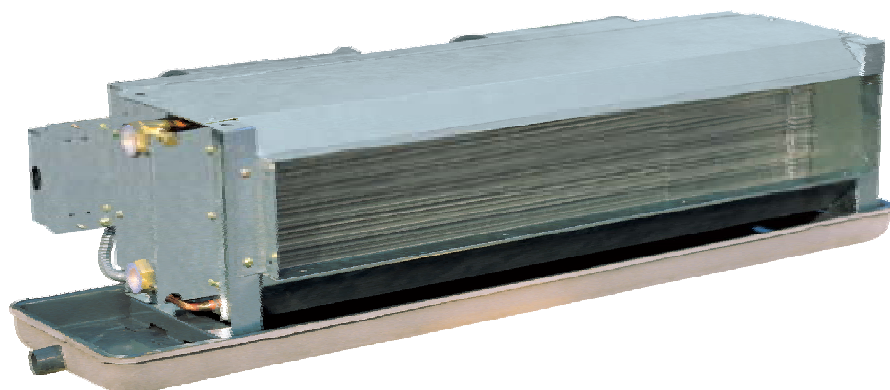


CEILING CONCEALED CHILLED WATER FAN COIL UNIT

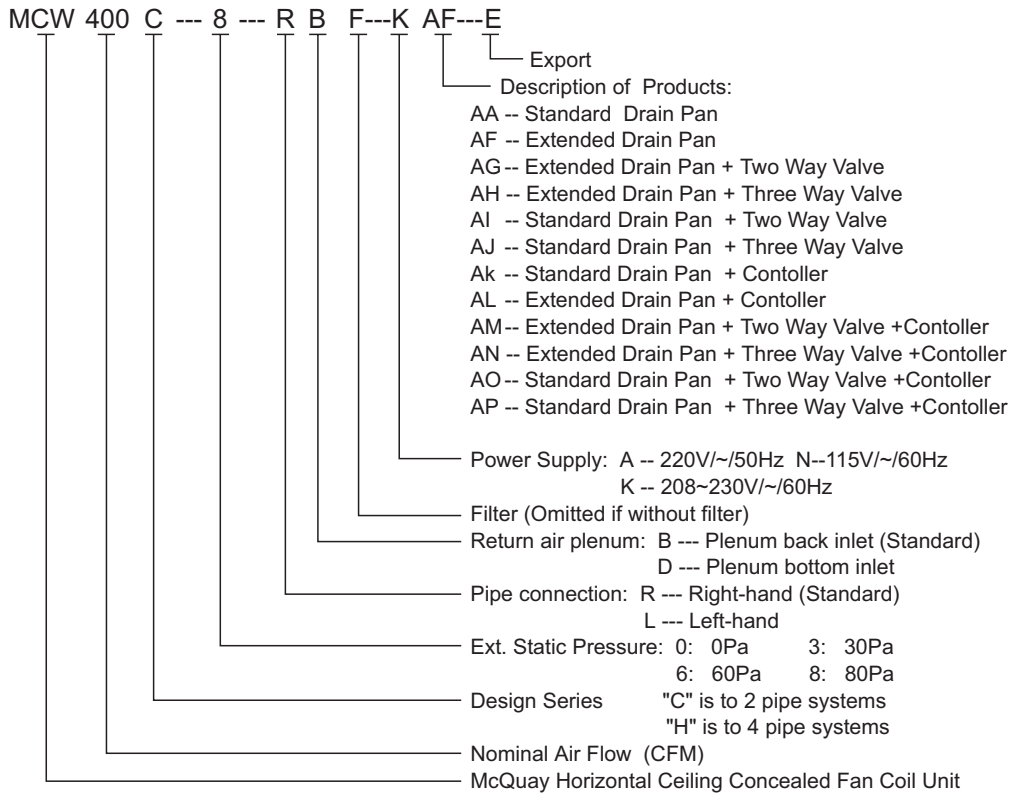
MODEL: MCW200C / MCW200H
MCW300C / MCW300H
MCW400C / MCW400H
MCW600C / MCW600H
MCW800C / MCW800H
MCW1000C / MCW1000H
MCW1200C / MCW1200H



McQuay CHILLED WATER FAN COIL UNIT

For years, McQuay International has earned a reputation for providing the industry's highest quality and most technologically advanced air handling systems. As members of the McQuay family, MCW-A and MCW-B have already been widely applied in a large range of residential and commercial applications, Now, McQuay is proud to introduce new design McQuay MCW-C and MCW-H chilled water fan coil unit.

Nomenclature



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DESIGN FEATURES

ULTRA-SLIM PROFILE

The highly compact and super light weight design make the fan coil ideal for inside ceiling installations where space is limited.

HIGH EFFICIENCY

The unique high efficiency slit fin design reduces the fin surface boundary layer and promotes the mixture of air and coil, to make thermal efficiency higher.

LOW NOISE

The high efficiency Fan Assembly ensures low noise and low vibration.

VARIABLE EXTERNAL STATIC PRESSURE

Four types of external static pressures are available for every unit: 0Pa, 30Pa, 60Pa, 80Pa.

ENERGY EFFICIENT

High efficiency fans and high efficiency heat transfer assures low operating energy.

