



CHILLED WATER HIGH STATIC DUCTED UNIT



INSTALLATION & OPERATION MANUAL

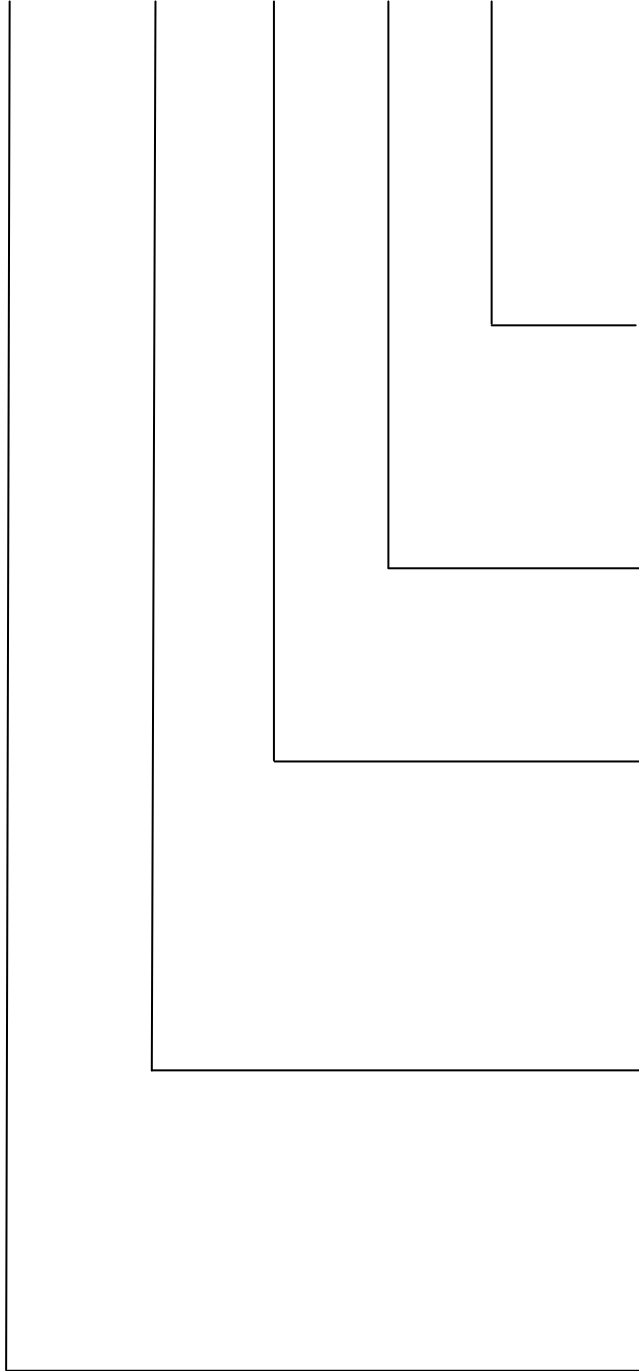
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FCUH SERIES CHILLED WATER FAN COIL DUCTED

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NOMENCLATURE

FCUH5 – 30 – AW – 3 – LH



PIPE CONNECTION	
LH	LEFT-HAND DIRECTION
RH	RIGHT-HAND DIRECTION

FACING AIR SUPPLY

ROW OF TUBES	
3	3 ROW (3-ROW 2PIPE)
4	4 ROW (4-ROW 2PIPE)
4	4 ROW (3-ROW+ 1-ROW 4PIPE)

SERIES	
AW	DUCTED CONCEALED

NOMINAL AIR FLOW	
30	NOMINAL 300 CFM
45	NOMINAL 450 CFM
60	NOMINAL 600 CFM
80	NOMINAL 800 CFM
100	NOMINAL 1000 CFM
130	NOMINAL 1300 CFM
160	NOMINAL 1600 CFM
200	NOMINAL 2000 CFM

FCUH5	HIGH STATIC FAN COIL UNIT 5 SPEED
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GENERAL DESCRIPTION

UNIT FEATURES

Casing, Frame & Coil

The High Static Ducted unit's casing and frame is fabricated from a tough, heavy gage galvanized steel and contains a standard corrosion resistant coated 3-row coil (with the option of a 4-row coil).

The coil is made from mechanically expanded quality copper tubes, shutter-type, hyperbolic or hydrophilic fins, specially designed for air conditioners with a large heat transfer surface utilizing the latest in fin profile technology.

All coils are subject to leakage-free, 3.3 MPa pressure test and are strictly inspected before they leave the factory ensuring high performance and reliability.

Additionally the unit also comes equipped with a Air Vent Valve, Water Purge Screw, return air plenum with a washable Sahara Net filter and a extended, positive slope drain pan that is removable and is coated with an epoxy finish for easy cleaning to help prevent microbial growth and to fight corrosion. The drain pan is insulated with a form fitted closed cell insulation to prevent condensation build up on the outside of the drain pan.

Units can be ordered with left hand or right hand piping connections (left or right hand is determined by facing the air stream).

Fan & Motor

The High Static Ducted contains a low noise fan which uses a forward-curved, multi-blade centrifugal fan with double suction impellers made from zinc-plated steel blades that provides the optimum in lower rpm airflow-efficiency.

The High Power Capacitor Type Fan motors are two individual direct drive motors to deliver low noise, high air speed and smooth operation for quiet, comfortable cooling in any environment

Unit Application Scope

It is important to know that in cooling, the water inlet temperature should not be less than 5°C to prevent condensate to accumulate on the coil and in heating, the hot water inlet temperature should not be higher than 80°C to prevent corrosion in the copper pipes of the coil.

Recommended ambient temperatures are as follows:

Cooling : 16°C to 36°C

Heating : 10°C to 30°C

Humidity : ≤ 85%

The unit can only be used for common air conditioning purposes and not in special scenarios and make sure that the unit does not get installed in a damp, corrosive, explosive area or outside.

