

# Airwell

*Just feel well*

## SERVICE MANUAL

High ESP Duct Typ Indoor Unit  
DVHA Range R410a  
English Manual

**DVHA-280/220N-01M22**



### **IMPORTANT NOTE:**

Read this manual carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.



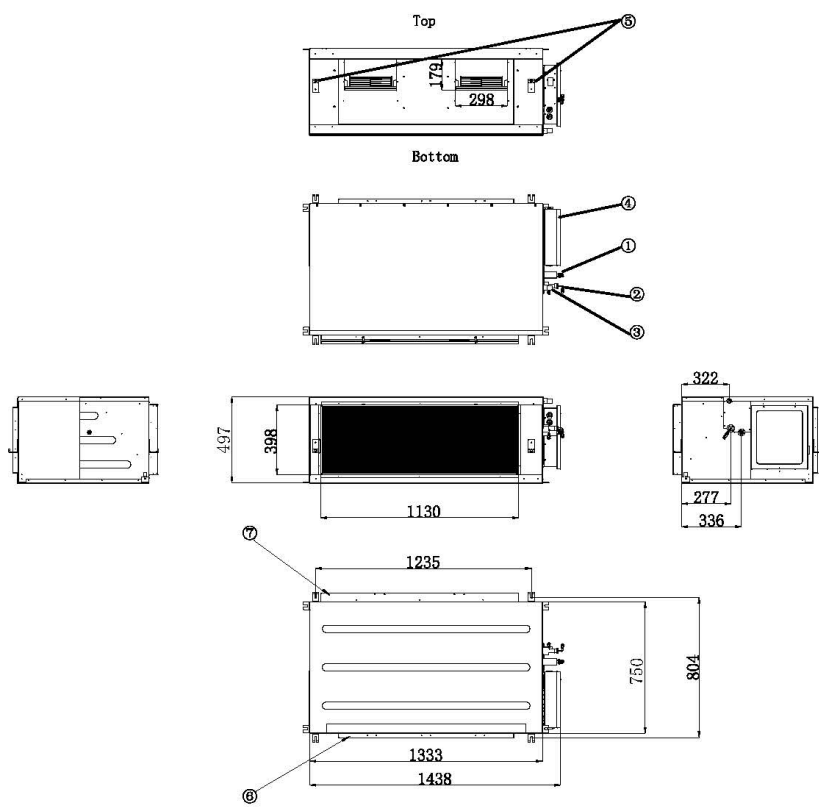
# 1. High ESP Duct Typ Indoor Unit (DVHA-280/220N-01M22)

## 1.1 Specification

Model		DVHA-220N-01M22	DVHA-280N-01M22
Power Supply		Ph/V/Hz	1/220~240/50/60
Cooling	Capacity	kBtu/h	77.1
	Capacity	kW	22.6
	Power Input	W	610
	Current	A	2.8
Heating	Capacity	kBtu/h	86
	Capacity	kW	25.2
	Power Input	W	610
	Current	A	2.8
	Heating Capacity at Low Temp.	kW	21.5
Operating Current		A	2.8
Max. Operating Current		A	3.4
Max. Operating Pressure		Mpa	4.15
INDOOR MOTOR	Brand		Shangqi
	Model		ZWF-980H
	Type		DC
	Insulation Class		B
	IP Class		IP20
	Power Input	W	1300
	Power Output	W	980
	Capacitor	μF	/
	Speed (S/H/M/L)	rpm	1146/1086/1026/1002
INDOOR FAN	Brand		Haier
	Type		Centrifugal
	Quantity		2
INDOOR COIL	a. Number of Rows		4
	b. Tube Pitch(a)x Row Pitch(b)	mm	21/18
	c. Fin Spacing	mm	1.4
	d. Fin Type (Code)		Hydrophilic Aluminum
	e. Tube Outside Dia. and Type	mm	Ø7 Inner Groove Tube
	f. Coil (L/H/W)	mm	1152/546/72.8
	g. Number of Circuit		13
Cabinet	Cabinet Coating Type		Galvanized
	Cabinet Salt Spray Test Duration	Hour	48
	Control Box IP Class		IP20
Construction	Sheet Metal Thickness		0.8
	Drain Pan Material		Hot Zinc Plate
	Drain Pan Insulationw		V0

Model		DVHA-220N-01M22	DVHA-280N-01M22
Indoor Wall	Material	Hot Zinc Plate	Hot Zinc Plate
	Thickness	mm	0.8
	Double or Single Skin	Single	Single
Air Filter	Material	PP	PP
	Mesh	30	30
	Pressure Drop	Pa	5
Piping Dimension	Gas Pipe	mm	Ø22.22
	Liquid Pipe	mm	Ø12.7
	Drain Hose	mm	Ø25
Air Return Dimensions	mm	1130/398	1130/398
Air Outlet Dimensions	mm	1005/374	1005/374
Sound Pressure Level (S/H/M/L)	dB(A)	53/50/48/46	54/51/49/47
Sound Power Level (S/H/M/L)	dB(A)	67/64/62/60	68/65/63/61
Standard Static Pressure	Pa	100	100
Max. Static Pressure	Pa	300	300
Indoor Air Flow (S/H/M/L)	m <sup>3</sup> /h	4000/3600/3200/2700	4500/4100/3700/3300
Dimension (W/D/H)	mm	1333/750/497	1333/750/497
Packing (W/D/H)	mm	1558/896/668	1558/896/668
Net Weight	kg	88	88
Gross Weight	kg	110	110
Condition: 1. Indoor temperature (cooling): 33DB (°C)/28WB (°C), outdoor temperature (cooling): 33DB (°C)/28WB (°C); 2. Indoor temperature (heating): 0DB (°C)/-2.9WB (°C), outdoor temperature (heating): 0DB (°C)/-2.9WB (°C); 3. Indoor temperature (cooling): 2DB (°C)/1WB (°C), outdoor temperature (cooling): 2DB (°C)/1WB (°C); 4. Sound pressure/power level, speed and indoor air flow are measured under standard static pressure.			

1.2 Dimension



No.	part name
1	liquid pipe
2	gas pipe
3	drain pipe
4	electrical box
5	angle iron for hanging
6	air outlet
7	air inlet

### 1.3 Wiring Diagram

【Electrical Wiring Diagram】

0150559885

Control Board Error Indicate	
Error Code	Failure code description
01	Ambient Sensor Ta
02	Pipe Sensor Tc1
03	Pipe Sensor Tc2
05	EEPROM Error
06	Comm. With Outdoor
07	Comm. With Controller
08	Float Switch
09	Repeated Address
12	Zero-crossing Error
14	DC Fan Error
20	Error From Outdoor

Fan drive module Error Indicate	
Error Code	Failure code description
01	Software over current
02	Hardware over current
03	Motor Locked Rotor
05	Lost steps
06	Upwind start protection
07	Hall fault
08	Hardware failure
09	DC bus under voltage
10	IPM over temperature
11	Abnormal communication with main board
12	DC bus overvoltage
14	Input over current

LED Definition (Control Board)	
LED1, 2	Wire Controller With Indoor Unit
LED3, 4	Indoor Unit & Outdoor Unit
LED5	Error Indicate
LED Definition (Fan drive module)	
LED1	Error Indicate

Switch Definition	
SW3_1	Address Setting
SW3_2 ~ SW3_8	Comm.add & Central Control Address

Switch Definition	
SW1_1 ~ SW1_4	Wired Indoor Address
SW1_5 ~ SW1_8	Indoor Unit Capacity

## 1.4 Electric Characteristics

Model	Units				Power Supply		Indoor Fan Motor		Power Input (W)	
	Phase	FQY	Voltage	Volt. Range	MCA	MFA	Output (W)	FLA	Cooling	Heating
DVHA-220N-01M22	1	50/60	220	198-242	5.63	17.8	980	4.5	610	610
DVHA-280N-01M22	1	50/60	220	198-242	5.63	17.8	980	4.5	680	680

Symbols:

MCA: Min. circuit amps (A)

MFA: Max. fuse amps of circuit breaker, Output: Fan motor rated output (w), FLA: Full load amps (A)

**Notes:**

1. Voltage range

The units are applicable for the electrical systems where voltage supplied to unit is in the range.

