MHCCW-06-02-03 Chilled Water Ceiling Concealed with 2kW Electric Heat (115V)

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

HVAC Guide Specifications

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

Nominal Size:
18,000 BTUH

Multiaqua Model Number:
MHCCW-06-02-03

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 chilled or hot water fan coil.
   2. Shall be assembled with heavy gauge galvanized steel.
   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 a baked polyester powder.
   2. Shall be internally insulated to ensure quiet operation.

C. Fan Motors:
   1. Shall be available in 115-1-60 VAC.
   2. Fan motors shall be three-speed, direct drive, and PSC type.
   3. Totally enclosed.
   4. 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. Contain both a manual water drain and manual air bleed port per coil.
   3. Maximum operating pressure is 150 psig.
   4. Coils shall be capable of being field converted from right to left hand connection.

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 a left and right hand primary sloped drain connection as well as a sloped right hand secondary drain connection.

G. Electric Heat:
   1. Electric Heaters shall be of the rod and disk type.
   2. Shall be protected by safeties.

Part 3-Controls and Safeties

3.01 Controls

A. Fan coils shall be completely factory wired and tested.
B. All components shall be wired to an internal terminal block to allow for a field installed thermostat and or Fan speed control.
C. Controls shall include the following components.
   1. 24vac transformer.
   2. Fan relays.
   3. Electric Heat Sequencer(s).
   4. Optional Thermostats.

3.02 Safeties

A. Fan coil shall be equipped with all necessary components in conjunction with the control system to provide the following protectants.
   1. High temperature.
   2. Over current protection.

Part 4-Operating Characteristics

4.01 Electrical Requirements

A. Primary electrical power supply shall enter the unit at a single location.
B. Electrical power supply shall be rated to withstand 120°F operating ambient temperatures.
C. Control and high voltage points shall be accessed through terminal block.

Part 5- Accessories:

5.01 Enclosures

A. Fan coils shall be capable of incorporating field assembled enclosures.
   1. Enclosures shall be internally insulated to ensure quite operation and increase efficiency.
   2. Shall include knockouts for ease of piping and electrical in and out of the enclosures.
   3. Shall include an optional return air cutout in the enclosure.
   4. Shall include a supply air duct flange.
   5. Shall incorporate baked polyester powder service access panels with and without a filtered louver.

Part 6- Definitions

6.01 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.

6.02 Measurements

A. All measurements with regard to length, width, and height shall be in inches

MHCCW-06-02-03 Product Specifications

Physical Data									
Model Number	Height (in)	Width (in)	Depth (in)	Weight (lbs.)	Coil Rows FPI	Copper Diameter (in)	Water Inlet (in)	Water Outlet (in)	Drain (in)
MHCCW-06-02-03	10.25	37.72	21.65	68.2	3-14	3/8	5/8	5/8	3/4

Electrical Data							
Model Number	Nominal CFM	Volts Phase Hertz	Electric Heat (KW)	Fan Motor HP	Full Load Ampacity	Fuse or HACR Circuit Breaker Per Circuit	
						MCA	MOP
MHCCW-06-02-03	600	115-1-60	2	1/8	19.02	19.43	25

External Static Pressure Comparative CFM Table							
Model Number	0.00*	0.05*	0.10*	0.15*	0.2*	0.25*	0.30*
MHCCW-04	322	290	252	220	0	0	0
MHCCW-06	**715**	**684**	**653**	**622**	**591**	**565**	**538**
MHCCW-08	915	879	814	809	774	734	693
MHCCW-10	1007	975	944	898	853	817	780
MHCCW-12	1254	1218	1183	1147	1112	1076	1041
MCCW-16	1435	1394	1354	1313	1272	1231	1191
MCCW-20	1450	1409	1368	1327	1285	1244	1203

* External static pressure (In W.G.)

MHCCW-06-02-03 Chilled Water Performance Data

MHCCW-06-02-03 COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
675	42	4.0	TC	19613
			SC	14339
			WPD	6.5
		4.25	TC	19796
			SC	14589
			WPD	7.3
		4.5	TC	20268
			SC	14814
			WPD	8.1
		5.0	TC	21168
			SC	15200
			WPD	9.9

***High Speed**

MHCCW-06-02-03 COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
675	45	4.0	TC	17186
			SC	13591
			WPD	6.5
		4.25	TC	17648
			SC	13744
			WPD	7.3
		4.5	TC	18062
			SC	13941
			WPD	8.1
		5.0	TC	18861
			SC	14271
			WPD	9.9

***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

MHCCW-06-02-03 Hot Water Performance Data

MHCCW-06-02-03 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	675	4	6.1	18797	23544	28322	33125	37950	42791	47645	52511	57384	62264
		4.25	6.9	19003	23800	28627	33479	38351	43239	48141	53053	57973	62899
		4.5	7.7	19188	24030	28901	33797	38712	43643	48587	53541	58503	63471
		5.0	9.4	19509	24428	29375	34344	39332	44336	49351	54376	59409	64447

MHCCW-06-02-03 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	675	4	6.1	14176	18903	23662	28449	33258	38086	42928	47783	52646	57518
		4.25	6.9	14328	19105	23914	28750	33607	38483	43372	48273	53184	58102
		4.5	7.6	14465	19287	24141	29020	33921	38839	43771	48715	53667	58627
		5.0	9.3	14702	19602	24532	29486	34461	39452	44456	49471	54494	59525