PERFORMANCE CALCULATIONS

For all your performance calculations, Fan Curves and other technical info please refer to
The Eco Aire Selection Program

SPECIFICATIONS

CHILLED WATER DUCTED HIGH STATIC FAN COIL (< 120 Pa) NOMINAL

FCUH 2-Pipe - 3 & 4 Row Coil

DUCTED - CHILLED WATER FAN COIL UNIT - FCUH < 120Pa											
2 PIPE - 3 & 4 ROW											
SPECIFICATIONS											
Model No.	Indoor	FCUH 30 AW	FCUH 45 AW	FCUH 60 AW	FCUH 80 AW	FCUH 100 AW	FCUH 130 AW	FCUH 160 AW	FCUH 200 AW		
Power supply		220V / 1PH / 50Hz									
Performance											
3 ROW	Capacity	Cooling	W	2860	4510	6180	8080	9680	126000	15600	
		Heating	W	2210	3580	4640	6490	8060	10400	12900	
	Noise Level (High)	Indoor	dB(A)	51	52	53	54	54	56	58	
				External Static Pressure (H / M / L)	Pa	120 / 90 / 70	120 / 90 / 70	120 / 90 / 70	120 / 90 / 70	120 / 90 / 70	120 / 90 / 70
	Air Flow Volume (H / M / L)	Cooling	l/s	140 / 95.1 / 81.1	214 / 159 / 140	287 / 199 / 171	380 / 300 / 267	474 / 377 / 328	615 / 500 / 464	757 / 612 / 550	
		Heating	l/s	121 / 80.0 / 67.7	194 / 142 / 125	246 / 166 / 142	355 / 278 / 247	453 / 359 / 311	588 / 477 / 442	727 / 584 / 524	
	Water Flow Rate (H / M / L)	Cooling	l/s	0.136 / 0.100 / 0.088	0.215 / 0.170 / 0.153	0.295 / 0.219 / 0.193	0.385 / 0.319 / 0.290	0.462 / 0.385 / 0.344	0.599 / 0.508 / 0.478	0.746 / 0.630 / 0.578	
		Heating	l/s	0.053 / 0.0379 / 0.033	0.0857 / 0.0667 / 0.0599	0.111 / 0.808 / 0.0708	0.155 / 0.128 / 0.116	0.193 / 0.160 / 0.142	0.249 / 0.210 / 0.197	0.309 / 0.259 / 0.237	
	Water Pressure Drop (High)	Cooling	KPa	8.49	23.7	49.5	99.4	24.4	43.4	73.5	
		Heating	KPa	0.053	0.0837	0.111	0.155	0.193	0.249	0.309	
4 ROW	Capacity	Cooling	W	3240	5170	6870	9330	11400	14800	18000	22900
		Heating	W	2400	3960	4970	7320	9280	12000	14600	18200
	Noise Level (High)	Indoor	dB(A)	51	52	53	54	54	56	58	60
				External Static Pressure (H / M / L)	Pa	120 / 90 / 70	120 / 90 / 70	120 / 90 / 70	120 / 90 / 70	120 / 90 / 70	120 / 90 / 70
	Air Flow Volume (H / M / L)	Cooling	l/s	130 / 87 / 73	204 / 151 / 131	266 / 182 / 154	368 / 289 / 256	464 / 369 / 319	603 / 489 / 451	743 / 599 / 536	949 / 762 / 679
		Heating	l/s	109 / 71 / 60	180 / 131 / 115	221 / 148 / 126	337 / 263 / 234	438 / 346 / 299	568 / 458 / 425	702 / 560 / 503	887 / 707 / 633
	Water Flow Rate (H / M / L)	Cooling	l/s	154 / 110 / 101	246 / 191 / 181	328 / 237 / 218	445 / 364 / 348	545 / 450 / 424	705 / 593 / 591	857 / 717 / 697	1.1 / 910 / 882
		Heating	l/s	0.0575 / 0.0398 / 0.0343	0.0948 / 0.0724 / 0.0646	119 / 0.0841 / 0.0729	175 / 142 / 128	222 / 182 / 161	286 / 239 / 224	350 / 289 / 264	436 / 361 / 329
	Water Pressure Drop (High)	Cooling	KPa	14.1	40.1	79.6	171	43.4	77.2	56.7	56.6
		Heating	KPa	0.0575	948	0.119	0.175	0.222	0.286	0.35	0.436
Fan Motor	Power	W	60	80	125 x 2 (250)	270	195	300	355	210 x 4 (840)	
	Running Current	A	0.7	0.9	1.2 x 2 (2.4)	1.72	1.7	2.29	3.2	1.72 x 4 (6.88)	
	Motor	Qty	1	1	1	1	1	1	1	2	
	Scroll	Qty	1	1	2	1	2	2	2	4	
Water Coil	Type	Cross Banding Radiating Pipe Aluminium Fin									
	Test Pressure	MPa	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
	OD	mm	9.52								
	Rows	QTY	3 & 4								
Air Filter Type		Washable Sahara Net Filter									
Pipe Connections	Water In	3/4"									
	Water Out										
	Drain										
Dimensions	W x H x D	816 x 288 x 556	1051 x 288 x 556	1286 x 288 x 556	1086 x 338 x 556	1311 x 338 x 596	1491 x 338 x 596	1726 x 338 x 596	2091 x 338 x 596		
Weight - Nett	kg	26	35	44	42	46	53	61	81		