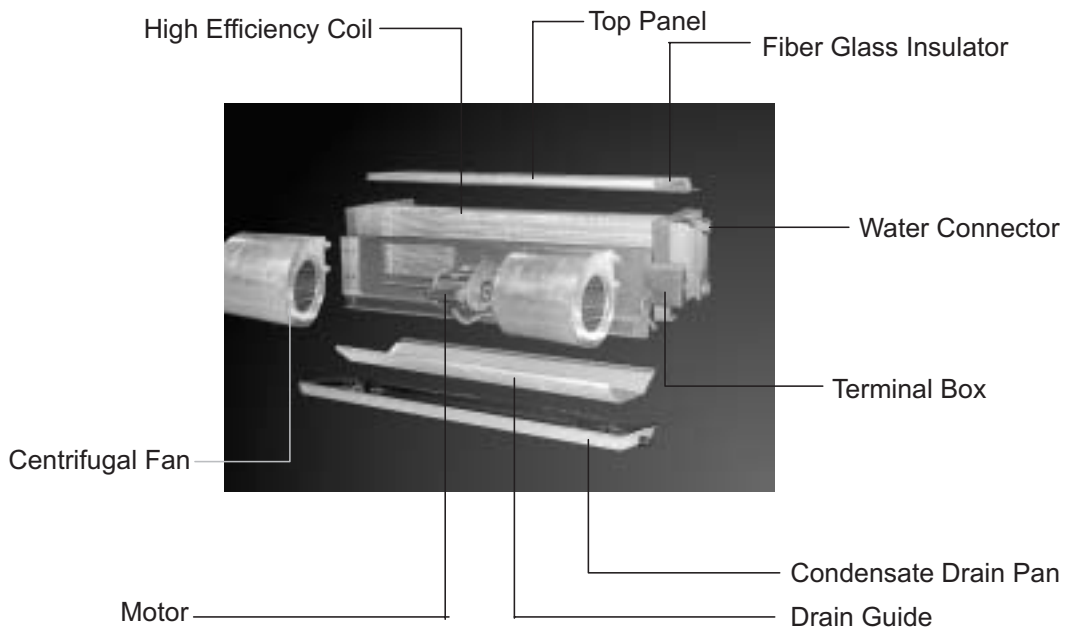
EASY AND FLEXIBLE INSTALLATION

Piping connections can be easily changed in the field as can the air inlet from bottom to back.

LOW MAINTENANCE COST

Split capacitor motors have permanently lubricated ball bearing and have heat treated chrome plated shafts for longlife using. Leads are protected with metal "soft pipe".

PARTS DESCRIPTION



2 PIPES SYSTEM SPECIFICATIONS

Unit Size		Item						
		MCW200C	MCW300C	MCW400C	MCW600C	MCW800C	MCW1000C	MCW1200C
Air Flow CFM(m ³ /h)	High	240(408)	350(595)	450(765)	670(1138)	840(1427)	1000(1699)	1280(2175)
	Med	180(306)	270(459)	390(663)	530(901)	680(1155)	770(1308)	1030(1750)
	Low	120(204)	200(340)	300(510)	430(731)	560(952)	620(1054)	850(1444)
Total Cooling Capacity Btu/h(W)	High	7710(2260)	11460(3360)	14450(4240)	22260(6520)	27880(8170)	31360(9190)	40650(11910)
	Med	6550(1920)	9630(2820)	12720(3730)	19140(5610)	24260(7110)	27600(8090)	36180(10600)
	Low	5470(1600)	8020(2350)	10980(3220)	16920(4960)	20910(6130)	24460(7170)	30490(8940)
Sensible Cooling Capacity Btu/h(W)	High	5120(1500)	7850(2300)	9740(2850)	15020(4400)	18470(5410)	21290(6240)	27340(8010)
	Med	4250(1250)	6750(1980)	8380(2560)	12620(3700)	15700(4600)	18100(5300)	23790(6970)
	Low	3430(1010)	5180(1520)	7010(2050)	10810(3170)	13110(3840)	15540(4550)	19140(5610)
Heating Capacity Btu/h(W)	High	13440(3940)	19510(5720)	25740(7540)	38640(11320)	48510(14220)	53970(15820)	69810(20460)
	Med	11560(3390)	16190(4750)	22650(6640)	32460(9510)	41230(12080)	44800(13130)	59340(17390)
	Low	9680(2840)	13850(4060)	18530(5430)	28210(8270)	36870(10810)	39400(11550)	51660(15140)
Water Flow (l/min)	7	10	13	18	29	30	38	
Water P.D kPa (in.W.C)	15.91(63.86)	13.20(52.98)	22(88.31)	46.78(187.77)	32.82(131.74)	25.65(102.96)	45.23(181.55)	
External Static Pressure Pa (in. W.C)								
220-240V/1P/50Hz					60 (0.24)			
115V/1P/60Hz,208V/1P/60Hz					80 (0.32)			
Fan								
Type	Centrifugal fan (forward-curved galvanized steel fan wheels)							
Number of Fans	1	1	2	2	3	3	4	
Fan Housing	Galvanized steel 0.5mm							
Coil								
Number of Rows	3 Row							
Type	Seamless copper tube mechanically bonded to configured aluminum fin							
Testing Pressure	30 Bar for 1 minute ; leak test: 16 Bar for 5 minutes							
Motor								
Type	Split-capacitor motor with ball bearing							
Number of Motors	1	1	1	1	2	2	2	
Power Supply	220-240V/~ /50Hz, 115V/~ /60Hz, 208-230V/~ /60Hz							
Rated power input (W)								
50Hz	51	69	83	149	205	219	281	
60Hz	63	97	111	183	263	281	357	
Poles	4 poles							
Pipe								
Pipe Connection	Rc 3 / 4							
Drain Pipe	R 3 / 4							
Dimension								
Length (mm)	714	884	1014	1214	1464	1564	1824	
Width (mm)	490	490	490	490	490	490	490	
Height (mm)	251	251	251	251	251	251	251	
Weight (kg)	19	22	26	30	41	44	46	

Conditions:

Cooling Capacity: Entering air temp.80 °F (27°C) (DB*) 67 °F(19.5°C) (WB**)
 Entering water temp.44.6 °F (7°C), Leaving water temp. 53.6 °F (12°C).

Heating Capacity: Entering air temp.68 °F (21°C) (DB*)
 Entering water temp.140 °F (60°C) , The same water flow with cooling

Air Flow: Under dry coil conditions

Weight : Does not include return air plenum or packaging.