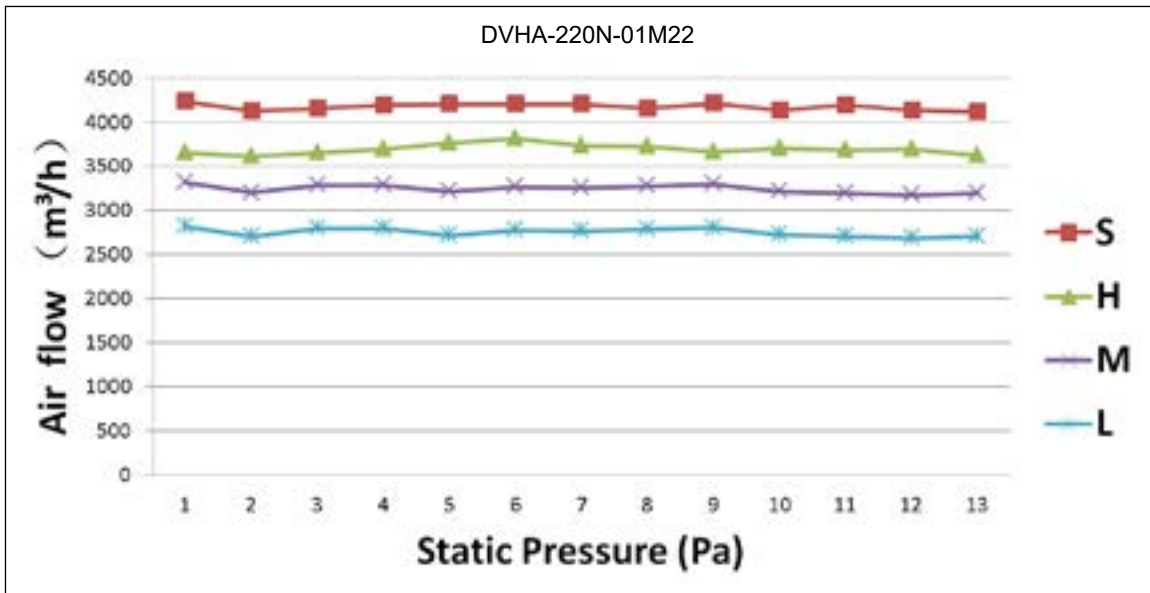
2. Maximum allowable voltage unbalance between phases is 2%.

3.  $MCA=1.25*FLA$  ,  $MFA\leq 4*FLA$ .

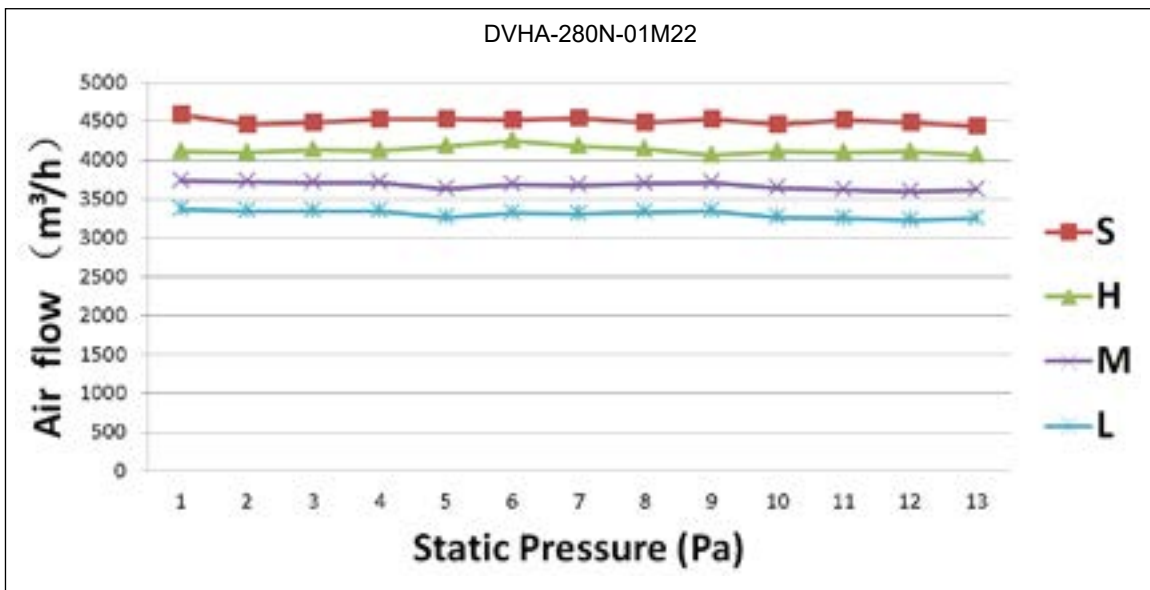
4. Power supply uses the circuit breaker.

### 1.5 Air Flow and Static Pressure

	0	40	70	100	120	150	170	190	210	230	250	270	300
S	4239	4126	4156	4201	4209	4211	4204	4162	4217	4135	4201	4139	4117
H	3657	3616	3658	3698	3765	3819	3739	3726	3668	3707	3686	3698	3625
M	3312	3200.6	3288	3290	3212	3267.2	3256	3279	3292.7	3217	3197	3179	3198
L	2819	2707.6	2795	2797	2719	2774.2	2763	2786	2799.7	2724	2704	2686	2705