CHILLED WATER DUCTED HIGH STATIC FAN COIL (< 120 Pa) NOMINAL

FCUH 4-Pipe 3 + 1 Row Coil

DUCTED - CHILLED WATER FAN COIL UNIT - FCUH < 120Pa											
4 PIPE - 3 + 1 ROW											
SPECIFICATIONS											
Model No. Indoor			FCUH 30 AW	FCUH 45 AW	FCUH 60 AW	FCUH 80 AW	FCUH 100 AW	FCUH 130 AW	FCUH 160 AW	FCUH 200 AW	
Power supply		220V / 1PH / 50Hz									
Performance											
Capacity	Cooling	W	2540	4170	5470	7660	9350	12100	15200	19600	
	Heating	W	1040	1670	2180	2990	3690	4730	5870	7540	
Noise Level (High)	Indoor	dB(A)	51	52	53	54	54	56	58	60	
External Static Pressure (H / M / L)		Pa	120 / 100 / 70	120 / 100 / 70	120 / 100 / 70	120 / 100 / 70	120 / 100 / 70	120 / 100 / 70	120 / 100 / 70	120 / 100 / 70	
Air Flow Volume (High)	Cooling	l/s	121 / 49 / 68.3	194 / 122 / 125	246 / 116 / 143	355 / 261 / 248	453 / 345 / 312	589 / 460 / 442	727 / 563 / 525	924 / 712 / 663	
	Heating	m ³ /h	121 / 49 / 68.3	194 / 122 / 125	246 / 116 / 143	355 / 261 / 248	453 / 345 / 312	589 / 460 / 442	727 / 563 / 525	924 / 712 / 663	
Water Flow Rate (H / M / L)	Cooling	l/s	0.121 / 0.0581 / 0.0765	0.199 / 0.136 / 0.140	0.261 / 0.141 / 0.167	0.365 / 0.0573 / 0.273	0.446 / 0.358 / 0.331	0.578 / 0.475 / 0.460	0.722 / 0.589 / 0.556	0.934 / 0.757 / 0.715	
	Heating	l/s	0.0248 / 0.0129 / 0.0164	0.0399 / 0.0285 / 0.0291	0.0522 / 0.0301 / 0.0351	0.0715 / 0.0573 / 0.0551	0.0884 / 0.0726 / 0.0675	0.113 / 0.0949 / 0.0921	0.14 / 0.117 / 0.111	0.181 / 0.150 / 0.142	
Water Pressure Drop	Cooling	KPa	6.97	20.7	40	90.5	23	40.8	69.5	131	
	Heating	KPa	2.41	6.98	13.5	29.6	7.69	13.4	22.6	42.5	
Fan Motor	Power	W	60	80	125 x 2 (250)	270	195	300	355	210 x 4 (840)	
	Running Current	A	0.7	0.9	1.2 x 2 (2.4)	1.72	1.7	2.29	3.2	1.72 x 4 (6.88)	
	Motor	Qty	1	1	1	1	1	1	1	2	
	Scroll	Qty	1	1	2	1	2	2	2	4	
Water Coil	Type	Cross Banding Radiating Pipe Aluminium Fin									
	Test Pressure	Mpa	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
	OD	mm	9.52								
	Rows	QTY	3 + 1								
Air Filter Type		Washable Sahara Net Filter									
Pipe Connections	Water In	3/4"									
	Water Out										
	Drain										
Dimensions	W x H x D	816 x 288 x 556	1051 x 288 x 556	1286 x 288 x 556	1086 x 338 x 556	1311 x 338 x 596	1491 x 338 x 596	1726 x 338 x 596	2091 x 338 x 596		
Weight - Nett	kg	26	35	44	42	46	53	61	81		

COOLING CAPACITY BASED ON ENTERING AIR TEMPERATURE AT 27°C DB/19°C WB AND ENTERING WATER TEMPERATURE 7°C LEAVING WATER TEMP 12°C
 HEATING CAPACITY BASED ON ENTERING AIR TEMPERATURE AT 20°C DB AND ENTERING WATER TEMP. 60°C WITH THE SAME AMOUNT OF WATER FLOW AS COOLING
 AIR FLOW: UNDER DRY COIL CONDITIONS, HIGH FAN SPEED, STATIC PRESSURE AIR FLOW EXCLUDES FILTER
 SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE

COIL DATA

CHILLED WATER DUCTED HIGH STATIC FAN COIL (< 120 Pa) NOMINAL

FCUH 2-Pipe - 3 Row Coil

Model	Fin height (mm)	Fin Length (mm)	Fins per Inch	No. of Rows	No. of Circuits	Tube Ø (mm)
FCUH-30	203	530	11	3	3	9.52
FCUH-45	203	765	11	3	3	9.52
FCUH-60	203	1000	11	3	3	9.52
FCUH-80	305	775	11	3	3	9.52
FCUH-100	305	1000	11	3	3	9.52
FCUH-130	305	1180	11	3	6	9.52
FCUH-160	305	1415	11	3	6	9.52

FCUH 2-Pipe - 4 Row Coil

Model	Fin height (mm)	Fin Length (mm)	Fins per Inch	No. of Rows	No. of Circuits	Tube Ø (mm)
FCUH-30	203	530	11	4	3	9.52
FCUH-45	203	765	11	4	3	9.52
FCUH-60	203	1000	11	4	3	9.52
FCUH-80	305	775	11	4	3	9.52
FCUH-100	305	1000	11	4	6	9.52
FCUH-130	305	1180	11	4	6	9.52
FCUH-160	305	1415	11	4	6	9.52
FCUH-200	305	1780	11	4	10	9.52

FCUH 4-Pipe - 3 + 1 Row Coil

Model	Fin height (mm)	Fin Length (mm)	Fins per Inch	No. of Rows	No. of Circuits	Tube Ø (mm)
FCUH-30	203	530	11	3 + 1	3 + 1	9.52
FCUH-45	203	765	11	3 + 1	3 + 1	9.52
FCUH-60	203	1000	11	3 + 1	3 + 1	9.52
FCUH-80	305	775	11	3 + 1	3 + 1	9.52
FCUH-100	305	1000	11	3 + 1	6 + 2	9.52
FCUH-130	305	1180	11	3 + 1	6 + 2	9.52
FCUH-160	305	1415	11	3 + 1	6 + 2	9.52
FCUH-200	305	1780	11	3 + 1	6 + 2	9.52

MOTOR ELECTRICAL CHARACTERISTICS (220V-240V / 1 PH / 50HZ)

CHILLED WATER DUCTED HIGH STATIC FAN COIL (< 120 Pa) NOMINAL

MODEL	FCUH-30	FCUH-45	FCUH-60	FCUH-80	FCUH-100	FCUH-130	FCUH-160	FCUH-200
Rated Power Input (W)	60	80	125 x 2 (250)	270	195	300	355	210 x 4 (840)
Running Current (A)	0.70	0.90	1.2 x 2 (2.4)	1.72	1.70	2.29	3.2	1.72 x 4 (6.88)

