

Airwell

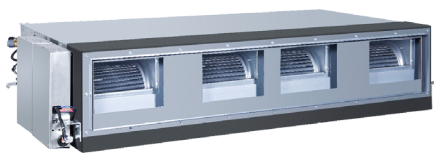
Just feel well

SERVICE MANUAL

Fresh Air Type Indoor Unit
DVFA Range R410a
English Manual



DVFA-140N-01M22



DVFA-280/220N-01M22

IMPORTANT NOTE:

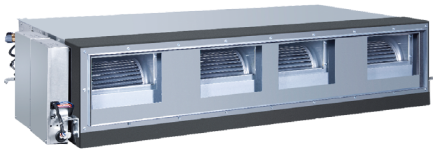
Read this manual carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.

1. Fresh Air Type Indoor Unit

1.1 Features



DVFA-140N-01M22



DVFA-280/220N-01M22

Connection condition: The Fresh Air unit can be independently connected with outdoor unit or connected together with common indoor units.

The fresh air unit can be installed with common indoor units to introduce outside fresh air into inside room; So it can realize both air-conditioning and fresh-air function in one system.

Operation Range:

Cooling mode: 19-42°C;

Heating mode: -5-18°C;

Fan mode: outdoor ambient temp. above 0°C

Note:

1. In cooling mode, when inlet temp is lower than 19°C, Fresh Air unit will enter Fan mode automatically; when inlet temp. is higher than 43 °C, the system will run as much as possible, or stop for system protection.
2. In heating mode, when inlet temp is higher than 18°C, Fresh Air unit will enter Fan mode automatically; when inlet temp. is lower than -5°C, the system will run as much as possible, or stop for system protection.

The outdoor units which can connect with the fresh air type indoor units are as follows:

Outdoor series	Outdoor model
MRV 5 (T1 380V)	WTA-XXXR-01T32

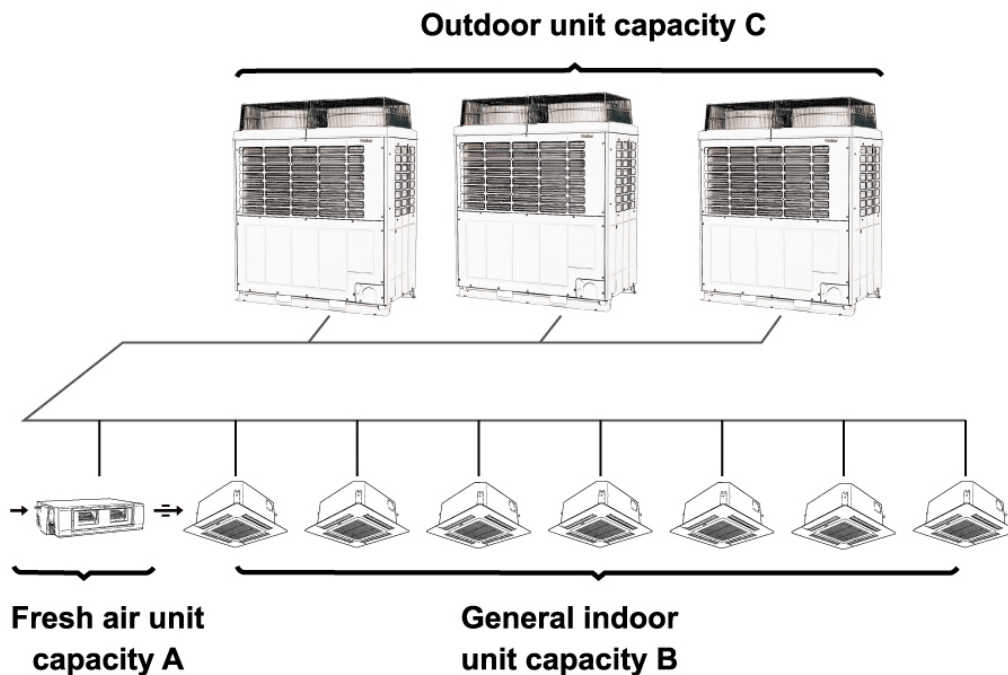
The matching rule of Duct Fresh Air.

Duct fresh air unit	Connection method	Quantity of duct fresh air	Outdoor unit selection
DVFA-140N-01M22	Fresh air unit only	2	10HP
	Together with general indoor units	1	Minimum outdoor capacity 18HP.
DVFA-280/220N-01M22	Fresh air unit only	1	8HP
	Together with general indoor units	1	Minimum outdoor capacity 28HP.
DVFA-280/220N-01M22	Fresh air unit only	1	10HP
	Together with general indoor units	1	Minimum outdoor capacity 34HP.

The matching rule of mixed connection of Duct Fresh Air and general indoor units in one system.

■ Because the return air of Duct Air Fresh is from outside, in which the temperature difference is higher than normal indoor air return type, in order to ensure the cooling/ heating effect, the matching must simultaneously satisfy the following two conditions:

- $C \cdot 80\% \leq A + B \leq C \cdot 100\%$ (80% total outdoor capacity \leq total indoor capacity \leq 100% total outdoor capacity)
- $A \leq C \cdot 30\%$ (the fresh air capacity \leq 30% total outdoor capacity)



■ **When in mixed installation**

Only one Duct Fresh Air can be connected in one system.
 Not recommend to install more than one Fresh Air Units in one outdoor system (either modular or combination system)

Notes: Location of Duct Fresh Air Installation:

- Compared to general indoor units, the sound pressure level of Duct Fresh Air units is larger, so it is not recommended to install Duct Fresh Air at locations as Hall, office building, etc, where numbers of persons will stay.
- It is recommended to install Duct Fresh Air units at places insensitive to sound pressure level.

