AIRTECHNIC PHCD Fan Coil Unit User Manual

Contents

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Product Information

Specifications

- **Product:** Fan Coil Unit PHCD V.4
- **Operating Limits:** Indoor use only, avoid extreme environments
- **Dimensions:** Refer to the manual for detailed dimensions
- **Technical Data:** Detailed technical information available in the manual
- **Electrical Supply Wires:** Minimum cross-section specified in the manual

Product Usage Instructions

Receiving and Checking the Unit
Check the packaging for any damage before accepting the unit. Inspect all components listed in the manual to ensure nothing is missing or damaged.

Installation
Follow the installation guidelines provided in the manual. Ensure the unit is not installed outdoors or in extreme environments.

Maintenance and Cleaning
Regular cleaning and maintenance are essential for optimal performance. Follow the cleaning instructions provided in the manual.

Safety Guidelines
Adhere to all safety rules mentioned in the manual to prevent accidents and ensure the safe operation of the fan coil unit.

Start-up
Follow the start-up procedures outlined in the manual to ensure the proper functioning of the unit.

Troubleshooting
Refer to the troubleshooting section in the manual in case of any issues with the fan coil unit.

Accessories

Optional accessories can enhance the performance of the unit. Refer to the accessories section in the manual for more information.

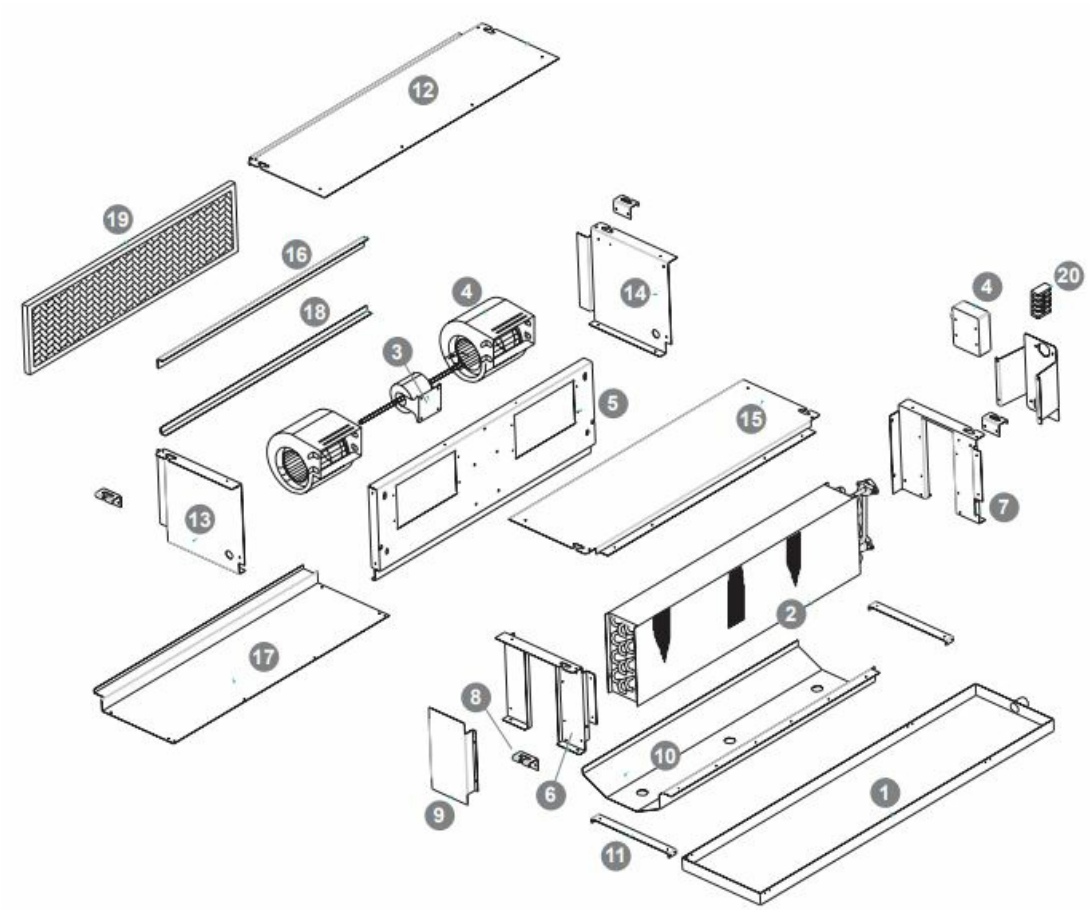
Preface

The fan coil units are designed to heat and cool industrial, civil, commercial, sports premises. Heating and cooling are given through hot or chilled water that circulates inside the unit. The purpose of this document is to give users of the fan coil information about equipment components and their properties, as well as information on transport, installation, start-up, operation, and maintenance. This document does not list the maintenance conditions required to extend the equipment's useful life and increase its reliability in long lists that will exhaust the reader. Reliable and long-lasting operation can only be achieved through the service of a competent engineer or a technician employed by the authorized maintenance firm. If he or she wishes to, the client can receive assembly, annual maintenance, and renovation services for the installation and operation services for their equipment.

Receiving the unit

- Check every fan coil before accepting it.
- Be sure that packaging is not damaged bent or broken.
- In case of a damaged package, open it immediately and check the contents before accepting it; check the chassis and the panels of the fan coil, the heat exchanging coil, the condensate drain pan, the filters, the proper fan rotation, and all the eventual accessories.
- Do not refuse the shipping: please write all the damages on the shipping documents and take pictures of the damages.

Main parts of the unit

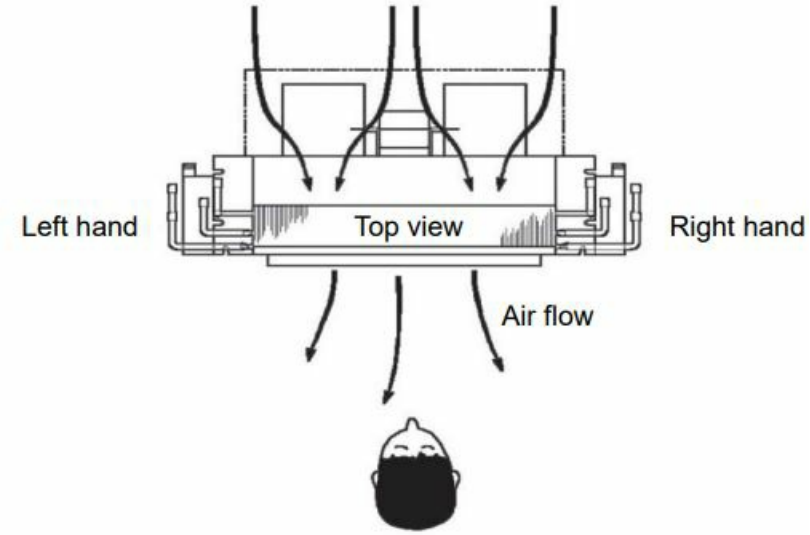


1. Drain Pan Components
2. Coil Components
3. Motor
4. Fan Fixing Panel
5. Fan Components
6. Terminal Box Components
7. Left Side Panel
8. Right Side Panel
9. Hanger
10. Protection Cover
11. Bottom Panel
12. Drain Pan Connection
13. Top Panel
14. Left Side Panel (Plenum Box)
15. Right Side Panel (Plenum Box)
16. Top Panel (Plenum Box)
17. Plenum Box Components 1
18. Bottom Panel (Plenum Box)
19. Plenum Box Components 2
20. Filter
21. Wiring Block

Note:

The above exploded view is used for illustrative of unit construction only, it may be different from the unit you received. Please refer to the unit itself.