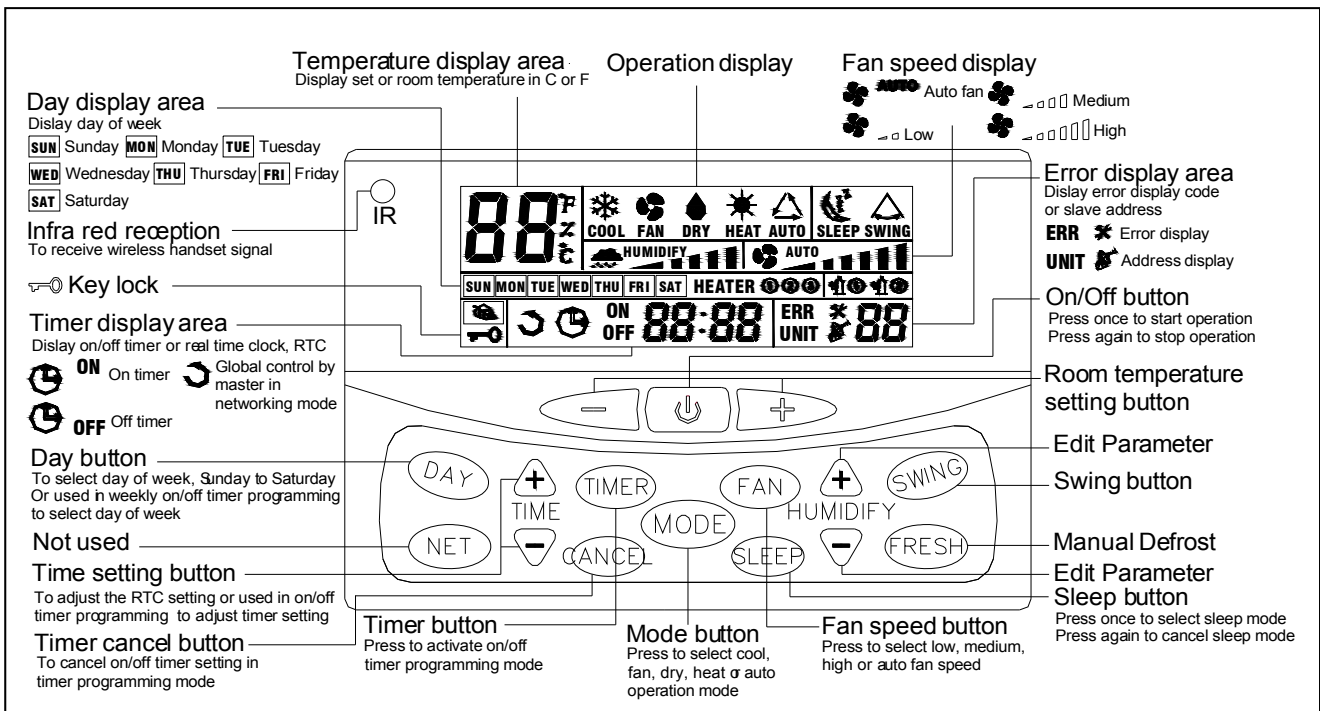
WALL PAD MICRO PROCESSOR THERMOSTAT

The 3 speed fan motor is controlled with a wall mounted controller to modulate cooling output and to maximize the percentage of latent heat removal, and to further reduce the sound level when cooling performance is required.

Main features:

- ~ Large LCD, Luxurious appearance
- ~ Microprocessor based
- ~ Reliable separate power unit
- ~ Dual display of room temperature and set temperature
- ~ Time display
- ~ Heating / cooling / ventilating modes adjustable
- ~ Adjustable High/medium/low fan speed and dynamic fan speed display
- ~ Backlight

Button Description



LCD Wall Pad Operation Guide

1) Real Time Clock [RTC]

The system has an in built RTC for clock display and On/Off timer control. Normally the RTC display section shows the system RTC. This setting can be changed by pressing < Time+/- > button.

2) Day

The system has day display function [Monday-Sunday] used for day of week display and On/Off timer control. Press < Day > button to change the day setting.

3) On/Off Timer

System has 7 sets of on/off timer setting [1 on and 1 off per day]. It can be used to program the weekly on/off timer setting.

- a) Press < Timer > button once, Timer and On symbol flash indicating that it is now in on timer programming mode. Day display section shows the day of week to be programmed. If RTC display section shows -- : --, Means that the on timer for this day is not activated yet. Press < Time+/- > button to adjust the on timer setting and at the same time activates the on timer for this day. Press < Cancel > button will cancel the timer being programmed and RTC shows -- : --. Press < Day > button to select different day of week to be programmed.
- b) Press < Timer > button once more, Timer and Off symbol flash indicating that it is now in off timer programming mode. Repeat step a) for the desire off timer setting.
- c) Press < Timer > button once more will exit from on/off timer programming mode. System will now show the RTC setting.
- d) Whenever there is any on/off timer being activated, Timer symbol will light up. Should there be any unexecuted On/Off timer for the current day, its corresponding On or Off symbol will light up as well.

4) Key Lock

In order to prevent mischief by unauthorized personnel, system has built in key lock function. Hold down < Temp Up > and < Temp Down > button for 3 seconds will activate the key lock function and its corresponding symbol will light up. Repeat the same steps to cancel the key lock function. Only 《 On/Off 》 button is valid.

5) Temperature

Normally the temperature display section will show the room air temperature. Press < Temp Up > or < Temp Down > button to change the temperature setting. Temperature display section flashes showing the current temperature setting. Press < Temp Up > or < Temp Down > button once more to adjust the setting.

6) Mode

Press < Mode > button to change the mode setting.

7) Fan

Press < Fan > button to change the fan speed setting. [Only low speed is available in Dry mode]

8) On/Off

Press < On/Off > button to turn on or off the system.

9) Manual Defrost

Hold down < Fresh > button for 3 sec will enable the system go into defrost provided the defrost conditions are satisfied.

10) Parameter Browsing

Hold down < Cancel > and < Fan > buttons to enter into parameter browsing mode. Press < Humidify+ > or < Humidify- > button to browse the following parameters:-

Error display section	RTC section	Remarks
C0	Outdoor air temp	
C1	Room temp	
C2	System 1 indoor coil temp	
C3	System 1 outdoor coil temp	
C4	System 1 discharge temp	
C5	System 1 running ampere	
C6	Comp 1 cumulated run time	
C7	System 2 indoor coil temp	Invalid in single stage
C8	System 2 outdoor coil temp	Invalid in single stage
C9	System 2 discharge temp	Invalid in single stage
CA	System 2 running ampere	Invalid in single stage
Cb	Comp 2 cumulated run time	Invalid in single stage

Press < Cancel > button to exit.

11) Edit Parameter

Hold down < Cancel > and < Sleep > buttons, RTC display section shows 0--- asking for password entry. Press < On/Off > button to change the digit to edit. Press < Temp Up > or < Temp Down > to change the number of selected digit. Upon entering of correct password 8699, press < Fresh > button to confirm. RTC shows "rEAd" indicating the wall pad is retrieving the parameters from main board. Press < Cancel > button to exit.

Error display section	RTC section	Remarks
d0	Defrost termination time	
d1	Defrost differential temp	
d2	Low fan activated temp	In heat mode
d3	Defrost termination temp	
d4	Defrost decision temp	

Press < Humidify+ > or < Humidify- > button to select the item to edit.

Press < Temp Up > or < Temp Down > button to change the setting of selected item.

Upon completion of editing, press < Fresh > to exit and save the setting on the main board.

Press 《Cancel》 to exit without saving the setting.

12) Error Display

Whenever there is system fault, error display section will show the error code and backlight will change to red colour. If multiple faults happen at the same time, the corresponding error code will be shown one after another.