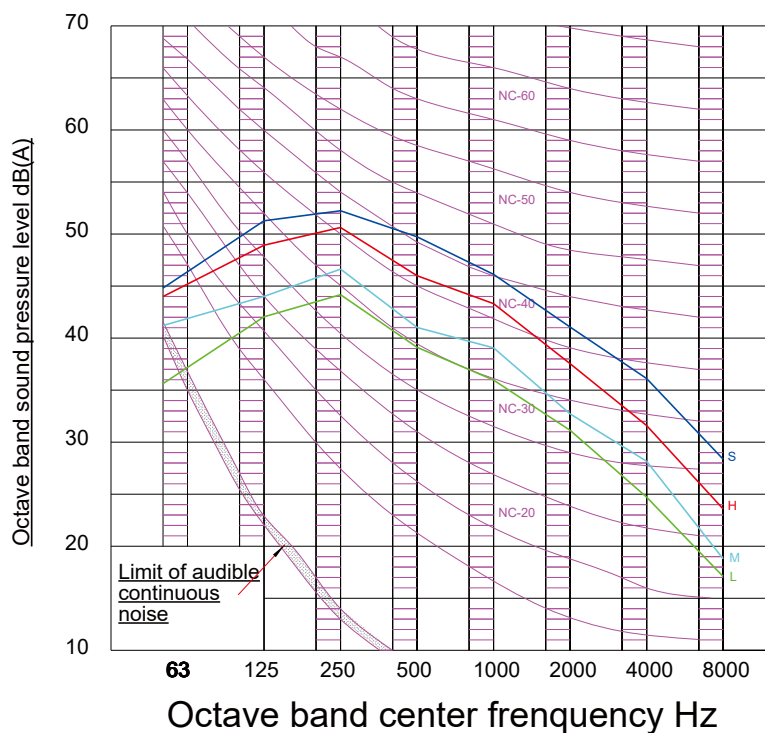


	0	40	70	100	120	150	170	190	210	230	250	270	300
S	4579	4452.9	4477	4526	4523	4518.5	4538	4479	4527.9	4461	4512	4476	4431
H	4113	4104.9	4136	4127	4178	4244.9	4179	4151	4065.8	4113	4098	4117	4064
M	3732	3717.6	3708	3710	3632	3687.2	3676	3699	3712.7	3637	3617	3599	3618
L	3359	3344.6	3335	3337	3259	3314.2	3303	3326	3339.7	3264	3244	3226	3245

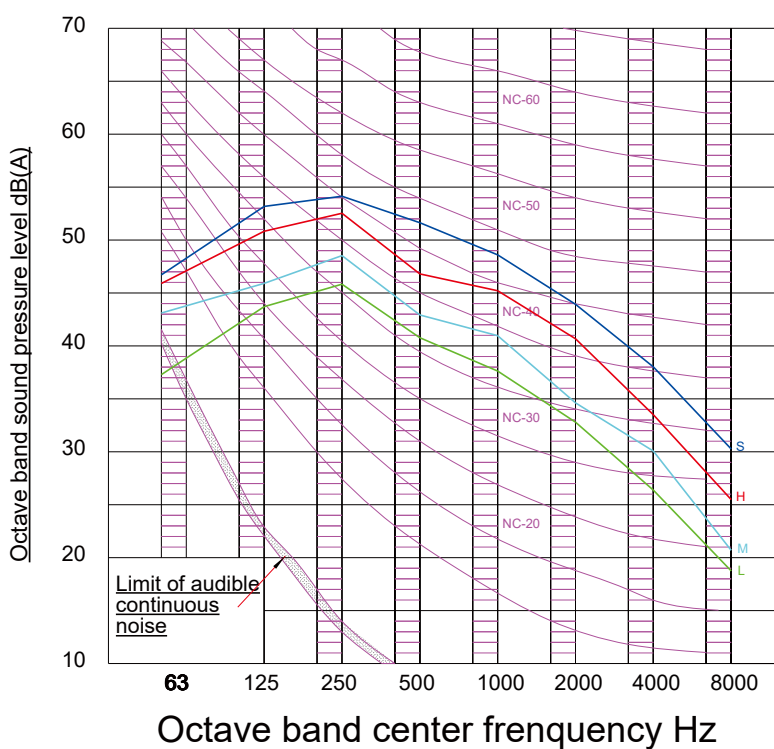


1.6 Sound Pressure

DVHA-220N-01M22



DVHA-280N-01M22

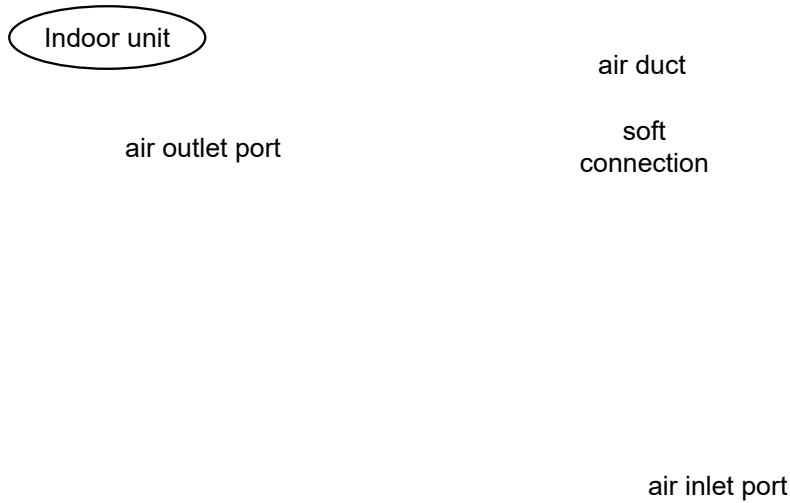




## 1.7 Installation

### Parts and Functions

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### Installation Procedures

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The standard attached accessories of the units of this series refer to the packing; prepare other accessories according to the requirements of the local installation point of our company.

1. Before installation [before finishing the installation, don't throw away the attached parts required for the installation].

Determine the route to move the unit to the installation site;

Don't tear the package open before moving the unit to the installation site. When unpacking is needed, a soft material or protector block with ropes can be used to lift the unit to avoid damaging or scraping of the unit.

2. Select the installation site

(1) The installation site should be selected according to the following conditions, which should be approved by users.

- where an ideal air distribution can be ensured;
- where there is no blockage in the air passage;
- where the condensed water can be drained out properly;
- where the strength can bear the weight of the indoor unit;
- where enough space can be ensured for maintenance. The outside air should be input from the outdoor directly from the blast pipe. If the blast pipe can't be jointed, the air can't be input from the suspended ceiling.

where the lengths of the piping between indoor units and outdoor units are within the allowable range (refer to Installation of Outdoor Units).

where the distance of at least 1 m between indoor units, outdoor units, mains supply, connecting wires and television or radio should be kept as to avoid the image disturbance and noises of the above electrical appliances. (Even if 1 m can be ensured, noise might occur if there is strong electric wave.) Additionally, equipments, television or other valuables can't be put under the unit as to avoid the condensed water of the unit from dropping into the above articles, causing damaging.

(2) Height of Ceiling:

The ceiling should be located at the place, where the central position of air outlet port is less than 3m high above the ground.

(3) Hoisting studs should be used during installation.

Check if the location can bear the weight of the unit.

Reinforce it before installation if necessary.

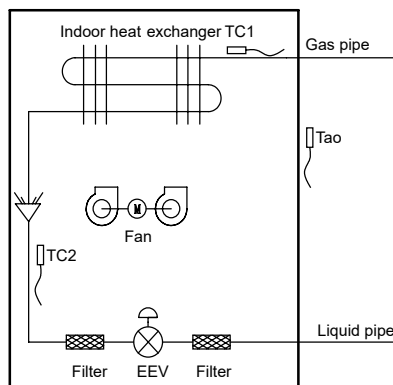
(4) The dimension of maintenance

Make sure that it is easy to demount the electrical control box, fan, motor, filter.