Determination of Right-hand / Left-hand references



General warnings

- For the safety of people and equipment, the properties and suitability of the electrical grid circuit must be examined, and the user manual, standards, and regulations must be obeyed.

- For electrical connections to be made there should be no power in the main supply line and the circuit switch of the unit should be in the off position.
- Before working on the water system, it must be ensured that there is no hot water in the hot water line and that the valves are shut off.
- You must wear protective gloves to avoid being injured by sharp edges during the handling and unit preparation stage. Protective headgear and protective shoes must be worn while installing ceiling-type units. Care should be taken to avoid injuries that may arise from falling parts and sharp edges.
- On the whole, suitable checks and measurements should be made and rules of engineering should be obeyed to prevent accidents that may occur during maintenance and assembly.

Qualifications required of assembly and maintenance persons:

- Electrical connections must be made by a licensed electrician.
- Water connections must be made by an experienced plumber.
- Unit maintenance must be carried out by a qualified and well-informed maintenance technician.
- Repairs should not be performed on the HFC Fan Coil. This manual does not discuss repairs.

Mandatory safety rules during installation

The fan coil must not be installed:

- Outdoor
- In an explosive or corrosive environment
- In a too-humid environment
- In a very dusty environment

A bipolar safety switch must be installed, to disconnect the appliance from the electric power supply; the switch must:

- Be properly sized
- Be easily accessible and close to the appliance
- Have a minimum 3 mm distance between its contacts.
  The appliance must be properly connected to an electric earth. Do not place flammable/dusty goods close to the appliance. Do not remove the labels from the inside of the appliance.

Mandatory safety rules during use, maintenance & repair

It is dangerous:

- To touch the fan coil with wet parts of the body and bare feet;
- To modify or tamper with the settings of the safety devices;
- To spray water or flammable liquids/gas onto the fan coil;
- To introduce foreign objects of the hands through the air intake and discharge grills;
- To introduce foreign objects or the hands into the fans.
- Do not bend, pull, and detach the electric wires out-coming the fan coil even if it is disconnected from the power

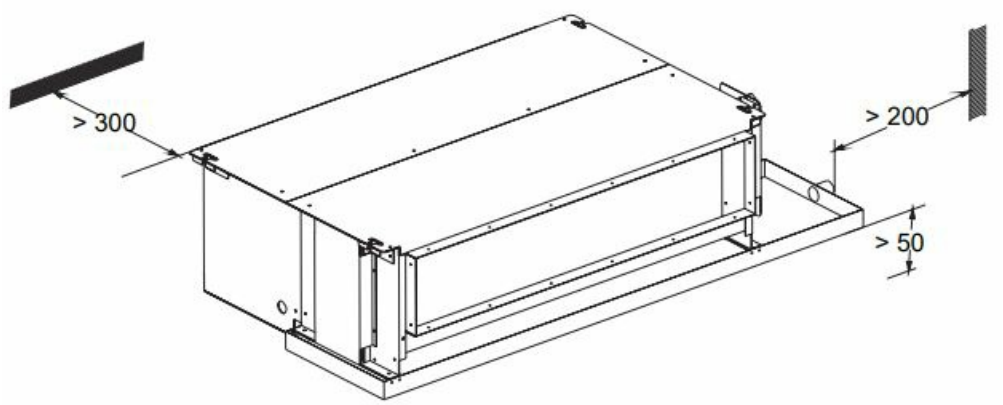
supply.

Before any maintenance/repair:

- Disconnect the electrical power source and secure it in the disconnected position;
- Close the water valves;
- Wait until the water is at the same temperature as the room
- Wear safety gloves
- Before any maintenance be sure that:
- The unit is disconnected from the electric power source
- The water valves are closed
- The water temperature is not dangerous (too hot or too cold)
- Children or disabled people must not use the fan coil without assistance.
- Do not remove the labels from the inside of the appliance.
- In case of replacement of components, use only spare parts supplied by the manufacturer.
- If the fan coil is installed in very cold climates, and a long unoperative period is forecasted, the hydraulic circuit must be completely emptied, to avoid the risk of ice inside the tubes; ice will cause big damage.
  If a damper for external air is installed, the cold air can cause ice inside the tubes of the coil, and ice will break the tubes. If necessary, some glycol must be mixed with the water of the hydraulic circuit.
  The coils are tested up to 3.000 kPa (30 bar); the maximum allowed operating pressure is 2.400 kPa (24 bar); the maximum allowed operating temperature is 120 ºC.
  IN CASE THE AIR FILTER HAS TO BE CLEANED OR CHANGED, BE SURE IT IS FITTED AGAIN IN THE APPLIANCE BEFORE RESTARTING THE FAN COIL.

Operating limits and fitting space

Depending on the model and installation, the pipes may be connected from left or right. The following fitting distances of the Main Unit Body should be observed for fan coil units.



Note:
Make sure there are adequate spaces reserved for the nstallation of pipes, valves, wiring connections, etc. Above indicated fitting space is for illustrative reference only, and a bigger fitting space should be reserved if not sure about the installation convenience or accessibility of the connections.

Heat-exchanging coil and appliance.

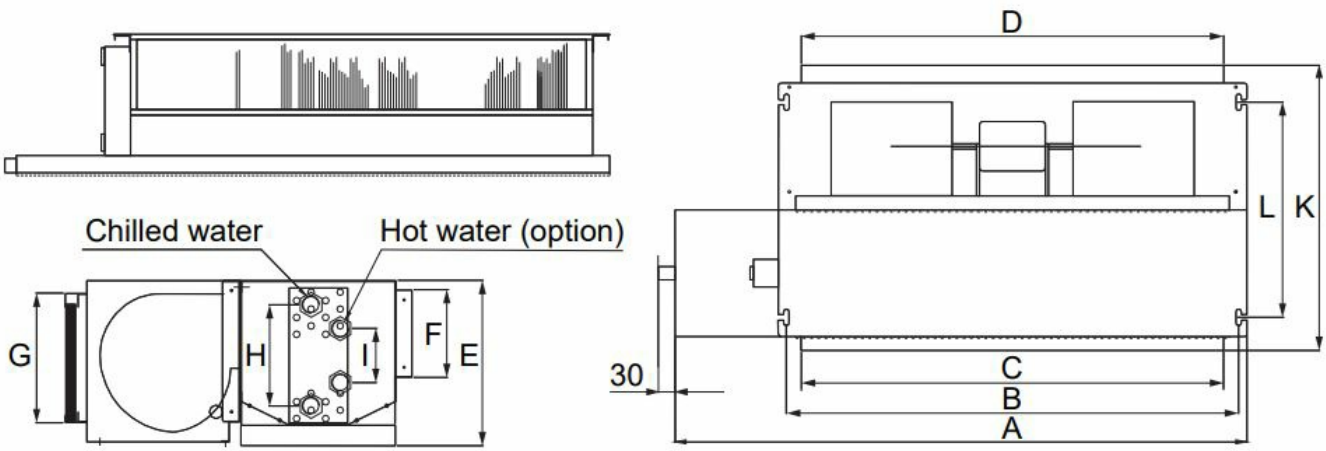
- The minimum temperature of the cooling water without glycol is 5 ºC.
- The maximum temperature of the heating fluid is 120 ºC.
- Maximum allowed operating pressure: 2.400 kPa (24 bar)
- Electric power supply: minimum voltage 207V – maximum 253V.