Error code	Remarks
1	Room sensor
2	Valve
3	Water pump
4	Indoor and outdoor communication
5	Reserved
6	Wall pad and indoor communication
8	
9	System 1 indoor coil sensor
10	System 2 indoor coil sensor
11	System 1 outdoor coil sensor
12	System 2 outdoor coil sensor
13	System 1 discharge sensor
14	System 2 discharge sensor
15	Outdoor air sensor
17	System 1 comp overload
18	System 2 comp overload
19	System 1 4 way valve
20	System 2 4 way valve
21	System 1 filter check
22	System 2 filter check
23	Reserved
24	Reserved
25	System 1 phase loss
26	System 2 phase loss
27	System 1 phase reversal
28	System 2 phase reversal
29	System 1 low pressure
30	System 2 low pressure
31	System 1 high pressure
32	System 2 high pressure
33	System 1 over current
34	System 2 over current
35	System 1 external interlock
36	System 2 external interlock
37	SW1 contact failure

13) Hold down < Humidify+ > and < Humidify- > button for 3 seconds within 1 minute upon power up will enter into hardware test mode. Wall pad will light up all symbols and it can activate the main board hardware test mode. It will exit from this mode 1 minute later.

14) Should there be no key press within 1 minute, the system will exit from any of its current menu to normal display mode.

INSTALLATION OF FAN COIL DUCTED UNIT

1) Location

Before installation and running the unit, please confirm the following:

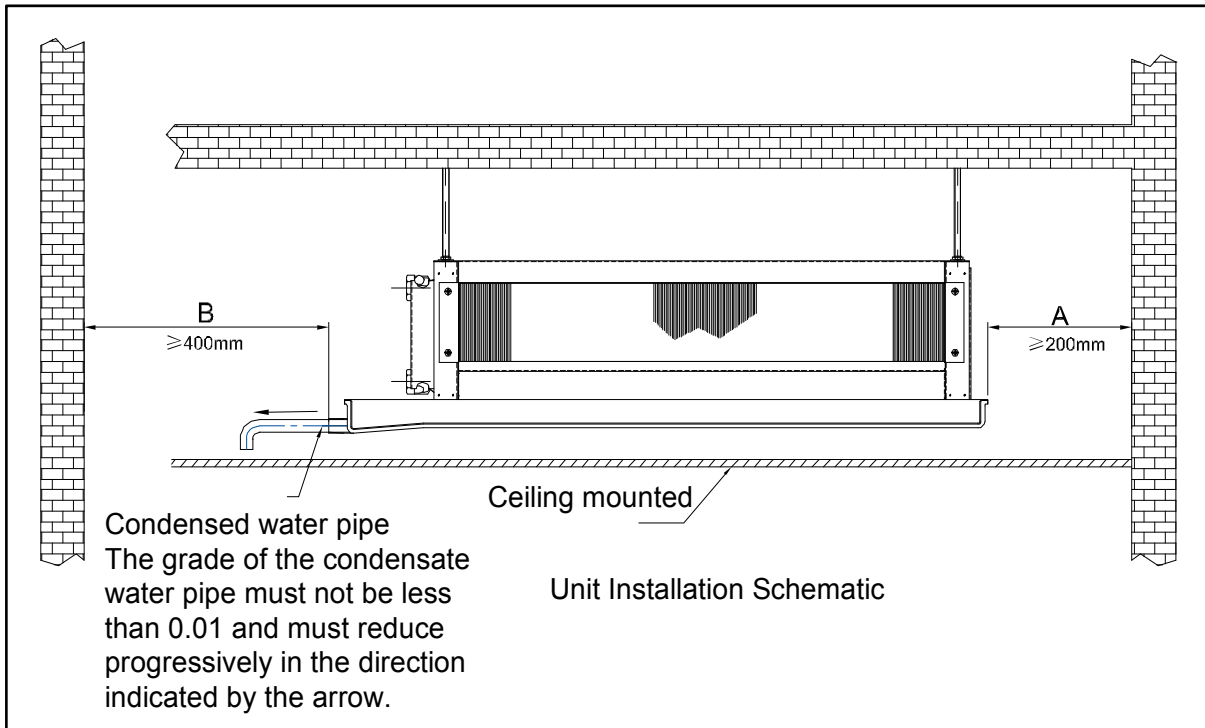
- i. Is there sufficient space for the unit installation, maintenance, piping connection and electrical wiring.
- ii. Please ensure enough space for the hanging rods can support weight of the unit as well as the vibration when the unit is running
- iii. The unit must be installed horizontally to ensure proper operation and condensate draining.
- iv. The external static pressure of the ducting must be within the design static pressure range.
- v. Confirm that the unit has been switched OFF before installing or servicing the unit.

2) Unit Installation

- i. The unit is designed to be installed in a concealed ceiling. Installation and maintenance should be performed by qualified persons who are familiar with local codes and regulations, and experienced with this type of appliance.
- ii. The air duct length of the unit must meet the requirements of the rated outlet static pressure of the unit, otherwise the unit will not work properly. The installation of the air duct must meet the local laws and regulations.
- iii. If the air duct connector and the air supply outlet does not match, you can install an air duct with variable section areas.
- iv. The air outlet flange of the unit and the air duct must be connected using soft hose and heat prevention measures must be taken to prevent condensate water.
- v. For a unit without an air filter, install an air filter at the air return point to prevent dust from accumulating on the exchanger fins and degrading the heat exchange performance.
- vi. Connect the water inlet and outlet pipes using a flexible hose and seal the connection with adhesive tape. The pip connection torque must not exceed 98Nm (10kgf.m) to avoid copper pipes from leaking due to deformation.
- vii. Install a water filter at the cold water inlet of the water pump and the water inlet of the unit to prevent clogging due to contaminants.
- viii. Valves, inlet / outlet water pipes and condensate water pipes must be strictly protected against heat loss to prevent condensing.
- ix. After the units is installed, clean the unit and ensure that no contaminants exist in the condensate water coil to ensure smooth condensate water discharge. If the site where a unit is installed is being decorated, protect the surface of the unit against scratching and infiltration of contaminants which may cause an operation failure.
- x. Before connecting electric wires, verify that the power supply specifications meet the requirements specified on the nameplate. Disconnect power cables to avoid electric shock. Electric connection must be performed according to the electric wiring diagram. The unit must be well grounded.
- xi. The voltage, frequency and number of phases of the power supply must meet the requirements specified on the nameplate. The voltage fluctuations must not exceed $\pm 10\%$.