*DB: Dry Bulb **WB: Wet Bulb

4 PIPES SYSTEM SPECIFICATIONS

Unit Size		MCW200H	MCW300H	MCW400H	MCW600H	MCW800H	MCW1000H	MCW1200H
Air Flow	High	240(408)	350(595)	450(765)	670(1138)	840(1427)	1000(1669)	1280(2175)
	Med	200(340)	300(510)	400(680)	650(1104)	730(1240)	880(1495)	1100(1869)
CFM(m ³ /h)	Low	160(272)	200(340)	350(595)	450(765)	610(1037)	640(1087)	900(1529)
Total Cooling Capacity	High	7710(2260)	11460(3360)	14450(4240)	22260(6520)	27880(8170)	31360(9190)	40650(11910)
	Med	6550(1920)	9630(2820)	12720(3730)	19140(5610)	24260(7110)	27600(8090)	36180(10600)
	Low	5470(1600)	8020(2350)	10980(3220)	16920(4960)	20910(6130)	24460(7170)	30490(8940)
Sensible Cooling Capacity	High	5120(1500)	7850(2300)	9740(2850)	15020(4400)	18470(5410)	21290(6240)	27340(8010)
	Med	4250(1250)	6750(1980)	8380(2560)	12620(3700)	15700(4600)	18100(5300)	23790(6970)
	Low	3430(1010)	5180(1520)	7010(2050)	10810(3170)	13110(3840)	15540(4550)	19140(5610)
1-Row Heating Capacity	High	7340(2150)	9710(2850)	14650(4290)	17470(5120)	19410(5690)	27130(7950)	30160(8840)
	Med	6310(1850)	8060(2360)	12890(3780)	14670(4300)	16500(4840)	22520(6600)	25640(7510)
	Low	5280(1550)	6890(2020)	10550(3090)	12750(3740)	14750(4320)	19800(5800)	22320(6640)
Water Flow (3-Row) (l/min)		7	10	13	18	29	30	38
Water Flow (1-Row) (l/min)		4	4	4	4	4	9	9
Water P.D kPa (3- Row) (in.W.C)		15.91(63.86)	13.20(52.98)	22(88.31)	46.78(187.77)	32.82(131.74)	25.65(102.96)	45.23(181.55)
Water P.D kPa (1- Row) (in.W.C)		11.3 (45.2)	12.5 (50.1)	14.5 (58.2)	20.2 (81)	3.2 (13)	14.5 (58.1)	16.6 (66.6)
External Static Pressure Pa (in.w.c)		60 (0.24)						
Fan								
Type		Centrifugal fan (forward-curved galvanized steel fan wheels)						
Number of Fans		1	1	2	2	3	3	4
Fan Housing		Galvanized steel 0.5mm						
Coil								
Number of Rows		4 Row						
Type		Seamless copper tube mechanically bonded to configured						
Testing Pressure		30 Bar for 1 minute ; leak test: 16 Bar for 5 minutes						
Motor								
Type		Split-capacitor motor with ball bearing						
Number of Motors		1	1	1	1	2	2	2
Power Supply		220-240V~/50Hz,115V~/60Hz,208-230V~/60Hz						
Rated Power Input (W)								
50Hz		55	77	95	155	207	221	285
60Hz		67	105	123	189	265	283	360
Poles		4 poles						
Pipe								
Pipe Connection		Rc 3 / 4						
Drain Pipe		R 3 / 4						
Length (mm)		714	884	1014	1214	1464	1564	1824
Width (mm)		490	490	490	490	490	490	490
Height (mm)		251	251	251	251	251	251	251
Weight (kg)		20	24	28	32	44	47	49

Conditions:

Cooling Capacity: Entering air temp.80 °F (27°C) (DB*) 67 °F(19.5°C) (WB**)
 Entering water temp.44.6 °F (7°C), Leaving water temp. 53.6 °F (12°C).

Heating Capacity: Entering air temp.68 °F (21°C) (DB*)
 Entering water temp.140 °F (60°C) , The same water flow with cooling

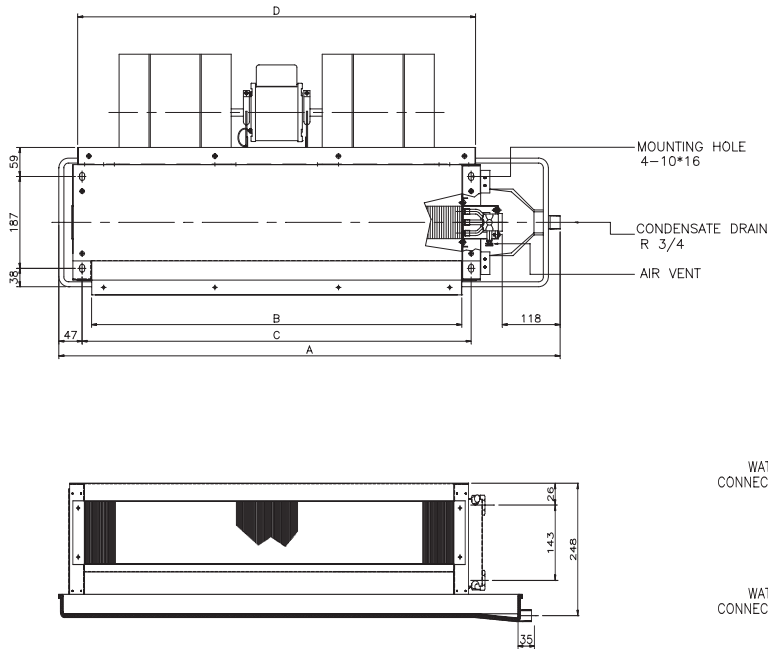
Air Flow: Under dry coil conditions

Weight : Does not include return air plenum or packaging.

