



MCCW-20-H-1 Chilled Water Ceiling Concealed Without Electric Heat

2-Pipe Hydronic Heat / Cool Fan Coil 60,000 BTUH

HVAC Guide Specifications

Chilled and Hot Water Fan Coil
2-Pipe

Nominal Size:
60,000 BTUH

MultiAqua Model Number:
MCCW-20-H-1

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 and 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 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.
- 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. Coils shall be factory tested to 350 psig.
- 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 hand (looking in the direction of air flow) primary and secondary sloped drain connection.

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. Optional thermostats

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. 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- 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.

MCCW-20-H-1 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)
MCCW-20-H-1	13.78	56.10	20.00	72.80	3-14	3/8	1.0	1.0	1/2

Electrical Data						
Model Number	Nominal CFM	Volts/ Phase/ Hertz	Motor HP	Full Load Ampacity	Fuse or HACR Circuit Breaker Per Circuit	
					MCA	MOP
MCCW-20-H-1	1435	208/230-1-50/60	1/2	2.72	3.40	8

MCCW-20-H-1 Chilled Water Performance Data

MCCW-20 COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
1435	42	8.75	TC	53243
			SC	37981
			WPD	17.9
		9.75	TC	55397
			SC	38893
			WPD	21.8
		10.75	TC	57200
			SC	39664
			WPD	26.1
		11.75	TC	58732
			SC	40313
			WPD	30.8

***High Speed**

MCCW-20 COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
1435	45	8.75	TC	47614
			SC	35669
			WPD	17.8
		9.75	TC	49365
			SC	36433
			WPD	21.7
		10.75	TC	50914
			SC	37066
			WPD	26.0
		11.75	TC	52338
			SC	37662
			WPD	30.6

***High Speed**

Recommended minimum flow rate for this unit at ≥ 2 fps is 4.0 gpm

Recommended maximum flow rate for this unit at ≤ 6 fps is 11.75 gpm

MCCW-20-H-1 Hot Water Performance Data

MCCW-20 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	1435	8.75	16.5	47086	58850	70648	82472	94316	106176	118046	129922	141803	153684
		9.75	20.2	47931	59909	71919	83954	96009	408078	120158	132244	144334	156426
		10.75	24.1	48629	60782	72966	85175	97402	109643	121894	134152	146414	158677
		11.75	28.4	49215	61515	73844	86196	98567	110951	123345	135745	148149	160556

MCCW-20 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	1435	8.75	16.2	35468	47209	58986	70791	82620	94465	106322	118188	130059	141932
		9.75	19.7	36092	48047	60037	72054	84093	96148	108216	120291	132372	144456
		10.75	23.6	36607	48738	60903	73094	85305	97533	109772	122020	134273	146528
		11.75	27.8	37040	49318	61629	73964	86320	98691	111073	123463	135859	148257

MCCW-20 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	1435	8.75	16.4	23839	35559	47317	59106	70920	82752	94598	106454	118317	130183
		9.75	20.0	24244	36178	48149	60150	72175	84218	96274	108341	120414	132491
		10.75	24.0	24578	36689	48836	61011	73208	85424	97652	109891	122136	134385
		11.75	28.3	24859	37117	49410	61731	74073	86432	98804	111186	123574	135966

MCCW-20 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	1435	8.75	16.1	12197	23896	35636	47409	59208	71028	82863	94710	106564	118424
		9.75	19.7	12384	24298	36251	48236	60247	72277	84323	96380	108445	120515
		10.75	23.6	12538	24629	36758	48918	61102	73305	85523	97752	109989	122232
		11.75	27.7	12668	24907	37183	49488	61817	74165	86526	98899	111279	123664

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	8.75	83434
	9.75	84933
	10.75	86168
	11.75	87201

