC type.
  - 3. Internal overload protected.
- D. Blower Wheels:
  - 1. Blower wheels are forward curved and dynamically balanced.
- E. Water Coil:
  - 1. Manufactured with a chilled water coil containing 3/8" copper tubing mechanically bonded to aluminum fins.
  - 2. Manufactured with a hot water coil containing 3/8" copper tubing mechanically bonded to aluminum fins.
  - 3. Maximum operating pressure is 125 psi.
  - 4. Maximum coil inlet water temperature is 180F.
  - 5. Coil shall contain manual air bleed port.
- F. Drain Pan:
  - 1. Drain pan shall be molded with high impact polymers.
  - 2. Pan shall contain a primary and secondary drain connection.
  - 3. Pan shall be capable of draining in the vertical and horizontal positions without changing the pan configuration.
- G. Filters:
  - 1. Unit shall contain a filter door for easy access to the filter.
  - 2. A filter track shall be provided.
  - 3. Unit shall come supplied with a 1" throwaway filter.
- H. Hot Water Pump
  - 1. Unit shall contain an internal hot water circulating pump.

**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.

**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.

## 48CWA4-HW Product Specifications

Physical Data												
Model Number	Height (in)	Length (in)	Depth (in)	Weight (lbs.)	Cooling Rows FPI	Heating Rows FPI	Copper Diameter (in)	Chilled Water Inlet (in)	Chilled Water Outlet (in)	Hot Water Inlet (in)	Hot Water Outlet (in)	Drain (in)
48CWA4-HW	49.75	21.5	25	189	4-14	3-12	3/8	3/4	3/4	1/2	1/2	3/4

Electrical Data								
Model Number	Nominal CFM	Volts/Phase/Hertz	Fan Motor HP	Fan Motor Full Load Ampacity	Pump Motor HP	Hot Water Pump Full Load Ampacity	Fuse or HACR Circuit Breaker Per Circuit	
							MCA	MOP
48CWA4-HW	1786	120-1-60	3/4	8.9	1/40	0.52	12	20

## 48CWA4-HW Chilled Water Performance Data

48CWA4-HW COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
1786	42	4.75	TC	40114
			SC	34914
			WPD	1.4
		5.75	TC	44748
			SC	37236
			WPD	2.1
		6.75	TC	48990
			SC	39376
			WPD	3.0
		7.75	TC	52750
			SC	40936
			WPD	3.9

**\*High Speed**

48CWA4-HW COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B..
1786	45	4.75	TC	36662
			SC	33632
			WPD	1.4
		5.75	TC	40540
			SC	35514
			WPD	2.1
		6.75	TC	44030
			SC	37200
			WPD	3.1
		7.75	TC	47262
			SC	38876
			WPD	3.9

**\*High Speed**

**Recommended minimum flow rate for this unit at  $\geq 2$  fps is 2.75 gpm**

**Recommended maximum flow rate for this unit at  $\leq 6$  fps is 7.75 gpm**

## 48CWA4-HW Hot Water Performance Data

### 48CWA4-HW 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	816	3	4.6	39730	48941	58178	67473	76815	86193	95598	105022	114457	123897
		4	7.8	44286	54730	65253	75842	86485	97170	107887	118627	129383	140148
		5	11.8	47591	58964	70421	81948	93532	105162	116825	128517	140227	151949
		6	16.6	50044	62097	74235	86444	98709	111021	123369	135745	148141	160550

### 48CWA4-HW 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	816	3	4.5	30923	40063	49275	58547	67867	77225	86613	96021	105442	114870
		4	7.8	34178	44586	55076	65634	76249	86908	97601	108320	119057	129805
		5	11.7	36560	47891	59309	70800	82351	93950	105588	117255	128944	140647
		6	16.5	38326	50333	62430	74600	86830	99110	111429	123779	136151	148540

