GREE

making better air conditioners

DC INVERTER VRF WATER HEATING UNIT

TECHNICAL SALES GUIDE-50HZ R410A

Capacity Range:10~28kW

The photos of products on the cover are for reference only, the actual appearance of certain product may be different.

CONTENTS

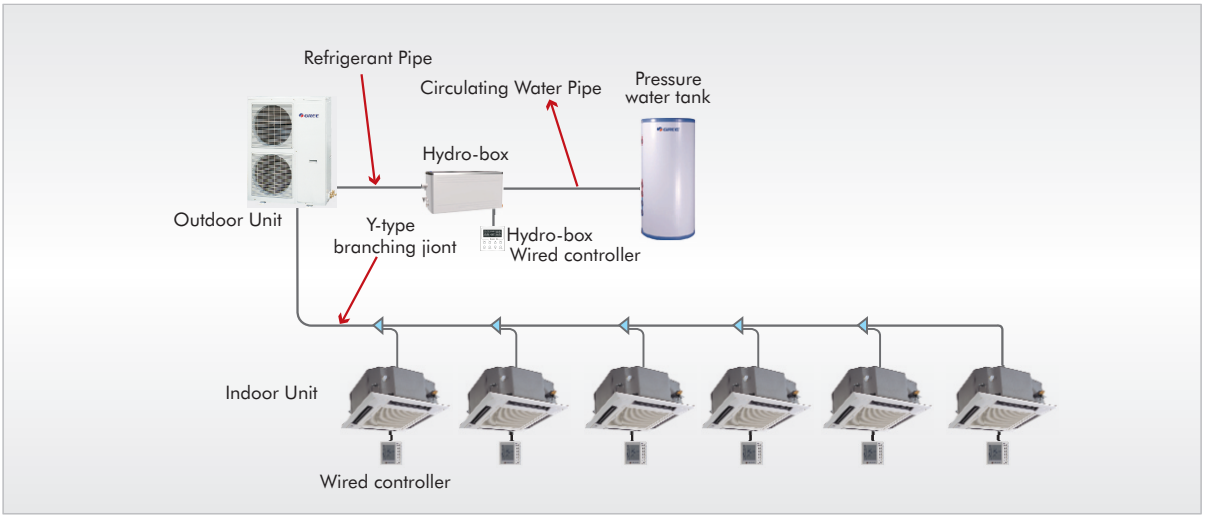
1 OUTLINE OF HOME-GMV

◆ Ideal Solution for Home Environment

D.C. Inverter Multi-variable Home-GMV unit has Cooling and water heating, heating and water heating and water heating function besides general cooling and heating function, and it can always provide hot water in 24hs a day

◆ Shortest Route Design by Free Branching

Combination of line and branching is highly flexible. This follows for the shortest design route possible, thereby saving on installation time and cost.



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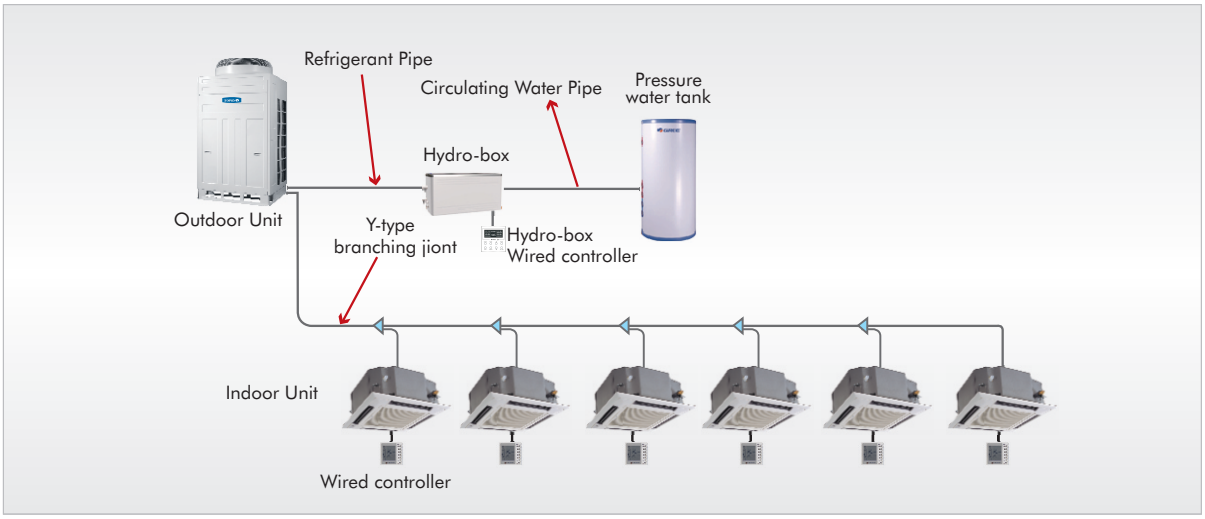
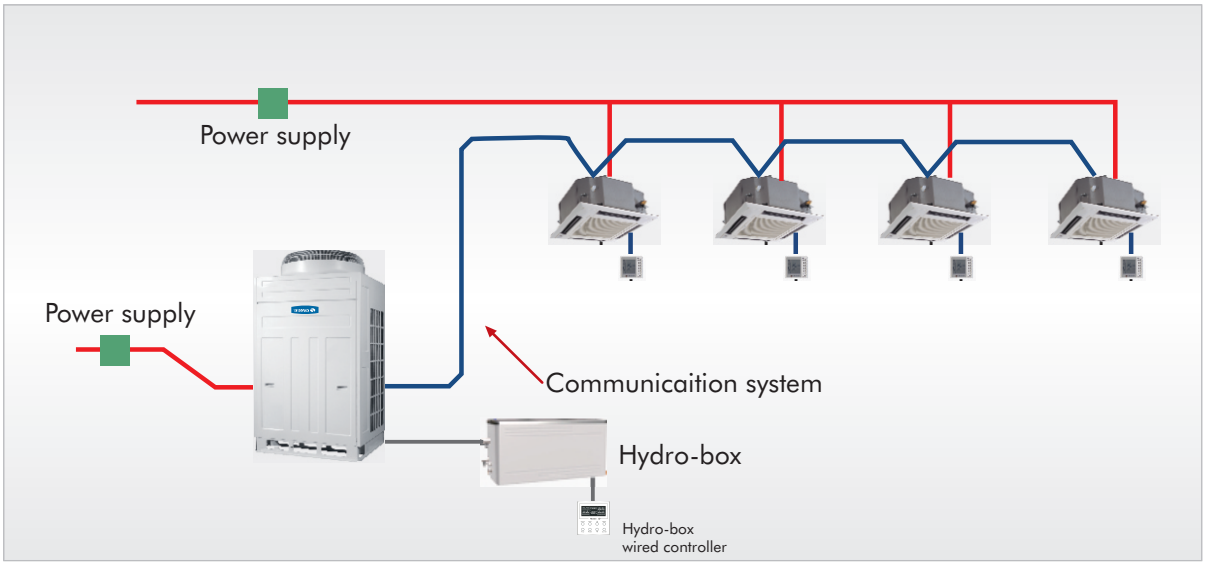


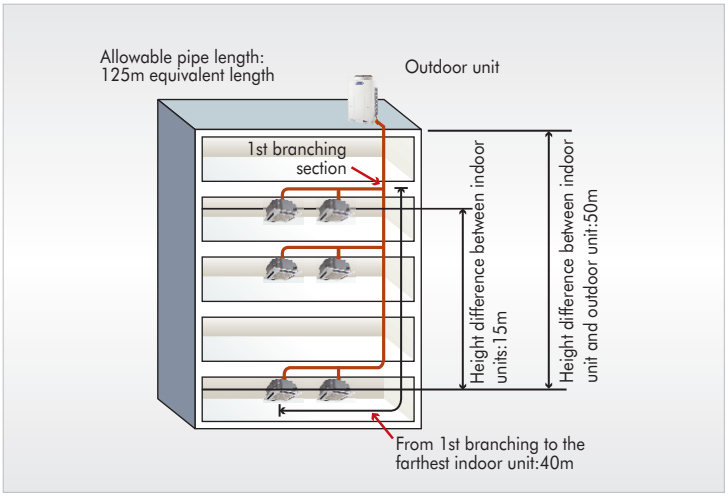
Simple Wiring

2-wire multiplex transmission system makes it possible to connect multiple indoor units to one outdoor unit with a 2-core wire, thus simplify the wiring operation



High Lift Design

Equivalent pipe length of 125m and vertical lift of 50m is made possible with GREE GMV.Vertical lift between indoor units of 15m is the highest in the industry. This allows for greater flexibility in the location of the system.