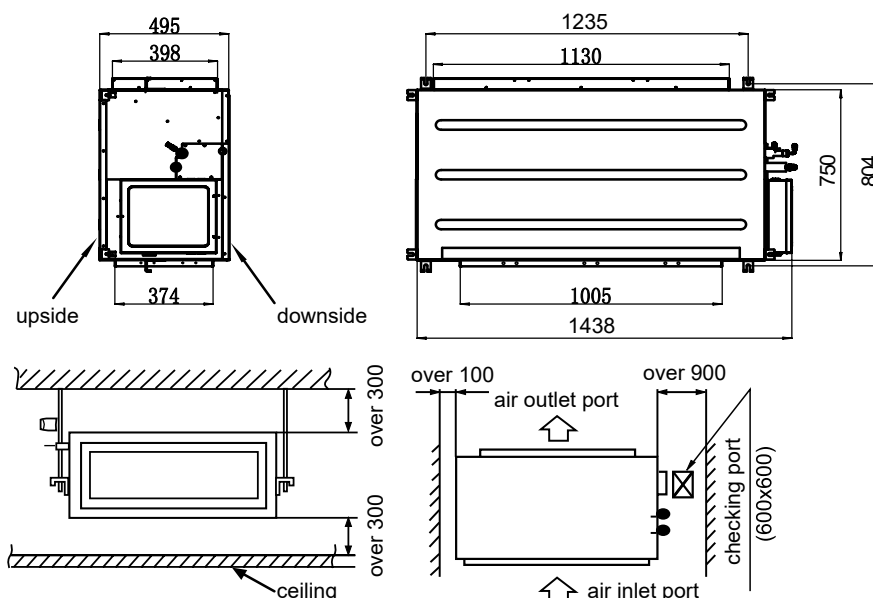
## Installation Procedures

### 3. Preparation before Installation

(1) Please refer to the cooling system diagram of the unit before installation, and connect the pipes according to the diagram.



(2) Location relation between inspection hole on the ceiling and the unit and the hoisting studs (unit: mm).

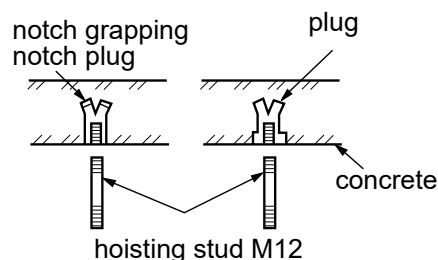


(3) If necessary, make a hole for installation and inspection on the ceiling, (used for the situation with a ceiling)

- For the size of the inspection hole on the ceiling, please refer to the above drawing.
- Before installation, finish all the preparations for all piping connected to indoor units (refrigerant, water drainage) and wiring (connection line of the line control, connection line between indoor units and outdoor unit) so that they can be connected with indoor units right after installation.
- For the inspection hole, the ceiling might be reinforced to keep the evenness of the ceiling and avoid the vibration of the ceiling. For details, please consult the construction contractor.

(4) Install the hoisting studs (M12 bolts)

In order to support the weight of the unit, use barb bolts in the situation with a ceiling. In the situation with the new ceiling, use inlaid bolts, embedded bolts or other parts provided on site. Before proceeding the installation, adjust the gap between the bolt and the ceiling.



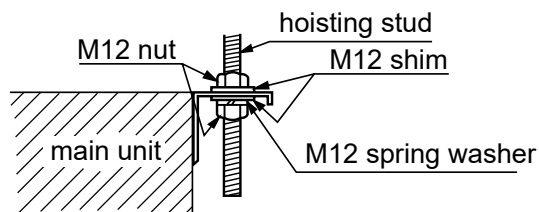
## Installation Procedures

### (5) Installation of Indoor Units

- Fix the indoor unit with the hoisting stud. If necessary, the machine can be hanged on the beam with bolts instead of the hoisting stud.

NB:

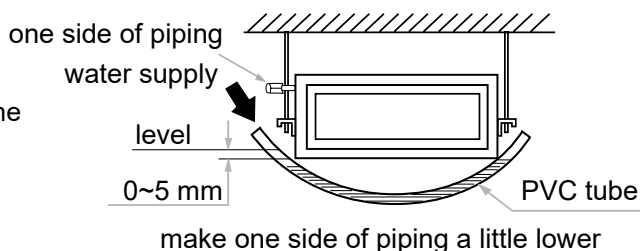
When the sizes of the main unit don't match the hole on the ceiling, regulate the slot on the hanging bracket.



### Adjusting the level

(a) Adjust the level with a level meter or according to the following ways:

- Make the adjustment as shown in the figure.



Choice of Blowing Wind from Blower (when using the high performance filter)

The blower can select the maximum static pressure and standard static pressure air volume through the controller, which is set to the standard static pressure before delivery. When the static pressure rises with the optional device is used, such as high performance filters, the static pressure selection is performed as follows:

Remote controller setting mode: remote control selects static pressure. In high wind mode, press the health button 12 times within 5 seconds, the buzzer will reverberate 4 times, set the maximum static pressure successfully. Press the health button 12 times within 5 seconds, the buzzer will sound 2 times, the maximum static pressure function will be canceled, and the default setting will be restored.

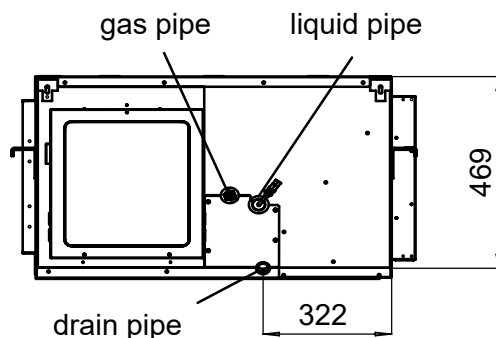
RWV05 Wired Controller setting mode: keep pressing the key Set and the key ▲ minus 5 seconds to enter the advanced setting, press the key Fan to switch to the function category b (temperature zone display), at this time function category code flashes (clock zone display), press the key ▲ or ▼ to switch the value to 11, then press the key Set, the existing static pressure display is performed in the time zone, and the specific information flashes. When it is flashing, press the key ▲ or ▼ to change it. After the change is completed, press the key Set to confirm. 01 means the default standard static pressure, 02 means the maximum static pressure.

Static Pressure Range

unit: Pa

Model	Standard Static Pressure	Max. Static Pressure
DVHA-220N-01M22	100	300
DVHA-280N-01M22	100	300

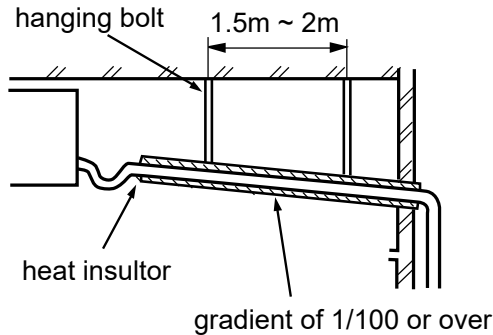
## 4. Drainpipes



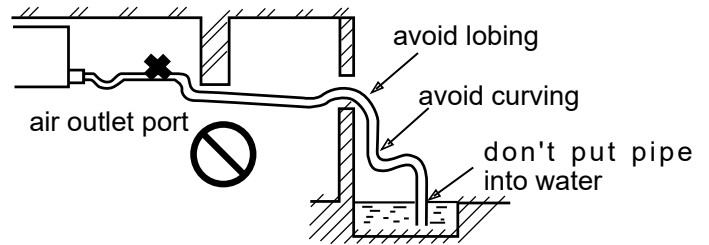
## Installation Procedures

(a) Keep a gradient (1/50-1/100) of the drainpipes and avoid lobing or curving.

