MCFCW-06-4HS-1 (4-Pipe) High Static Chilled/Hot Water Ceiling Concealed Cased Fan Coil 208/230V

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

HVAC Guide Specifications

Chilled and Hot Water Fan Coil High Static
4-Pipe
Nominal Size:
18,000 BTUH

Multiaqua Model Number:
MCFCW-06-4HS-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. Filters are not included with the fan coil.
4. A filter rack is built into the return of each fan coil.

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. External Static Pressure
1. Unit shall be rated for a minimum external static pressure of 0.3" WG and maximum of 0.5" WG.

F. Water Coil:
2. Manufactured with water coils containing 3/8 copper tubing mechanically bonded to aluminum fins.
3. Contain both a manual water/ air bleed port per coil.
4. Coils have a max operating pressure of 150 PSIG.
5. Maximum liquid solution temperature is 180 degrees F.

G. 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 sloped drain connection as well as a sloped secondary drain connection.
4. Field supplied and installed P-Traps are required.

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 24 vac thermostat and or fan speed control.

C. Controls shall include the following components.

1. 24vac transformer.
2. Three 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 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.

MCFCW-06-4HS-1 Product Specifications

Physical Data										
Model Number	Height (in)	Length (in)	Depth (in)	Weight (lbs.)	Primary Rows FPI	Secondary Rows FPI	Copper Diameter (in)	Water Inlet O.D(in)	Water Outlet O.D(in)	Drain (in)
MCFCW-06-4HS-1	12.25	37.25	27.25	100	3-14	1-14	3/8	5/8	5/8	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
MCFCW-06-4HS-1	600	208/230-1-50/60	1/4	1.26	1.58	5

MCFCW-06-4HS-1 Chilled Water Performance Data

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
713	42	0.30	3.5	TC	22070
				SC	15733
				WPD FT	11.3
			4.0	TC	23336
				SC	16291
				WPD FT	14.5
			4.5	TC	24424
				SC	16767
				WPD FT	18.1

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
595	42	0.40	3.5	TC	20562
				SC	14179
				WPD FT	11.3
			4.0	TC	21645
				SC	14654
				WPD FT	14.5
			4.5	TC	22559
				SC	15052
				WPD FT	18.1

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
585	42	0.50	3.5	TC	20421
				SC	14042
				WPD FT	11.3
			4.0	TC	21480
				SC	14507
				WPD FT	14.5
			4.5	TC	22385
				SC	14898
				WPD FT	18.1

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
713	45	0.30	3.5	TC	19684
				SC	14761
				WPD FT	11.3
			4.0	TC	20809
				SC	15254
				WPD FT	14.4
			4.5	TC	21725
				SC	15653
				WPD FT	18.0

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
595	45	0.40	3.5	TC	18330
				SC	13255
				WPD FT	11.3
			4.0	TC	19290
				SC	13672
				WPD FT	14.4
			4.5	TC	20073
				SC	14011
				WPD FT	18.0

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
585	45	0.50	3.5	TC	18204
				SC	13123
				WPD FT	11.3
			4.0	TC	19149
				SC	13533
				WPD FT	14.4
			4.5	TC	19921
				SC	13867
				WPD FT	18.0

MCFCW-06-4HS-1 COOLING CAPACITIES (Secondary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
713	42	0.30	3.5	TC	10625
				SC	7384
				WPD FT	13.4
			4.0	TC	11083
				SC	7566
				WPD FT	17.2
			4.5	TC	11467
				SC	7718
				WPD FT	21.5

MCFCW-06-4HS-1 COOLING CAPACITIES (Secondary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
595	42	0.40	3.5	TC	10061
				SC	6805
				WPD FT	13.4
			4.0	TC	10466
				SC	6967
				WPD FT	17.2
			4.5	TC	10805
				SC	7103
				WPD FT	21.5

MCFCW-06-4HS-1 COOLING CAPACITIES (Secondary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
585	42	0.50	3.5	TC	10011
				SC	6756
				WPD FT	13.4
			4.0	TC	10412
				SC	6916
				WPD FT	17.2
			4.5	TC	10746
				SC	7051
				WPD FT	21.5

MCFCW-06-4HS-1 COOLING CAPACITIES (Secondary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
713	45	0.30	3.5	TC	9311
				SC	6899
				WPD FT	13.3
			4.0	TC	9723
				SC	7059
				WPD FT	17.1
			4.5	TC	10068
				SC	7193
				WPD FT	21.3