Energy Saving & Ecological

Because each room is controlled individually, only those rooms requiring air conditioning are cooled or heated. In addition, thanks to inverter technology, the level of air conditioning can be precisely controlled depending on the condition of each room. High IPLV and ECOP is achieved by employing advanced technology, contributing to smooth and economical operation. The largest IPLV value can reach 4.4w/w, Compared with the conventional chiller fan coil system, a large energy saving can be realized. and the largest comprehensive energy-effciency ratio ECOP can resch 6.6w/w.

◆ Self Diagnostics System

Comprehensive troubleshooting code allows for timely identification of problems arising.
Self diagnostics examples

Error	Malfunction
E1	High pressure protection of compressor
E2	Indoor anti-frozen protection
E3	Low pressure protection of compressor
E4	Discharge temp. protection of compressor
E5	Compressor overload protection
E6	Communication error
E7	Modes conflict
C5	Jumper error
F9	Outlet water temperature sensor error
F8	Inlet water temperature sensor error
FL	Water temperature sensor error
F9	Outlet water temperature sensor error
L7	Water switch protection
EH	Auxiliary electrical heater protection
LP	Matching error of outdoor and hydro unit

◆ Compact Design

We offer a wide lineup of outdoor and indoor units to answered the needs of building size and interior design.The length of refrigerant pipes is layed without narrow on design, thus it allowing of flexibility more greater in planning. Indoor units are so lightweight and compact that they can be installed in any ceiling space. Outdoor units do not require the special cranes or conveyors to move them. They can even be hauled in a building elevator. the diameter of pipes is narrow,and the number is few, so making layout simpler. Inspection after installation is straightforward.

◆ Intelligent Control

GREE GMV intelligent controls and modulating valves could deliver the required capacity, according to the load variation from 10% to 100%. The intelligent controls and modulating valves limit or increase the cooling capacity dynamically, so humidity and temperature are kept in the comfort range. Electronic expansion valves respond to the changes in load of indoor units and continually control the flow rate of the refrigerant. In this way, We can get a nearly constant room temperature with the GMV system without the typical temperature changes that occurs with a conventional ON/OFF control system. The extremely refined PID controls to maintains the room temperature within ±0.5° C of the set temperature.

◆ Wide Control Application

Intelligence Network system

- ◆Central control available (be provided with weekly timer function)
- ◆Monitoring system available
- ◆Single remote controller and wired controller of indoor units
- ◆Region monitoring controller
- ◆Region wired controller

2 SUMMARY OF SYSTEM EQUIPMENTS

2.1 Outdoor Unit

Model	Cooling Capacity(kW)	Heating Capacity(kW)	Min Water Yield(L/h)	Max Water Yield(L/h)	Appearance
GMV-Pds100W/Na-K	10.0	11.0	107	107	
GMV-Pds120W/Na-K	12.0	13.2	107	107	
GMV-Pds140W/Na-K	14.0	15.4	172	172	
GMV-Pds160W/Na-K	16.0	17.6	172	172	
GMV-Pds224W/Na-M	22.4	25.0	258	500	
GMV-Pds280W/Na-M	28.0	31.5	258	650	

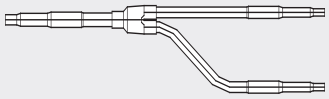
Conversion Formula: 1kW=3412Btu/h

Nomenclature

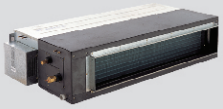
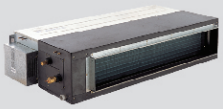
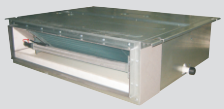
GMV	□	–	Pds	160	W	/	Na	□	–	K
1	2		3	4	5		6	7		8

NO.	Description	Options
1	GREE multi variable	
2	Model code	L:Cooling only, Default-heat Pump
3	D.C. Inverter Multi-variable Water Heating Unit	
4	Nominal cooling capacity	100:10kW 120:12kW 140:14kW 160:16kW 224：22.4kw 280：28kw
5	Outdoor unit	
6	Refrigerant type	Na-R410A
7	Design sequence	Generality A . B . C…in order
8	Power compelment	K:220～ 240V-1Ph-50Hz M:380～ 415V-3Ph-50Hz

2.2 Branching Joint

	Model name	Indoor unit capacity code total X	Y-type branching joint
Y-type branching joint	FQ01A/A	X≦200	
	FQ01B/A	200＜X≦300	

2.3 Indoor Unit

Type	Appearance	Model Name	Capacity Code	Cooling Capacity(kW)	Heating Capacity(kW)
4-way Air Discharge Cassette Type		GMV(L)-R22T/NaA-K	22	2.2	2.5
		GMV(L)-R28T/NaA-K	28	2.8	3.2
		GMV(L)-R36T/NaA-K	36	3.6	4.0
		GMV(L)-R45T/NaA-K	45	4.5	5.0
		GMV(L) -R28T/Na-K	28	2.8	3.2
		GMV(L) -R36T/Na-K	36	3.6	4.0
		GMV(L) -R45T/Na-K	45	4.5	5.0
		GMV(L) -R50T/Na-K	50	5.0	5.8
		GMV(L) -R56T/Na-K	56	5.6	6.3
		GMV(L) -R63T/Na-K	63	6.3	7.0
		GMV(L) -R71T/Na-K	71	7.1	8.0
		GMV(L) -R80T/Na-K	80	8.0	8.8
		GMV(L) -R90T/Na-K	90	9.0	10.0
		GMV(L) -R100T/Na-K	100	10.0	11.0
		GMV(L) -R112T/Na-K	112	11.2	12.5
		GMV(L) -R125T/Na-K	125	12.5	13.5
		GMV(L) -R140T/Na-K	140	14.0	14.5
Duct Type with High ESP		GMV(L)-R22P/NaB-K	22	2.2	2.5
		GMV(L)-R28P/NaB-K	28	2.8	3.2
		GMV(L)-R36P/NaB-K	36	3.6	4.0
		GMV(L)-R45P/NaB-K	45	4.5	5.0
		GMV(L)-R56P/NaB-K	56	5.6	6.3
		GMV(L)-R71P/NaB-K	71	7.1	8.0
		GMV(L)-R90P/NaB-K	90	9.0	10.0
		GMV(L)-R112P/NaB-K	112	11.2	12.5
		GMV(L)-R140P/NaB-K	140	14.0	15.0
High ESP Duct Type With water pump		GMV(L)-R22PS/NaB-K	22	2.2	2.5
		GMV(L)-R28PS/NaB-K	28	2.8	3.2
		GMV(L)-R36PS/NaB-K	36	3.6	4.0
		GMV(L)-R45PS/NaB-K	45	4.5	5.0
		GMV(L)-R56PS/NaB-K	56	5.6	6.3
		GMV(L)-R71PS/NaB-K	71	7.1	8.0
		GMV(L)-R90PS/NaB-K	90	9.0	10.0
		GMV(L)-R112PS/NaB-K	112	11.2	12.5
		GMV(L)-R140PS/NaB-K	140	14.0	15.0
Duct Type		GMV(L)-R22PS/NaE-K	22	2.2	2.5
		GMV(L)-R28PS/NaE-K	28	2.8	3.2
		GMV(L)-R36PS/NaE-K	36	3.6	4.0
		GMV(L)-R45PS/NaE-K	45	4.5	5.0
		GMV(L)-R56PS/NaE-K	56	5.6	6.3
		GMV(L)-R71PS/NaE-K	71	7.1	8.0
Wall-mounted Type		GMV-R22G/NaB-K	22	2.2	2.5
		GMV-R28G/NaB-K	28	2.8	3.2
		GMV-R36G/NaB-K	36	3.6	4.0
		GMV-R45G/NaB-K	45	4.5	5.0
		GMV-R50G/NaB-K	50	5.0	5.8
		GMV R56G/NaB-K	56	5.6	6.3
		GMV-R71G/Na-K	71	7.1	8.0
		GMV-R80G/Na-K	80	8.0	8.8
Wall-mounted Type (EXV integrated)		GMV(L)-R22G/NaG-K	22	2.2	2.5
		GMV(L)-R28G/NaG-K	28	2.8	3.2
		GMV(L)-R36G/NaG-K	36	3.6	4.0
		GMV(L)-R45G/NaG-K	45	4.5	5.0
		GMV(L)-R50G/NaG-K	50	5.0	5.8
		GMV(L)-R56G/NaG-K	56	5.6	6.3
		GMV(L)-R63G/NaG-K	63	6.3	7.0
		GMV(L)-R71G/NaG-K	71	7.1	8.0