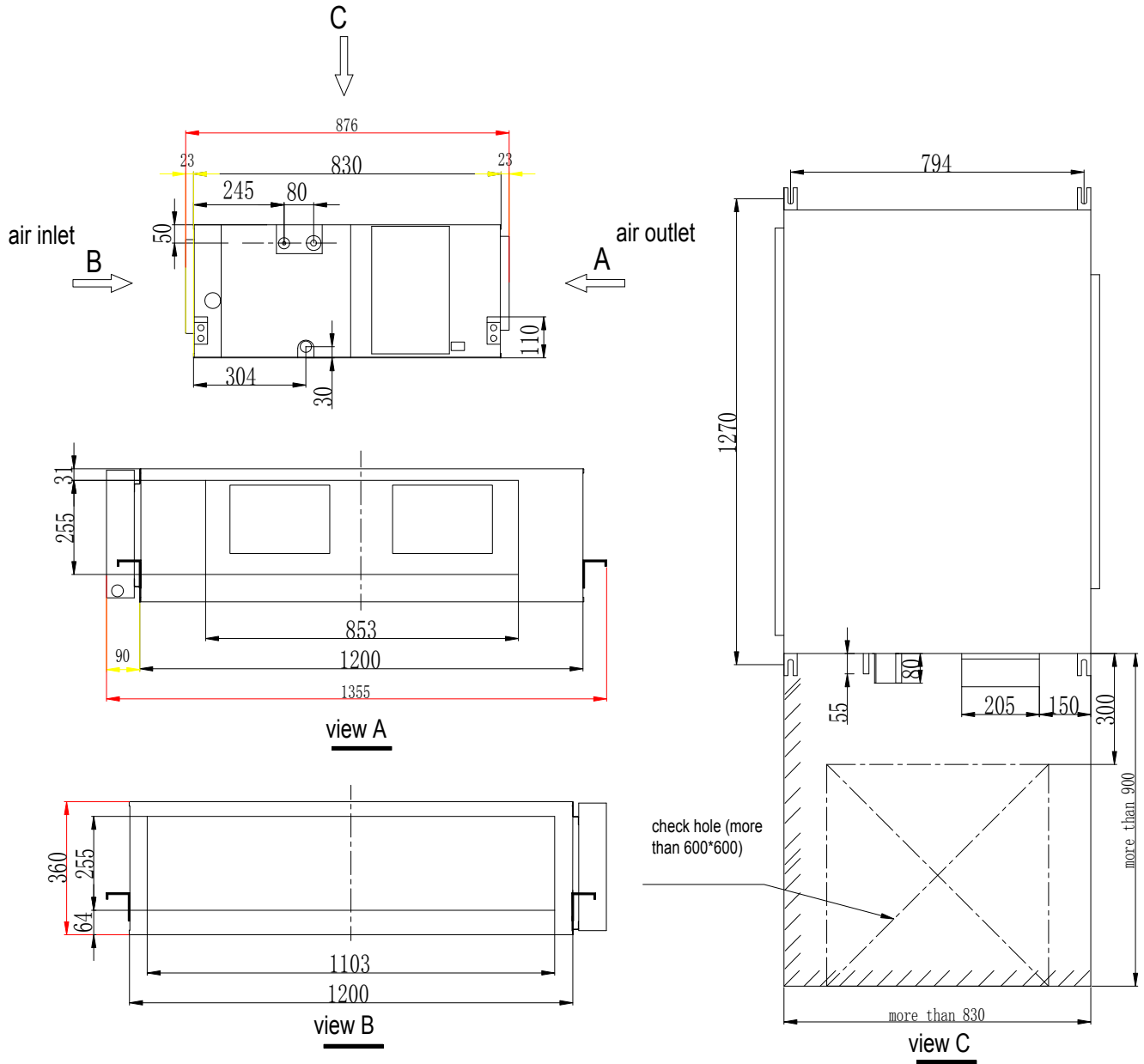
1.2 Specification

MODEL		DVFA-140N-01M22	DVFA-220N-01M22	DVFA-280N-01M22	
Power supply		Ph-V-Hz	1,220~230,50/60	1,220~230,50/60	1,220~230,50/60
Cooling	Capacity	kBtu/h	47.7	77.1	95.5
	Capacity	kW	14	22.6	28.0
	Power input	W	560	730	870
	Current	A	2.5	3.3	4.0
Heating	Capacity	kBtu/h	30.4	51.8	60.8
	Capacity	kW	8.9	15.2	17.8
	Power input	W	560	730	870
	Current	A	2.5	3.3	4.0
	Heating capacity at low temp.	kW	9.8	16.5	20.8
Operating current		A	2.5	3.3	4.0
Max. running current		A	3.1	4.1	4.9
Max. operating pressure of heat side		MPa	4.15	4.15	4.15
Indoor motor	Brand		HUATE /Broad ocean	Broad ocean	Broad ocean
	Model		YSK-270W-4 /Y7S423B815	Y7S423B86	Y7S423B86
	Type		AC	AC	AC
	Insulation class		B/B	B	B
	IP class		IP20	IP20	IP20
	Power input	W	550	515*2	515*2
	Power output	W	265/ 270	326*2	326*2
	Capacitor	μF	12.5	12.5	12.5
	Speed (SH-H-M-L)	rpm	1070±40/950±50 /880±50/730±50	-/1295±40/1164±40 /925±40	-/1295±40/1164±40 /925±40
Indoor fan	Brand		Haier	Haier	Haier
	Type		Centrifugal	Centrifugal	Centrifugal
	Quantity		2	4	4
Indoor coil	a. Number of rows		2	3	3
	b. Tube pitch (a)×row pitch (b)	mm	25*21.65	25*21.65	25*21.65
	c. Fin spacing	mm	1.8	1.6	1.6
	d. Fin type (code)		Hydrophilic aluminium		
	e. Tube outside dia. and type	mm	Φ9.52 Inner groove tube		
	f. Coil length×height×width	mm	1062*450*43.4	1430*450*64.95	1430*450*64.95
	g. Number of circuits		5	9	9

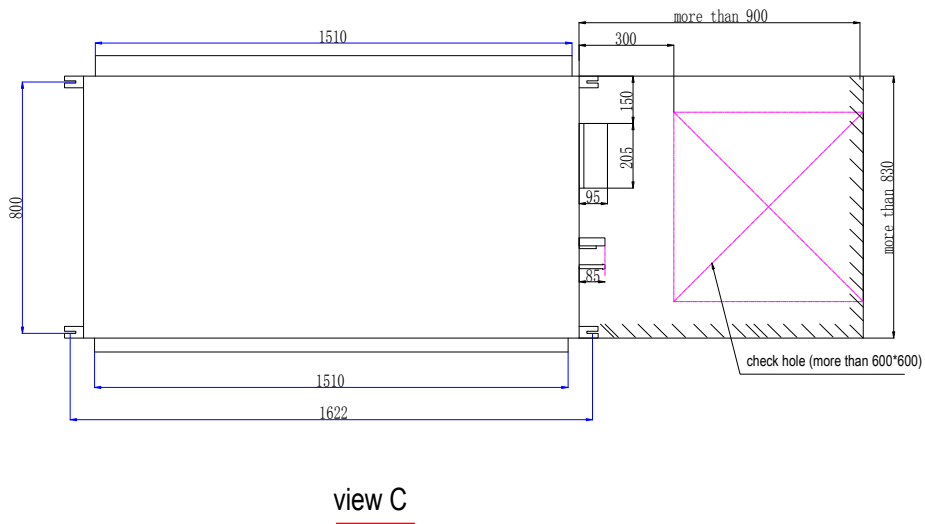
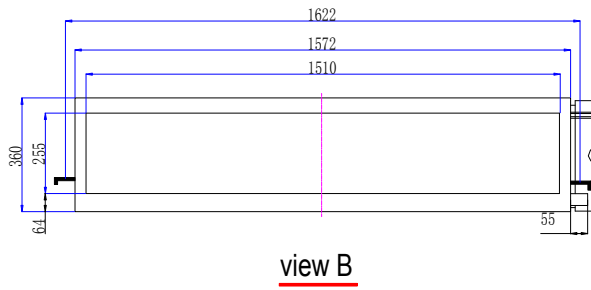
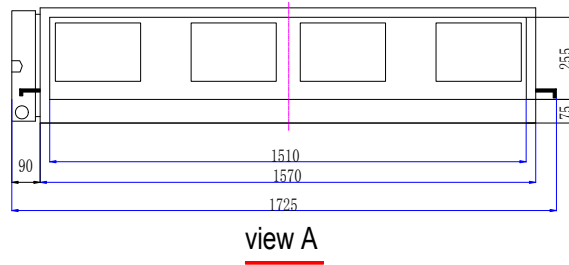
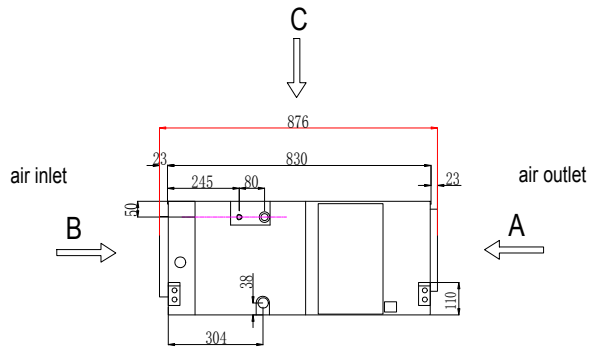
MODEL			DVFA-140N-01M22	DVFA-220N-01M22	DVFA-280N-01M22
Cabinet	Cabinet coating type		Galvanized	Galvanized	Galvanized
	Cabinet salt spray test duration	Hour	72	72	72
	Control box IP class		IP20	IP20	IP20
Construction	Sheet metal thickness		1	1	1
	Drain pan material		PS	PS	PS
	Drain pan insulation		20	20	20
	Drain pump option		No	No	No
	Branch outlet option		No	No	No
Indoor wall	Material		Hot zinc plate	Hot zinc plate	Hot zinc plate
	Thickness	mm	1	1	1
	Double or single skin		Single	Single	Single
Air filter	Material		PP	PP	PP
	Mesh		100	100	100
	Pressure drop	Pa	5	5	5
Piping dimension	Liquid pipe	mm	9.52	9.52	9.52
	Gas pipe	mm	15.88	25.4	25.4
	Drain hose	mm	32/36	32/36	32/36
Fresh air dimension	mm	1100×255	1510×255	1510×255	
Air return dimensions	mm	1100×255	1510×255	1510×255	
Air outlet dimensions	mm	853×255	1510×255	1510×255	
Sound pressure level (H/M/L)	dB(A)	48/47/42	55/53/50	55/54/52	
Sound power level (H/M/L)	dB(A)	61/60/56	68/65/60	68/66/62	
Standard static pressure	Pa	100	100	100	
Max. static pressure	Pa	185	200	200	
Indoor air flow (H/M/L)	m ³ /h	1600/1460/1070	2300/1900/1320	2800/2400/1820	
Dimension (W*H*D)	mm	1355*360*876	1725*360*876	1725*360*876	
Packing (W*H*D)	mm	1386*966*418	1830*990*530	1830*990*530	
Net weight	kg	62	120	120	
Gross weight	kg	77	140	140	
Nominal condition: indoor temperature (cooling): 27DB (°C)/19WB (°C), indoor temperature (heating): 20DB (°C) Outdoor temperature (cooling): 35DB (°C)/24WB (°C), outdoor temperature (heating): 7DB (°C)/6WB (°C) The noise level will be measured in the third octave band limited values, using a Real Time Analyser calibrated sound intensity meter. It is a sound pressure noise level.					