*DB: Dry Bulb **WB: Wet Bulb

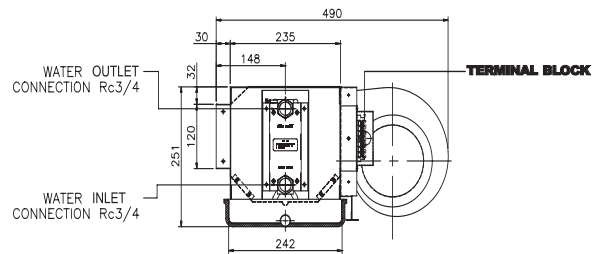
DRAWINGS AND DIMENSIONS

WITHOUT PLENUM BOX

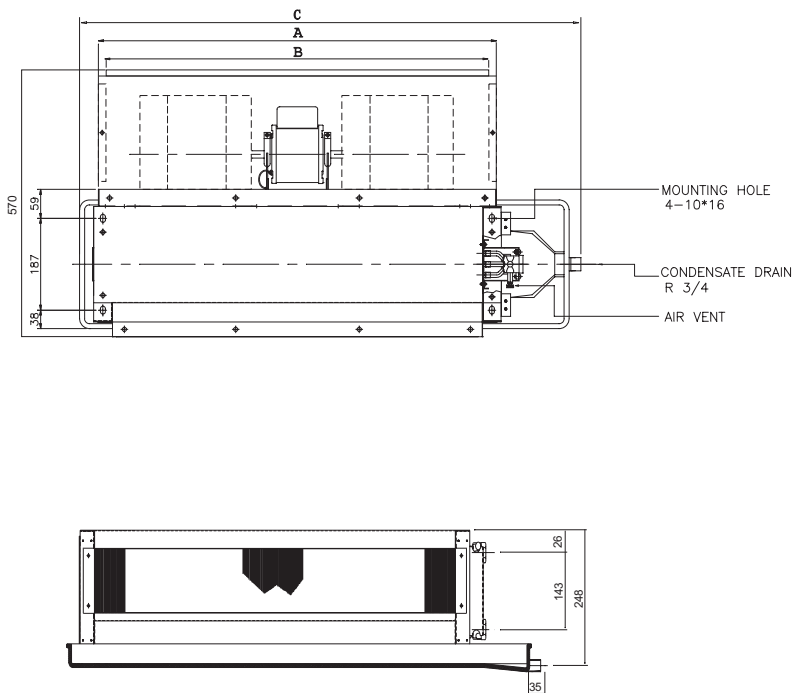


Dimension in mm

Model	A		B	C	D	Number of Fan
	Standard Drain pan	Extended Drain pan				
MCW200C	714	814	440	487	506	1
MCW300C	884	984	618	657	675	1
MCW400C	1014	1114	740	787	805	2
MCW600C	1214	1314	940	987	1005	2
MCW800C	1464	1564	1198	1237	1255	3
MCW1000C	1564	1664	1298	1337	1355	3
MCW1200C	1824	1924	1588	1597	1615	4

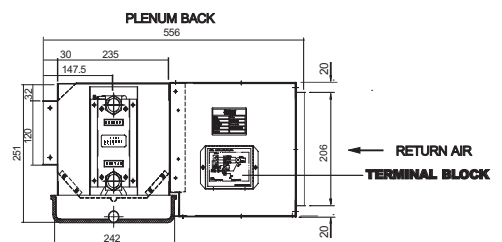
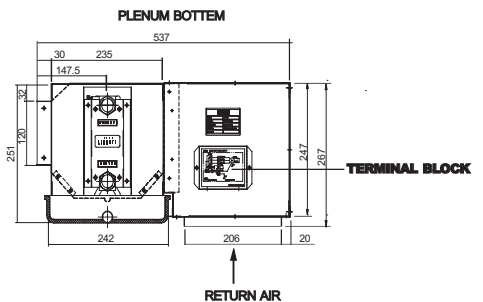


WITH PLENUM BOX

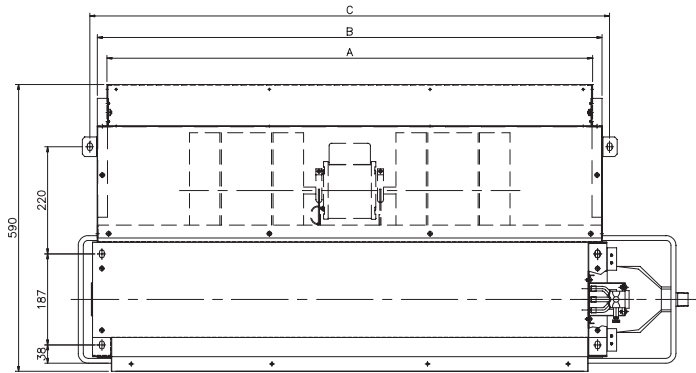


Dimension in mm

Model	A	B	C	
			Standard Drain pan	Extended Drain pan
MCW200C	507	443	714	814
MCW300C	677	613	884	984
MCW400C	807	743	1014	1114
MCW600C	1007	943	1214	1314
MCW800C	1257	1193	1464	1564
MCW1000C	1357	1293	1564	1664
MCW1200C	1617	1553	1824	1924

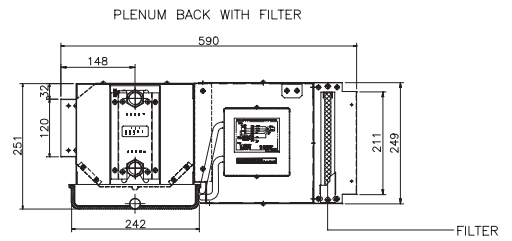
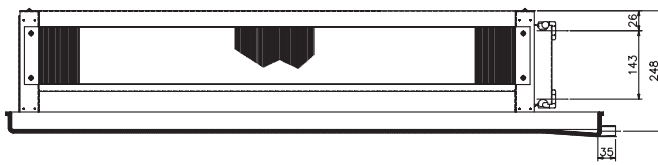