Type	Appearance	Model Name	Capacity Code	Cooling Capacity(kW)	Heating Capacity(kW)
Flooring ceiling Type		GMV-R28Zd/Na-K	28	2.8	3.2
		GMV-R36Zd/Na-K	36	3.6	4.0
		GMV-R50Zd/Na-K	50	5.0	5.8
		GMV-R71Zd/Na-K	71	7.1	8.0
		GMV-R90Zd/Na-K	90	9.0	10.0
		GMV-R112Zd/Na-K	112	11.2	12.5
		GMV-R125Zd/Na-K	125	12.5	13.5
		GMV-R28Zd/NaB-K	28	2.8	3.2
		GMV-R36Zd/NaB-K	36	3.6	4.0
		GMV-R50Zd/NaB-K	50	5.0	5.8
		GMV-R71Zd/NaB-K	71	7.1	8.0
		GMV-R90Zd/NaB-K	90	9.0	10.0
		GMV-R112Zd/NaB-K	112	11.2	12.5
		GMV-R125Zd/NaB-K	125	12.5	13.5

Conversion Formula: 1kW=3412Btu/h

2.4 Water-tank

Model	Tankage(L)	Appearance
SXD250LC-K	250	
SXD300LC-K	300	
SXD350LC-K	350	
SXD400LC-K	400	
SXVD200LCJ/A-K	200	
SXVD300LCJ/A-K	300	
SXVD200LCJ2/A-K	200	
SXVD300LCJ2/A-K	300	
SXVD350LCJ/A-K	350	
SXVD400LCJ/A-K	400	
SXVD350LCJ2/A-K	350	
SXVD400LCJ2/A-K	400	

Nomenclature

SX	□	□	300	L	C	□	/	□	-	K
1	2	3	4	5	6	7		8		9

NO.	Description	Options
1	code name	SX-water tank
2	Tank type	V-D.C. Inverter VRF Water tank omitting-general water tank
3	Function code	D-with electric heater, omitting-without electric heater
4	Tank cubage	Tank cubage, units: litre (L)
5	Configuration form	B-Ceiling Mounting, L-Floor Standing
6	whether with pressure endurance or not	C—with pressure endurance, omitting-can not endure pressure
7	Type of heat exchanger pipe	J: with heat exchanger in water tank, JW: with heat exchanger above the flank of water tank, J2: with double heat exchanger pipes in water tank, D: with heat exchanger in water tank for floor heating, omitting-without heat exchanger
8	Design sequence	Generality A,B,C…in order
9	Power compelment	K:220~240V-1Ph-50Hz M:380~415V-3Ph -50Hz

2.5 Hydro-box

Model	Capacity Range(kW)	Appearance
RQD5GA-K RQD5GB-K RQ5GB-K	5	
RQD8GA-K RQD8GB-K RQ8GA-K	8	
RQ30LA-K	30	
RQ20LA-K	20	
RQD30LA-M	30	
RQD20LA-M	20	

Conversion Formula: 1kW=3412Btu/h

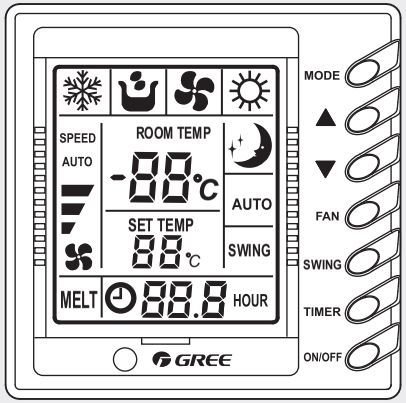
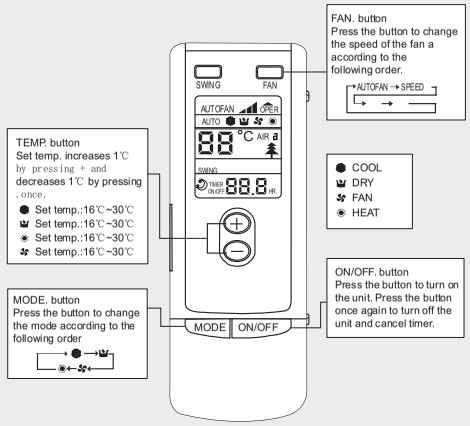
CAUTION:
In field, the Hydro-box of model "RQD5GA-K" and "RQD8GA-K" need to connect an expansion tank for system running better, normally, volume of expansion tank is 5~10 percent of volume of the whole water system.

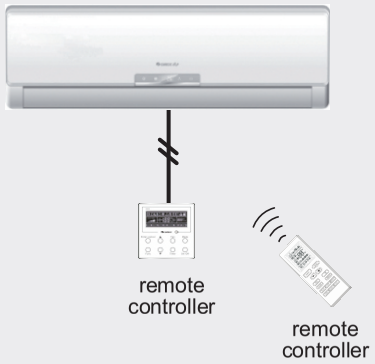
Nomenclature

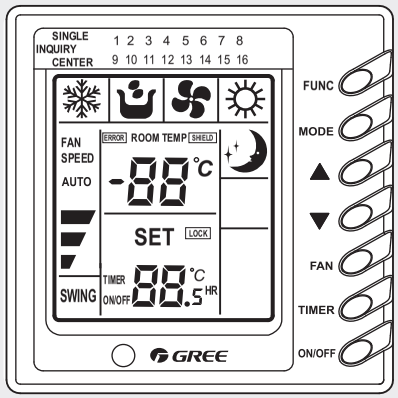
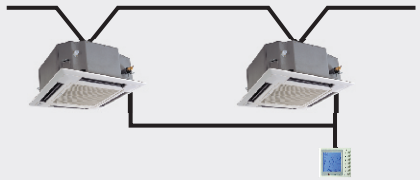
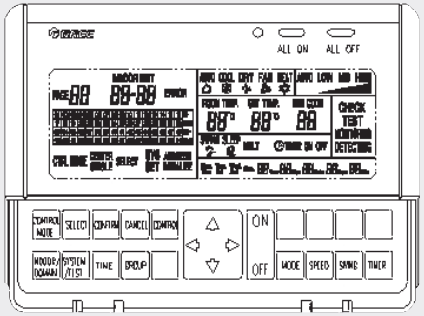
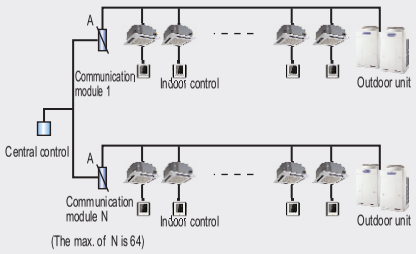
RQ	D	5	G	A	-	□
1	2	3	4	5		6

NO.	Code description	Options
1	Production code for Hydro-box	
2	Function characteristic	D-with electric heater, omitting-without electric heater
3	Capacity for heating water	capacity of heating water, units KW
4	Configuration code	G-Ceiling Mounting; L-Floor Standing; W-horizontal
5	Design N.O	A、B、C...
6	Power compelment	K:220~240V-1Ph -50Hz M:380~415V -3Ph -50Hz

2.6 Controller

Name	Model Name	Appearance	Application	Function
Wired controller	Z60151F Z60351F Z63151F Z63351F			• Start / Stop • mode Changing • Temperature setting • Air flow changing • Timing setting • Self-diagnosis function Display codes of trouble. • Control by 2 remote control - lers is available. Two remote controllers can be connected to one indoor unit. The indoor unit can be separately operated from the isolated places.
remote controller	Y512			• Start / Stop • mode Changing • Temperature setting • Air flow changing • Timing setting

Name	Model Name		Application	Function
Touch Button Wired Controller	Xk02			• Start / Stop • mode Changing • Temperature setting • Air flow changing • Timing setting • Self-diagnosis function Display codes of trouble. • Control by 2 remote control - lers is available. • Touch button • Swing setting • Sleep setting • Turbo setting • Energy setting • E-haeter setting • Blow setting • Quiet function setting • Memory setting • Lock function setting
remote controller	YB1FA			• Start / Stop • mode Changing • Temperature setting • Air flow changing • Timing setting • Blow setting • Clock setting • Sleep setting • Turbo setting • Light setting • Lock setting

Name	Model Name	Appearance	Application	Function
Region controller	ZJA011 (MC207006)		A.  Region monitoring controller B.  Region wired controller	Region Controller has two functions. •01 Function mode: Region monitoring controller •Individual control up to 16 indoor units. •Central control up to 16 indoor units •Each outdoor can only connect one Region monitoring controller. •two control mode Individual control mode Central control mode •02 Function mode: Region wired controller •It can replace the No.1-16 selected wired controllers to uniformly set or control the indoor units.
Centralized controller	ZJ7011 (MC207004)			•Individual control up to 1024 indoor units. •Up to 64 outdoor units are connectable. •4 type central control setting to inhibit individual operation by remote controller can be selected. •Three control mode: Individual control mode Central control mode Select control mode •Each indoor unit can set Timer On/Off time by central, single or select control. Both Timer On and Timer Off can be set at the same time, and it is available that set the timer which days of the 7 days from Sunday to Saturday works.