MCFCW-06-4HS-1 COOLING CAPACITIES (Secondary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
595	45	0.40	3.5	TC	8826
				SC	6343
				WPD FT	13.3
			4.0	TC	9191
				SC	6485
				WPD FT	17.1
			4.5	TC	9496
				SC	6604
				WPD FT	21.3

MCFCW-06-4HS-1 COOLING CAPACITIES (Secondary Coil Only)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
585	45	0.50	3.5	TC	8784
				SC	6296
				WPD FT	13.3
			4.0	TC	9144
				SC	6437
				WPD FT	17.1
			4.5	TC	9446
				SC	6555
				WPD FT	21.3

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary and Secondary Coil)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
713	42	0.30	3.5	TC	23802
				SC	16913
				WPD FT	4.6
			4.0	TC	25209
				SC	17554
				WPD FT	5.9
			4.5	TC	26453
				SC	18114
				WPD FT	7.4

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary and Secondary Coil)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
595	42	0.40	3.5	TC	22101
				SC	15180
				WPD FT	4.6
			4.0	TC	23324
				SC	15732
				WPD FT	5.9
			4.5	TC	24374
				SC	16203
				WPD FT	7.4

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary and Secondary Coil)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
585	42	0.50	3.5	TC	21943
				SC	15028
				WPD FT	4.6
			4.0	TC	23146
				SC	15570
				WPD FT	5.9
			4.5	TC	24178
				SC	16032
				WPD FT	7.4

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary and Secondary Coil)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
713	45	0.30	3.5	TC	21329
				SC	15901
				WPD FT	4.6
			4.0	TC	22568
				SC	16464
				WPD FT	5.9
			4.5	TC	23650
				SC	16950
				WPD FT	7.4

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary and Secondary Coil)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
595	45	0.40	3.5	TC	19766
				SC	14213
				WPD FT	4.6
			4.0	TC	20829
				SC	14686
				WPD FT	5.9
			4.5	TC	21741
				SC	15088
				WPD FT	7.4

MCFCW-06-4HS-1 COOLING CAPACITIES (Primary and Secondary Coil)					
CFM	EWT (°F)	ESP IN WC	GPM	ENTERING AIR TEMPERATURE (F)	
					80° D.B. / 67° W.B.
585	45	0.50	3.5	TC	27769
				SC	21547
				WPD FT	4.6
			4.0	TC	29652
				SC	22485
				WPD FT	5.9
			4.5	TC	31320
				SC	23290
				WPD FT	7.4

MCFCW-06-4HS-1 Hot Water Performance Data

This heating performance data is at dry bulb temperature indicated / wet bulb temperature is 56 degrees F.

MCFCW-06-4HS-1 HOT WATER CAPACITIES (Primary Coil)											
ENTERING AIR (°F)	NOMINAL CFM	ESP "WC	GPM	WPD	ENTERING WATER TEMPERATURE (F)						
					100°	110°	120°	130°	140°	150°	160°
70	713	0.30	3.5	10.3	16507	21788	27094	32419	37762	43117	48483
			4.0	13.2	16924	22340	27781	33240	38716	44204	49702
			4.5	16.4	17256	22781	28328	33893	39474	45066	50668
			5.0	19.9	17526	23138	28771	34422	40086	45762	51448

MCFCW-06-4HS-1 HOT WATER CAPACITIES (Primary Coil)											
ENTERING AIR (°F)	NOMINAL CFM	ESP "WC	GPM	WPD	ENTERING WATER TEMPERATURE (F)						
					100°	110°	120°	130°	140°	150°	160°
70	595	0.40	3.5	10.3	14884	19626	24387	29165	33956	38758	43568
			4.0	13.2	15201	20046	24909	29788	34679	39580	44489
			4.5	16.4	15449	20373	25315	30271	35238	40216	45200
			5.0	19.9	15649	20638	25643	30661	35691	40729	45774

MCFCW-06-4HS-1 HOT WATER CAPACITIES (Primary Coil)											
ENTERING AIR (°F)	NOMINAL CFM	ESP "WC	GPM	WPD	ENTERING WATER TEMPERATURE (F)						
					100°	110°	120°	130°	140°	150°	160°
70	585	0.50	3.5	10.3	14734	19427	24140	28868	33609	38361	43120
			4.0	13.2	15043	19836	24647	29473	34311	39159	44015
			4.5	16.4	15283	20154	25041	29942	34855	39777	44706
			5.0	19.9	15479	20411	25360	30322	35295	40276	45264

