48CWA2-00 Chilled Water Fan Coil With or Without Electric Heat

2-Pipe Heat / Cool Fan Coil 48,000 BTUH

Rev. 1.3

HVAC Guide Specifications

Chilled or Hot Water with Optional Electric Heat Multi-Position Fan Coil
2-Pipe

Nominal Size:
48,000 BTUH

Multiaqua Model Number:
48CWA2-00

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 with electric heat 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 208/230-1-60 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 water coils containing 3/8" copper tubing mechanically bonded to aluminum fins.
   2. Coils shall be factory tested to 350 psig.
   3. 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. Electric Heaters:
1. Unit shall be capable of incorporating an electric heat package.
2. Electric heaters shall be of the open wire type.
3. Electric heat packages shall contain non-fused breakers, sequencers and safeties.

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.
B. Electric heat package shall contain non-fusible breakers and high temperature limits.

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.

48CWA2-00 Product Specifications

Physical Data									
Model Number	Height (in)	Length (in)	Depth (in)	Weight (lbs)	Cooling Rows FPI	Copper Diameter (in)	Water Inlet (in)	Water Outlet (in)	Drain (in)
48CWA2-00	49.75	21.50	25.00	170.00	4-14	3/8	3/4	3/4	3/4

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
48CWA2-00	1776	208/230-1-60	1/3	3.2	4.00	8

Model Number	Nominal CFM	KW Electric Heat		Minimum Ampacity		Maximum Breaker	
		240V	208V	240V	208V	240V	208V
48CWA2-XX	1776	0	0	4	3.9	15	15
		5	3.8	30	27	30	35
		8	6	46	41	50	45
		10	7.5	57	50	60	50
		15	11.3	53/30	46/27	60/30	50/30
		20	15	57/53	50/46	60/60	50/50

48CWA2-00 Chilled Water Performance Data

48CWA2-00 COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
1776	42	8.5	TC	57926
			SC	43192
			WPD	4.6
		9.5	TC	60920
			SC	44594
			WPD	5.7
		10.5	TC	63820
			SC	45932
			WPD	6.8
		11.5	TC	66556
			SC	47114
			WPD	8.1

***High Speed**

48CWA2-00 COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
1776	45	8.5	TC	51640
			SC	40812
			WPD	4.6
		9.5	TC	54360
			SC	41938
			WPD	5.7
		10.5	TC	56684
			SC	43016
			WPD	6.8
		11.5	TC	58938
			SC	43940
			WPD	8.1

***High Speed**

48CWA2-00 Hot Water Performance Data

48CWA2-00 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	1776	8.5	4.3	57342	71868	86496	101206	115984	130816	145694	160604	175542	190500
		9.5	5.3	58728	73600	88570	103616	118730	133894	149102	164344	179610	194894
		10.5	6.4	59870	75022	90268	105590	120972	136406	151880	167384	182914	198462
		11.5	7.6	60822	76208	91682	107228	122834	138486	154176	169898	185642	201404

48CWA2-00 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	1776	8.5	4.3	43230	57698	72270	86930	101664	116454	131294	146172	161080	176010
		9.5	5.3	44250	59064	73980	88980	104048	119172	134344	149552	164788	180046
		10.5	6.4	45090	60188	75382	90654	105994	121388	136826	152300	167802	183324
		11.5	7.6	45792	61124	76546	92046	107610	123224	138882	154572	170288	186026

48CWA2-00 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	1776	8.5	4.3	29074	43486	58008	72620	87310	102064	116868	131714	146592	161496
		9.5	5.3	29734	44494	59358	74310	89336	104424	119560	134736	149944	165178
		10.5	6.4	30278	45320	60464	75694	90992	106348	121752	137196	152668	168166
		11.5	7.5	30732	46010	61386	76842	92364	107944	123566	139228	154918	170632

48CWA2-00 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	1776	8.5	4.3	14876	29236	43710	58280	72928	87644	102414	117230	132082	146960
		9.5	5.3	15182	29888	44706	59614	74602	89652	104754	119900	135082	150292
		10.5	6.4	15434	30424	45522	60708	75966	91288	106660	122074	137520	152994
		11.5	7.5	15644	30872	46200	61614	77100	92644	108236	123868	139534	155224

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	8.5	102814
	9.5	105232
	10.5	107206
	11.5	108842

48CWA2-00 CFM Adjustments

Model Number	Motor Speed	CFM vs. External Static Pressure				
		0.1	0.2	0.3	0.4	0.5
48CWA-XX	High	1850	1700	1650	1500	1410
	Medium	1750	1650	1450	1330	1180
	Low	1150	1060	1000	920	810

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

48CWA2-00 Sound Data

MODEL #	48CWA2-00
Fan Speed	dB @ 1 m
H	46

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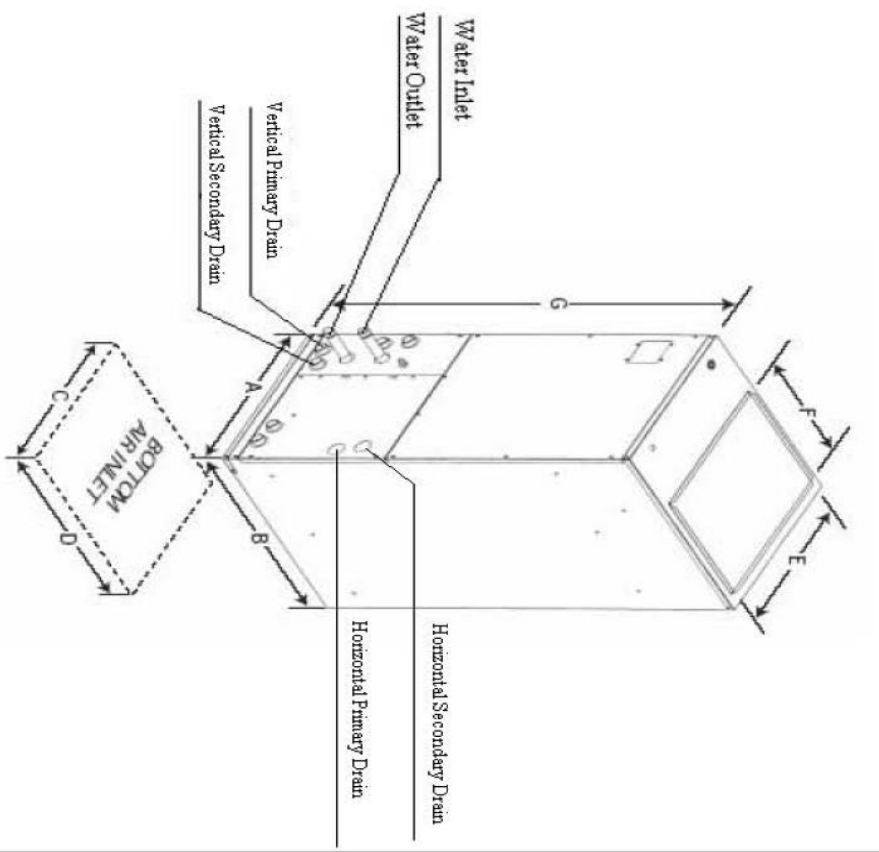
48CWA2-00 Dimensional Drawing

CWA2 Certified Drawing
Drawing # 0907400078



Model No.	A	B	C	D	E	F	G
18 & 24CWA2-XX	17½	21	15	17½	16	12⅝	39¼
36CWA2-XX	17½	21	15	17½	16	12⅝	39¼
48 & 60CWA2-XX	21½	25	19¼	22¼	19⅝	17¼	49¼

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

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