1.3 Dimension

DVFA-140N-01M22



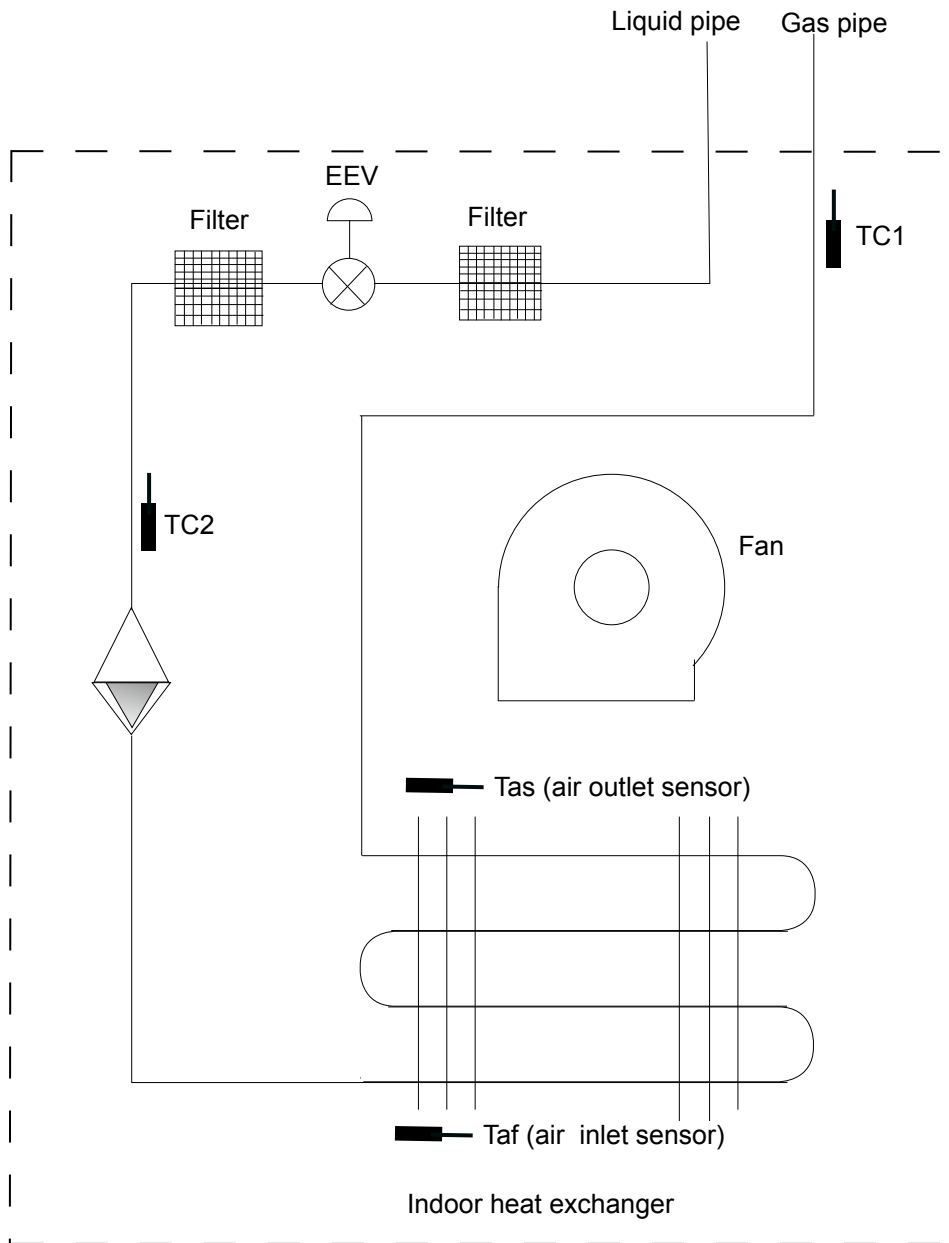
DVFA-280/220N-01M22



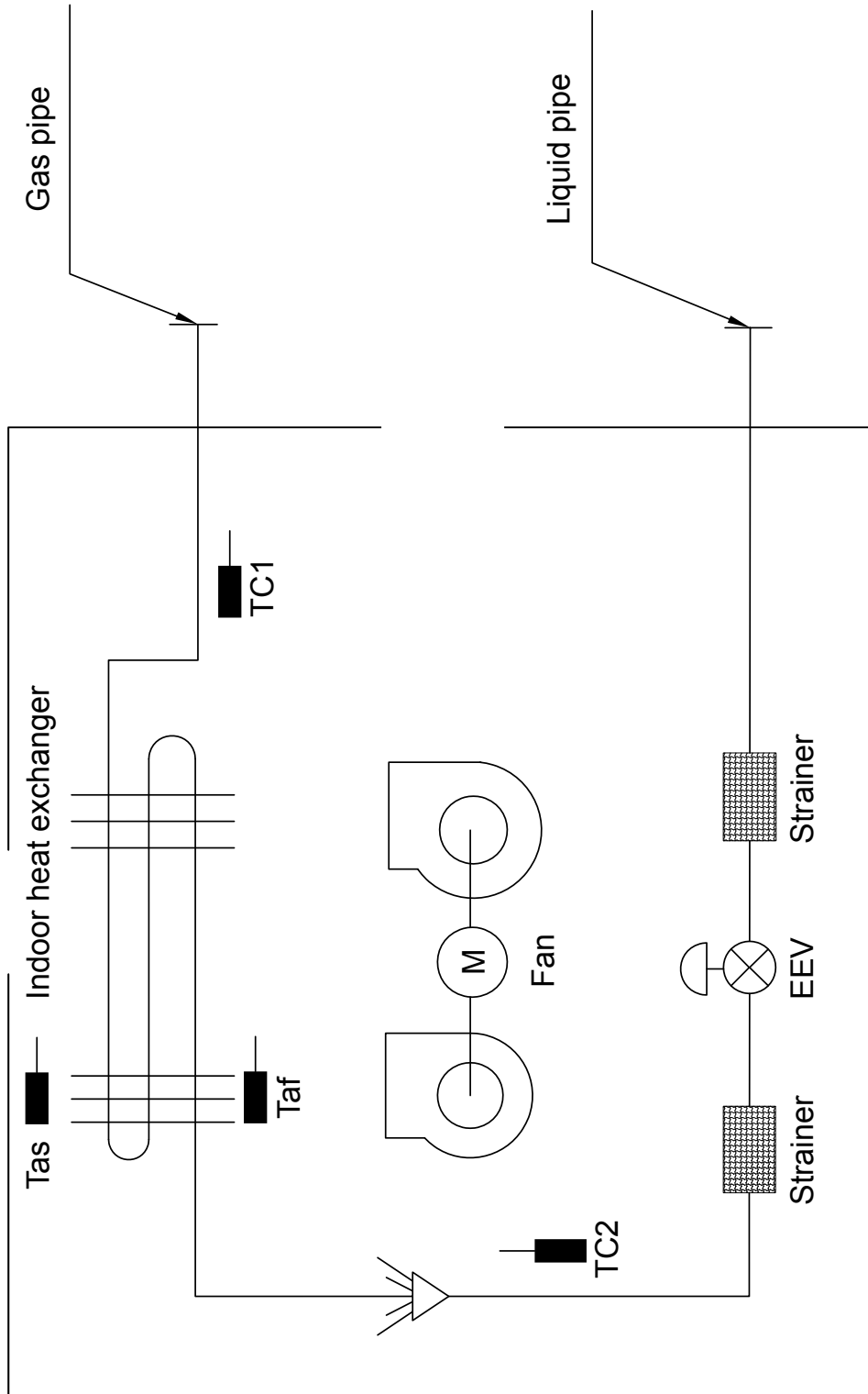
Fresh Air Type
Indoor Unit

1.4 Piping diagram

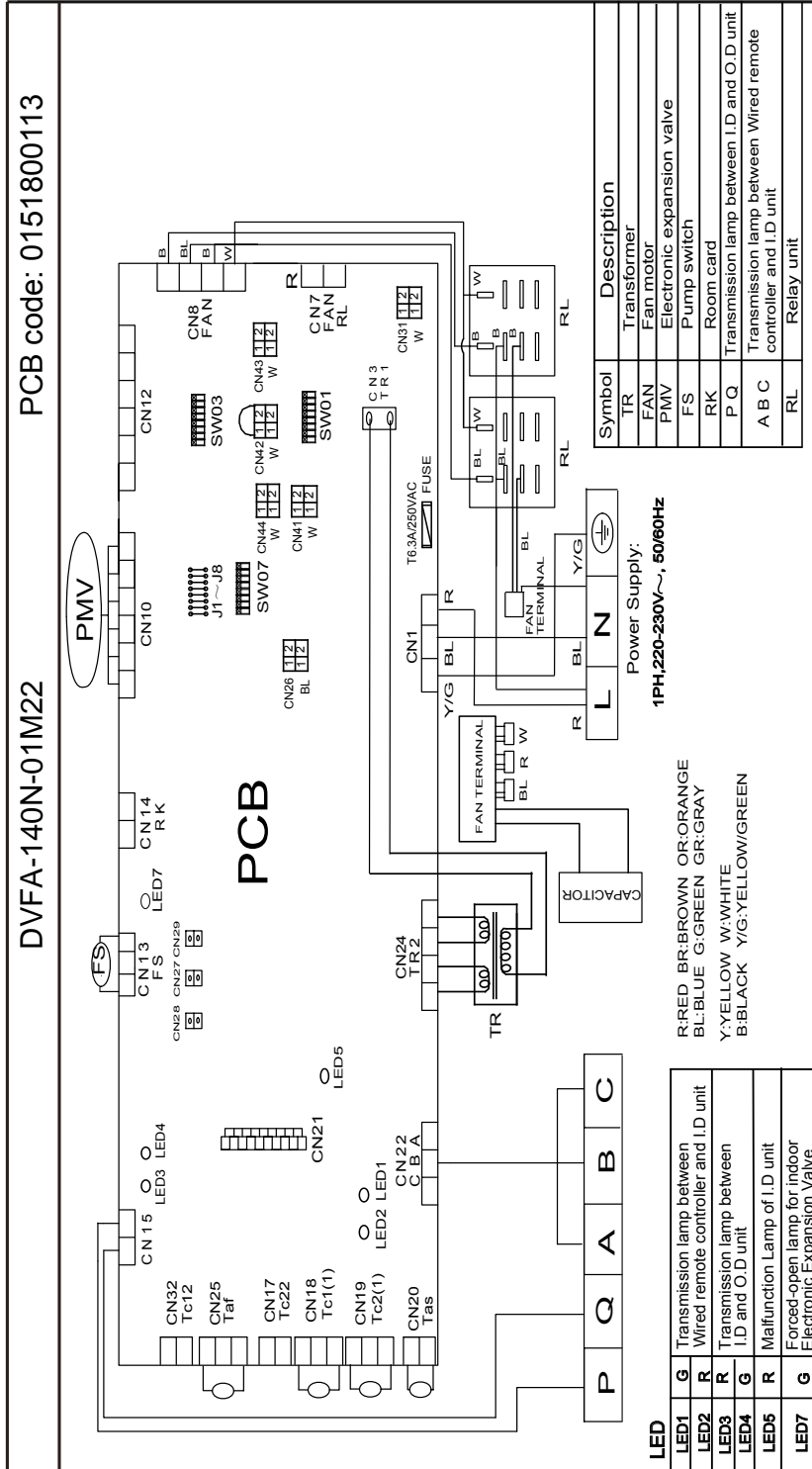
DVFA-140N-01M22

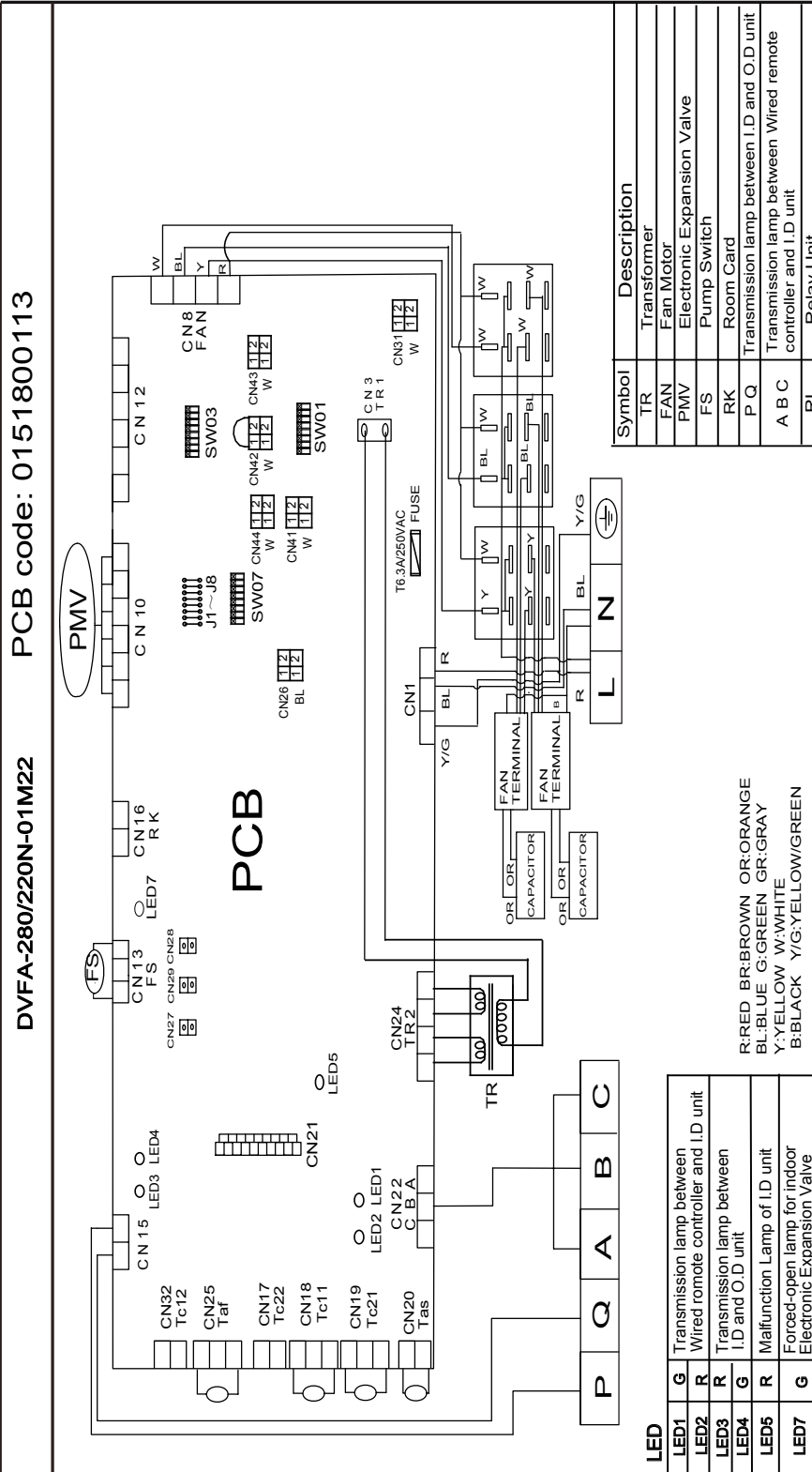


DVFA-280/220N-01M22



1.5 Wiring diagram





Fresh Air Type
Indoor Unit

1.6 Electric characteristics

Model	Units				Power supply		Indoor fan motor		Power input (W)	
	Phase	FQY	Voltage	Volt range	MCA	MFA	Output (W)	FLA	Cooling	Heating
DVFA-140N-01M22	1	50/60	220	198-242	3.25	10.4	265/270	2.6	560	560
DVFA-280/220N-01M22	1	50/60	220	198-242	5.6	18	326*2	2.25*2	730	730
DVFA-280/220N-01M22	1	50/60	220	198-242	5.6	18	326*2	2.25*2	870	870

Symbols:

MCA: Min. circuit amps (A)

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

Notes:

1. *Voltage range*

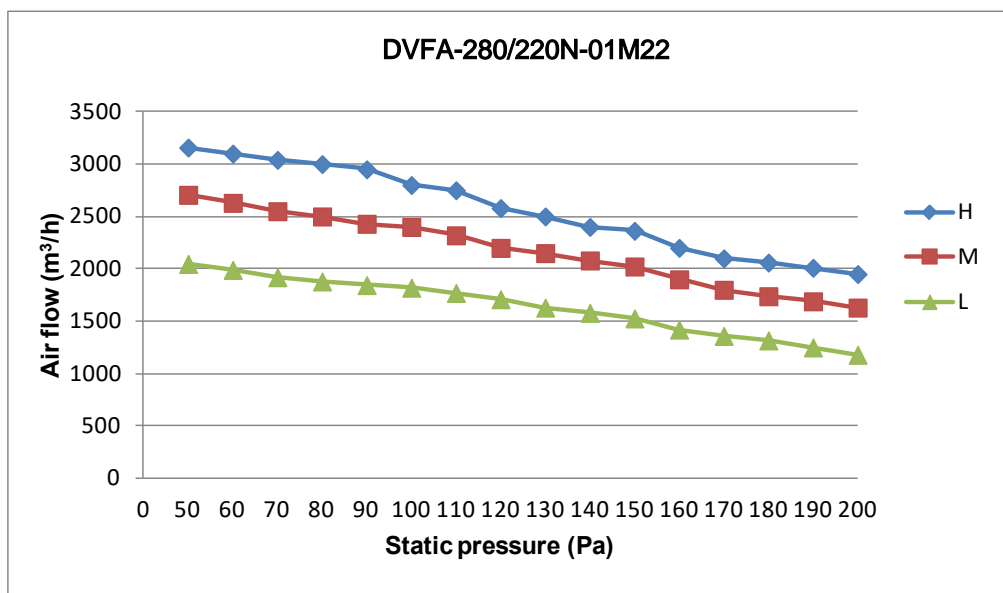
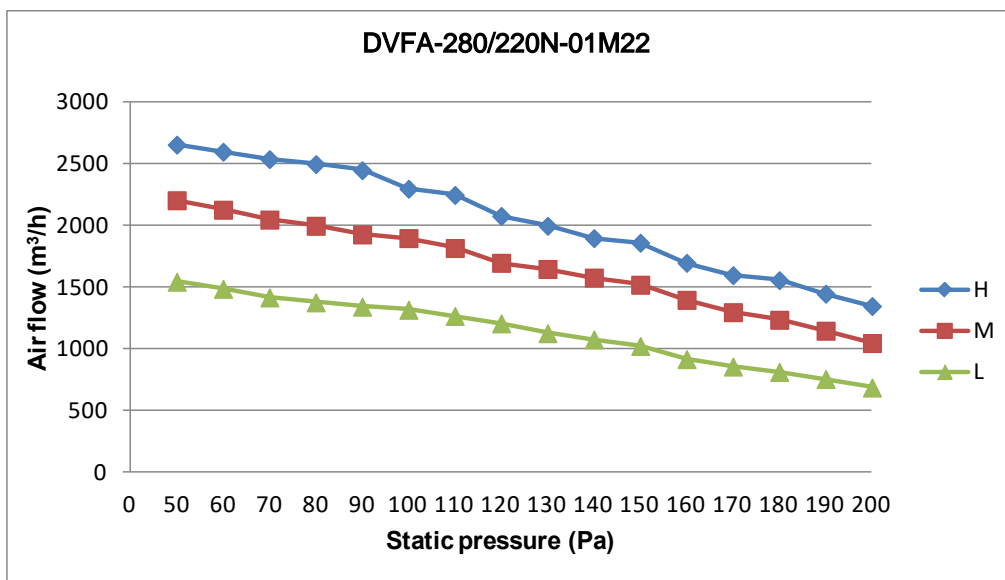
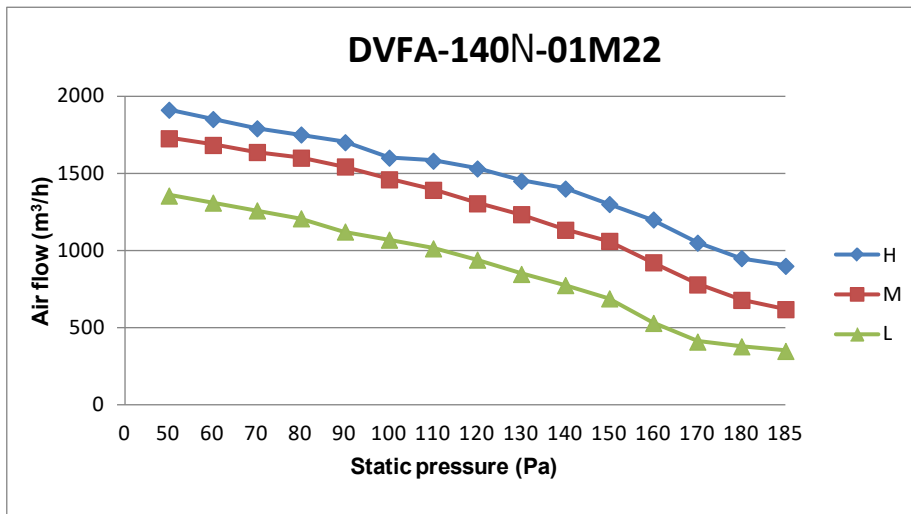
The units are applicable for the electrical systems where voltage supplied to unit is in the range.

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

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

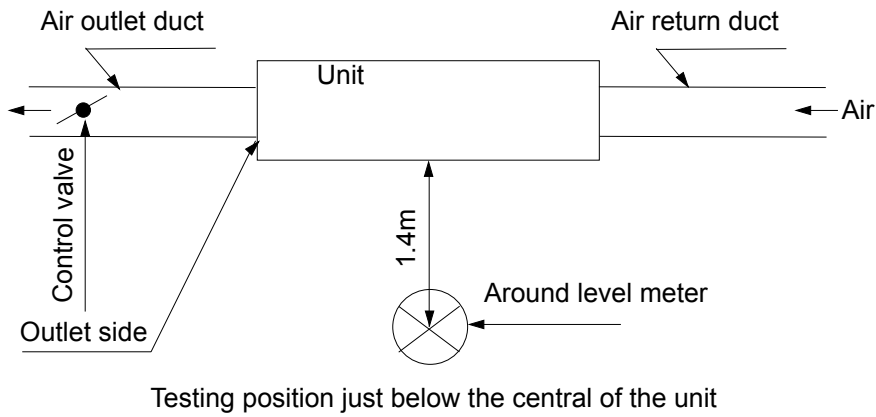
4. *Power supply uses the circuit breaker.*

1.7 Air flow and static pressure curves



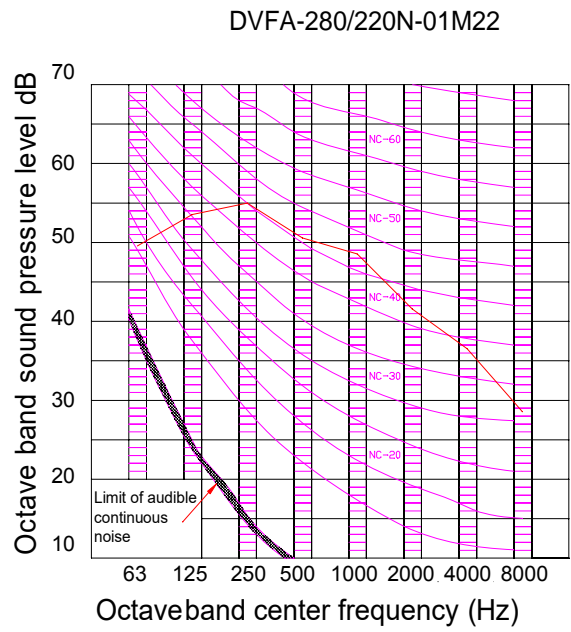
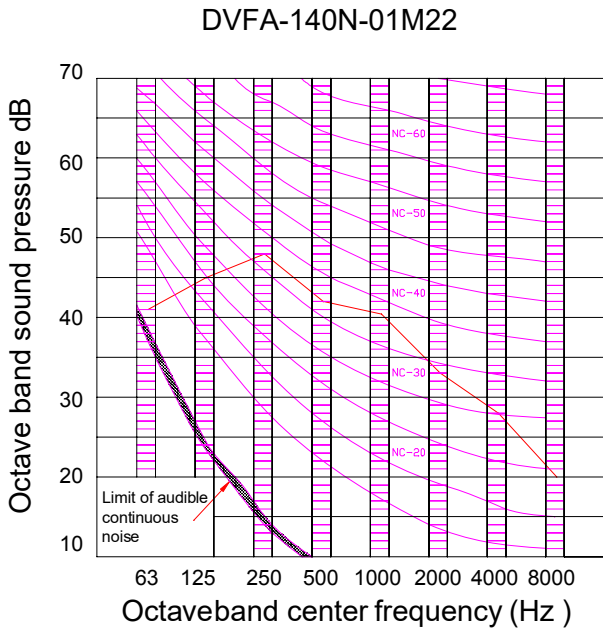
Fresh Air Type
Indoor Unit

1.8 Sound pressure level



Note:

1. The test is on the standard condition.
2. The noise level dB is measured in the semi-anechoic chamber, using a Real Time Analyzer calibrated sound intensity meter. It is a sound pressure noise level.