3 BASIC SYSTEM CONFIGURATION

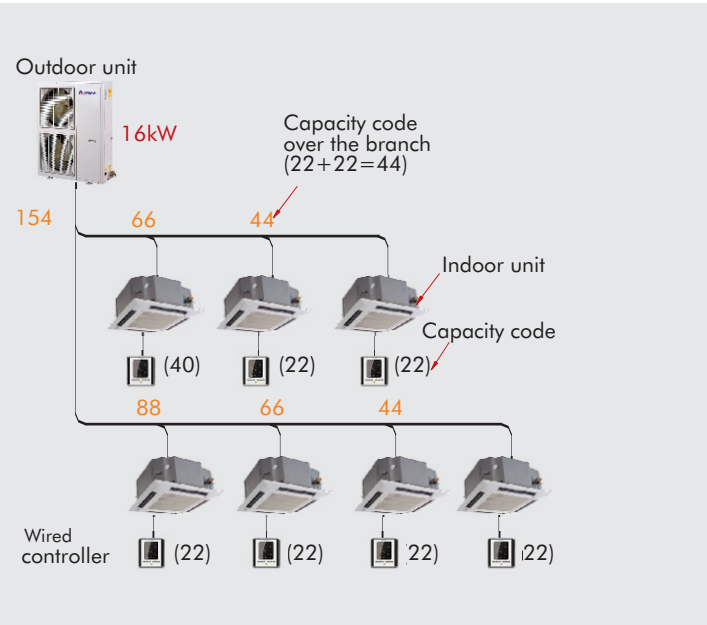
System Legend (eX.)

Model name of outdoor unit:

GMV-Pds160W/Na-K

- Allowed max. indoor unit: 7 units
- Allowed capacity code of indoor unit: Min.: 8.0; Max.: 16.0
- Allowed tankage of Water-tank: Min. : 200L; Max. : 400L

Capacity code
Total 154
No. of total units
7

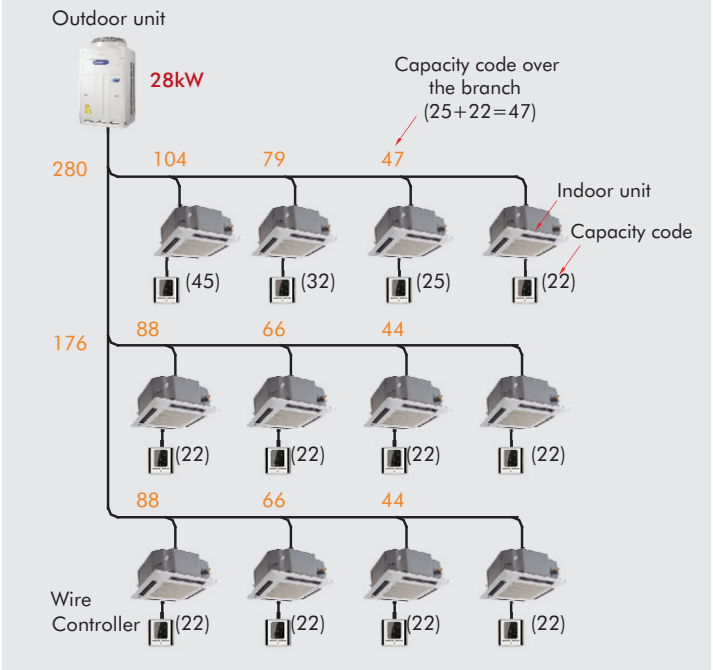


Model name of outdoor unit:

GMV-Pds280W/Na-M

- Allowed max. indoor unit: 16 units
- Allowed capacity code of indoor unit: Min.: 14.0; Max.: 28.0
- Allowed tankage of Water-tank: Min. : 200L; Max. : 400L

Capacity code
Total 280
No. of total units
16

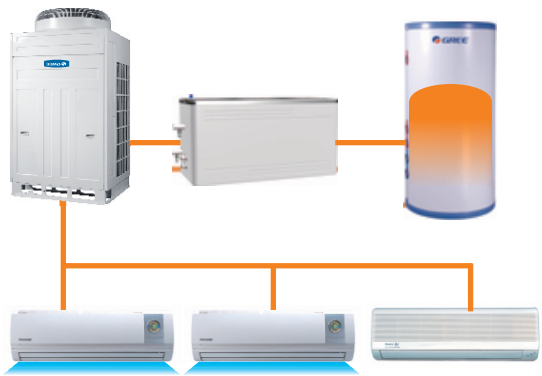


Seven kinds of basic working mode

- Air source heat pump and reclaiming heat mode: low load cooling and water heating

- Partly heat recovery mode: full load cooling and water heating

- Fully heat recovery mode: equal load cooling and water heating



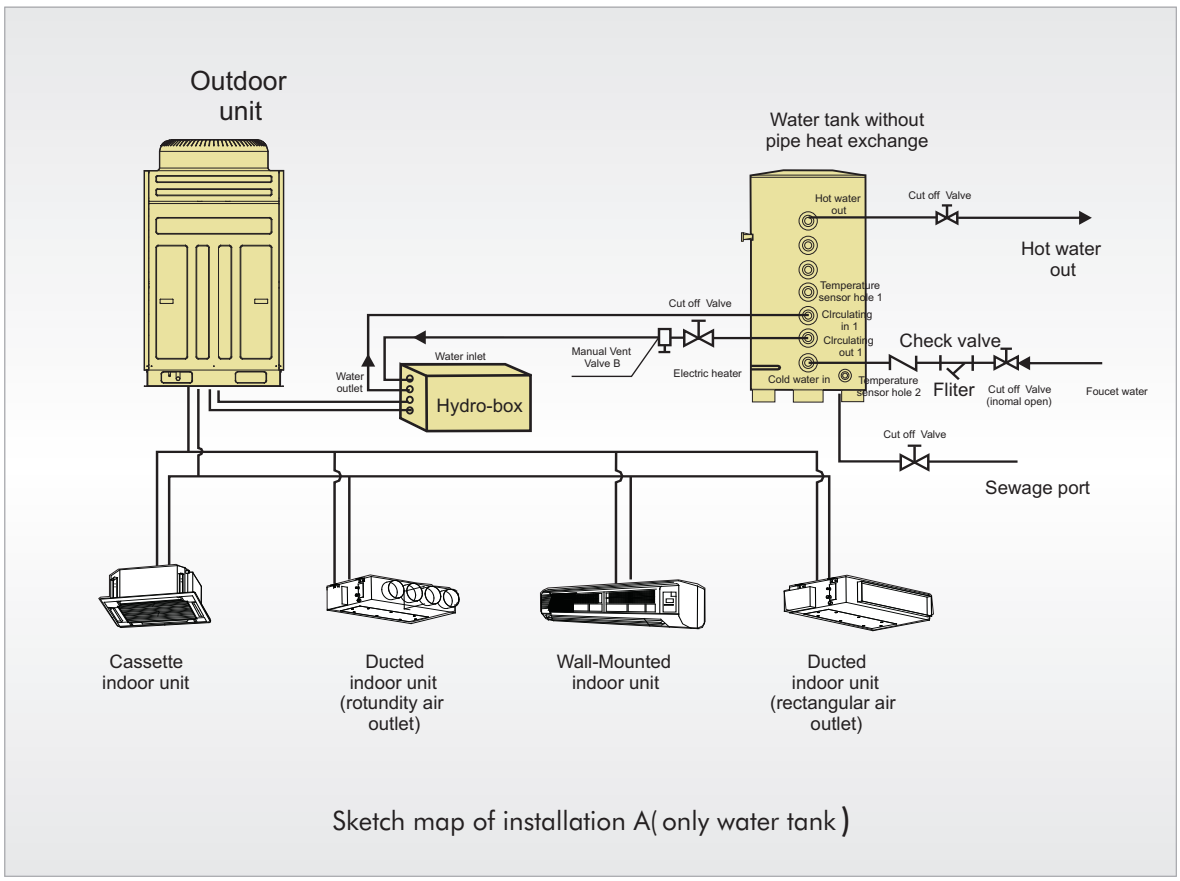
- Air source heat pump mode:heating and wate heating