Unit Installation Illustrations

Illustration 1



Caution:

Make sure the top of the unit is level after installation. The drain pan is designed with a little gradient to facilitate drainage.

Illustration 2

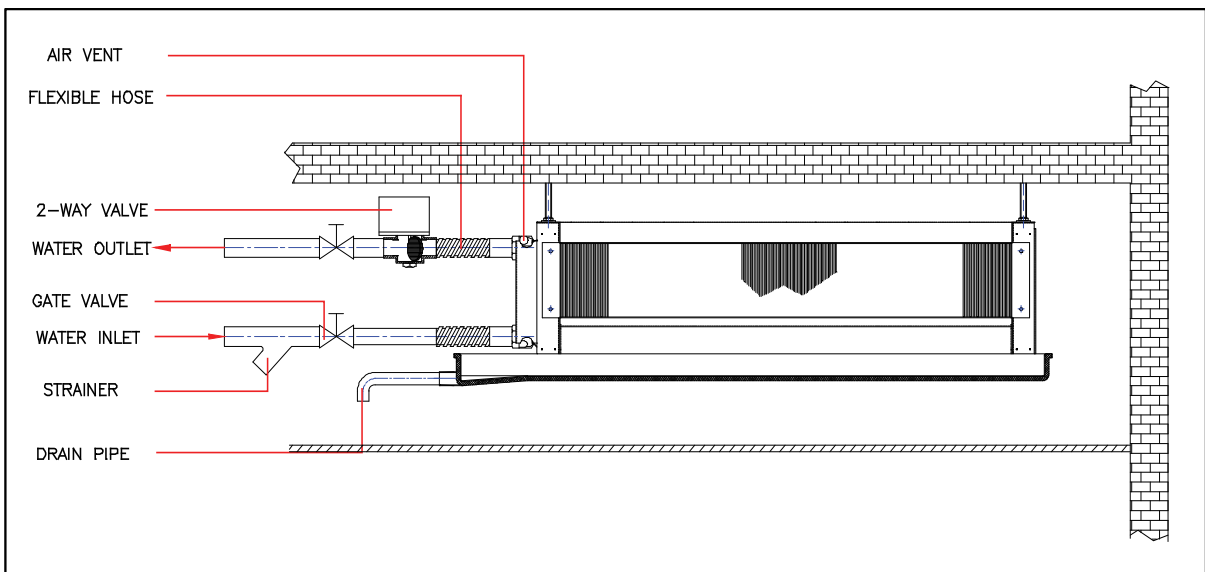
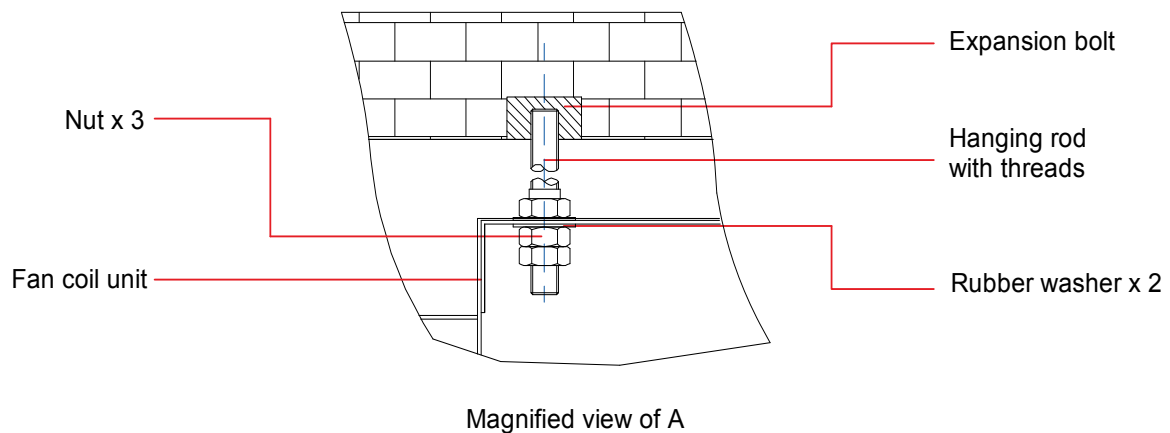
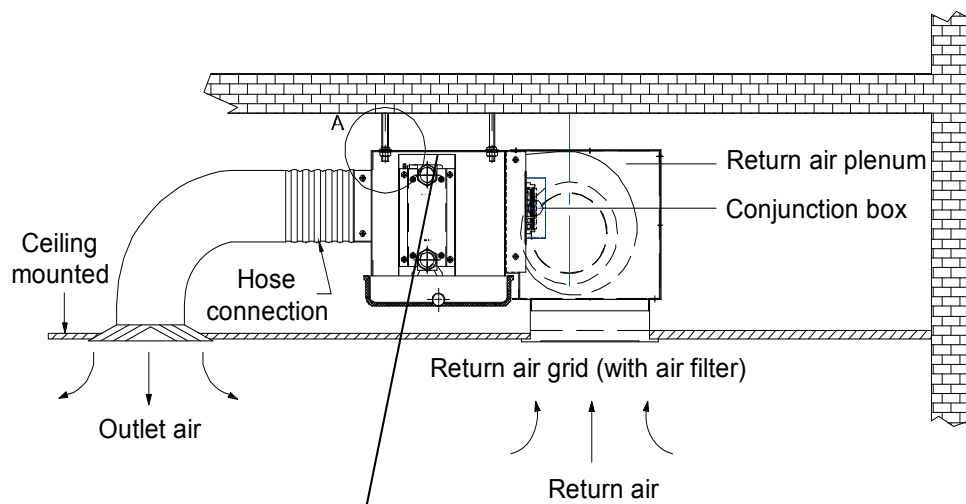
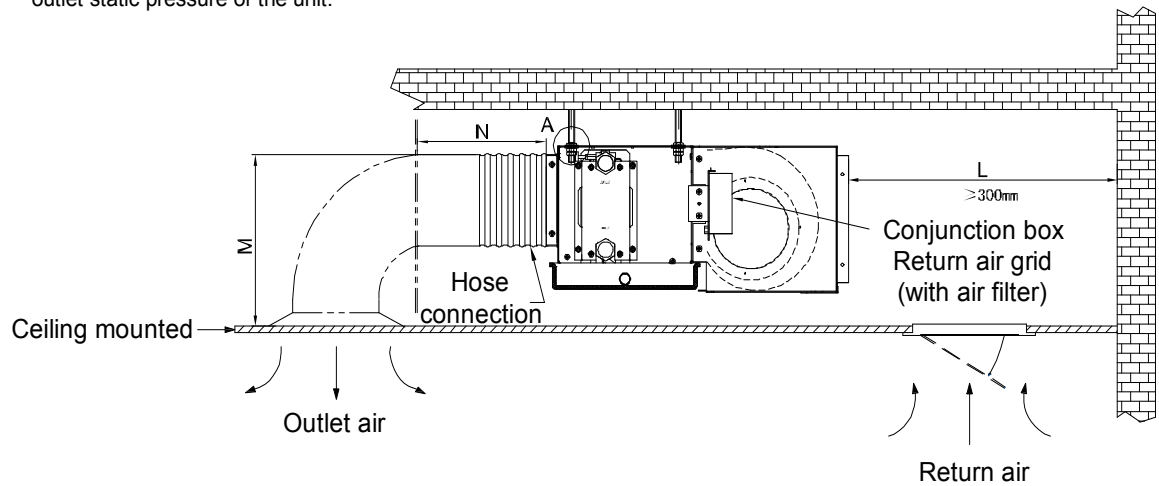