1.9 Installation

1.9.1 Installation Procedures

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 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 1m 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 1m 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.

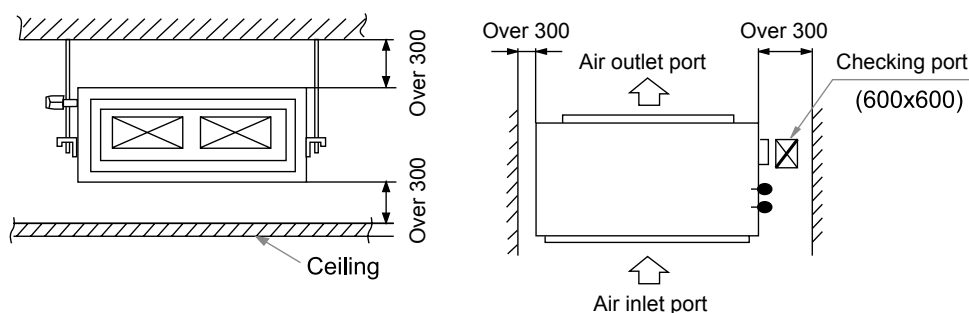
(2) Height of Ceiling:

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) Suspenders should be used during installation. Check if the location can bear the weight of the unit. Reinforce it before installation if necessary.

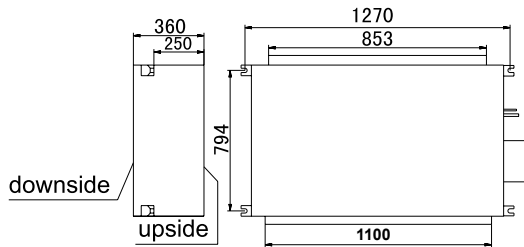
3. Preparation before Installation

(1) Installation Space (unit: mm).

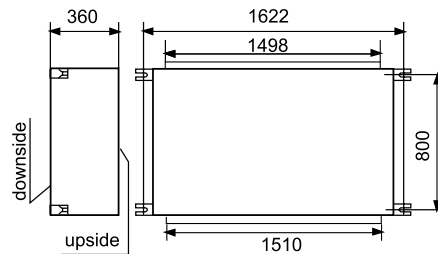


(2) Location relation between inspection hole on the ceiling and the unit and the suspender (unit: mm).

DVFA-140N-01M22



DVFA-280/220N-01M22

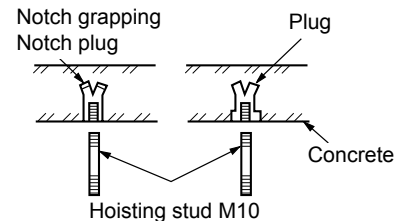


(3) If necessary, make a hole for installation and inspection on the ceiling. (used for the situation with a ceiling)

- 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 wired control, connection line between indoor units and outdoor unit) so that they can be connected with indoor units 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.

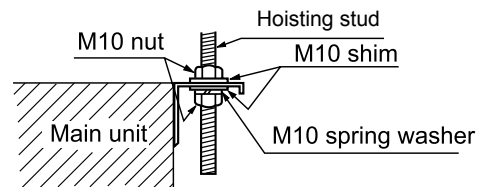
(4) Install the suspender (M10 bolts)

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.



(5) Installation of Indoor Units

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



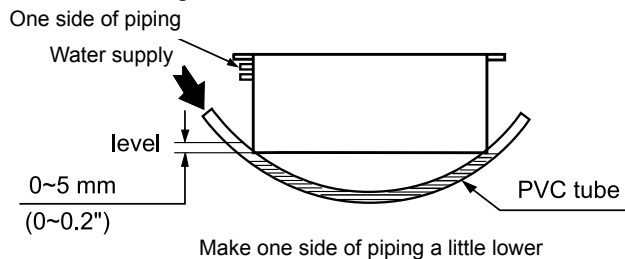
Note:

When the sizes of the master 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:

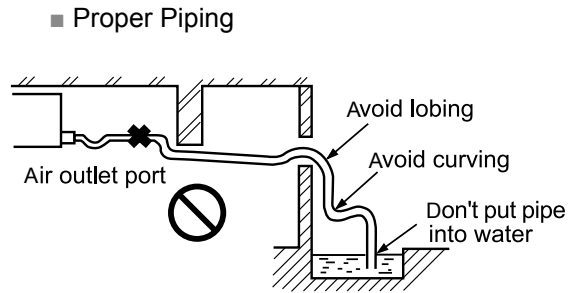
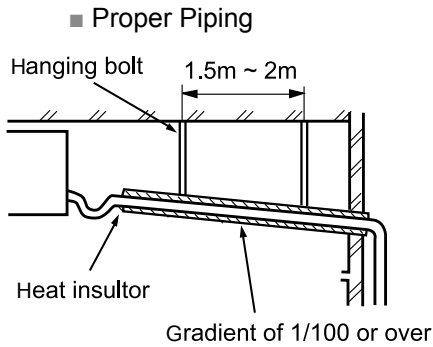
- Make the adjustment as shown in the figure below.



(b) Unless it is regulated to the level position, faults or errors might occur for the floater switch.

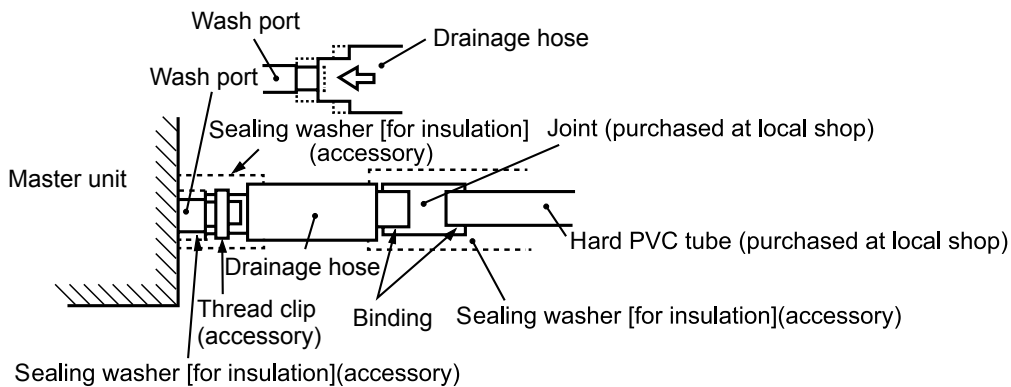
4. Drainpipes

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

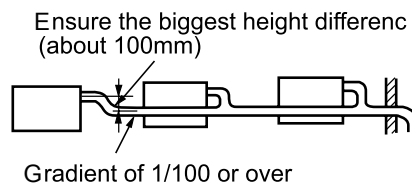


(b) When connecting the drainpipe to the equipment, don't apply too much force on one side of the equipment. Meanwhile, the piping should be positioned as close to the equipment as possible.

(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.

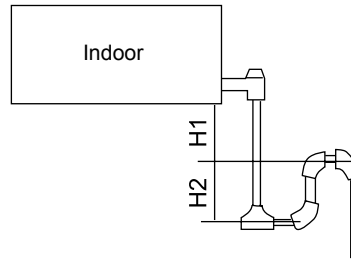
(f) Water trap:

Because it is easy to cause minus pressure at the water drainage hole, once the water level in drainage pan goes up, water will leak. To prevent water leakage, we design a water trap here.

Water trap should be easy to be cleaned. Adopt T-shape connector like below figure. It should be near the unit, as the figure, it is set at the middle of drainage hose.

$H1=100\text{mm}$ or fan motor static pressure

$H2=\frac{1}{2} H1$ (or among 50mm~100mm)



(g) 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.

Testing Drainage System

(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.

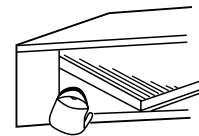
(c) In the condition of new house, test the drainage system before fitting up the ceiling.

(d) Even if it is installed in the season needed to heating, the testing should also be performed.

Procedures

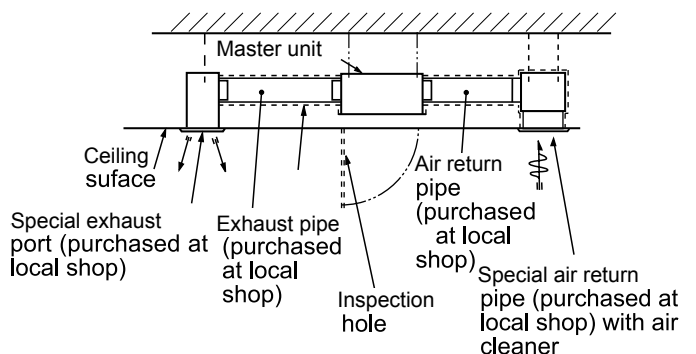
(a) Charge 1000cc of water to the equipment via air outlet port.