- Air source heat pump mode:only water heating

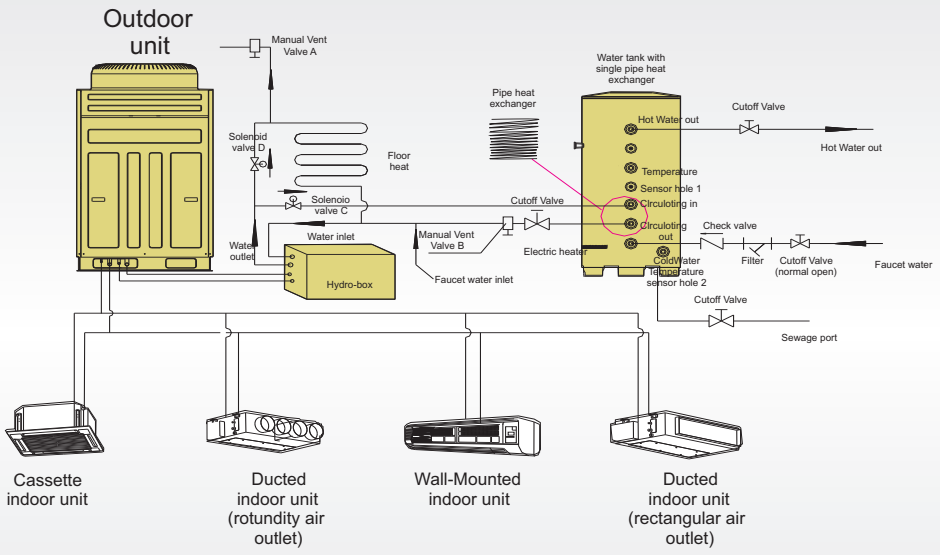
◆ General cooling operation mode

◆ General heating operation mode

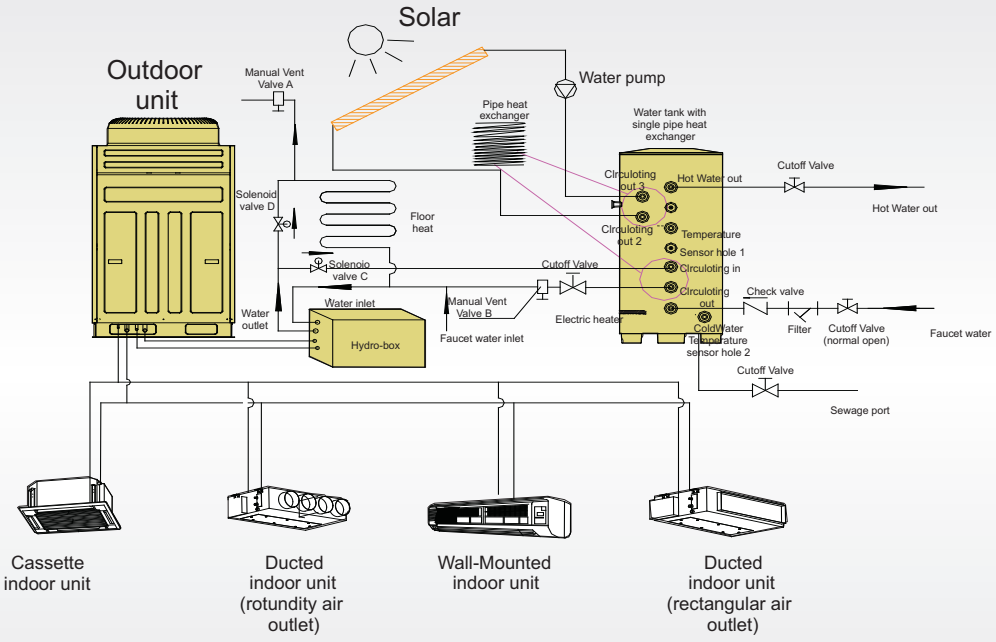
sketch map of installation



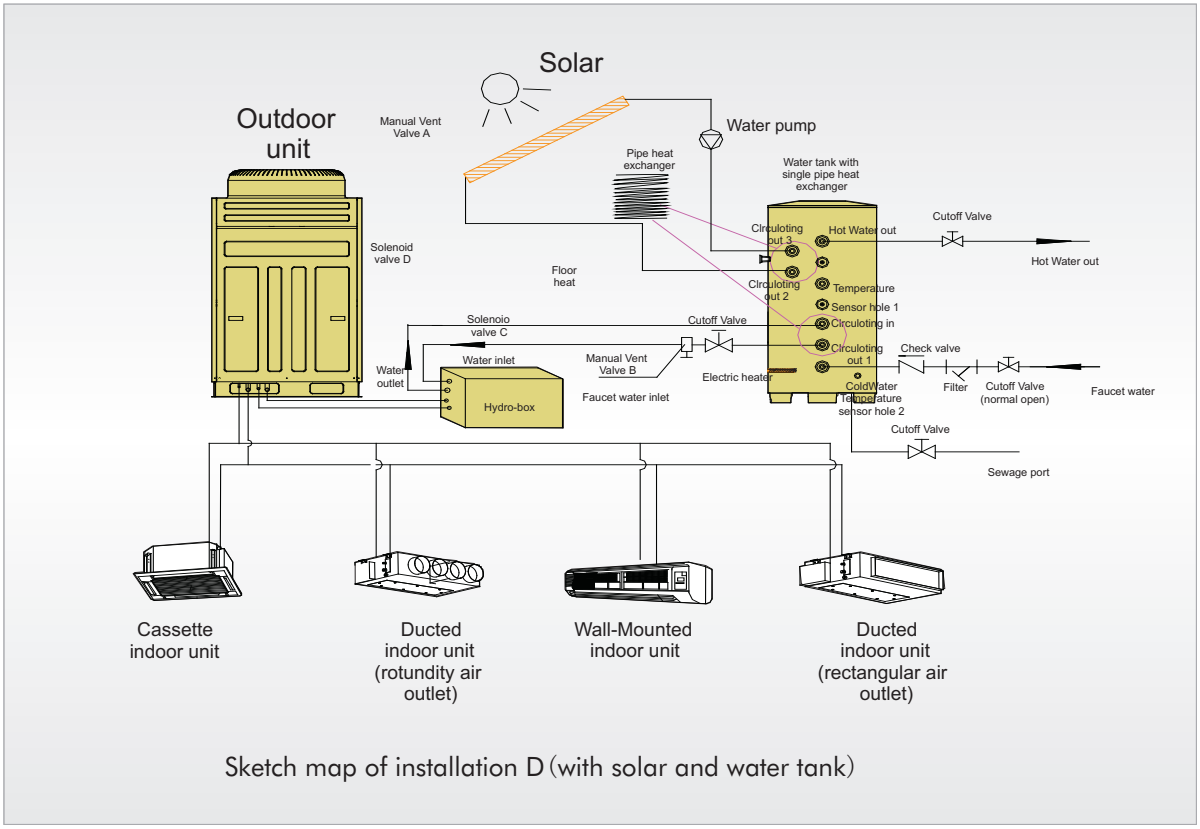
Sketch map of installation A(only water tank)