- Proper Piping

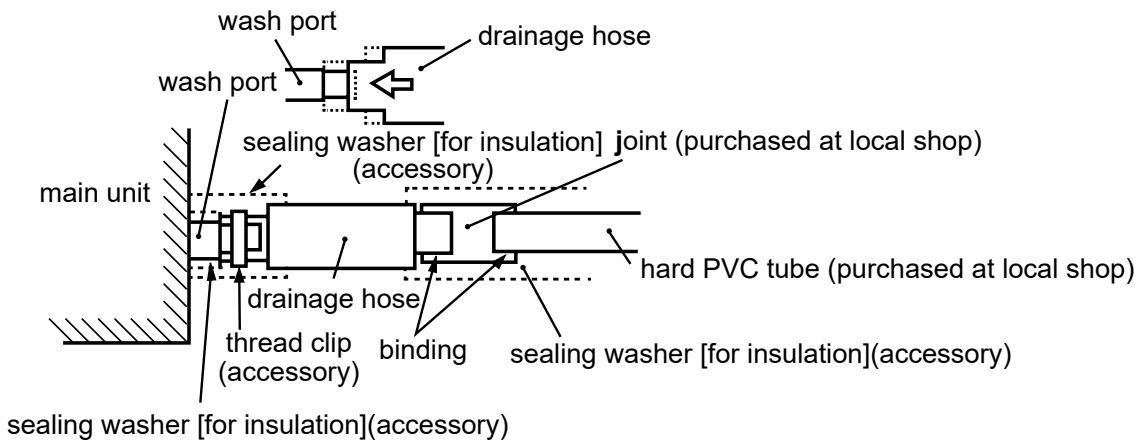


- Improper Piping

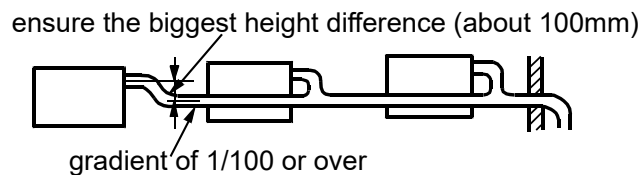


(b) When connecting the drainpipe to the equipment, don't apply too much force on one side of the equipment. Meanwhile, the piping should be positioned as close to the equipment as possible.

(c) For the drainpipe, the general purpose hard PVC tube can be purchased at local shops. During the connection, insert the end of PVC tube into the wash port and fasten it with drainage hose and thread clip. Binding agents shouldn't be used to connect the wash port and drainage hose.



(d) When the laid drain piping is used for multiple equipments, the public piping should be lower about 100mm than the wash ports of equipments, as shown in the figure. Thicker pipes should be used for this application.



(e) The hard PVC tube in the room must be provided with the heat insulating layer.

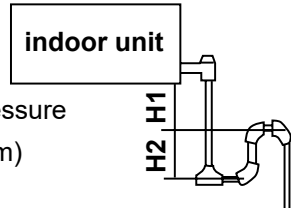
(f) Don't place the drainpipes at the places where there is irritant gas. Don't put the drainpipe directly into the sewer, where there might be gases with sulfur.

## Installation Procedures

### (g) Backwater bend

Because the drainage was laid in the position of being Subatmospheric pressure easily, gain of elevation of water in the drain pan conducesd Leakage water, for avoiding Leakage water, design a Backwater bend. Configuration of Backwater bend can be cleaned, a " T" joint can be used in installing as shown as in the picture below.

Backwater bend was installed in the neighborhood of airconditioning  
A backwater bend was designed in the middle of drain pipe s shown as in the picture.



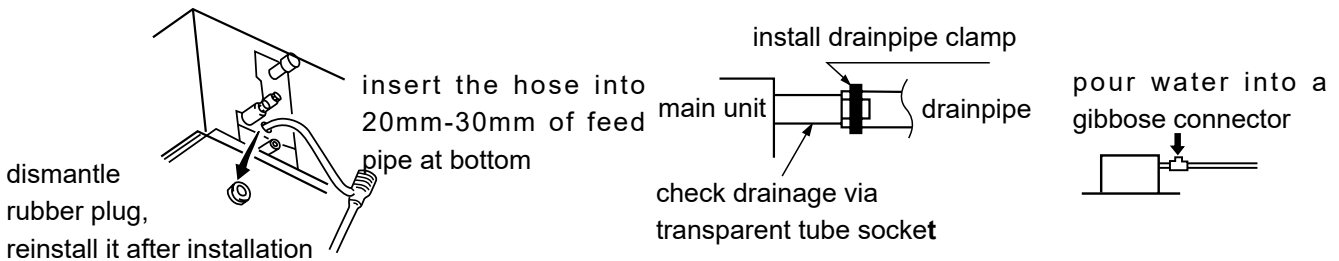
### Testing Drainage System

$H1=100\text{mm}$  or blower static pressure  
 $H2=\frac{1}{2}H1$ (or between 50~100mm)

- (a) After finishing the electrical system, test the drainage system.
- (b) During testing, make sure that the water flow passes the piping correctly without any water leakage at the connection.
- (c) In the condition of new house, test the drainage system before fitting up the ceiling.
- (d) Even if it is installed in the season needed to heating, the testing should also be performed.

### Procedures

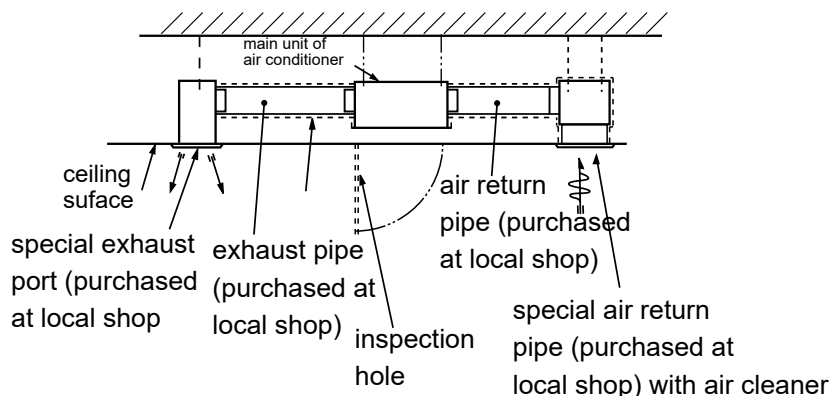
- (a) Provide about 1000cc of water to the equipment via air outlet port with the feed pump.
- (b) During refrigerating operation, check the drainage system.



Before completing the electrical connection, a gibbose connector shall be installed on the drainpipe as to provide it with a water inlet port. Then, if any leakage exists in the piping, check it to make the water flow of the drainpipe smooth.

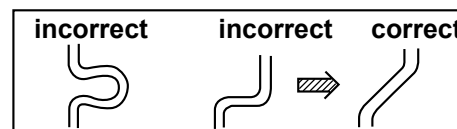
### 5. Installation of Air Return & Air Exhaust Pipes

For the choice and installation of air return port, air return pipe, air exhaust port and exhaust pipe, please consult service personnel of Haier company. Calculate the design chart and exterior static pressure, and select the exhaust pipe with appropriate length and shapes.