WITH PLENUM BOX AND FILTER

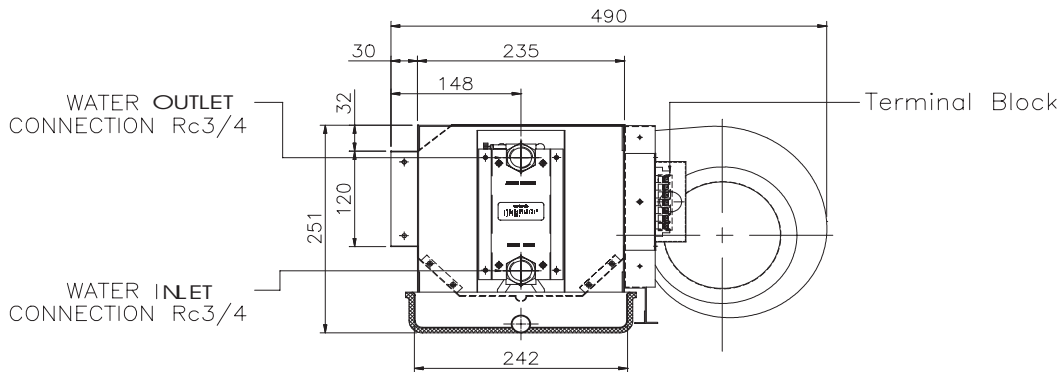


Dimension in mm

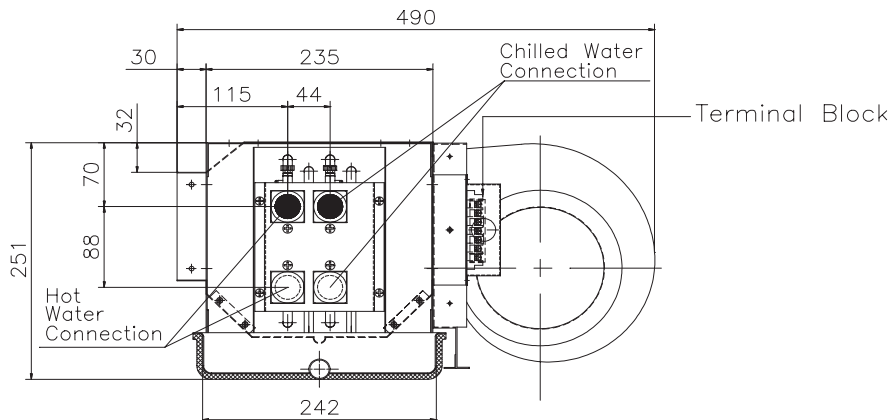
Model	A	B	C
MCW200C	467	505	535
MCW300C	637	675	705
MCW400C	767	805	835
MCW600C	967	1005	1035
MCW800C	1217	1255	1285
MCW1000C	1317	1355	1385
MCW1200C	1577	1615	1645



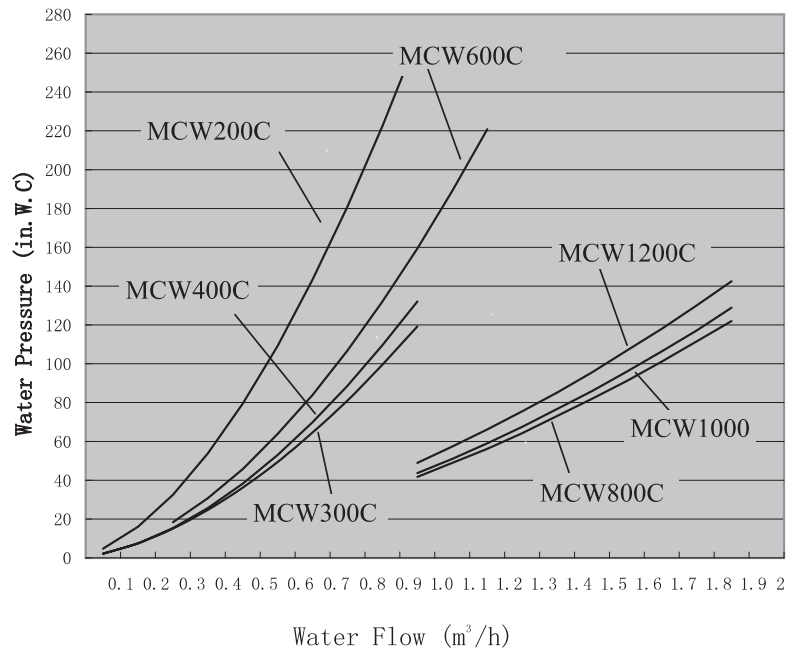
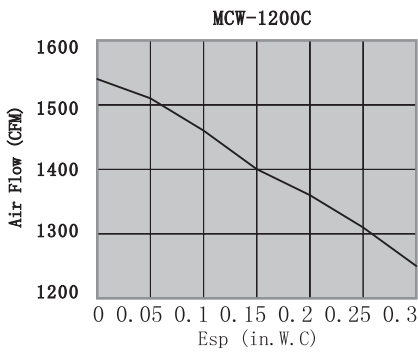
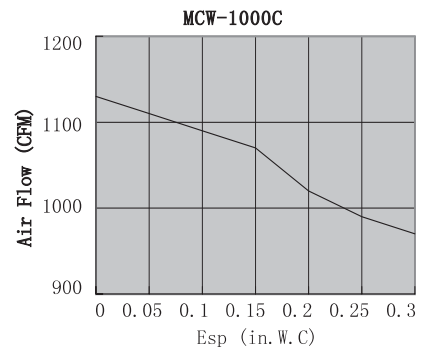
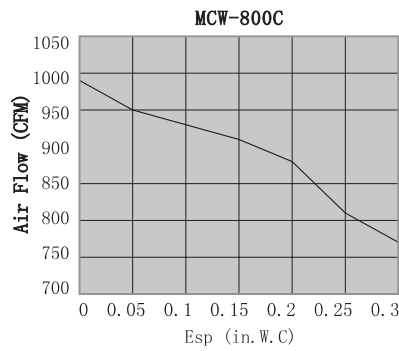
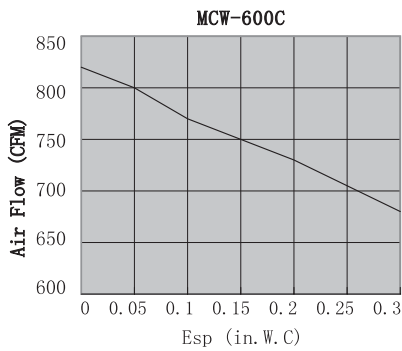
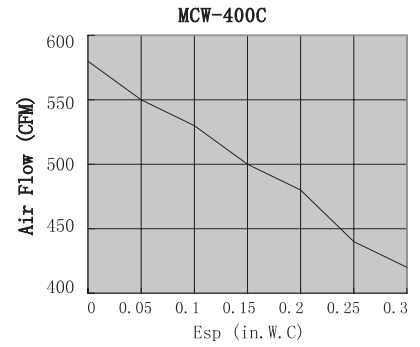
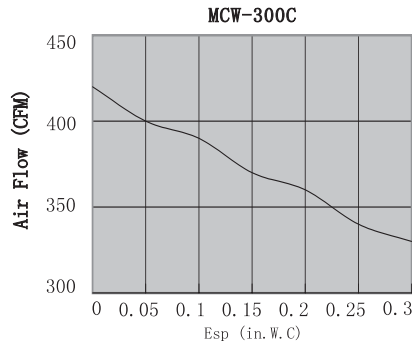
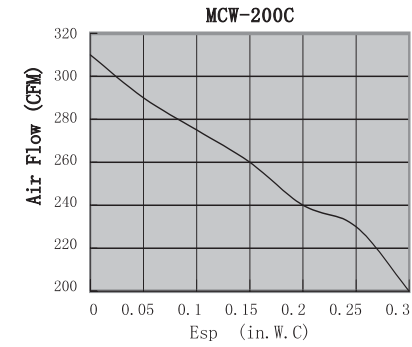
MODEL: MCW200C~1200C CONNECTION