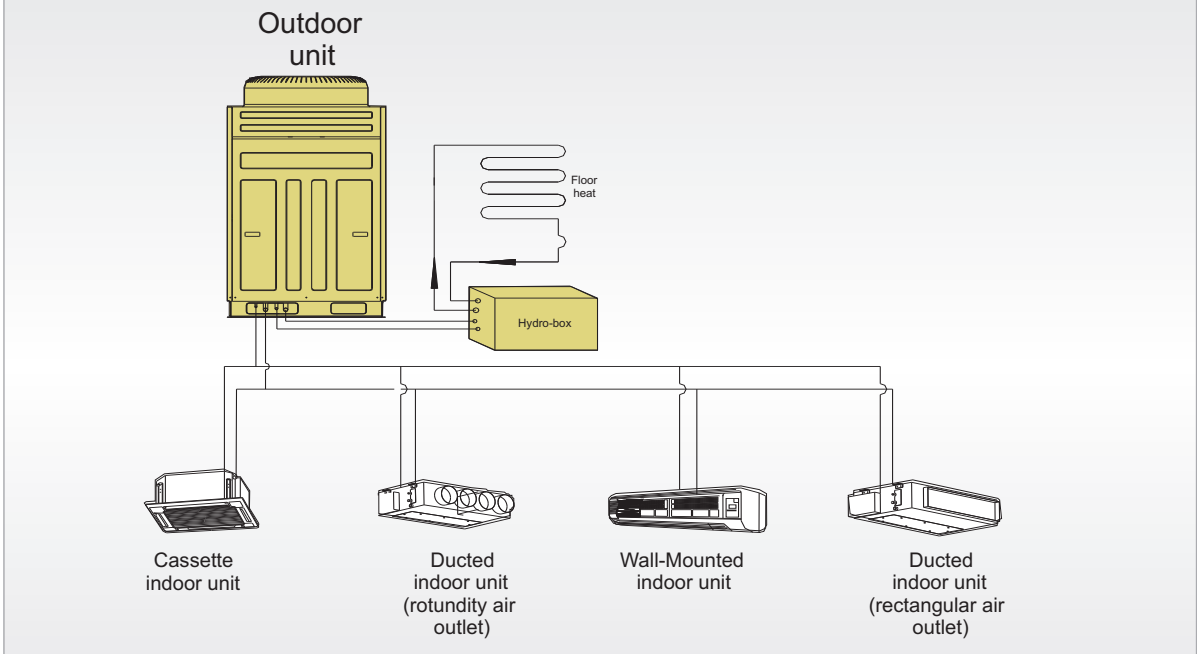
Sketch map of installation B(floor heater and water tank)



Sketch map of installation C (with solar,floor heater and water tank)



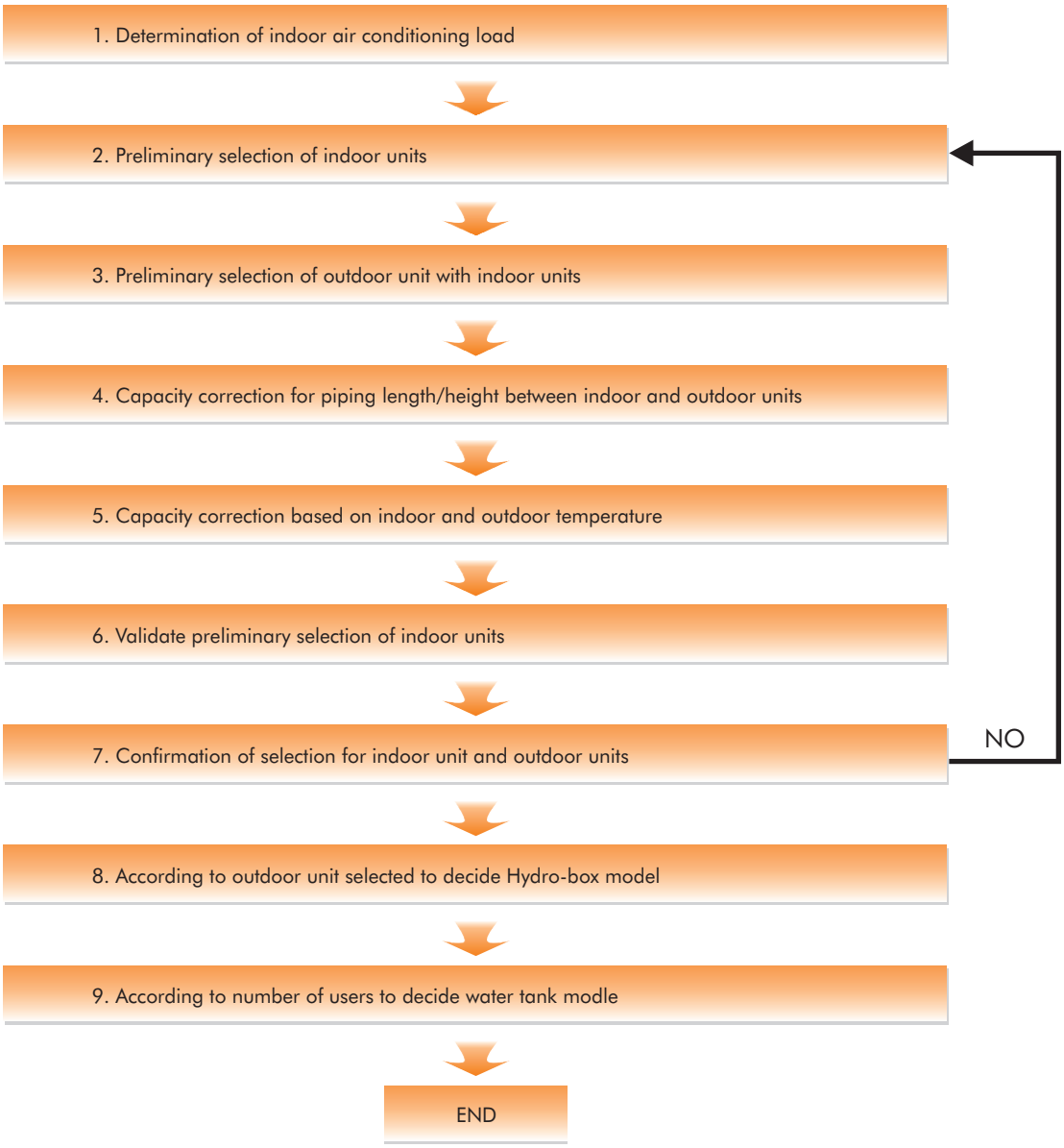
Sketch map of installation D (with solar and water tank)



Sketch map of installation E (only with floor heater)

4 EQUIPMENT SELECTION PROCEDURE

4.1 Selection Flow Chart



4.2 Combination Conditions for Indoor Unit and Outdoor Unit and Water-tank

1). The capacity code of indoor units=the nominal cooling capacity(W)×0.01

2). For outdoor unit, maximum No. of connectable indoor units and total capacity code of indoor units are decided.

Model name of outdoor unit	Capacity code of outdoor unit	Max. No. of indoor units	Total capacity code of indoor units	Tankage of Water-tank (L)	Model name of Hydro-box	Capacity code of Hydro-box
GMV-Pds100W/Na-K	100	6	80 to 130	refer to "installation and operating instructions"		
GMV-Pds120W/Na-K	120	6	80 to 130			
GMV-Pds140W/Na-K	140	7	80 to 160			
GMV-Pds160W/Na-K	160	7	80 to 160			
GMV-Pds224W/Na-M	224	11	112 to 250			
GMV-Pds280W/Na-M	280	12	140 to 280			

3).How to confirm the cubage of tank.

Generally, cubage of tank is between 100L~400L for house, formula: V=(40~80)L apiece.

Application instance	Water tank model
Family of three people	water tank of 200litre
Family of four people	water tank of 250litre
Family of four people with bathtub	water tank of 300litre
Family of five people with bathtub	water tank of 350litre
Family of five people with bathtub	water tank of 400litre

Notes: according to water temperature 55℃/shower bath 40~70L apiece/bathtub :100~150L at a time.

4).How to confirm the model of Hydro-box.

Recommending the model of Hydro-box according to the following form:

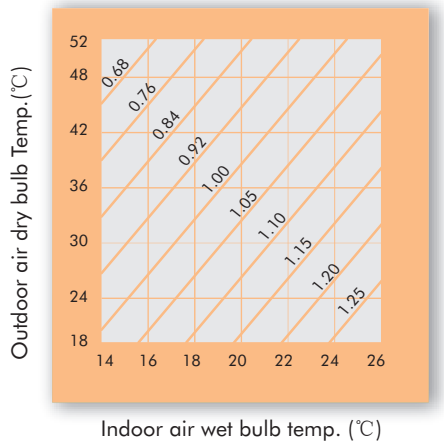
Outdoor unit model	Hydro-box model	Remark
GMV-Pds100W/Na-K	RQD5GA-K RQD5GB-K RQ5GA-K	/
GMV-Pds120W/Na-K		
GMV-Pds140W/Na-K	RQD8GA-K RQD8GB-K RQ8GA-K	/
GMV-Pds160W/Na-K		
GMV-Pds224W/Na-M	RQD20LA-M	With,floor heater
	RQ20LA-K	Without floor heater
GMV-Pds280W/Na-M	RQD30LA-M	With,floor heater
	RQ30LA-K	Without floor heater