MCFCW-06-4HS-1 HOT WATER CAPACITIES (Secondary Coil)											
ENTERING AIR (°F)	NOMINAL CFM	ESP "WC	GPM	WPD	ENTERING WATER TEMPERATURE (F)						
					100°	110°	120°	130°	140°	150°	160°
70	713	0.30	3.5	12.2	8489	11073	13672	16284	18907	21539	24179
			4.0	15.7	8633	11262	13905	16561	19226	21900	24581
			4.5	19.6	8750	11415	14094	16784	19484	22192	24906
			5.0	23.8	8846	11541	14250	16969	19697	22432	25173

MCFCW-06-4HS-1 HOT WATER CAPACITIES (Secondary Coil)											
ENTERING AIR (°F)	NOMINAL CFM	ESP "WC	GPM	WPD	ENTERING WATER TEMPERATURE (F)						
					100°	110°	120°	130°	140°	150°	160°
70	595	0.40	3.5	12.2	7842	10219	12610	15011	17422	19840	22264
			4.0	15.7	7963	10378	12806	15244	17690	20143	22602
			4.5	19.6	8061	10507	12964	15431	17906	20387	22874
			5.0	23.8	8142	10613	13095	15586	18084	20588	23097

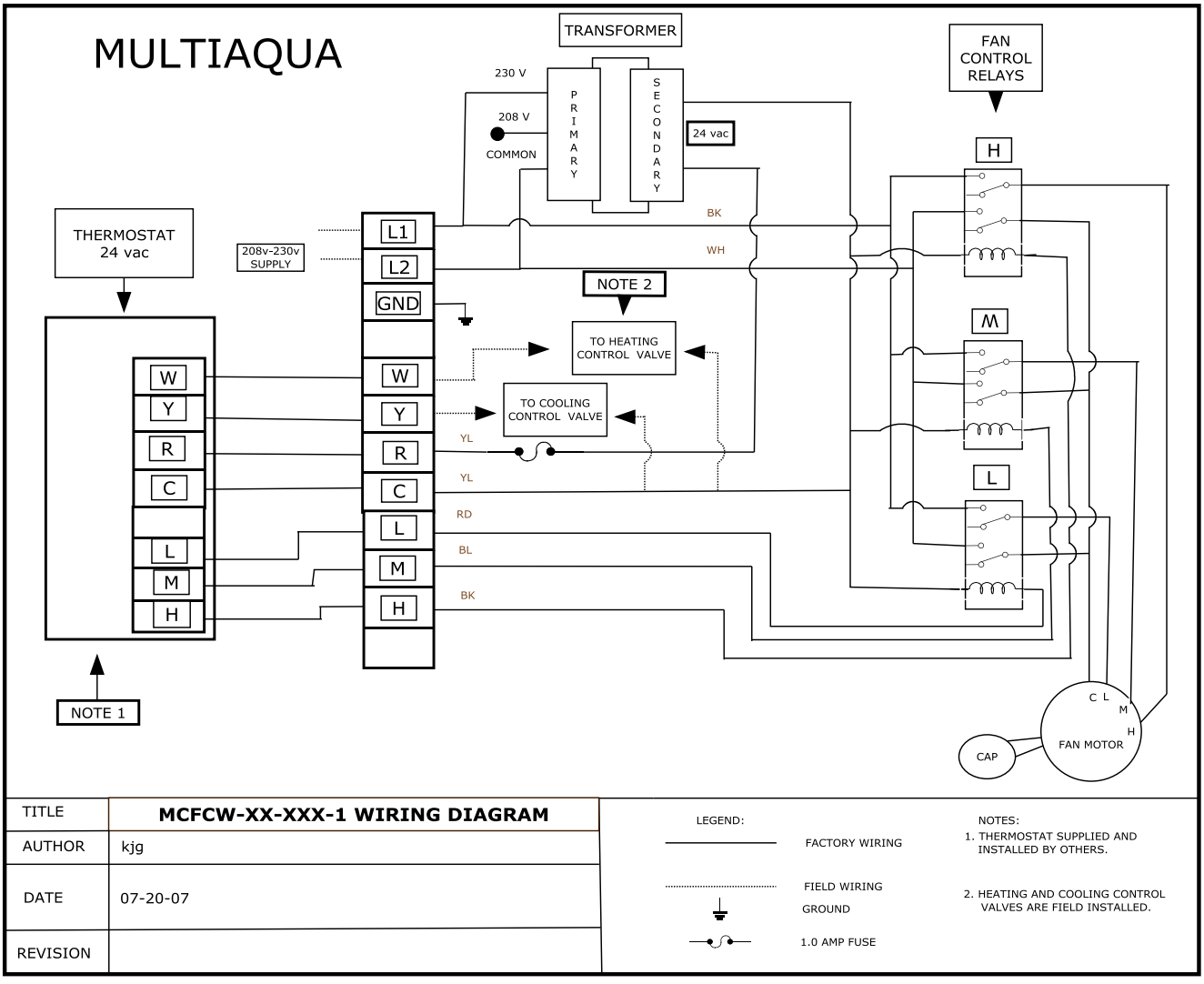
MCFCW-06-4HS-1 HOT WATER CAPACITIES (Secondary Coil)											
ENTERING AIR (°F)	NOMINAL CFM	ESP "WC	GPM	WPD	ENTERING WATER TEMPERATURE (F)						
					100°	110°	120°	130°	140°	150°	160°
70	585	0.50	3.5	12.2	7782	10141	12513	14896	17288	19687	22092
			4.0	15.7	7902	10298	12706	15125	17552	19985	22425
			4.5	19.6	7998	10424	12862	15309	17764	20226	22692
			5.0	23.8	8078	10529	12990	15461	17939	20423	22912