(b) During cooling operation, check the drainage system.

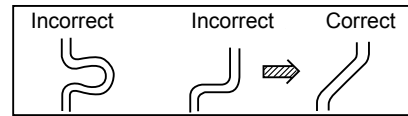


5. Installation of Air Return & Air Exhaust Duct

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.

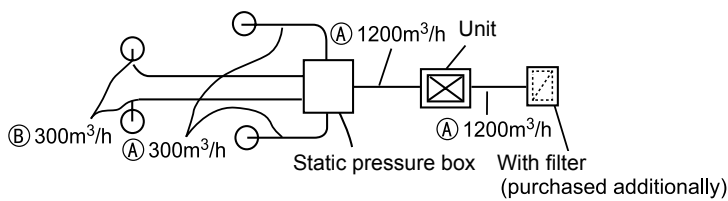


- The length difference between pipes should be limited to be less than 2:1;
- Make the piping as short as possible;
- Keep the min. elbow quantity;
- Wind the heat insulating material around the flange between the master unit and the exhaust pipe for heat insulation and sealing. Install the piping before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



6. Calculation of simple duct

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



	Flux	Gas pipe (mmxmm)
Ⓐ	1200m ³ /h (20m ³ /min)	250×310
Ⓑ	300m ³ /h (5m ³ /min)	250×120

■ Calculation of resistance in duct:

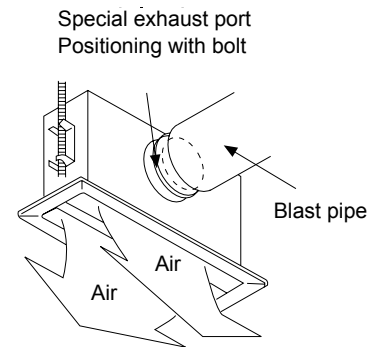
Straight Pipe	1Pa per meter, 1Pa/m
Bended Section	Each bend regarded as 3-4m of straight pipe
Air Outlet	25Pa per outlet
Static Pressure Box	50Pa per static pressure box
Inlet Grille (with filter)	40Pa for each one

■ Simple duct selection Note: 1Pa/m

Flux m ³ /h (m ³ /min)	Shape	Square Pipe
	Item	Size (mm×mm)
100		250×60
200		250×90
300		250×120
400		250×140
500		250×170
600 (10)		250×190
800		250×230
1000		250×270
1200 (20)		250×310
1400		250×350
1600		250×390
1800 (30)		250×430
2000		250×470
2400		250×560
3000 (50)		250×650
3500		250×740
4000		250×830
4500		250×920
5000		250×1000
5500		250×1090
6000 (100)		250×1180

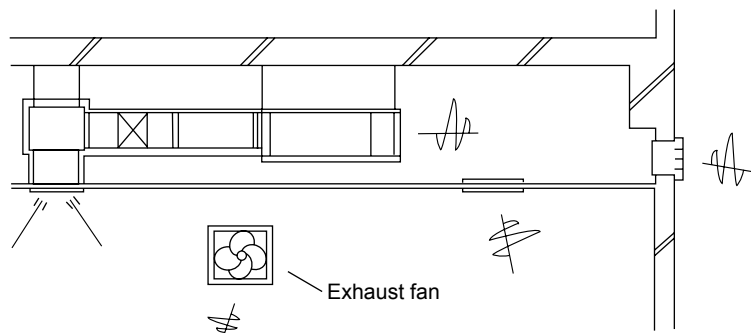
7. Cautions in Installation of Air Return Pipe & Exhaust Pipe

- 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. 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.



Example of bad installation

9. Refrigerant Pipe

Pipe 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 piping should be done respectively.

Piping Material	Hard PVC tube VP31.5mm (inner bore)
Heat Insulating Material	Vesicant polythene thickness: over 7mm

Pipe Materials & Specifications

Model	DVFA-140N-01M22	DVFA-280/220N-01M22	
Pipe Size (mm)	Gas Pipe	Φ15.88	Φ25.4
	Liquid Pipe	Φ9.52	Φ9.52
Pipe Material	Phosphor deoxy bronze seamless pipe (TP2) for air conditioner		

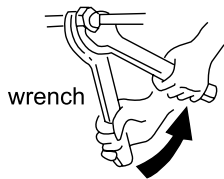
Refrigerant Recharge Amount

Recharge 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 too much or less refrigerant.

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
Φ9.52	40~50N.m
Φ15.88	90~120N.m
Φ19.05	100~140N.m
Φ25.4	--

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 master unit.]

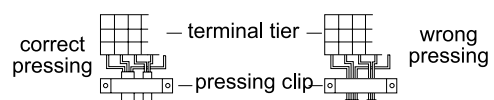
Checkup for Air Leakage

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

Connecting



- 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.
- 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.
- 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.



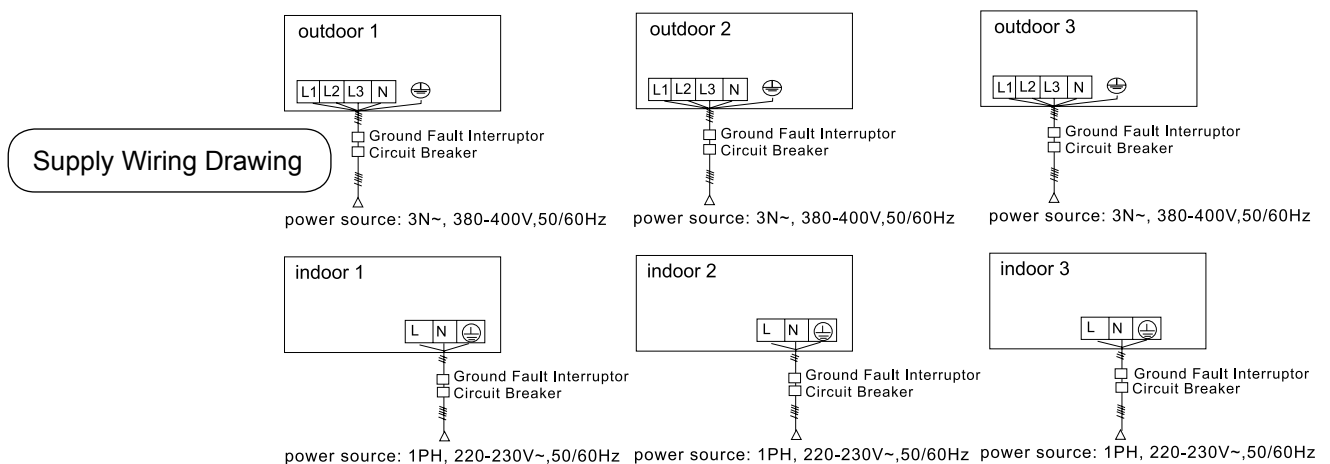
1.9.2 Electrical Wiring

⚠ WARNING

- Electrical construction should be made with specific mains circuit by qualified personnel according to installation instruction. Electric shock and fire may be caused if the capacity of power supply is not sufficient.
- During arranging wiring layout, specified cables should be used as mains line, which accords with local regulations on wiring. Connecting and fastening should be performed reliably to avoid 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, lightning rod and telephone line.

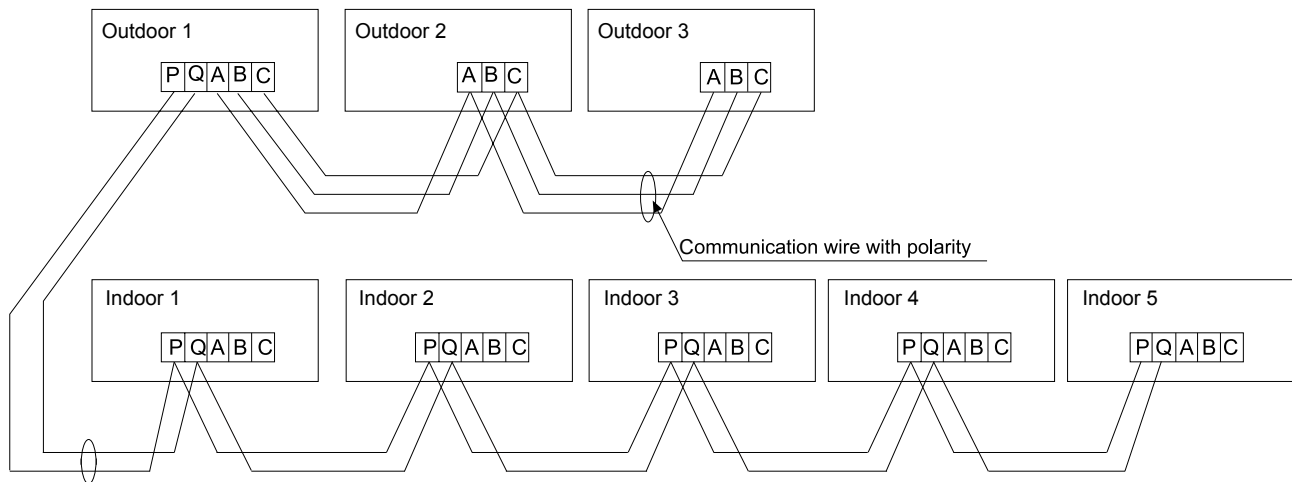
⚠ ATTENTION

- 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 ⊕ 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 and 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.