MODEL: MCW200H~1200H CONNECTION



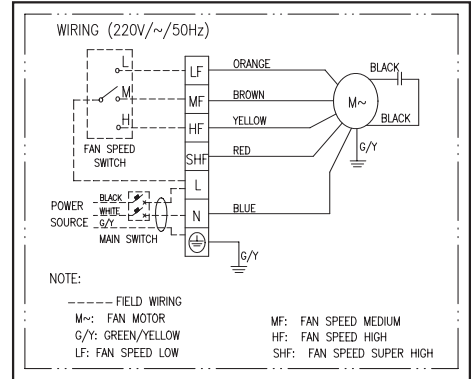
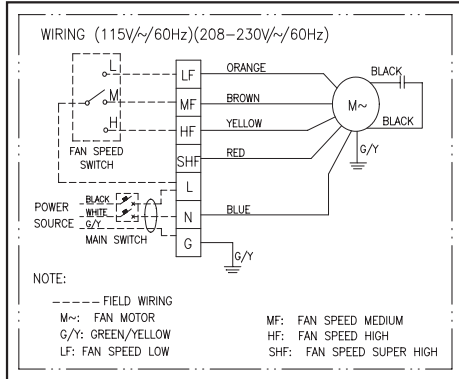
AIR FLOW VS EXTERNAL STATIC PRESSURE



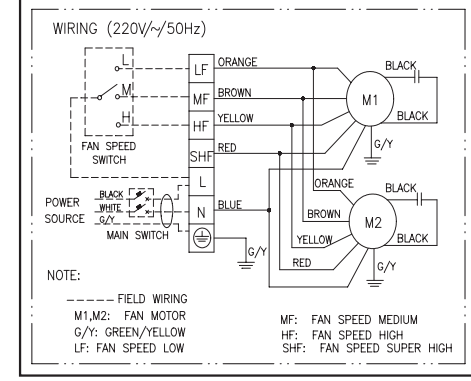
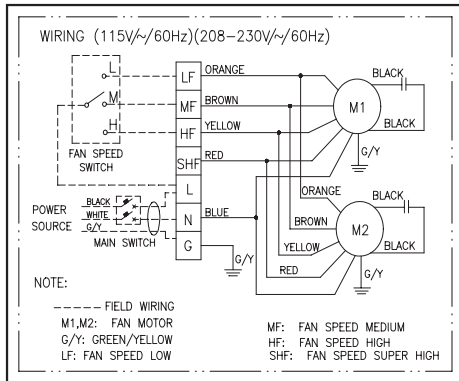
WATER PRESSURE DROP CURVES

WIRING DIAGRAM

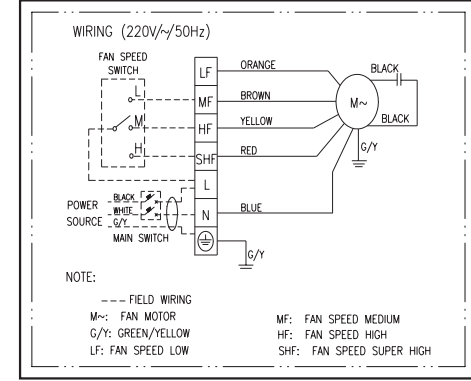
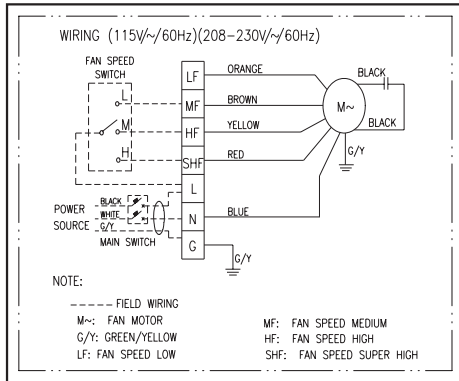
FOR MODEL: MCW200C MCW300C MCW400C MCW600C (60Pa)
MCW200H MCW300H MCW400H MCW600H (60Pa)



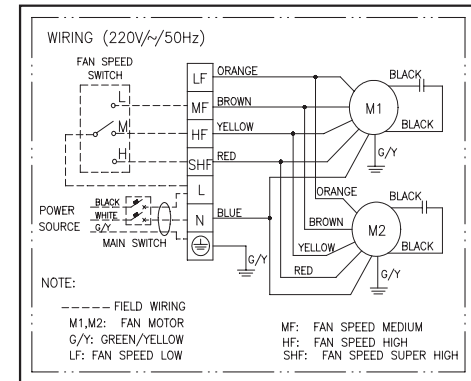
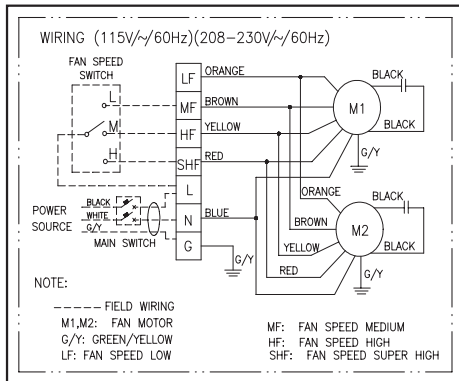
FOR MODEL: MCW800C MCW1000C MCW1200C (60Pa)
MCW800H MCW1000H MCW1200H (60Pa)



FOR MODEL: MCW200C MCW300C MCW400C MCW600C (80Pa)



FOR MODEL: MCW800C MCW1000C MCW1200C (80Pa)



INSTALLATION

● RECEIVING

All units leaving the McQuay plant have been inspected to ensure the shipment of high quality products and reasonable means are utilized to properly pack the fan coil units to protect them in transit. Carefully inspect all shipments immediately upon delivery. When damage is visible, note this fact on the carrier's freight bill and request that the carrier send a representative to inspect the damage. This may be done by telephone or in person, but should always be confirmed in writing. The shipment should be unpacked in the presence of the agent so that the damage or loss can be determined. The carrier's agent will make a inspection report and a copy will be given to the consignee for forwarding to the carrier with a formal claim.