Illustration 3

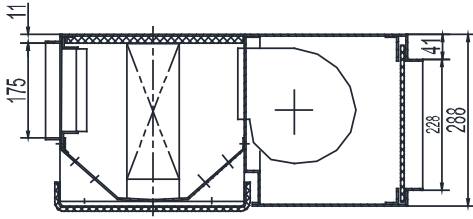
Note:

1. The air duct must be fireproof regulations for buildings.
2. For horizontal air supply air duct is longer than 1 m, $N \geq 200\text{mm}$.
3. The size of M depends on the air duct installation. The pressure loss of the circulatory air must be consistent with the outlet static pressure of the unit.

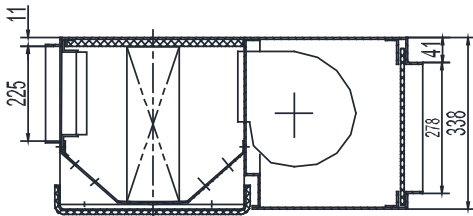
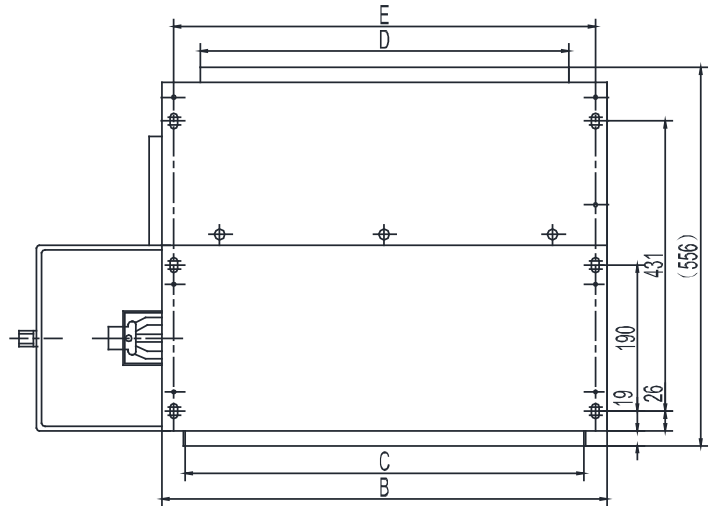
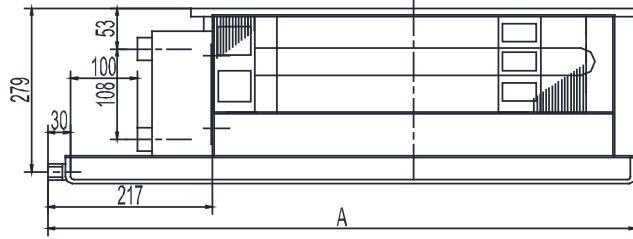
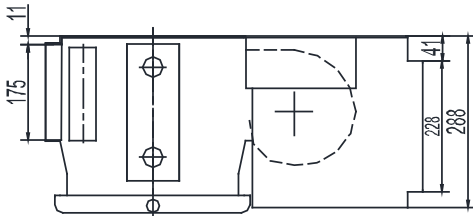


DIMENSIONS

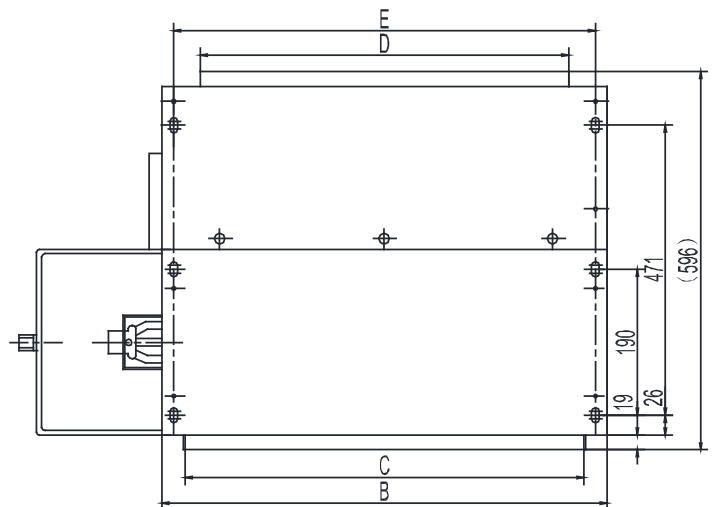
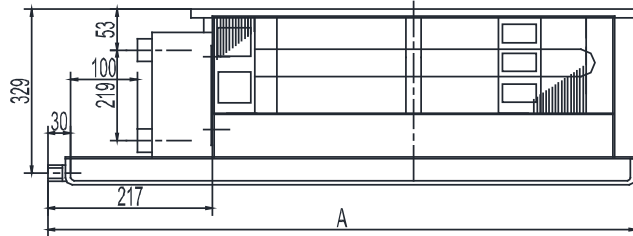
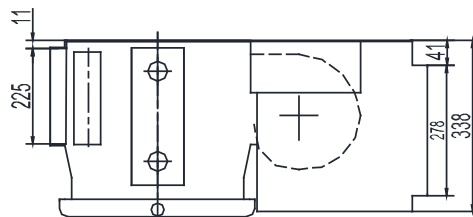
FCUH UNITS



FCUH	30AW	45AW	60AW
A	816	1051	1286
B	625	860	1095
C	565	800	1035
D	525	760	995
E	595	830	1065



FCUH	80AW	100AW	130AW	160AW	200AW
A	1086	1311	1491	1726	2091
B	895	1120	1300	1535	1900
C	835	1060	1240	1475	1840
D	795	1020	1200	1435	1800
E	865	1090	1270	1505	1870

