MHNCCW-06-03 (4-Pipe) Chilled/Hot Water Ceiling Concealed 115V

4-Pipe Heating & Cool Fan Coil 18,000 BTUH

Rev. 2

HVAC Guide Specifications

Chilled and Hot Water Fan Coil
4-Pipe

Nominal Size:
18,000 BTUH

Multiaqua Model Number:
MHNCCW-06-03

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 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 115-1-50/60 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. 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 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.

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- Accessories:

5.01 Enclosures

A. Fan coils are not offered on the MHNCCW models. Enclosure provided by others.

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.

MHNCCW-06-03 Product Specifications

Physical Data										
Model Number	Height (in)	Length (in)	Depth (in)	Weight (lbs.)	Cooling Rows FPI	Heating Rows FPI	Copper Diameter (in)	Water Inlet (in)	5/8	Drain (in)
MHNCCW-06-03	10	37.72	21.65	68.2	3-14	2-14	3/8	5/8	1/2	3/4

Electrical Data						
Model Number	Nominal CFM	Volts/ Phase/ Hertz	Fan Motor HP	Full Load Ampacity	Fuse or HACR Circuit Breaker Per Circuit	
					MCA	MOP
MHNCCW-06-03	600	115-1-60	1/8	0.88	1.10	2

MHNCCW-06-03 Chilled Water Performance Data

MHNCCW-06-03 COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B.
600	42	2.75	TC	15363
			SC	12070
			WPD	3.2
		3.5	TC	17323
			SC	12942
			WPD	5.1
		4.0	TC	18392
			SC	13418
			WPD	6.5
		4.75	TC	19738
			SC	14017
			WPD	9.0

***High Speed**

MHNCCW-06-03 COOLING CAPACITIES				
CFM	EWT (°F)	GPM	ENTERING AIR TEMPERATURE (F)	
				80° D.B. / 67° W.B..
600	45	2.75	TC	13777
			SC	11454
			WPD	3.2
		3.5	TC	15470
			SC	12241
			WPD	5.0
		4.0	TC	16398
			SC	12626
			WPD	6.5
		4.75	TC	17573
			SC	13139
			WPD	9.0

***High Speed**

Chilled Water Coil

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

Hot Water Coil

Recommended minimum flow rate for this unit at ≥ 2 fps is 1.50 gpm
Recommended maximum flow rate for this unit at ≤ 6 fps is 3.75 gpm

MHNCCW-06-03 Hot Water Performance Data

MHNCCW-06-03 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	600	1.5	3.6	12111	15085	18081	21095	24123	27162	30209	33263	36322	39384
		2.75	10.9	14050	17522	21013	24520	28040	31569	35107	38651	42199	45751
		3.0	12.8	14275	17804	21350	24913	28487	32071	35663	39261	42863	46468
		3.75	19.3	14797	18455	22129	25818	29517	33226	36941	40662	44386	48114

MHNCCW-06-03 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	600	1.5	3.6	9227	12190	15176	18179	21198	24229	27269	30317	33370	36426
		2.75	10.9	10657	14116	17596	21093	24603	28125	31655	35192	38735	42281
		3.0	12.8	10823	14339	17875	21427	24992	28568	32153	35744	39341	42941
		3.75	19.3	11208	14854	18518	22197	25888	29589	32298	37013	40732	44455

MHNCCW-06-03 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	600	1.5	3.5	6333	9285	12260	15254	18264	21287	24321	27362	30410	33461
		2.75	10.8	7258	10705	14174	17661	21163	24676	28199	31730	35267	38808
		3.0	12.7	7365	10869	14394	17937	21494	25062	28640	32225	35816	39411
		3.75	19.2	7614	11249	14903	18573	22256	25950	29652	33361	37075	40794

MHNCCW-06-03 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	600	1.5	3.5	3427	6369	9334	12320	15323	18339	21366	24401	27444	30491
		2.75	10.8	3852	7288	10747	14224	17718	21224	24740	28265	31796	35332
		3.0	12.7	3901	7394	10909	14443	17991	21552	25123	28702	32288	35787
		3.75	19.2	4016	7640	11285	14946	18622	22308	26004	29707	33417	37131

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	1.5	21371
	2.75	24797
	3.0	25188
	3.75	26088