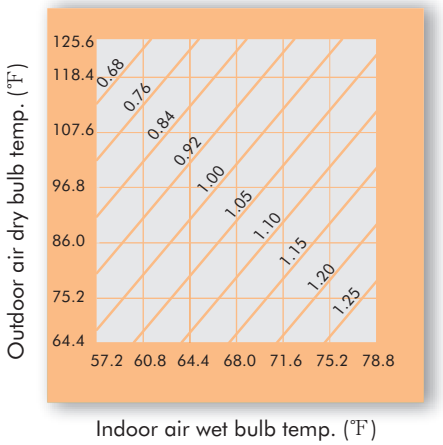
4.3 Capacity Characteristics

4.3.1. Cooling Capacity Calculation Method of Outdoor Unit

Real cooling capacity = Cooling capacity× Factor①× （Factor②-Factor③)

①Ambient Temperature vs. Capacity Correction Value





②Connecting Pipe Length Between Indoor and Outdoor Units vs. Capacity Correction Value

Equivalent pipe length（m/ft）	5/16	10/32	15/49	20/65	25/82	30/98	35/114	40/131	45/147	50/164
Correction value	1.0	0.992	0.984	0.976	0.98	0.960	0.952	0.944	0.936	0.928
Equivalent pipe length（m/ft）	55/180	60/196	65/213	70/229	75/246	80/262	85/278	90/295	95/311	100/328
Correction value	0.920	0.912	0.904	0.896	0.888	0.880	0.872	0.864	0.856	0.848
Equivalent pipe length（m/ft）	105/344	110/360	115/377	120/393	125/410	130/426	135/442	140/459	145/475	150/492
Correction value	0.840	0.832	0.824	0.816	0.808	0.800	0.792	0.784	0.776	0.768
Equivalent pipe length（m/ft）	155/508	160/524	165/541	170/557	175/574					
Correction value	0.760	0.752	0.744	0.736	0.728					

a. The calculation method of equivalent pipe length
Equivalent pipe length = The real pipe length between the farthest indoor unit and the outdoor unit + The quantity of 90° elbow between the outdoor unit and the farthest indoor unit ×the equivalent pipe length of 90° elbow (see the following table) + the quantity of branch joint between the outdoor unit and the farthest indoor unit×the equivalent of branch joint
b. The equivalent pipe length calculation method of 90° elbow

The equivalent pipe length of 90° elbow

Diameter of gas pipe mm(Inch)	12.7(1/2)	5.9(5/8)	19.05(3/4)	22.2(7/8)	25.4(1)	28.6(11/8)	34.9(13/8)	1.3(15/8)
Equivalent pipe length m(ft)	0.1(0.32)	0.1(0.32)	0.15(0.49)	0.15(0.49)	0.15(0.49)	0.2(0.65)	0.25(0.82)	0.25(0.82)

c. The equivalent pipe length of a branch joint is 0.5m.

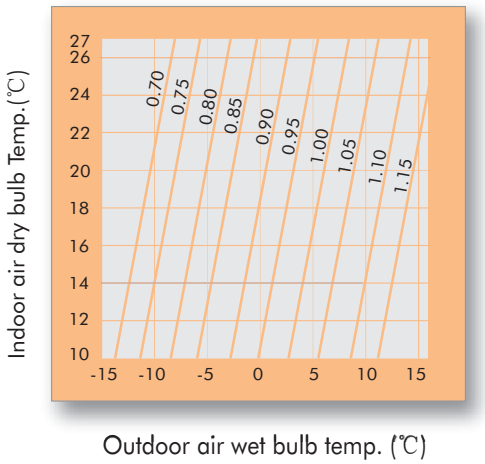
③Height Difference Between Indoor and Outdoor Units vs. Capacity Correction Value

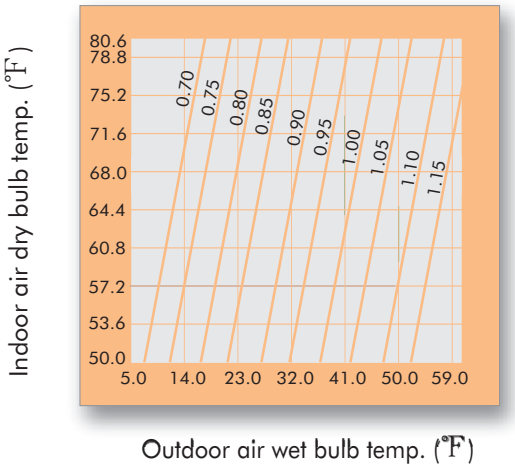
Height difference between indoor &outdoor(m/ft)	5/16	10/32	15/49	20/65	25/82	30/98	35/114	40/131	45/147	50/164
Correction value	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10

4.3.2. Heating Capacity Calculation Method of Outdoor Unit

Real heating capacity = Heating capacity× Factor①×(Factor②-Factor③)

①Ambient Temperature vs. Capacity Correction Value





②Connecting Pipe Length Between Indoor and Outdoor Units vs. Capacity Correction Value

Equivalent pipe length（m/ft）	5/16	10/32	15/49	20/65	25/82	30/98	35/114	40/131	45/147	50/164
Correction value	1.0	1.0	1.0	1.0	1.0	0.995	0.995	0.99	0.99	0.99
Equivalent pipe length（m/ft）	55/180	60/196	65/213	70/229	75//246	80/262	85/278	90/295	95/311	100/328
Correction value	0.985	0.985	0.985	0.98	0.98	0.98	0.975	0.975	0.975	0.965
Equivalent pipe length（m/ft）	105/344	110/360	115/377	120/393	125/410	130/426	135/442	140/459	145/475	150/492
Correction value	0.965	0.965	0.96	0.96	0.96	0.955	0.955	0.95	0.95	0.95
Equivalent pipe length（m/ft）	155/508	160/524	165/541	170/557	175/574					
Correction value	0.945	0.945	0.940	0.940	0.935					

a. The calculation method of equivalent pipe length
Equivalent pipe length =The real pipe length between the farthest indoor unit and the outdoor uni+ The quantity of elbow between the outdoor unit and the farthest indoor unit × the equivalent pipe length of elbow (see the following table) + the quantity of branch joint between the outdoor unit and the farthest indoor unit×he equivalent of branch joint

b. The equivalent pipe length calculation method of 90° elbow
The equivalent pipe length of 90° elbow

Diameter of gas pipe mm(Inch)	12.7(1/2)	5.9(5/8)	19.05(3/4)	22.2(7/8)	25.4(1)	28.6(11/8)	34.9(13/8)	1.3(15/8)
Equivalent pipe length m(ft)	0.1(0.32)	0.1(0.32)	0.15(0.49)	0.15(0.49)	0.15(0.49)	0.2(0.65)	0.25(0.82)	0.25(0.82)

c. The equivalent pipe length of a branch joint is 0.5m.

③Lift Difference Between Indoor and Outdoor Units vs. Capacity Correction Value

Height difference between indoor &outdoor(m/ft)	5/16	10/32	15/49	20/65	25/82	30/98	35/114	40/131	45/147	50/164
Correction value	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10

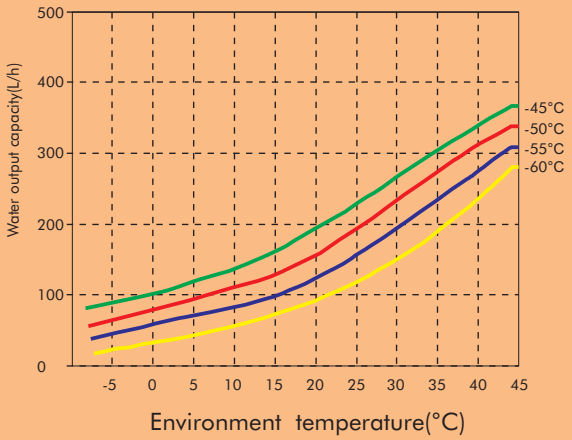
4.3.3 Capacity Calculation for Each Indoor Unit

Capacity for each indoor unit

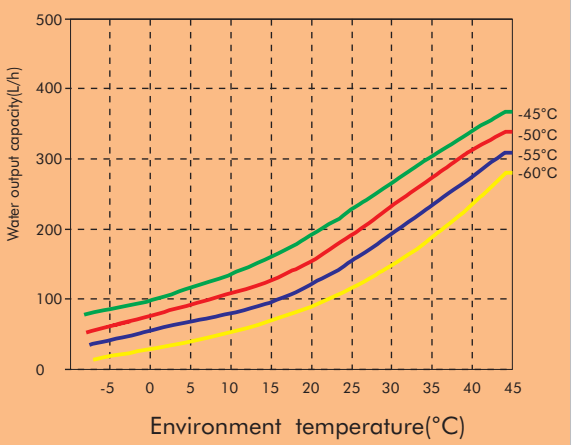
$$= \text{Capacity after correction of outdoor uni} \times \frac{\text{Required standard capacity of indoor unit}}{\text{Total value of standard indoor unit capacity}}$$