### 48CWA4-HW 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	816	3	4.5	22005	31122	40312	49564	58865	68207	77580	86974	96384	105801
		4	7.7	24011	34386	44856	55377	65965	76601	87273	97974	108694	119427
		5	11.7	25478	36769	48151	59609	71129	82701	94313	105958	117626	129311
		6	16.5	26563	39528	50586	62720	74917	87167	99459	111784	124135	136504

### 48CWA4-HW 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	816	3	4.5	13025	22122	31294	40529	49814	59142	68501	77885	87285	96694
		4	7.7	13789	24135	34568	45073	55638	66253	76906	87590	98296	109016
		5	11.7	14347	25602	36951	48379	59871	71417	83006	94630	106280	117948
		6	16.4	14759	26685	38706	50806	62973	75195	87462	99764	112094	124446

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

ENTERING AIR TEMPERATURE	GPM	ENTERING WATER TEMPERATURE 140F
70F DB / 60F WB	3	68416
	4	76882
	5	83055
	6	87583

## 48CWA4-HW CFM Adjustments

Model Number	Motor Speed	CFM vs. ESP				
		0.1	0.2	0.3	0.4	0.5
48CWA4-HW	High	1786	1670	1574	1469	1421
	Medium	1709	1555	1450	1334	1229
	Low	1613	1440	1267	1200	NA

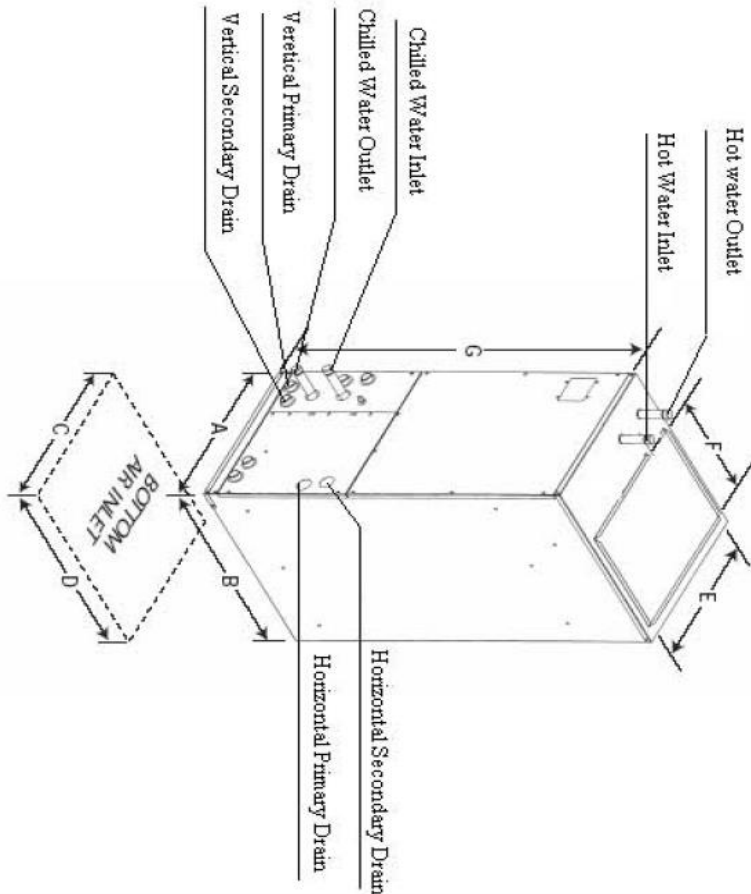
## 48CWA4-HW Sound Data

MODEL #	48CWA4-HW
Fan Speed	dB @ 1 m
H	44



# 48CWA4-HW Dimensional Drawing

CWA4 Certified Drawing  
 Drawing # 0907400079



Model No.	A	B	C	D	E	F	G
24CWA4-XX	17 1/2	21	15	17 1/2	16	12 3/8	39 1/4
36CWA4-XX 48CWA4-XX 60CWA4-XX	21 1/2	25	19 1/4	22 1/4	19 5/8	17 1/4	49 1/4

Note: "-XX" indicates electric heat (KW) size.