MCFCW-06-4HS-1 HOT WATER CAPACITIES (Primary and Secondary)											
ENTERING AIR (°F)	NOMINAL CFM	ESP "WC	GPM	WPD	ENTERING WATER TEMPERATURE (F)						
					100°	110°	120°	130°	140°	150°	160°
70	713	0.30	3.5	4.3	18172	24033	29930	35855	41804	47773	53758
			4.0	5.5	18655	24673	30724	36803	42904	49024	55159
			4.5	6.9	19036	25176	31348	37546	43765	50001	56252
			5.0	8.4	19342	25581	31849	38141	44454	50783	57125

MCFCW-06-4HS-1 HOT WATER CAPACITIES (Primary and Secondary)											
ENTERING AIR (°F)	NOMINAL CFM	ESP "WC	GPM	WPD	ENTERING WATER TEMPERATURE (F)						
					100°	**110°**	**120°**	**130°**	**140°**	**150°**	**160°**
70	595	0.40	3.5	4.3	16311	21549	26813	32101	37407	42729	48063
			4.0	5.5	16663	22013	27389	32786	38200	43628	49068
			4.5	6.9	16937	22374	27834	33314	38811	44320	49840
			5.0	8.4	17154	22659	28187	33733	39293	44866	50449

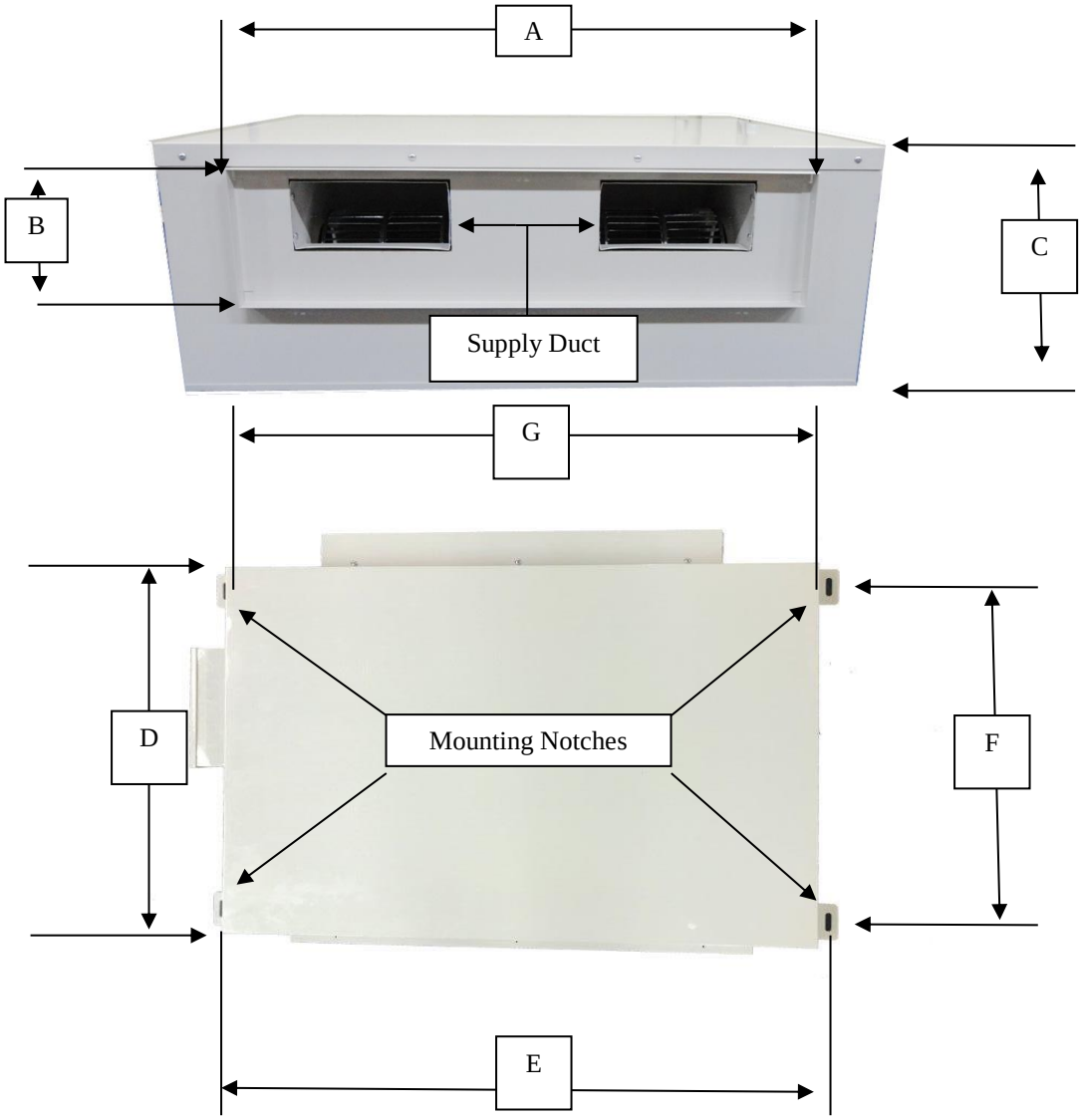