● LOCATION

Before installation , please check the following:

1. There must be enough space for unit installation and maintenance. Please refer to the unit's drawings and dimensions and Figure 1 for the minimum distance between the unit and obstacle.
2. Please ensure enough space for piping connection and electrical wiring.
3. Please make sure that the hanging rods can support weight of the unit.

● INSTALLATION

1. The unit is designed for concealed ceiling installation.
2. There are holes on the top of the unit for hanging. Please refer to Figure 1, Figure 2 and Figure 3.
3. Make sure that the top of the unit is level.

● INSULATION

1. Use proper insulation material only.
2. Chilled water pipes and all parts on the pipes should be insulated.
3. It is also necessary to insulate air duct and drain pipe.
4. Adhesive for insulation should work under 0° F (-18 °C) to 200° F (93.3°C).

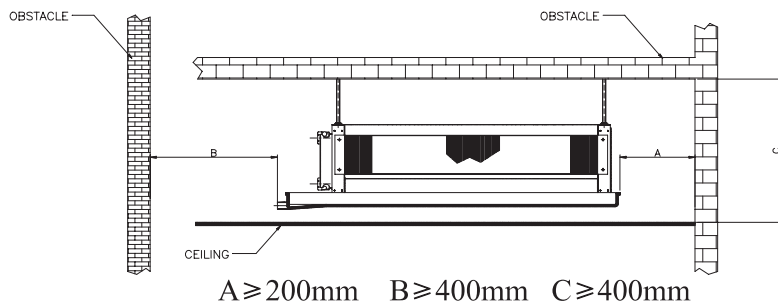


Figure 1

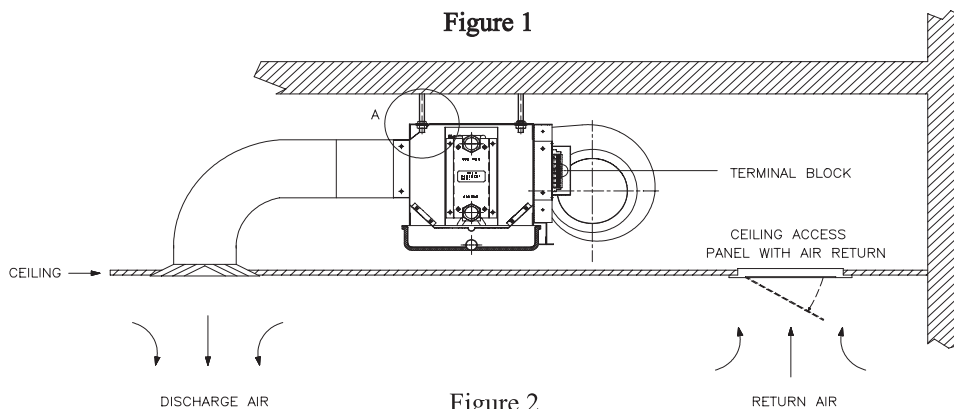


Figure 2

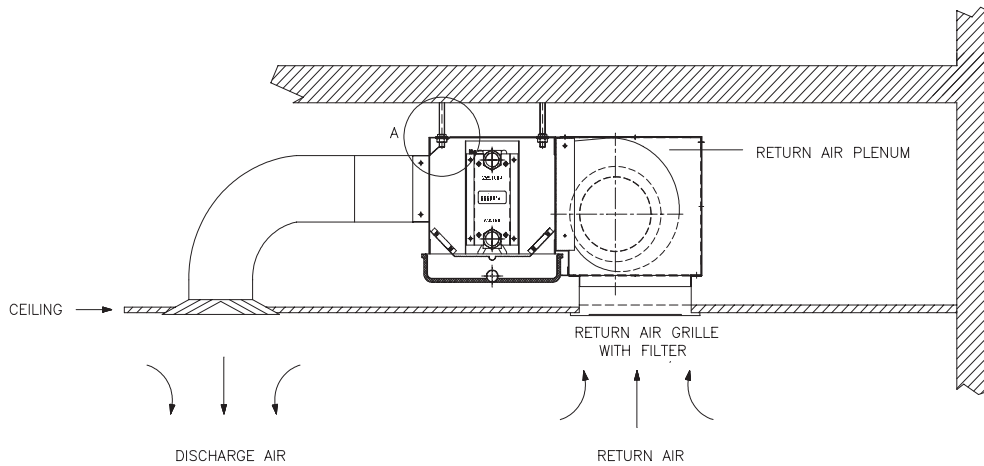
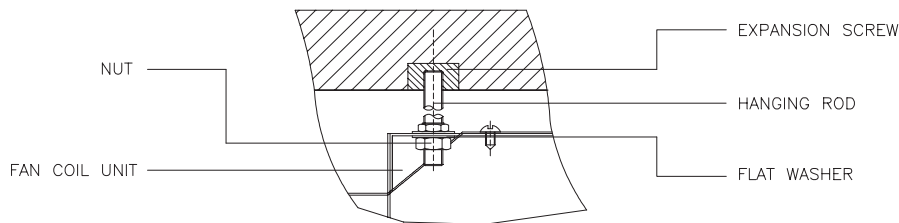


Figure 3



Detail A

● **Air duct connection**

1. Circulatory air pressure drop should be within External Static Pressure.
2. Galvanized steel air ducts are suitable .
3. Make sure there is no leak of air.
4. Air duct should be fire- proof , Refer to concerned country national and local regulations.

● **Pipe connection**

- 1.Using suitable fittings as water pipe connections. Refer to the specification.
- 2.The water inlet is on the bottom while outlet on top.
- 3.The connection must be concealed with rubberized fabric to avoid leakage.
4. Drain pipe can be PVC or steel.
- 5.The suggested slope of the drain pipe is at least 1:50 .