- 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.

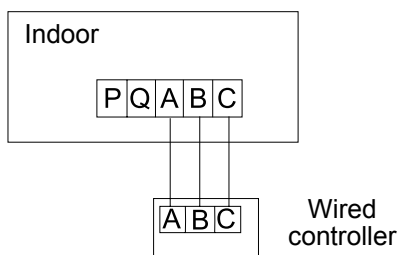
Signal Wiring Drawing



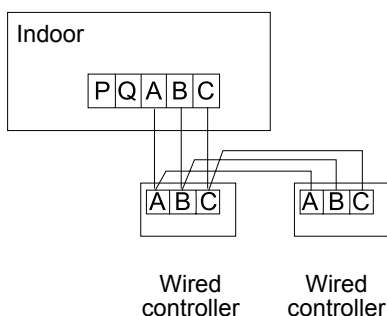
Outdoor units are of parallel connection via three lines with polarity. The master unit, central control and all indoor units are of parallel connection via two lines without polarity. The signal line between wired controller and indoor units are polarity

There are three connecting ways between wired controller and indoor units:

A. One wired controller controls one indoor unit, the wired controller connects with the ABC terminal of indoor unit.



B. Two wired controllers control one indoor unit. Either of the wired controls can be set to be the master wired controller while the other is set to be the slave wired controller.

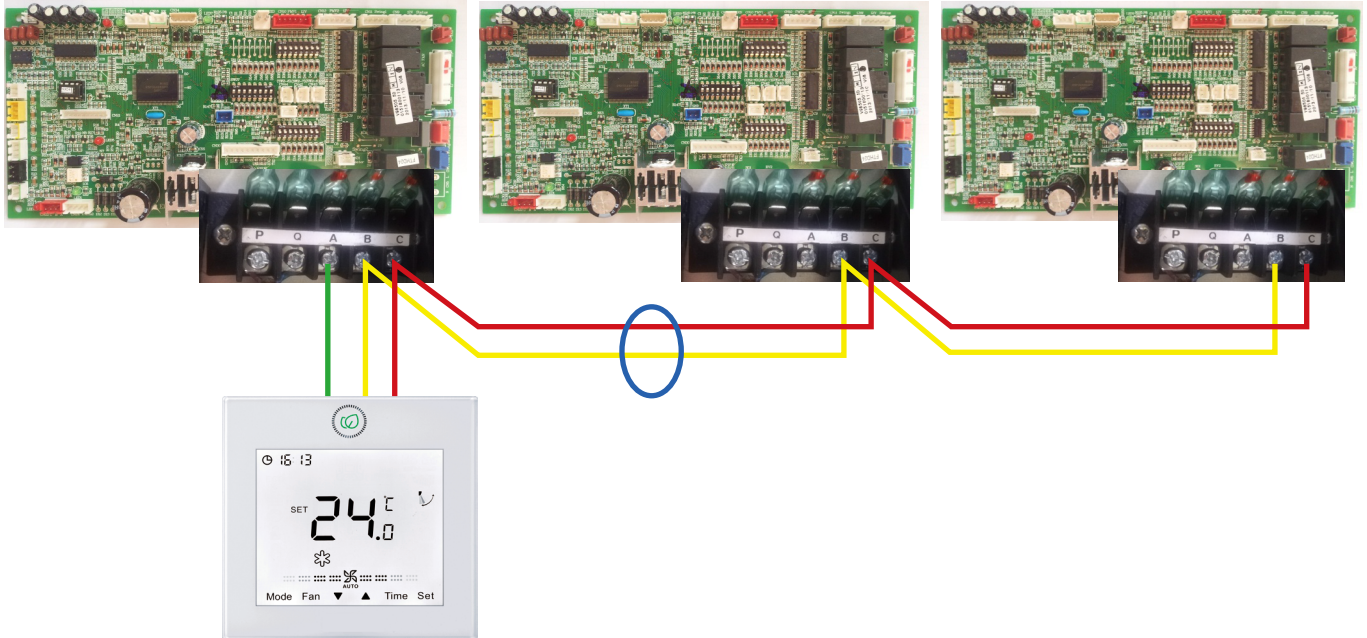


Master and slave controller setting method for YR-E17, other controllers' setting method please refer to the controller manual

No.	Type	State of switch	Function description
SW1-1	Select the master or the slave controller	ON	Slave controller
		OFF	Master controller

C. One wired controller controls multiple units

0151800113 PCB



Note:

1. The wired controller connects with the ABC terminal of master unit which wired address is 0, the slave unit only connects BC terminal.
2. Wired address setting

SW01_1 SW01_2 SW01_3 SW01_4	Wired control address	[1]	[2]	[3]	[4]	Wired control address
		OFF	OFF	OFF	OFF	OFF
		OFF	OFF	OFF	<u>ON</u>	Slave unit 1 in group control
		OFF	OFF	<u>ON</u>	OFF	Slave unit 2 in group control
		OFF	OFF	<u>ON</u>	<u>ON</u>	Slave unit 3 in group control
	
		<u>ON</u>	<u>ON</u>	<u>ON</u>	<u>ON</u>	Slave unit 15 in group control

3. One controller can Max. control 16 indoor units.
4. Hand-in-hand connection method
5. The signal line is polarity

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

Items Total current of indoor units (A)	Cross section (mm ²)	Length (m)	Rated current of overflow breaker (A)	Rated current of residual circuit breaker (A) Ground fault Interrupter (mA) Response time (S)	Cross sectional area of signal Line	
					Outdoor -indoor (mm ²)	Indoor -indoor (mm ²)
<7	2.5	20	10	10 A, 30 mA, 0.1S or below	2 cores×(0.75-2.0) mm ² shielded line	
≥7 and <11	4	20	16	16 A, 30 mA, 0.1S or below		
≥11 and <16	6	25	20	20 A, 30 mA, 0.1S or below		
≥16 and <22	8	30	32	32 A, 30 mA, 0.1S or below		
≥22 and <27	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 ² ×3 core shielded 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.

1.9.3 Test Run

Before Test Run

- Before switching it on, test the supply terminal tier (L, N terminals) and grounding points with 500V megaohm meter and check if the resistance is above 1MΩ. It can't be operated if it is below 1MΩ.
- Connect it to the power supply of outdoor units to energize the heating belt of the compressor. To protect the compressor at startup, power it on 12 hours prior to the operation.

Check if the arrangements of the drainpipe and connection line are correct.

The drainpipe shall be placed at the lower part while the connection line placed at the upper part.

Heat preservation measures should be taken such as winding the drainpipe esp. in the indoor units with heating insulating materials.

The drain pipe should be made a slope type to avoid protruding at the upper part and concaving at the lower part on the way.

Checkup of Installation

Check if the mains voltage is matching

Check if there is air leakage at the piping joints

Check if the connections of mains power

and indoor & outdoor units are correct

Check if the serial numbers of terminals are Matching

Check if the installation place meets the requirement

Check if there is too much noise

Check if the connecting line is fastened

Check if the connectors for tubing are heat insulated

Check if the water is drained to the outside

Check if the indoor units are positioned

Ways of Test Run

Do ask the installation personnel to make a test run. Take the testing procedures according to the manual and check if the temperature regulator works properly.

When the machine fails to start due to the room temperature, the following procedures can be taken to do the compulsive running. The function is not provided for the type with remote control.

- Set the wired controller to cooling/heating mode, press "ON/OFF" button for 5 seconds to enter into the compulsive cooling/heating mode. Repress "ON/OFF" button to quit the compulsive running and stop the operation of the air conditioner.

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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