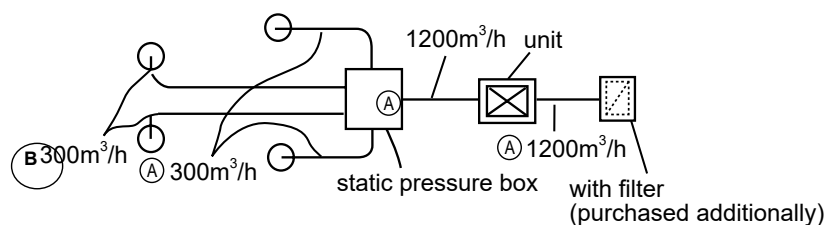
## Installation Procedures

- The length difference between pipes should be limited to be less than 2:1;
- Make the piping as short as possible;
- Keep the min. elbow quantity;
- Wind the heat insulating material around the flange between the main unit and the exhaust pipe for heat insulation and sealing. Install the piping before fitting up the ceiling.



### 6. Account of simple rectangle duct

Assume the friction resistance per unit is 1 Pa/m, when the size of one side of air pipe is 250mm, like below figure:



	Flux	Gas Pipe (mmxmm)
<b>A</b>	1200m <sup>3</sup> /h (20m <sup>3</sup> /min)	250x310
<b>B</b>	300m <sup>3</sup> /h (5m <sup>3</sup> /min)	250x120

- simple duct selection Note: 1 Pa/m

Flux m <sup>3</sup> /h(m <sup>3</sup> /min)	Shape	Square Pipe
	Item	Size (mmxmm)
100		250 x 60
200		250 x 90
300		250 x 120
400		250 x 140
500		250 x 170
600(10)		250 x 190
800		250 x 230
1,000		250 x 270
1,200(20)		250 x 310
1,400		250 x 350
1,600		250 x 390
1,800(30)		250 x 430
2000		250 x 470
2400		250 x 560
3,000(50)		250 x 650
3,500		250 x 740
4,000		250 x 830
4,500		250 x 920
5,000		250 x 1000
5,500		250 x 1090
6,000(100)		250 x 1180

- Account of resistance in duct:

Straight Pipe	Account as 1Pa Per Meter, 1Pa/m
Bended Section	Each Bend Regarded as 3-4m of Straight Pipe
Air Outlet Section	Account as 25Pa
Static Pressure Box	50Pa Per Static Pressure Box
Inlet Grille (With Filter)	40Pa for Each One

## Installation Procedures

### 7. Cautions in Installation of Air Return Pipe & Exhaust Pipe

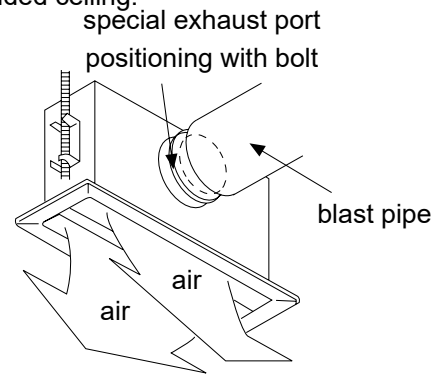
It is recommended to use the blast pipes, which can be anti-condensation and absorb sound, (purchased at local shops)

Complete the installation of the blast pipes before fitting up the suspended ceiling.

Heat insulation should be made for the blast pipes.

The special exhaust port should be arranged at the place where the air is distributed evenly.

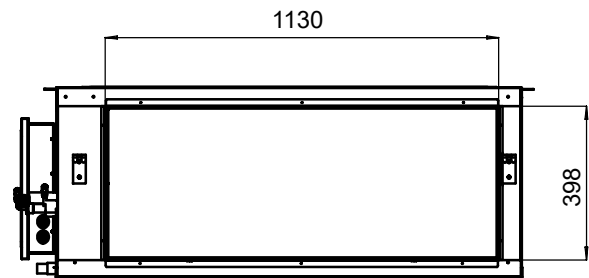
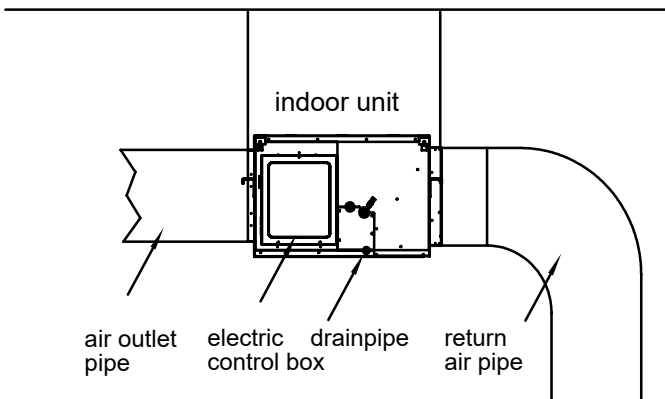
An inspection hole should be left on the surface of the ceiling for future maintenance.



### 8. Connection of return air duct (setting back air return opening when leaving factory)

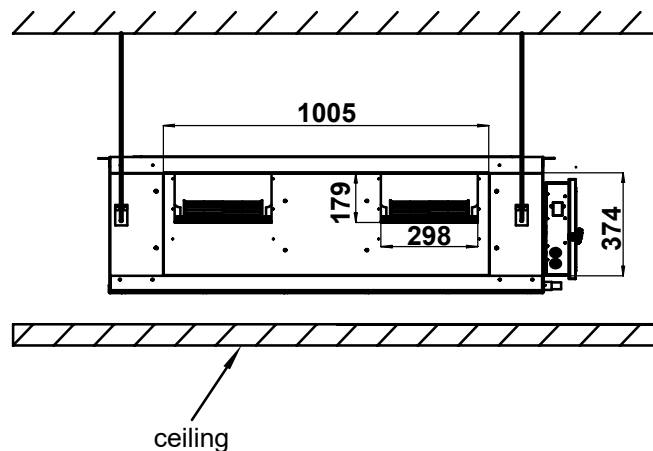
Remarks:

In installation, you can select the lower air return or back air return by adjusting the location of air inlet frame. Air return from bottom will influence the unit noise, so we suggest use rear return installation.



### 9. Install outlet flange

Install outlet flange basising the needs, the outlet flange is standard component, bolts are laied in accessories box.



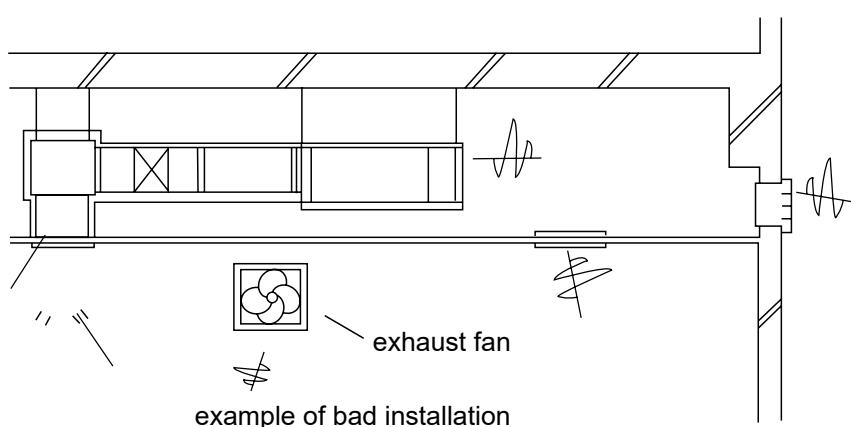
**Note:** You can select not to connect with the flange. Instead of it, you can use the round plastic air outlet (purchased by user)

## Installation Procedures

### 10. Examples for Bad Installation

- The unit is not equipped with the air return pipe and the inner side of the suspending ceiling is used as the blast pipe, causing the humidity increasing due to irregular air mass, strong wind or sunlight from the outside world.
- There might be condensate dropping down at the outer side of the blast pipe. The humidity is high, even if the inner side of the suspended ceiling isn't used as a blast pipe in new concrete buildings. At this time, the whole body should use the thermo wool for heat preservation (the thermo wool can be packed with a steel wire).
- It is operated under the conditions beyond the limits, leading to the overload of the compressor.