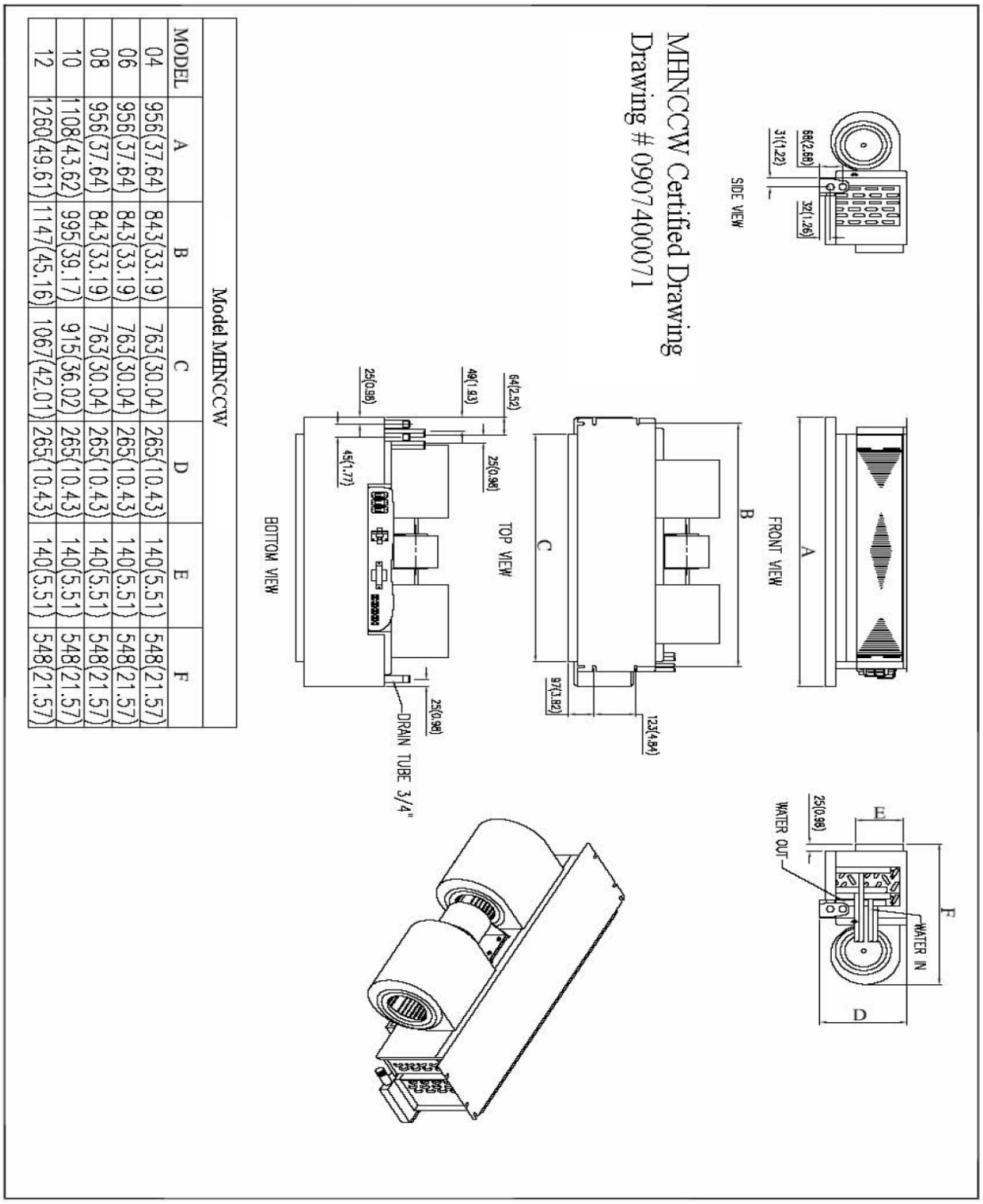
MHNCCW-06-03 CFM Adjustments

CFM vs. External Static Pressure Table						
Model Number	Hi Speed					
	0.05	0.1	0.15	0.2	0.25	0.3
MHNCCW-06-03	634	608	578	544	506	463

MHNCCW-06-03 Sound Data

MODEL #	MHNCCW-06-03
Fan Speed	dB @ 1 m
H	42

MHNCCW-06-03 Dimensional Drawing



Model MHNCCW						
MODEL	A	B	C	D	E	F
04	956(37.64)	843(33.19)	763(30.04)	265(10.43)	140(5.51)	548(21.57)
06	956(37.64)	843(33.19)	763(30.04)	265(10.43)	140(5.51)	548(21.57)
08	956(37.64)	843(33.19)	763(30.04)	265(10.43)	140(5.51)	548(21.57)
10	1108(43.62)	995(39.17)	915(36.02)	265(10.43)	140(5.51)	548(21.57)
12	1260(49.61)	1147(45.16)	1067(42.01)	265(10.43)	140(5.51)	548(21.57)