  IN CASE OF INSTALLATIONS WHERE THE TEMPERATURE CAN DROP BELLOW 0 ºC, IT IS NECESSARY TO ADD ETHYLENE GLYCOL TO THE WATER, ACCORDING TO THE FOLLOWING TABLE.

Ethylene glycol is used to protect the circuit from freezing and to prevent the tubes to be broken. The following table gives the percentage of glycol to add to obtain a specific freezing temperature. The mix of water and glycol has a specific mass and viscosity which varies depending on the temperature and concentration; consequently, this affects the capacity of the fan coil. Glycol is generally used as an inhibitor of corrosion, so it is necessary to measure its concentration at least once a year.

Glycol in weight	Glycol in Volume	Freezing Temperature	Volume Mass	Volume Mass	Specific Heat	Specific Heat	Volume Increase
%	%	ºC	at 50 ºC, kg /dm³	at 100 ºC, kg/dm³	kj/kg °K	kj/kg °K	0 100 ºC, %
5	4,8	0	0,989	0,958	4,18	4,20	4,33
10	9,6	-4	1,000	0,970	4,10	4,12	5,00
20	19,4	-10	1,012	0,980	3,95	4,05	5,40
30	27,4	-17	1,025	0,991	3,81	3,92	5,60
34	33,4	-21	1,030	0,994	3,73	3,86	5,85
40	39,6	-25	1,037	1,000	3,60	3,78	6,20
44	43,7	-30	1,041	1,004	3,50	3,73	6,32
50	49,5	-37	1,047	1,010	3,45	3,65	6,50
52 max	51,6	-40	1,050	1,012	3,42	3,62	6,51

Dimensions (mm)



MODEL	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**K**	**L**
PHCD – 20	740	522	470	470	245	130	192	150	517	390
PHCD – 30	840	622	570	570	245	130	192	150	517	390
PHCD – 40	940	722	670	670	245	130	192	150	517	390
PHCD – 50	1.040	822	770	770	245	130	192	150	517	390
PHCD – 60	1.240	952	900	900	245	130	192	150	517	390
PHCD – 80	1.540	1.272	1.220	1.220	245	130	192	150	517	390
PHCD – 100	1.740	1.472	1.420	1.420	245	130	192	150	517	390
PHCD – 120	1.940	1.682	1.630	1.630	245	130	192	150	517	390
PHCD – 140	2.040	1.782	1.730	1.730	245	130	192	150	517	390
PHCD – 160	1.940	1.672	1.620	1.620	295	180	242	200	577	390
PHCD – 180	2.040	1.832	1.780	1.780	295	180	242	200	577	450
PHCD – 200	2.100	1.932	1.880	1.880	295	180	242	200	577	450
PHCD – 80 H	1.040	862	810	810	345	230	292	250	517	390
PHCD – 100 H	1.240	972	920	920	345	230	292	250	577	390
PHCD – 120 H	1.240	972	920	920	395	280	342	300	637	510
PHCD – 140 H	1.240	1.032	980	980	395	280	342	300	637	510
PHCD – 160 H	1.440	1.192	1.140	1.140	395	280	342	300	637	510
PHCD – 180 H	1.540	1.332	1.280	1.280	395	280	342	300	637	510
PHCD – 200 H	1.640	1.432	1.380	1.380	395	280	342	300	637	510

Technical data of the unit

PHCD3… – COIL 3R, DN20, AVAILABLE PRESSURE 75Pa TAIR: 27˚C DB / 19,5˚C WB (COOLING) & 20˚C (HEATING)

MODEL			AIR FLOW m^3/h		Total Cooling Capacity kW TWATER: 7 / 12 °C		Sensible Cooling Capacity kW TWATER: 7 / 12 °C		Heating Capacity kW TWATER: 45 / 40 °C		Heating Capacity kW TWATER: 80 / 65 °C	
			30 Pa	**60 Pa**	**30 Pa**	**60 Pa**	**30 Pa**	**60 Pa**	**30 Pa**	**60 Pa**	**30 Pa**	**60 Pa**
PHCD 3		**20**	**525**	420	**2,81**	2,4	**2,03**	1,71	**2,73**	2,31	**6,47**	5,47
PHCD 3		**30**	**760**	610	**4,03**	3,45	**2,89**	2,44	**3,82**	3,25	**9,06**	7,72
PHCD 3		**40**	**940**	720	**4,60**	3,83	**3,39**	2,78	**4,55**	3,75	**10,75**	8,88
PHCD 3		**50**	**980**	770	**5,12**	4,32	**3,70**	3,08	**4,93**	4,13	**11,67**	9,80
PHCD 3		**60**	**1.200**	935	**6,38**	5,35	**4,56**	3,77	**6,02**	5,02	**14,28**	11,92
PHCD 3		**80**	**1.380**	1.120	**7,71**	6,65	**5,46**	4,65	**7,24**	6,19	**17,19**	14,74
PHCD 3		**100**	**1.930**	1.535	**10,50**	8,94	**7,41**	6,24	**9,71**	8,22	**23,07**	19,58
PHCD 3		**120**	**2.145**	1.705	**12,04**	10,23	**8,40**	7,07	**10,96**	9,27	**26,10**	22,12
PHCD 3		**140**	**2.375**	1.890	**13,29**	11,29	**9,25**	7,79	**12,03**	10,18	**28,66**	24,30

PHCD31… – COIL 3R+1, DN20, AVAILABLE PRESSURE 75Pa TAIR: 27˚C DB / 19,5˚C WB (COOLING) & 20˚C (HEATING)

MODEL			AIR FLOW m³/h		Total Cooling Capacity kW TWATER: 7 / 12 °C		Sensible Cooling Capacity kW TWATER: 7 / 12 °C		Heating Capacity kW TWATER: 45 / 40 °C		Heating Capacity kW TWATER: 80 / 65 °C	
			30 Pa	**60 Pa**	**30 Pa**	**60 Pa**	**30 Pa**	**60 Pa**	**30 Pa**	**60 Pa**	**30 Pa**	**60 Pa**
PHCD 31		**20**	**510**	390	**2,75**	2,28	**1,98**	1,62	**1,93**	1,61	**4,49**	3,75
PHCD 31		**30**	**735**	575	**3,93**	3,31	**2,81**	2,34	**2,71**	2,29	**6,31**	5,35
PHCD 31		**40**	**895**	670	**4,45**	3,66	**3,27**	2,64	**3,14**	2,59	**7,25**	5,99
PHCD 31		**50**	**935**	730	**4,95**	4,18	**3,56**	2,97	**3,45**	2,92	**8,01**	6,80
PHCD 31		**60**	**1.150**	880	**6,19**	5,13	**4,41**	3,61	**4,25**	3,55	**9,91**	8,29
PHCD 31		**80**	**1.330**	1.065	**7,51**	6,41	**5,30**	4,47	**5,17**	4,43	**12,07**	10,37
PHCD 31		**100**	**1.845**	1.465	**10,17**	8,64	**7,16**	6,02	**6,90**	5,90	**16,15**	13,82
PHCD 31		**120**	**2.050**	1.625	**11,66**	9,88	**8,12**	6,82	**7,85**	6,70	**18,44**	15,75
PHCD 31		**140**	**2.270**	1.800	**12,87**	10,91	**8,95**	7,51	**8,62**	7,36	**20,27**	17,33

Minimum cross-section of the electric supply wires

The cross sections of the wires that are shown in the following tables are :

- The minimum required to connect the fan coil to the electric supply.
- Valid for wires maximum 10 m long.
- Valid for a maximum current load of 5 A/mm.
- Valid only for the fan motor and DO NOT include any accessories (valves, electric heaters, pumps, controls, etc).
- Valid only for copper wires.
- The voltage drop between operating and non-operating units must remain below 3%; if the voltage drop is larger than 3%, a bigger wire is required. The minimum cross-section of the wires is 1.5 mm.
  ELECTRICAL CONNECTIONS MUST BE MADE ONLY BY QUALIFIEDPERSONNEL ANDD MUST ACCOMPLISH THE LOCAL ELECTRICAL AND SAFETY CODES AND ORDINANCES.