MCFCW-06-4HS-1 HOT WATER CAPACITIES (Primary and Secondary)											
ENTERING AIR (°F)	NOMINAL CFM	ESP "WC	GPM	WPD	ENTERING WATER TEMPERATURE (F)						
					100°	**110°**	**120°**	**130°**	**140°**	**150°**	**160°**
70	585	0.50	3.5	4.3	16139	21319	26527	31756	37004	42266	47541
			4.0	5.5	16480	21770	27084	32419	37771	43137	48514
			4.5	6.9	16744	22118	27514	32930	38361	43805	49260
			5.0	8.4	16955	22394	27855	33334	38827	44332	49847

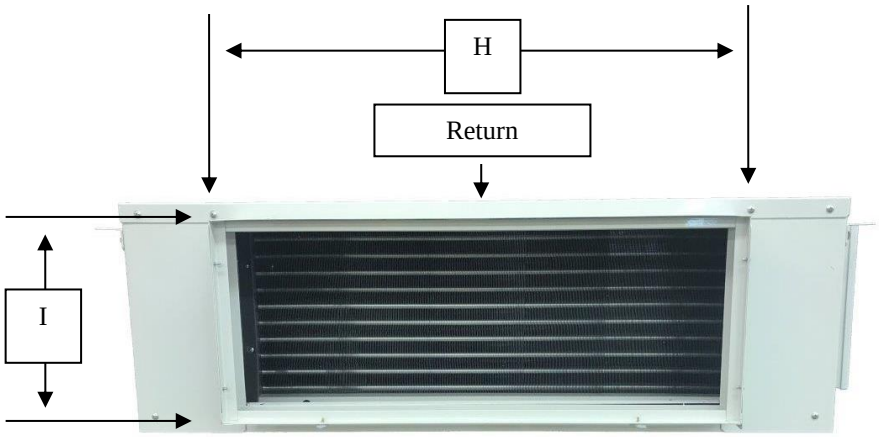
MCFCW-06-4HS-1
Wiring Diagram



MCFCW-06-XXX-1 Dimensional Drawing

FAN COIL DIMENSIONS (in.)									
Fan Coil Model Number	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**
MCFCW-06-4HS(LS)-01	29.75	6.75	12.25	27.25	38.75	24.5	37.25	26.00	10.25

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Return
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Multiaqua™