MCCW-20-H-1 CFM Adjustments

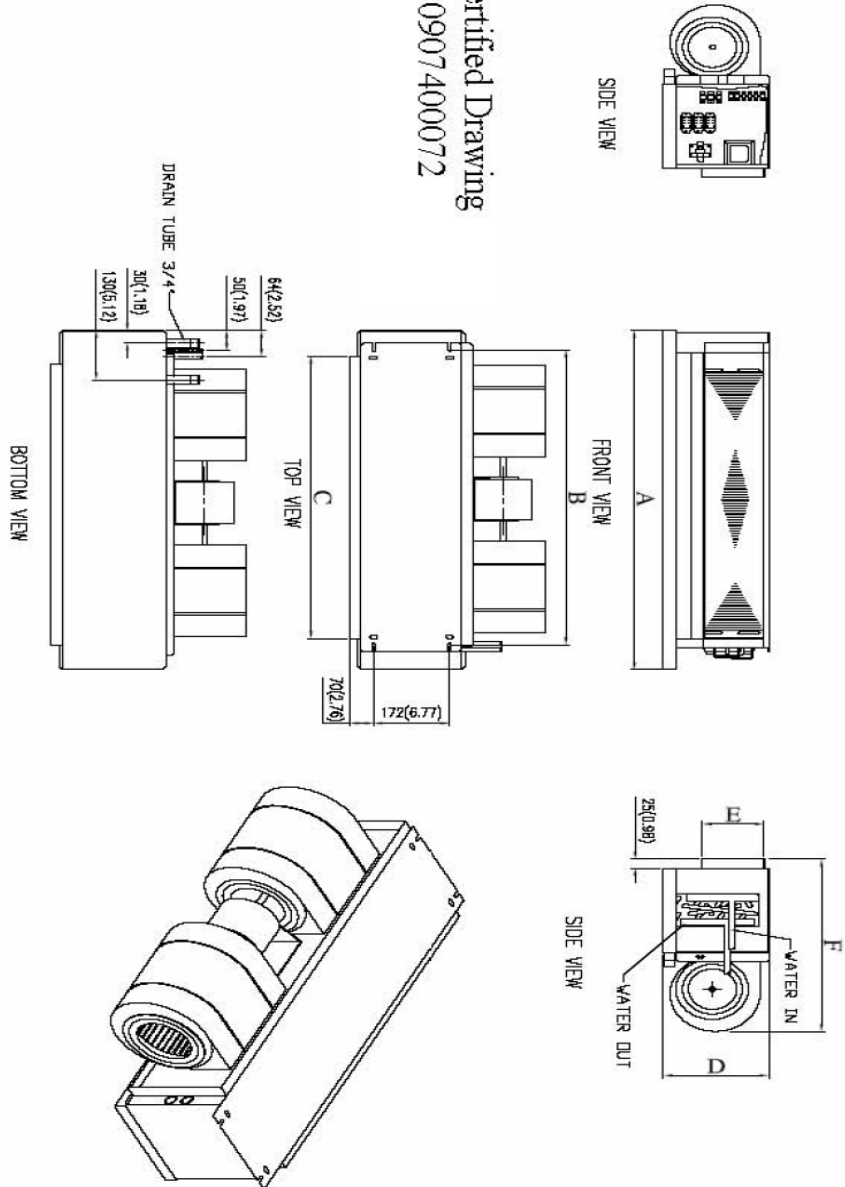
Nominal CFM vs. External Static Pressure Table						
Model Number	Hi Speed					
	0.05	0.10	0.15	0.20	0.25	0.30
MCCW-20-H-1	1435	1415	1400	1363	1325	1290

MCCW-20-H-1 Sound Data

MODEL #	MCCW-20-H-1
Fan Speed	dB @ 1 m
H	46

MCCW-20-H-1 Dimensional Drawing

MCCW Certified Drawing
 Drawing # 0907400072



Model MCCW						
MODEL	A	B	C	D	E	F
04	958(37.72)	843(33.19)	801(31.54)	247(9.72)	139(5.47)	455(17.91)
06	958(37.72)	843(33.19)	801(31.54)	247(9.72)	139(5.47)	455(17.91)
08	958(37.72)	843(33.19)	801(31.54)	247(9.72)	139(5.47)	455(17.91)
10	1238(48.74)	1123(44.21)	1081(42.56)	298(11.73)	189(7.44)	455(17.91)
12	1238(48.74)	1123(44.21)	1081(42.56)	298(11.73)	189(7.44)	503(19.80)
16	1432(56.38)	1317(51.85)	1275(50.20)	349(13.74)	241(9.49)	503(19.80)
20	1432(56.38)	1317(51.85)	1275(50.20)	349(13.74)	241(9.49)	503(19.80)