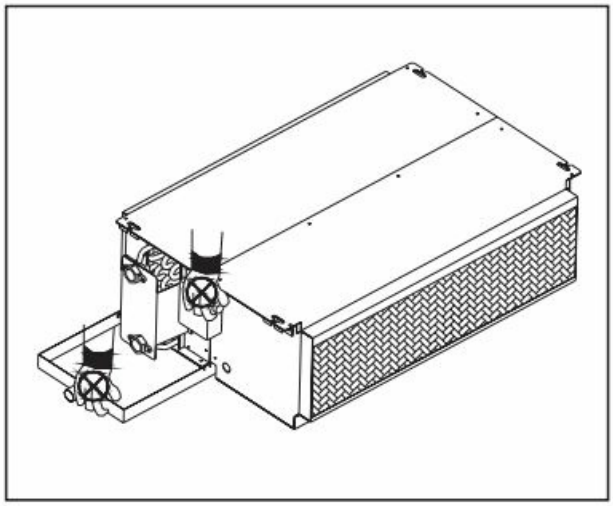
FCU Model		PHCD 20	PHCD 30	PHCD 40	PHCD 50	PHCD 60	PHCD 80 H
Cross Section	mm2	1,5					

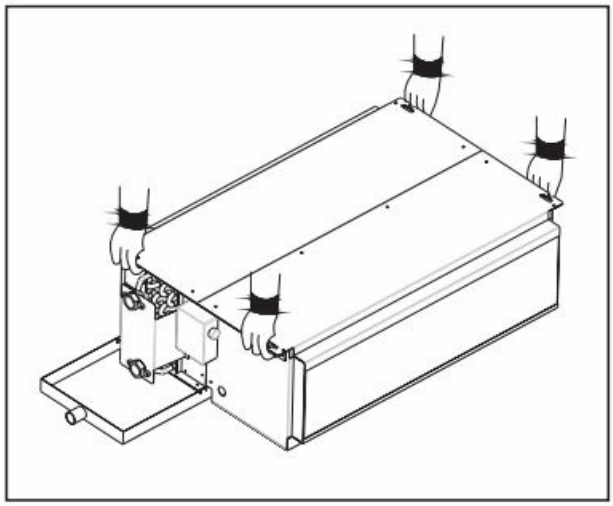
FCU Model		PHCD 100 H	PHCD 120 H	PHCD 140 H	PHCD 160 H	PHCD 180 H	PHCD 200 H
Cross Section	mm2	1,5		2,5			

Mechanical & hydraulic installation

How to transport

- Injuries that may result from sharp edges should be avoided by wearing protective gloves at all times.
- The transport should be made with at least one other person helping, and carriers should be cautious to avoid possible bodily harm.
- If the transport will be made using a pallet, the hauling and transport vehicle selected should have a tasuitable capacity.
- The unit should be protected against falling and tipping before and during transport.

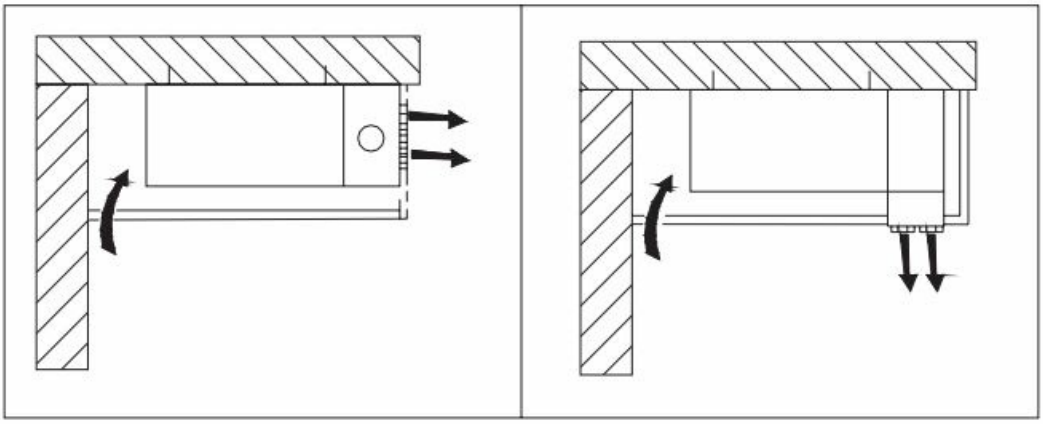




Precautions:
To ensure good installation and operation, check the following items before installation of the unit :

- Adequate space shall be provided for the installation and maintenance of the unit.
- Determine locations of pipeline and electric wires before installation, and adequate fitting space should be reserved.
- Make sure the hanging structure is adequate to support the unit weight.
- All units shall be leveled to ensure smooth water drain and proper operation.
- The unit connecting the air duct shall be within the external static pressure scope.
- Thermal insulation of chilled water valves and pipelines shall be made by the installer.

Hanging or fixing (ceiling installation)
Please referthe to dthe imensions to know the unit’s external dimension, air inlet/outlet connection dimension, and hanging/fixing holes dimension. Below installation possibilities can be realized for ceiling-type fan coil units. Duct connection is also possible for ceiling concealed type.



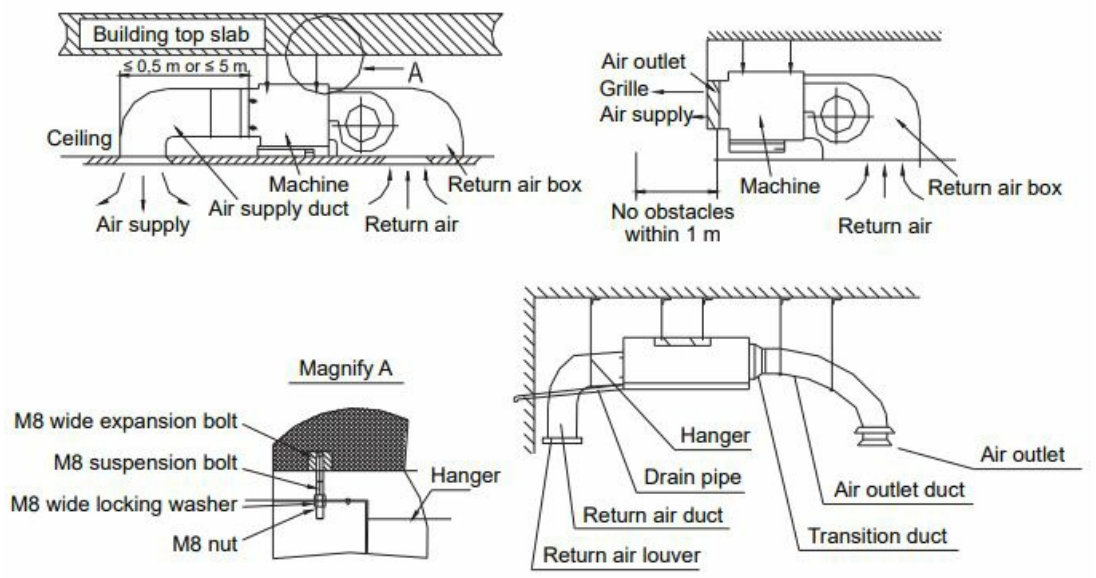
NOTE:

1. The ceiling-type fan coils can be mounted either directly under the ceiling or suspended, using appropriate means.
2. To ensure the complete removal of condensate from the condensate tray according to hygiene regulations, cooling units are recommended to be installed with a 5 mm slope in the direction of the condensate drain and 0 – 2 mm in the direction of the unit from the side.