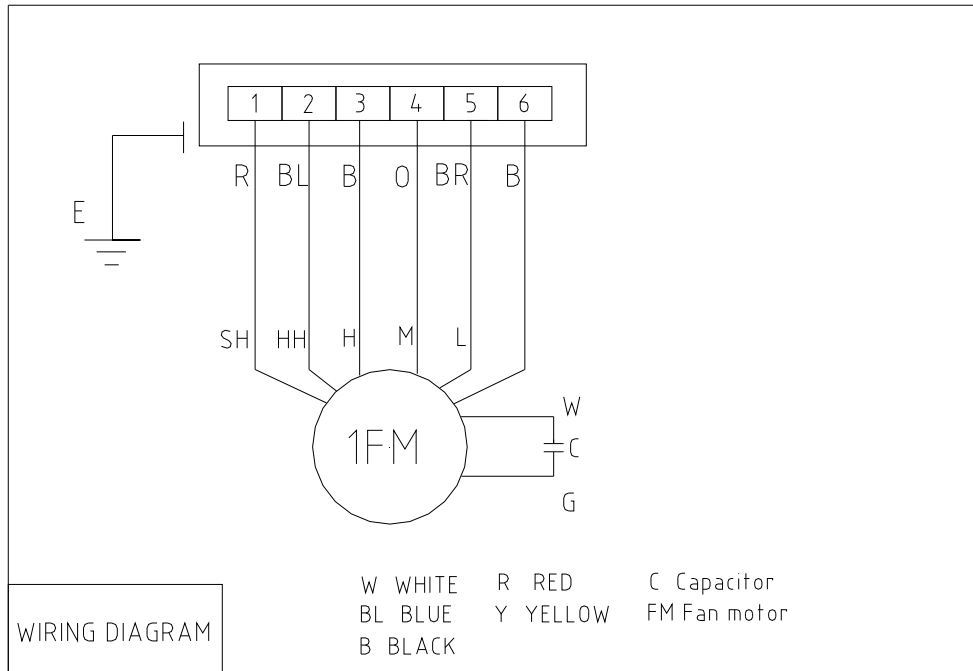


WIRING DIAGRAMS

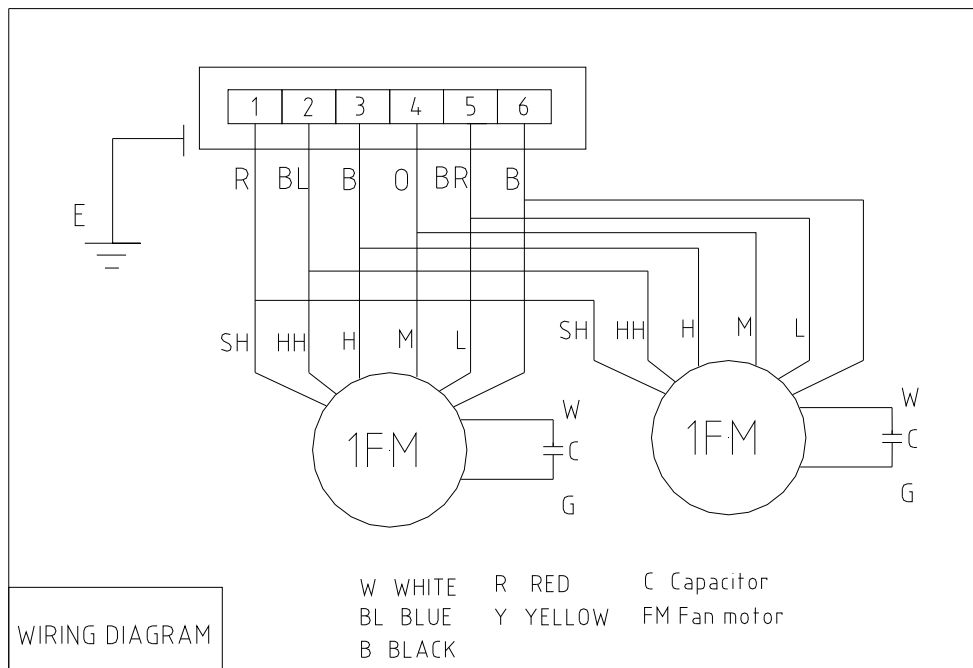
Before doing the electric wiring, Please check that:

- i. Electrical wiring connection must be done according to the wiring diagram on the unit. Refer to diagrams below.
- ii. The unit must be GROUNDED to the earth system of the building.
- iii. All field wiring must be installed in accordance with the national wiring regulations.

FOR MODEL: FCUH5 30 AW 3 to FCUH5 160 AW 3



FOR MODEL: FCUH5 200 AW 3



Warning:

- Switch shall be connected to the supply terminals and shall have a contact separation of at least 3 mm in each pole. Confirm that the unit has been switched OFF before installing or servicing the unit.

MAINTENANCE

General

- A. Installation and maintenance should be performed by qualified persons who are familiar with local codes and regulations, and experienced with this type of appliance.
- B. Confirm that the unit has been switched OFF before installing or servicing the unit.
- C. A good general maintenance plan will avoid losses and unexpected shutting down of the equipment.
- D. Dirty filters reduce air flow as well as unit performance. Thus changing or cleaning the filters is very important. Check the cleanliness of filter and replace or clean as required monthly.
- E. Coils should be cleaned from dust, dirt or lint with compressed air or water. They can be brushed with a soft brush and vacuum cleaner.
- F. Water coil not used during winter season should be drained, or anti-freezing solution should be added to the water circuit to avoid freezing.
- G. Monthly:
 - i. Inspect and clean condensate drain pan to avoiding clogging of drainage by dirt, dust, etc. Inspect drainage piping to ensure the proper condensate flow.
 - ii. Check and clean the coil. Clean the coils with low pressure water jet or low pressure air.
 - iii. Clean and tighten all the wiring connections.
 - iv. Drain out the system water and check for build up of mineral deposits.

Air Purging

- i. After connecting the water inlet and outlet pipes to the main supply lines turn on the main breaker and operate the unit.
- ii. Open the water inlet valve and flood the coil.
- iii. Check all connections for water leakage, if no leak is found open the air vent valve with an open end wrench. Then purge the air trapped inside the coil. When performing this, take care not to touch the electrical parts.
- iv. Close the air vent valve when no bubbles appear.
- v. Open the water outlet valve.