● **Wiring**

- 1.Wiring connection must be done according to the wiring diagram on the unit.
- 2.The unit must be GROUND well.
- 3.An appropriate strain relief device must be used to attach the power wires to the terminal box.
- 4.An 7/8" knockout hole is designed on the terminal box for field installation of the strain relief device .
Refer to Figure 4.
- 5.Field wiring must be complied with the national security regulations .

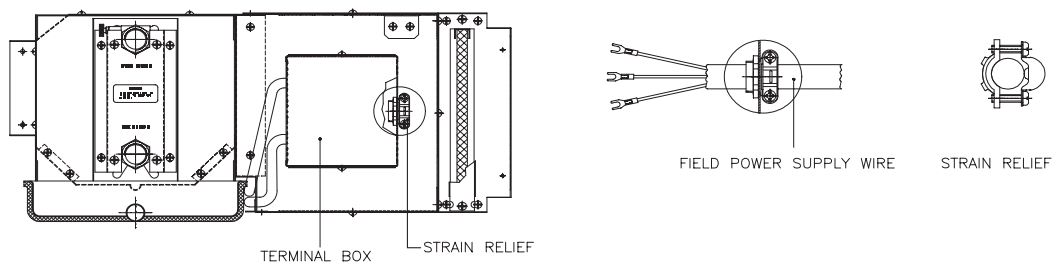


Figure 4

MAINTENANCE

A regular maintenance plan is necessary to keep excellent performance.

Clean the filters monthly. It is easy to take out the filters after disassemble the filter covers on both sides

get ride of dust, dirt and lint on coil monthly with brush or vacuum cleaner, Water is forbidden.

Water shall be drained out or taking measure of anti-freezing if the unit will not be used during winter Month intervals

1. Inspecting and cleaning condensate drain pan and pipe to avoiding clogging of drainage by dirt, dust, etc. to ensure the proper condensate flow.
2. Checking and cleaning the coil.
3. Cleaning and tightening all the wiring connections.
4. Cleaning all the filters on water pipes.

OPTIONS

2 or 3 way valves:

2 or 3 way valves can be mounted in factory or field according to customer's requirement.

Refer to Figure 5 and Figure 6

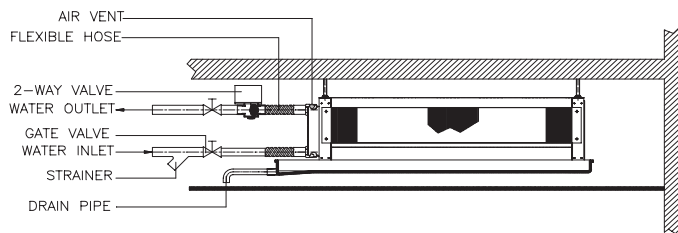


Figure 5

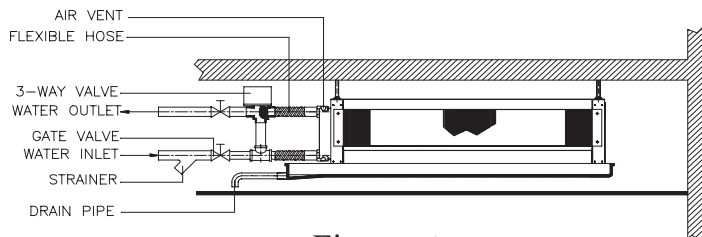
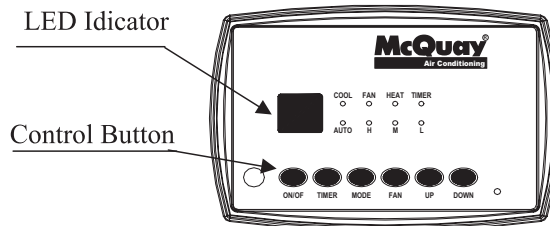


Figure 6

2. Temperature Controller Ac2100 is designed for easy installation and operation.



AC2100

Sound level

Power supply : 115V~/60 Hz 208-230V~/60Hz

	Fan Speed	MCW200C	MCW300C	MCW400C	MCW600C	MCW800C	MCW1000C	MCW1200C
Sound Level dB(A)	High	36.3	36.9	37.2	39.0	39.2	39.0	39.5
	Medium	34.8	35.2	35.1	36.2	37.2	37.5	36.2
	Low	34.2	34.4	34.4	34.5	35.1	35.4	34.9

Power supply : 220V~/50 Hz

	Fan Speed	MCW200C	MCW300C	MCW400C	MCW600C	MCW800C	MCW1000C	MCW1200C
Sound Level dB(A)	High	36.3	36.9	37.2	39.2	39.2	38.8	39.7
	Medium	34.8	35.2	35.1	36.4	37.2	37.2	36.4
	Low	34.2	34.4	34.4	34.6	35.1	35.2	35

The sound level is tested under 16.5 dB(A) background noise in a baffle chamber with external static pressure of 60 Pa. All data is Sound Pressure Level.

NOTE:

1. Installation and maintenance are to be performed only by qualified personnel who are familiar with local codes and regulations and experienced with this type of equipment.
2. Ask your dealer or specialized subcontractor for installation.
3. Install the unit on a spot sufficiently durable against the unit weight.
4. The unit should be powered by dedicated power lines.
5. Use only the specified cables for wiring .The connections must be made secured without tension the terminals.
6. Never repair the unit, remodel or transfer it to another site by yourself.
7. The terminal block cover of unit must be firmly attached to prevent entry of dust and moisture.
8. Use only optional parts authorised by McQuay.
9. Never install on the place where a combustible gas might leak.
10. Thermal insulation of the drain pipes is necessary to prevent dew condensation.
11. The unit must be properly earth connected.
12. When installing at a watery place , provide an electric leak breaker.
13. Use breaker or fuse with proper capacity , make sure that each appliance has a main power switch.
14. For the power lines, use standard cables of sufficient current capacity.
15. Do not handle the switch with wet hands.
16. Do not leave the hanging rod and ceiling mounting base being damaged.
17. Do not touch metal edges inside the unit without wearing glove on your hands.
18. At emergency (if you smell something burning). Stop operation and turn the power source switch off.
19. Make sure power is off before installing and servicing.
20. Moving machinery and electrical power hazards may cause severe personal injury or death. Disconnect and lock off power before servicing equipment.

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