MHCCW-06-02-03 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	675	4	6.1	9545	14253	18995	23766	28561	33376	34061	38952	47905	52768
		4.25	6.9	9644	14402	19195	24015	28858	33721	34564	39558	48392	53301
		4.5	7.6	9733	14537	19374	24239	29126	34031	38207	43051	48829	53781
		5.0	9.3	9888	14770	19684	24624	29585	34564	38599	43490	49578	54601

MHCCW-06-02-03 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	675	4	6.1	4905	9594	14320	19076	23857	28660	33479	38313	43158	48012
		4.25	6.8	4952	9692	14468	19273	24103	28953	33821	38702	43594	48495
		4.5	7.6	4994	9780	14601	19450	24324	29218	34128	39051	43986	48929
		5.0	9.3	5067	9932	14830	19755	24704	29671	34655	39650	44657	49672

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	4	33588
	4.25	33939
	4.5	34255
	5.0	34798

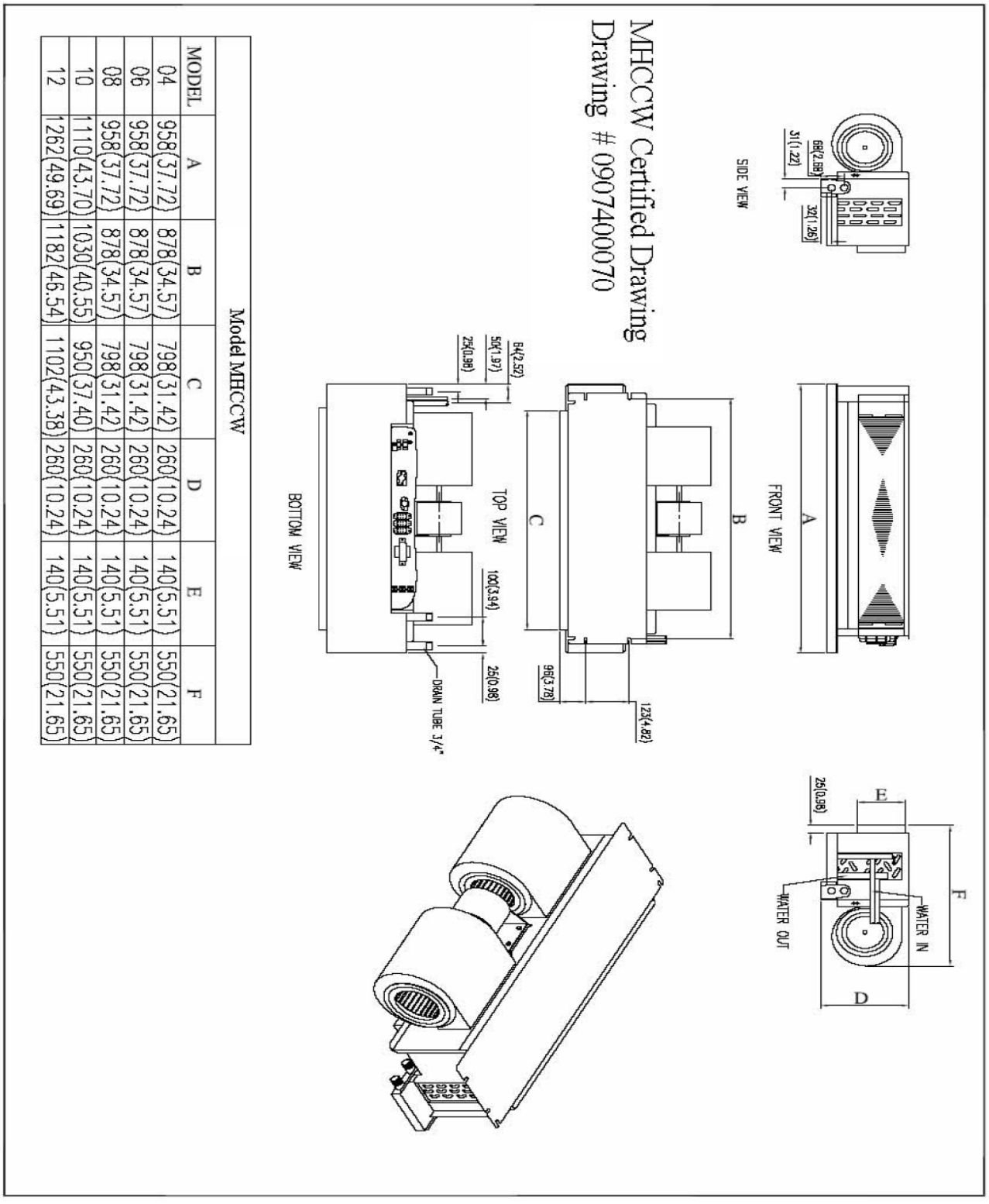
MHCCW-06-02-03 Electric Heat Performance Data

Model Number	Nominal CFM	Electric Heat BTUH
MHCCW-06-02-03	675	6,800

MHCCW-06-02-03 Sound Data

MODEL #	MHCCW-06-02-03
Fan Speed	dB @ 1 m
H	44

MHCCW-06-02-03 Dimensional Drawing



Model MHCCW						
MODEL	A	B	C	D	E	F
04	958(37.72)	878(34.57)	798(31.42)	260(10.24)	140(5.51)	550(21.65)
06	958(37.72)	878(34.57)	798(31.42)	260(10.24)	140(5.51)	550(21.65)
08	958(37.72)	878(34.57)	798(31.42)	260(10.24)	140(5.51)	550(21.65)
10	1110(43.70)	1030(40.55)	950(37.40)	260(10.24)	140(5.51)	550(21.65)
12	1262(49.69)	1182(46.54)	1102(43.38)	260(10.24)	140(5.51)	550(21.65)