Affected by the capacity of the exhaust fan, and the strong wind and wind direction in the outer flue, when the blowing quantity of the air conditioner exceeds the limits, the drained water of the heat exchanger will overflow, causing water leakage.



### 11. Refrigerant Tube

#### Tubing Permissible Length & Height Difference

Please refer to the attached manual of outdoor units.  
Piping Materials & Heat Insulating Materials.

As to prevent condensation, heat insulating treatment should be performed. The heat insulating treatment for gas and liquid piping should be done respectively.

#### Piping Dimension & Specifications

Model		DVHA-220N-01M22	DVHA-280N-01M22
Piping Dimension (mm)	Gas Pipe	Ø22.22	Ø22.22
	Liquid Pipe	Ø12.7	Ø12.7
	Drain Hose	Ø25	Ø25

#### Refrigerant Filling Amount

Add the refrigerant according to the installation instruction of outdoor unit. The addition of R410A refrigerant must be performed with a measure gage to ensure the specified amount or compressor failure can be caused by filling too much or little refrigerant.

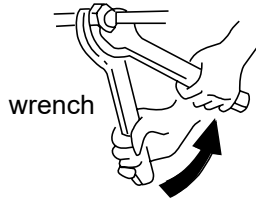


## Installation Procedures

### Connecting Procedures of Refrigerant Tubing

Proceed the flare tube connecting operation to connect all the refrigerant tubes.

- Dual wrenches must be used in the connection of indoor unit tubing.
- Mounting torque refers to the right table



Outer Diameter of Tubing (mm)	Mounting Torque
Ø6.35	11.8~13.7N.m
Ø9.52	32.7~39.9N.m
Ø12.7	49.0~53.9N.m
Ø15.88	78.4~98.0N.m
Ø19.05	97.2~118.6N.m

#### Cutting and Enlarging

Cutting or enlarging pipes should be proceeded by installation personnel according to the operating criterion if the tube is too long or flare opening is broken.

#### Vacuumizing

Vacuumize from the stop valve of outdoor units with vacuum pump. Refrigerant sealed in indoor machine is not allowed to use for vacuumization.

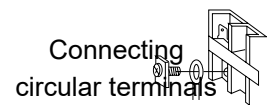
#### Open All Valves

Open all the valves of outdoor units. [NB: oil balancing stop valve must be shut up completely when connected one main unit.]

#### Checkup for Air Leakage

Check if there is any leakage at the connecting part and bonnet with hydrophone or soapsuds.

#### Connecting



##### 1. Connecting circular terminals:

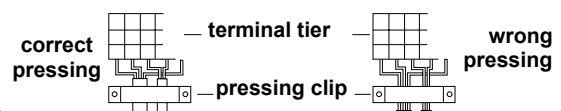
The connecting method of circular terminal is shown in the Fig. Take off the screw, connect it to the terminal tier after heading it through the ring at the end of the lead and then tighten it.

##### 2. Connecting straight terminals:

The connection methods for the circular terminals are shown as follows: loosen the screw before putting the line terminal into the terminal tier, tighten the screw and confirm it has been clamped by pulling the line gently.




##### 3. Pressing connecting line

After connecting line is completed, press the connecting line with clips which should press on the protective sleeve of the connecting line.




## Electrical Wiring

### Warning

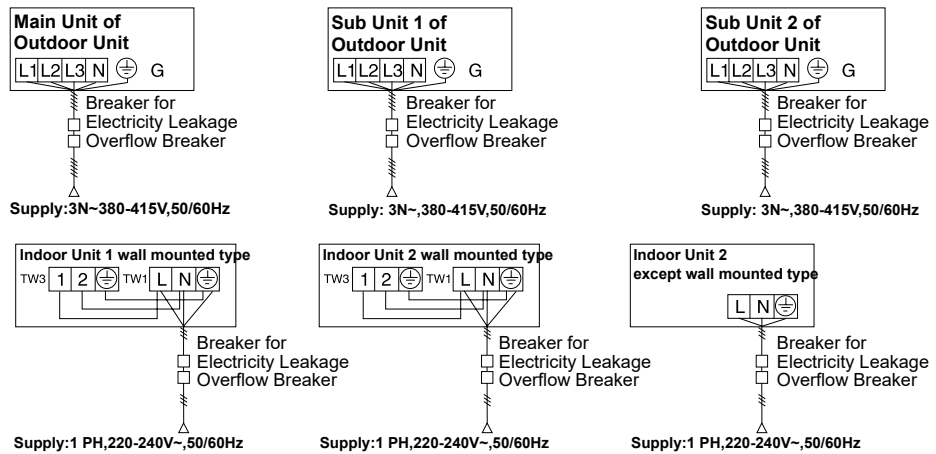
- Electrical construction should be made with specific mains circuit by the qualified personnel according to the installation instruction. Electric shock and fire may be caused if the capacity of power supply is not sufficient. 
- During arranging the wiring layout, specified cables should be used as the mains line, which accords with the local regulations on wiring. Connecting and fastening should be performed reliably to avoid the external force of cables from transmitting to the terminals. Improper connection or fastness may lead to burning or fire accidents. 
- There must be the ground connection according to the criterion. Unreliable grounding may cause electrical shocks. Do not connect the grounding line to the gas pipe, water pipe, lightening rod and telephone line. 

### Attention

- Only copper wire can be used. Breaker for electric leakage should be provided, or electric shock may occur. The wiring of the mains line is of Y type. The power plug L should be connected to the live wire and plug N connected to null wire while  $\oplus$  should be connected to the ground wire. For the type with auxiliary electrically heating function, the live wire and the null wire should not be misconnected, or the surface of electrical heating body will be electrified. If the power line is damaged, replace it by the professional personnel of the manufacturer or service center.
- The power line of indoor units should be arranged according to the installation instruction of indoor units.
- The electrical wiring should be out of contact with the high-temperature sections of tubing as to avoid melting the insulating layer of cables, which may cause accidents.
- After connected to the terminal tier, the tubing should be curved into be a U-type elbow and fastened with the pressing clip.
- Controller wiring and refrigerant tubing can be arranged and fixed together. 
- The machine can't be powered on before electrical operation. Maintenance should be done while the power is shut down.
- Seal the thread hole with heat insulating materials to avoid condensation.
- Signal line and power line are separately independent, which can't share one line. [Note: the power line, signal line are provided by users. Parameters for power lines are shown as below:  $3 \times (1.0-1.5) \text{ mm}^2$ ; parameters for signal line:  $2 \times (0.75-1.25) \text{ mm}^2$  ( shielded line)]
- 5 butt lines (1.5mm) are equipped in the machine before delivery, which are used in connection between the valve box and the electrical system of the machine. The detailed connection is displayed in the circuit diagram.