- Keyholes are provided at the side of the rear panel for securing the units (2 for each side).
- Depending on the fixing type you will need suitable fixing material.
- At last four drilling holes are required for ceiling installation (2 on each side)
    - Transfer the drilling measurements to the ceiling
    - Insert the screws
    - Hang the ceiling-type fan coil into the keyholes
    - Use a spirit level for precise vertical and horizontal alignment of the fan coil and tighten the screws.

Duct connection (ceiling concealed installation)

- Air ducts made of galvanized steel sheets of a certain thickness(provided by the installer) may be connected to the flanges/connections at the air inlet/outlet of the units. Insert air ducts into flanges and fix them with screws. If the air duct and flange have different sisizesthey should be connected through a site-made adapter. Connection of air supply cabinet and air duct: insert the air duct into the flange and fix them horizontally with screws or rivets. The same is true for the connection of the return air box.
- For the ceiling-concealed unit without a return p,lenum a return air box is recommended as shown below. The air return box/duct or air outlet dducductwnbelow should be respected for all concealed-type faunitsss.



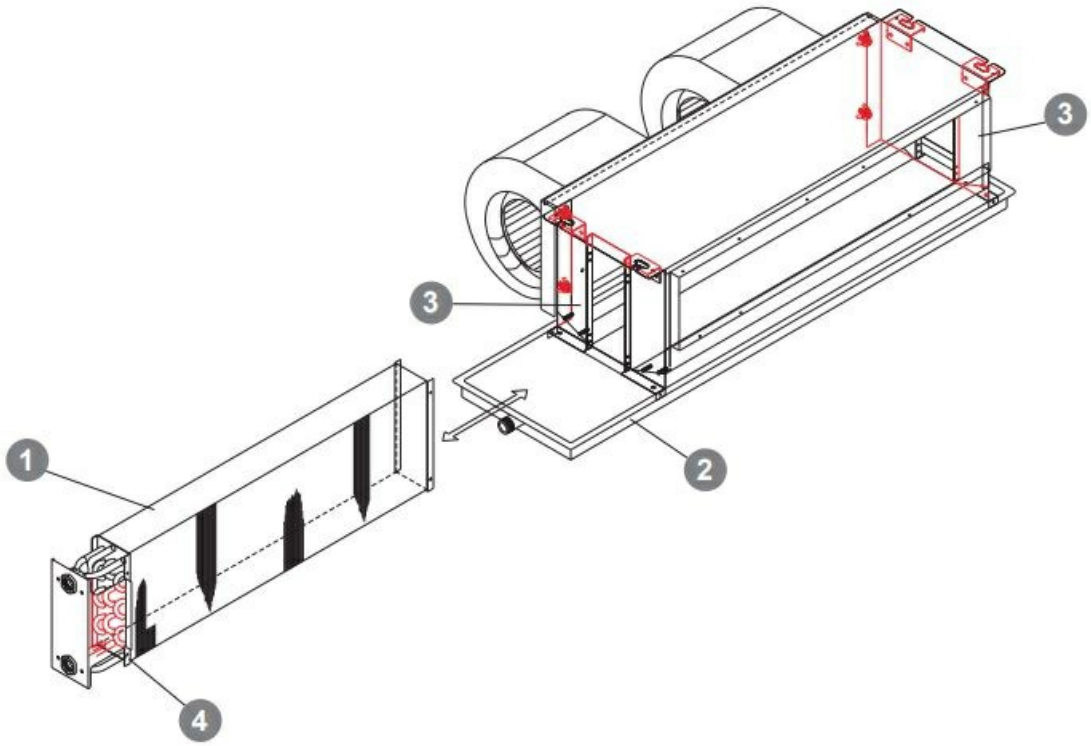
- The distance from the air duct outlet to the fan coil outlet shall depend on the actual air duct length and static pressure terminal applied.

  NOTE!

  Always make sure the duct length is by the unit ESP.

Pipe connection.
How to take off the coil & change the pipe connection position :

- Screw off 4 pcs of drain pan fixing screw.
- Remove two cover boards of the coil.
- Screw off the screw for fixing the coil.
- Draw out the coil and insert it from the other end.
- Change the drain pan position and fix all the screws to complete the process.



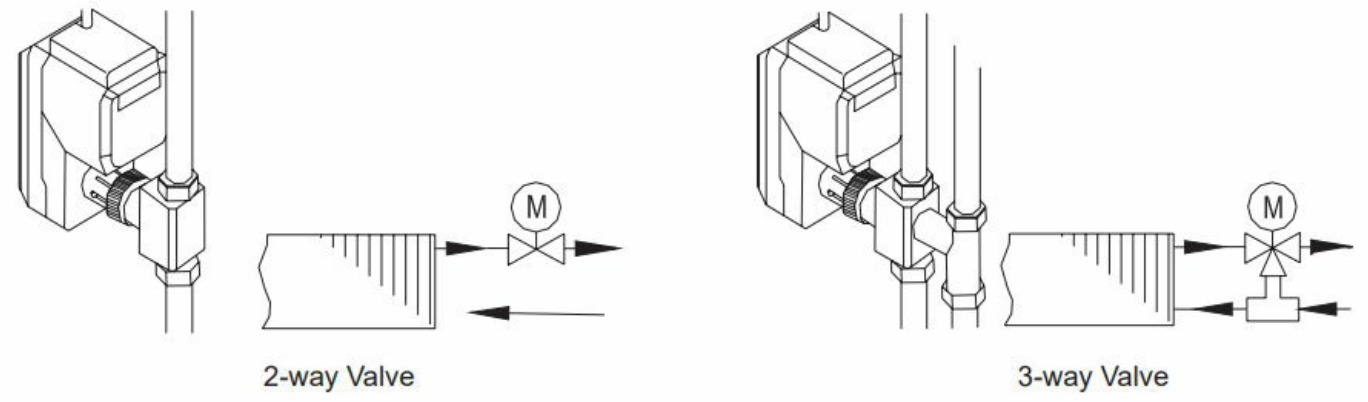
1. Coil
2. Drain Pan
3. Side Installation Board of Coil
4. Coil Side Board

Before the on-site piping and the fan coil hydraulic connection are set up, the heating/cooling water should be isolated and secured against being opened unintentionally.