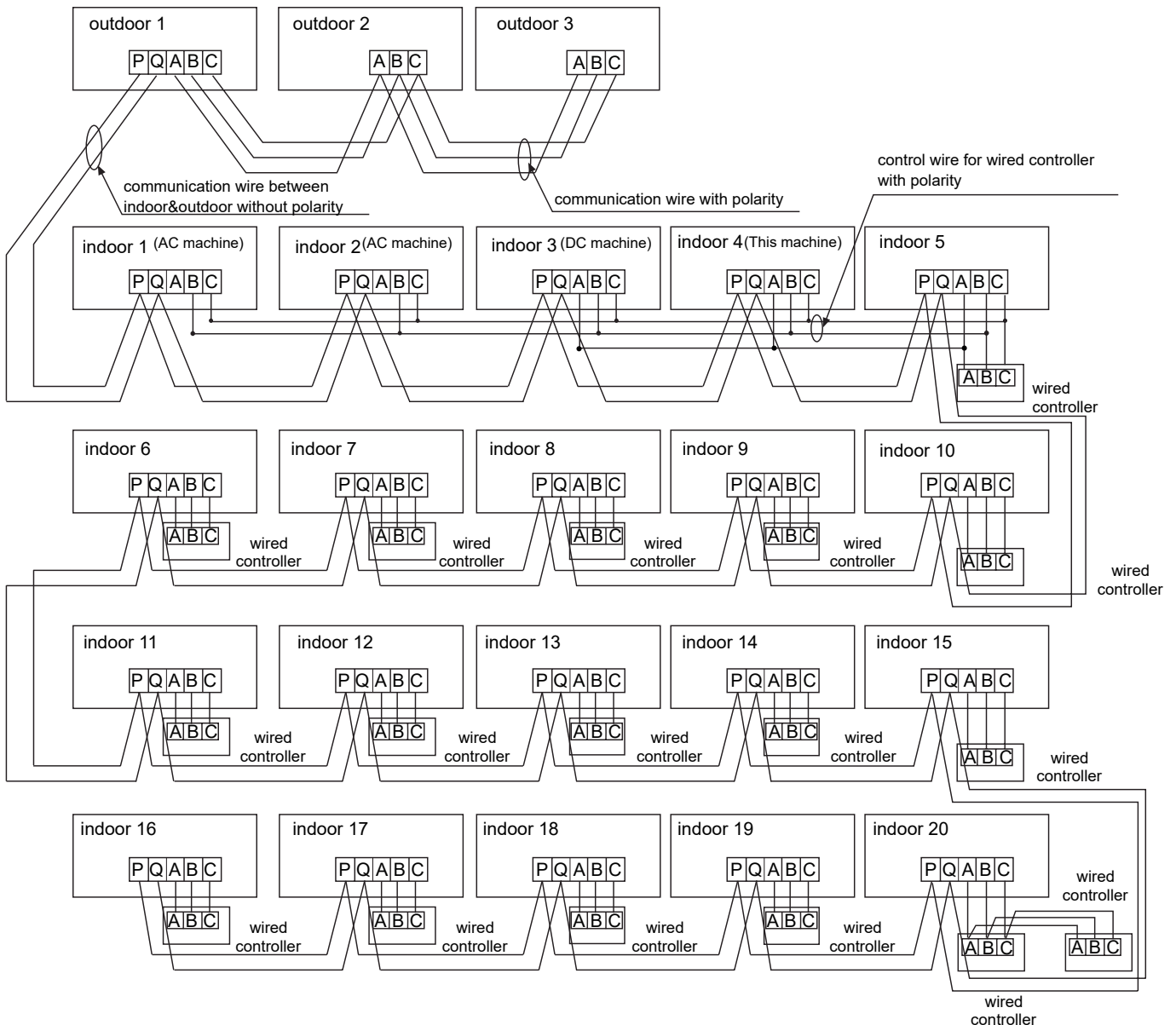
## Electrical Wiring

### Supply Wiring Drawing



- Indoor units and outdoor units should be connected to the power source separately. Indoor units must share one single electrical source, but its capacity and specifications should be calculated. Indoor & outdoor units should be equipped with the power leakage breaker and the overflow breaker.

### Signal Wiring Drawing



## Electrical Wiring

Outdoor units are of parallel connection via three lines with polarity. The main unit, central control and all indoor units are of parallel connection via two lines without polarity.

There are three connecting ways between line control and indoor units:

A. One wired controller controls multiple units, i.e. 2-16 indoor units, as shown in the above figure, (1-5 indoor units). The indoor unit 5 is the line-controlled main unit and others are the ine-controlled sub units. The remoter control and the main unit (directly connected to the indoor unit of wired controller) are connected via three lines with polarity. Other indoor units and the main unit are connected via two lines or three lines with polarity (If the PCB of indoor is DC, the wired controller needs to be connected to ABC, while the PCB of indoor is AC, the wired controller only connects to BC.). SW01 on the main unit of line control is set to 0 while SW01 on other sub units of line control are set to 1, 2, 3 and so on in turn.

B. One wired controller controls one indoor unit, as shown in the above figure (indoor unit 6-19). The indoor unit and the wired controller are connected via three lines with polarity.

C. Two wired controllers control one indoor unit, as shown in the figure (indoor unit 20). Either of the wired controllers can be set to be the master wired controller while the other is set to be the auxiliary wired controller.

The master wired controller and indoor units, and the master and auxiliary wired controllers are connected via three lines with polarity.

When the indoor units are controlled by the remote control, switch over the modes by Switching Mode of Line-Controlled Main Unit/ Line-Controlled Sub Units/ Remote-Controlled Types. The signal terminals needn't to be equipped with wires and connected to the line control.

Indoor power supply wiring & signal wiring between indoor and outdoor & signal wiring between indoors.

Total Current of Indoor Units(A)	Items	Cross Section (mm <sup>2</sup> )	Length (m)	Rated Current of Overflow Breaker (A)	Rated Current of Residual Circuit Breaker (A) Ground Fault Interruptor (mA) Response Time (S)	Cross Sectional Area of Signal Line	
						Outdoor-Indoor (mm <sup>2</sup> )	Indoor-Indoor (mm <sup>2</sup> )
<6		2.5	20	10	10 A,30 mA,0.1S or below	2 coresx0.75-2.0 mm <sup>2</sup> Shielded Lin	
≥6 and <10		4	20	16	16 A,30 mA,0.1S or below		
≥10 and <16		6	25	20	20 A,30 mA,0.1S or below		
≥16 and <25		8	30	32	32 A,30 mA,0.1S or below		
≥25 and <32		10	40	32	32 A,30 mA, 0.1S or below		

- The electrical power line and signal lines must be fastened tightly.
- Every indoor unit must have the ground connection.
- The power line should be enlarged if it exceeds the permissible length.
- Shielded lays of all the indoor and outdoor units should be connected together, with the shielded lay at the side of signal lines of outdoor units grounded at one point.
- It is not permissible if the whole length of signal line exceeds 1000m.

Signal Wiring of Wired controller

Length of Signal Line (m)	Wiring Dimensions
≤ 250	0.75mm <sup>2</sup> x 3 Core Shielding Line

The shielding lay of the signal line must be grounded at one end.

The total length of the signal line shall not be more than 250m.

# Airwell

*Just feel well*

**WARNING :**

The design and specifications are subject to change without prior notice for product improvement. Consult with the sales agency or manufacturer for details.

**ATTENTION :**

Le design et les données techniques sont donnés à titre indicatif et peuvent être modifiés sans préavis.



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