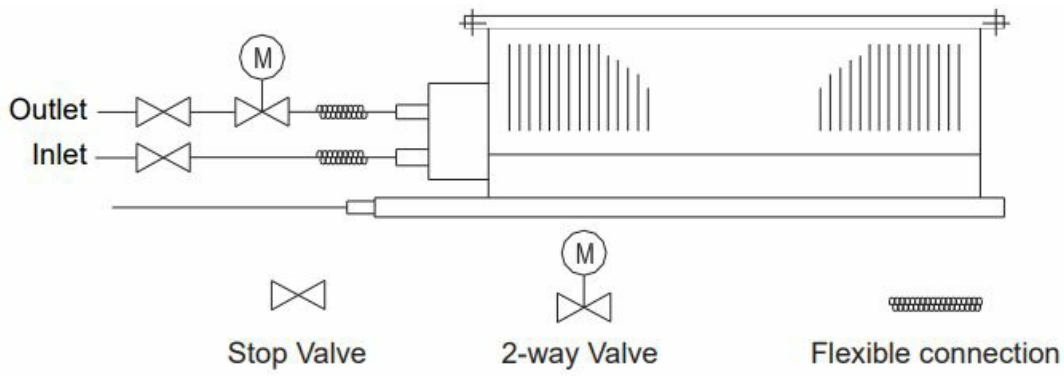
NOTE!

- All on-site pipes by others for the cooling medium must be insulated against the condensate formation. If the pipes are run close to the lateral condensate tray, they should be isolated above the lateral condensate tray by others on-site.
- When all connections have been completed, all screw connections should be tightened and checked that they are free of mechanical stress.
- To ensure cleaning or disassembly of the heat exchanger according to the hygiene guidelines appropriate measures shall be taken so that medium connections at the heat exchanger could be disconnected at any time.

Valve connection.
The units are supplied without valves, In the case of installation with valves by others, the installation of the water inlet and outlet depends on the location of the medium/water connection and/or the used valves. Below is a picture. Indicates the connection of a 2-way valve and 3-way valve to the units.



Water inlet/outlet pipe connection.
Please refer to below illustrative piping connection pic. for piping work. In the case of use of a 3-way valve to knowthe rightt connection between the water inlet/outlet pipe and 3-way valves.



NOTE!

- The water inlet is in a lower position while the water outlet is in a higher position, refer to the connection fittings indication stuck on the side of the unit.
- Flexible connection must be used and connected to water inlet/outlet fittings.
- Stop valves must be installed the in win-waterinlet/outlet pipeline.
- The air discharge valve must be installed in the highest position of the water system.
- The water discharge valve must be installed in the lowest position of the water system.

NOTE!

- During fitting, the connection nut on the heat exchanger should be countered using a suitable tool.
  - At the beginning of the fitting procedure, remove the caps of the water inlet and outlet pipes.
  - Fit the connections, ensuring they are free of mechanical stress.
- In the chilled water piping system, pipes and all valves must be fitted directly above the lateral condensate tray to drain the condensate that forms on the pipes during cooling operation into the condensate tray.
  - Note the specifications in section 2.5 to know the dimensions of fittings.
  - Run the pipe at a right angle to the side or to the rear.
  - Seal the connections.
  - Screw on the connections.

Condensate water pipe connection.
For the condensate to be drained off properly, the condensate drain by others must be connected to the lateral condensate tray.

- Run the condensate drain at an angle/slope.
- When connecting the condensate drain to the wastewater system, observe the wastewater regulations (stench trap).

NOTE!

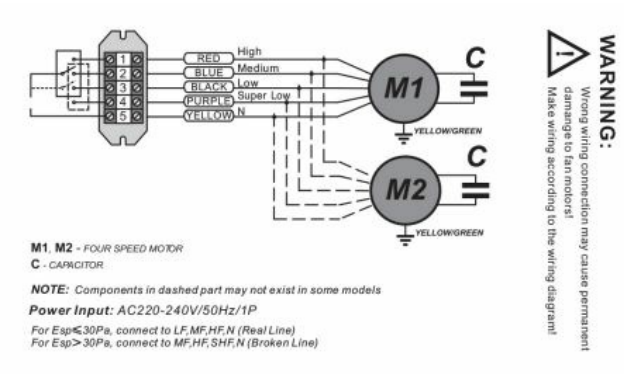
- Condensate drains must always be positioned at a sufficiently steep angle! (Recommend 1:100). When running pressureless pipes or draining outdoors, no stench trap is required.
- The onsite condensate drain line is to be connected to the connector of the condensate tray in a stress-free way.
- To avoid dew formation during cooling, chilled water pipe and condensate pipe must be thermally insulated with careful treatment at insulation ends.

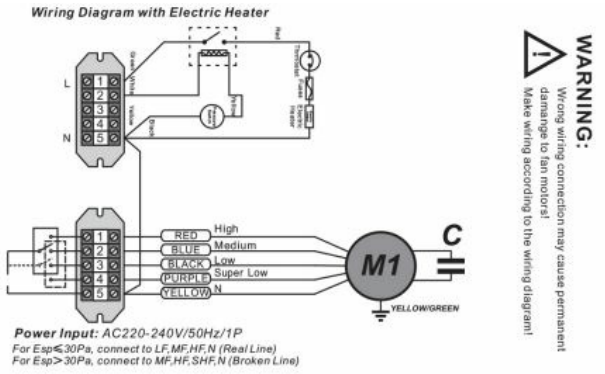
NOTE!
After the installation, the condensate tray must be cleaned to ensure efficient drainage.

Electrical connections

Before installing the fan coil, read carefully the warnings and safety rules.

- Electrical connections must be made only by qualified personnel and must accomplish the local electrical and safety code and ordinances.
- Use only copper conductors for wiring connections. The terminal blocks of the fan coil are designed to fit only copper wires. Wires made of different materials (i.e. aluminum) may overheat and so cause serious damage to the fan coil.
- A bipolar safety switch must be installed, to disconnect the appliance from the electric power supply; the switch must :
    - Be properly sized.
    - Be easily accessible and close to the appliance.
    - Have a minimum 3 mm distance between its contacts.
- All electrical connections are to be made by local electrical and safety codes and ordinances. The fan coil must be properly earthed; maa ke connection before any other electrical connection. For wiring and installation, refer to the wiring diagram of the fan coil, that is fitted on each unit and shown in this manual.
- Disconnect the electrical power source and secure it in a disconnected position before servicing the unit. Accessories that are not described in this manual require a separate power supply; all power supplies must be properly protected with switch and fuse.





Start-up

After the installation or after each maintenance, make the following checks before starting the fan coil.

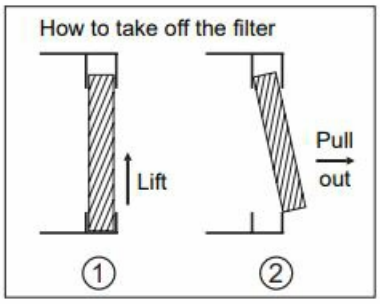
- The fan rotates freely.
- Condensate drain pan free of construction debris/other foreign material and properly positioned.
- Drain lines are clean and operating.
- Drain lines with proper slope, without counter slope and restrictions.
- Condensate drain water evacuates properly.
- Adequate cross-section of water pipes.
- Piping connections completed.
- Air vent completed.
- Water pressure inside operating limits.
- Adequate cross-section of electrical wires.
- Electrical connections were completed and tightened.
- Power supply voltage inside the operating limits.
- Duct connections completed (ducted units only)
- FFilter free ofconnection debris/other foreign materials and correctly installed.

- Air return flow is free of obstacles and obstructions.
- Air delivery flow I free of obstacles and obstructions.

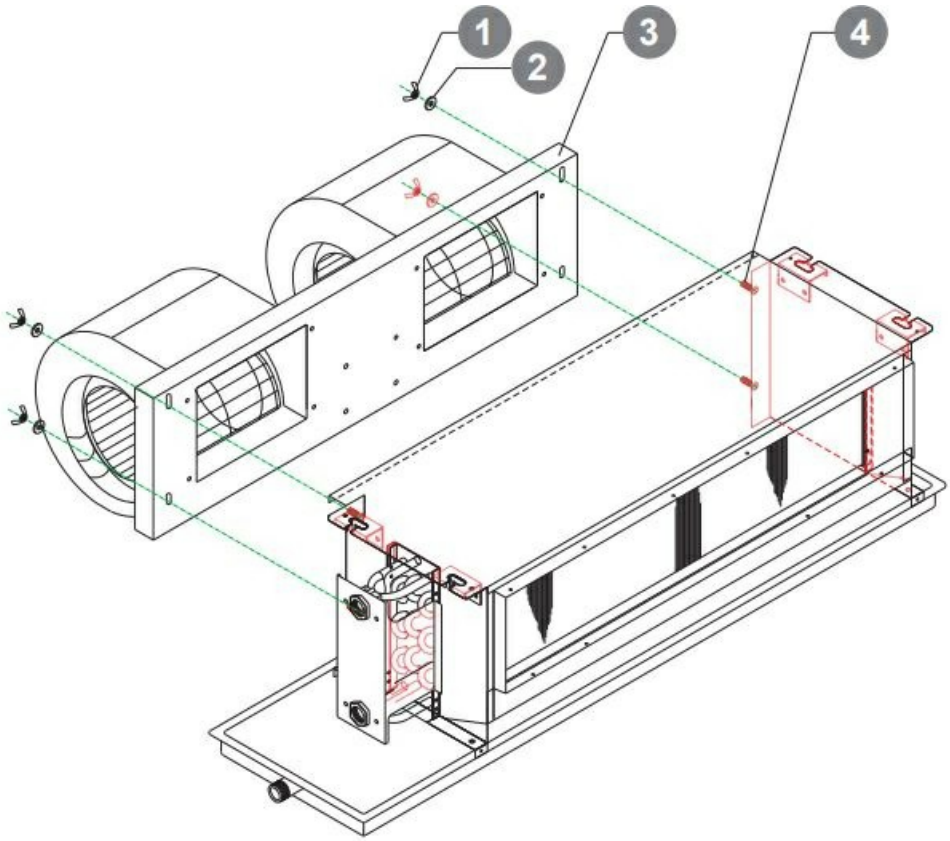
Cleaning and maintenance

DISCONNECT THE ELECTRICAL POWER SOURCE AND SECURE IT IN THE DISCONNECTED POSITION BEFORE SERVING THE UNIT.
BEFORE ANY CLEANING OR MAINTENANCE OPERATIONS, READ CAREFULLY THE WARNINGS AND SAFETY RULES.
The function of the air filter is to remove foreign matter such as dirt, soot, pollen, and other impurities from the air passing through the fan coil. These impurities may enter into the fan coil and reduce the efficiency of the unit. The filters should be cleaned or replaced under a certain environment. Between one replacement and the next one, the filter has to be kept clean.

- **To clean the filter, please operate as follows:**
  - Remove the filter from its operating position.
  - Clean the filter using a vacuum cleaner.
  - If the filter is too dirty and it's impossible to clean, it must be replaced with a new one.
  - After cleaning the filter, place the filter back in its operating position.



- The condensation drain pan must be checked before the beginning of the cooling season.
- Dirt and scale that are cumulated in the drain pan may impair the evacuation of condensate water, causing water to come out from the fan coil.
- **To clean the condensate drain pan, operate as follows:**
  - Remove the drain pan from its operating position.
  - Clean the drain pan with fresh water.
  - Wipe the drain pan carefully.
  - Place the drain pan back in its operating position.
- **At least once a year, the following operations must be carried out:**
  - Remove the dust and dirt from the inside of the scroll. Be sure the fan is properly fixed to the motor and is well-balanced.
  - Be sure the screws of the terminals are well-tightened.
- **How to take off the fan deck.**
  1. Take off the connector of the motor at the wiring box.
  2. Loosen the 4 butterfly screws shown in the picture to dismantle the fan deck.

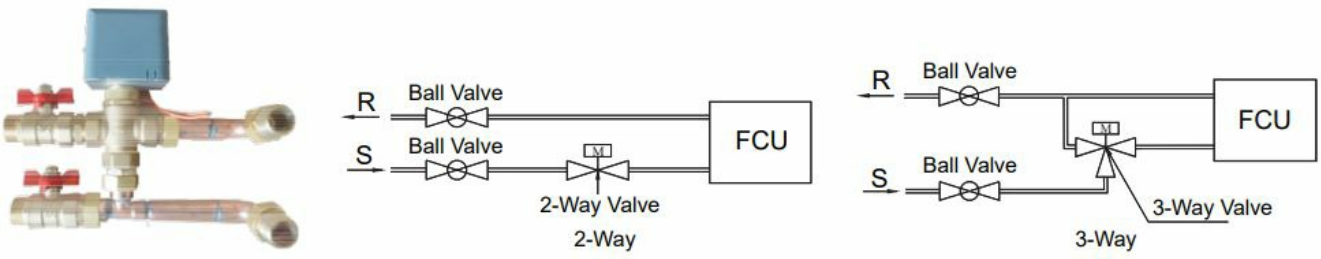


1. Butterfly Screw
2. Gasket
3. Fan Deck
4. Fan Deck Installation Screw

Accessories

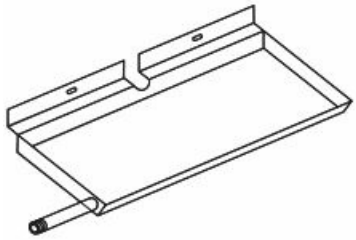
1. **Valve packages.**

   FacFacFactory-installed way 3-way valves for 2-pipe and 4-pipe systems The basic package includes a ball valve, motorized valve, and connector.



2. **Auxiliary drain pan.**

   Auxiliary is especially for condensate water from valve package; powder coating housing with insulation.



3. **Electric heater.**
    - Electric Heater made of PTC material. High safety (with the rising temperature, the current is decreasing)
    - Internal wiring rated at 105 ºC automatic rest.
    - Silent solid state relays.
    - Manual rest secondary limits are for option.

4. **Mechanical thermostat.**
    1. Cool and Heat mode.
    2. Three selectable fan speeds.
    3. Room temperature setting.
    4. Motorized valve control.

TC 200
2-pipes / 4-pipes

5. **Electronic LCD thermostat.**
    1. LC date anddispdisplaysm temperature.
    2. Cool, heat, and vent mode.
    3. Auto-random restart and parameters memory set in case of power failure.
    4. Weekly timer setting.
    5. Remote Control (Optional).

TC-08.2
2-pipes / 4-pipes

6. **Motorized valve.**
    1. Conform with the European pressure equipment directive PED 97/23/EC.
    2. Actuators conform to the protection requirements of the council directive.
    3. Forging brass body.
    4. Efficient power consumption and less noise. 2-way 3-way

7. **Spring hanger.**

   Use for hanger the FCU to the ceiling. Rubber and spring are posed together to absorb the vibration of the FCU. Reduce the noise effectively.

Troubleshooting

Deviations from normal operating states of the fan coil units are evidence of malfunctions that must be investigated by maintenance personnel.
The following table should serve as a starting point for maintenance personnel regarding possible causes of trouble and their correction.

Problem	Possible Cause	Solution	M
The fan does not work	The unit is not switched on	Switch on unit	
	No electrical voltage	Check the fuse/power supply.	*
	Electrical cables are not connected.	Connect electrical cables	*
	Unit fuses defective	Replace fuses	*
Unit too noisy	Too high RPM level switched on	Set a lower RPM level	
	Air intake or dischaarerisare eas blo.ed..	Clear discharge/air intake of obstructions or kinks	
	Noisy fan bearings	Replace the faulty fan.	*
	Filter is dirty	Clean / replace the filter	
The unit does not cool (heat) or cool (heat) insufficiently	The fan is not switched on	Switch on fan	
	The air volume flow of the unit is too low	Set a high RPM level	
	Air intake or discharge areas are blocked.	Unobstructed or clean airways	
	Fan blocked/faulty	Check the fan, and replace it if necessary.	*
	Filter is dirty	Clean / replace the filter	
	The water flow rate is too low.w	Check pump performance, Check pipe run balance, and adjust using calculated pressure loss.	*
	The cooling medium is not col.	Switch on the chilled water set, Switch on the circulating pump, and Bleed the system.	
	The heating medium is not hot.	Switch on the heating system boiler, Switch on the circulating pump, Bleed the system.	

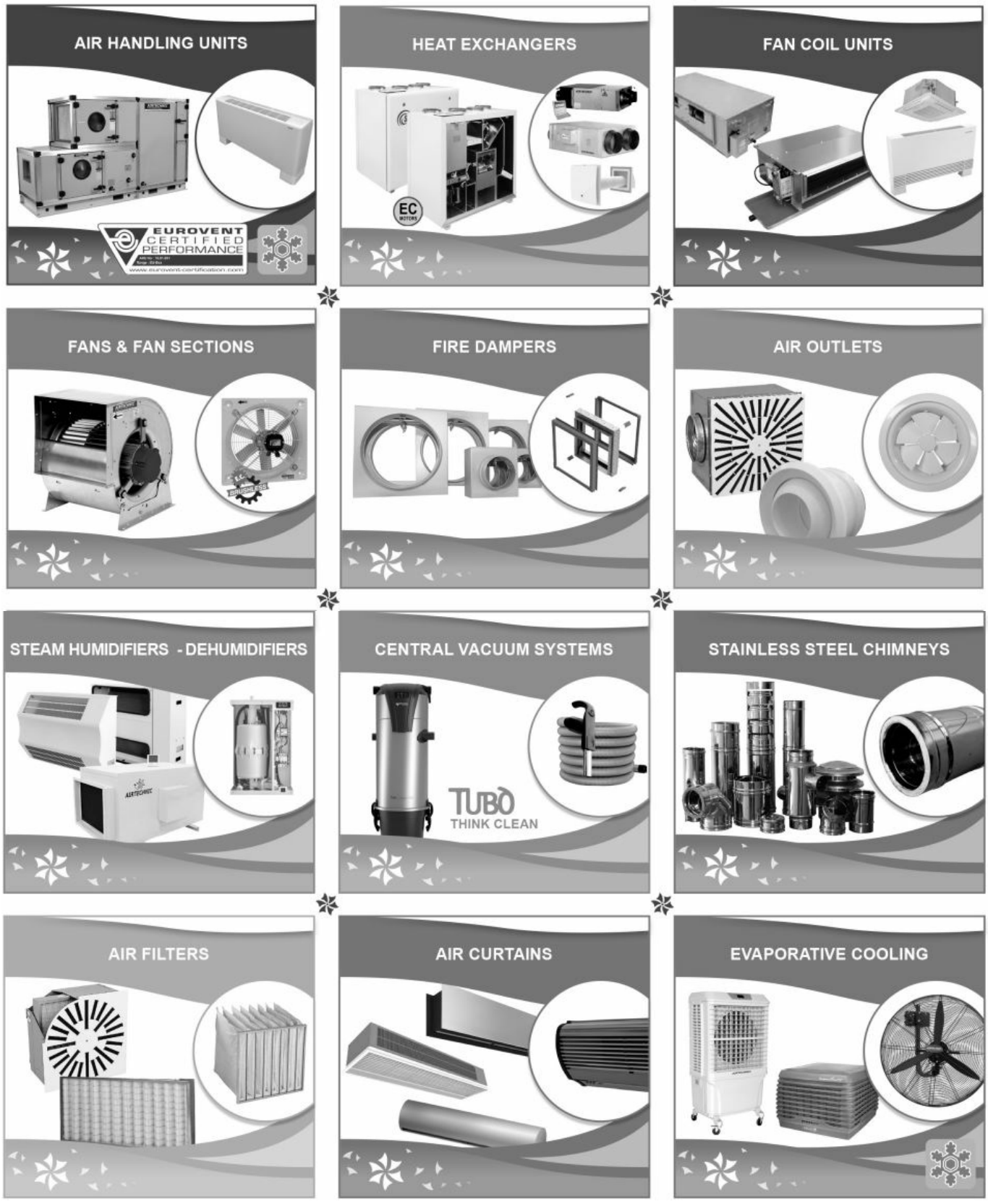
Water leakage in the unit area	The main condensate tray drain blocked	Clean the main condensate tray and the co ndensate drain	
	Side wall-mounted/ceiling-mou nted condensate tray drain bloc ked	Clean the condensate drain and check for s ufficient gradient, then clean and fill the siph on if necessary.	*
	Chilled wwaterreparedrcorrectlyly	late the chilled water pipes.	*
	Unit not positionedhorizontallyyl .	Align the unit and position it horizontally.	*
	Heat exchanger or hydraulic co nnections leaking	Check the heat exchanger, bleeding, and valve connections for leaks.	
		If necessary, retighten connections, clean t he crew insert, or reseal the connections.	
		On valves, check the screw connections for ease of movement, clean the ealsealinggrfa ce, and replace the seal if necessary.	*
		Check the soldered joints between the colle ctor and heat exchanger tubes and on the h eat exchanger deflection bends for leaks; if leaking, replace the heat exchanger..	*

Note: Items marked with * can only be performed by a technical person.

Waste disposal

Packaging, consumables, and replaced parts must be disposed of according to the local safety laws and environmental protection laws.

OTHER MANUALS



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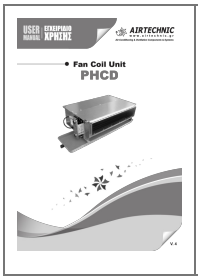
FAQ

- **Can the fan coil unit be installed outdoors?**
  No, the fan coil unit is designed for indoor use only. Installing it outdoors may lead to damage and improper operation.
- **Who should perform electrical connections on the unit?**
  Electrical connections should be made by a licensed electrician to ensure safety and compliance with regulations.
- **How often should cleaning and maintenance be performed?**
  Regular cleaning and maintenance should be performed as per the guidelines provided in the manual, typically at least once a year.

Documents / Resources

	AIRTECHNIC PHCD Fan Coil Unit [pdf] User Manual PHCD Fan Coil Unit, PHCD, Fan Coil Unit, Coil Unit

References

- User Manual