4.3.4. Water Yield Calculation Method

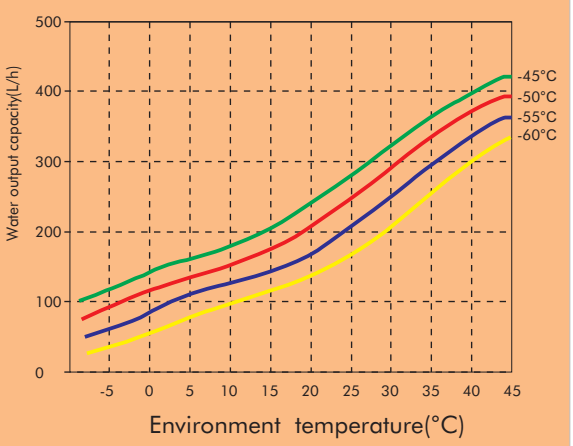
outdoor unit: GMV-Pds100W/Na-K
Hydro-box: RQD5GA-K
Water tank: SXD*LC-K
Water output capacity correction



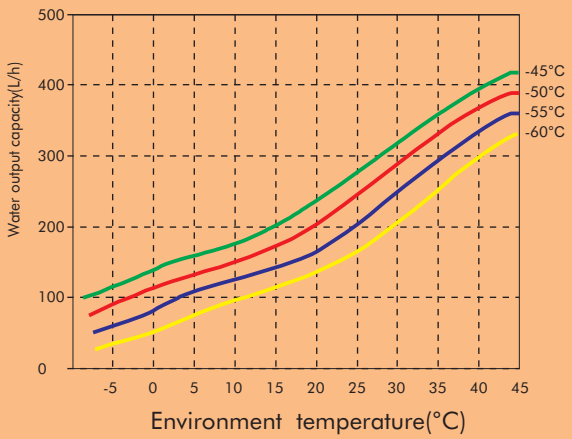
outdoor unit: GMV-Pds120W/Na-K
Hydro-box: RQD5GA-K
Water tank: SXD*LC-K
Water output capacity correction

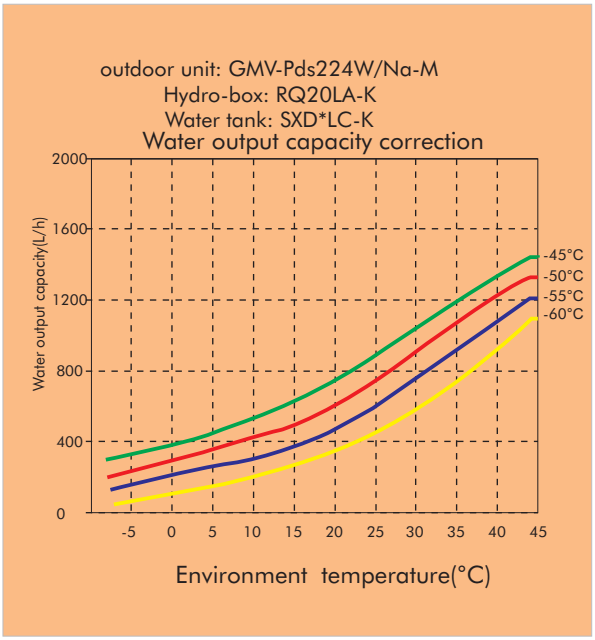


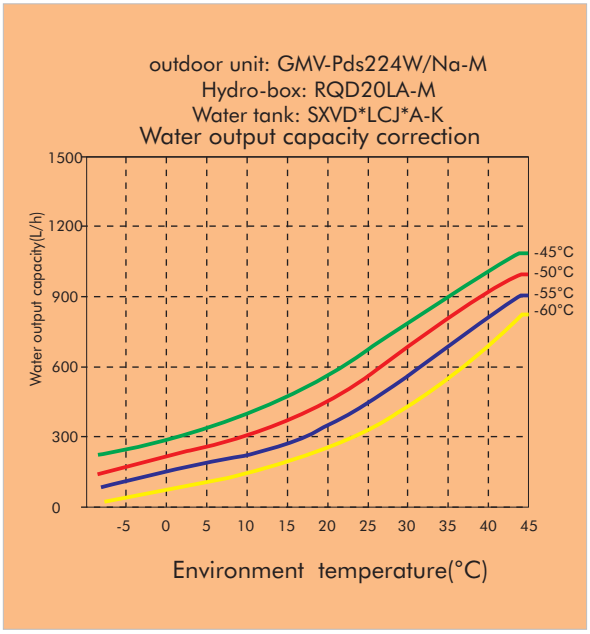
outdoor unit: GMV-Pds140W/Na-K
Hydro-box: RQD8GA-K
Water tank: SXD*LC-K
Water output capacity correction

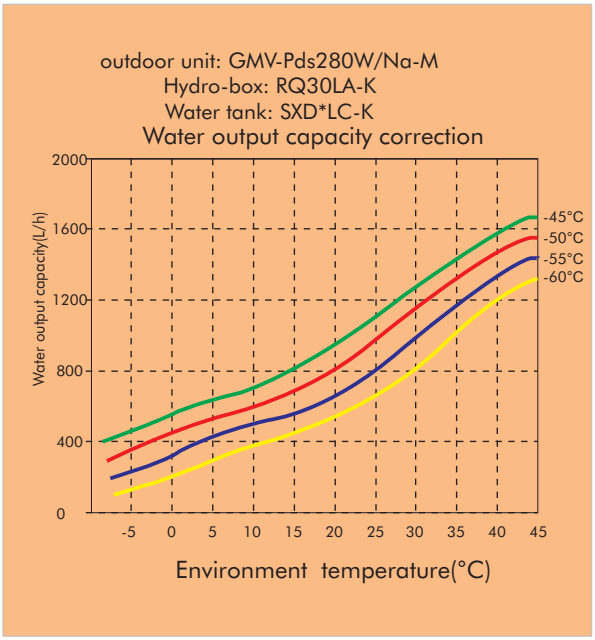


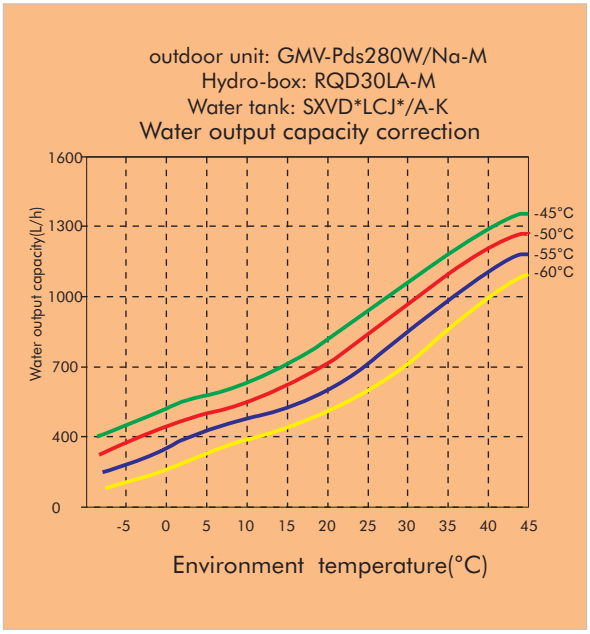
outdoor unit: GMV-Pds160W/Na-K
Hydro-box: RQD8GA-K
Water tank: SXD*LC-K
Water output capacity correction











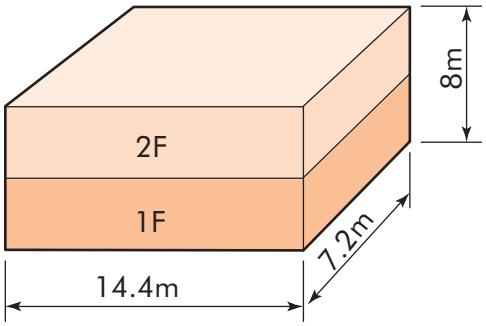
4.3.5. Operating temperature range

Cooling working range	Outdoor temperature -5℃～48℃
Heating working range	Outdoor temperature -20℃～27℃
Cooling and water heating working range	Outdoor temperature -5℃～43℃
Heating and water heating working range	Outdoor temperature -15℃～24℃
Heating water working range	Outdoor temperature -15℃～43℃

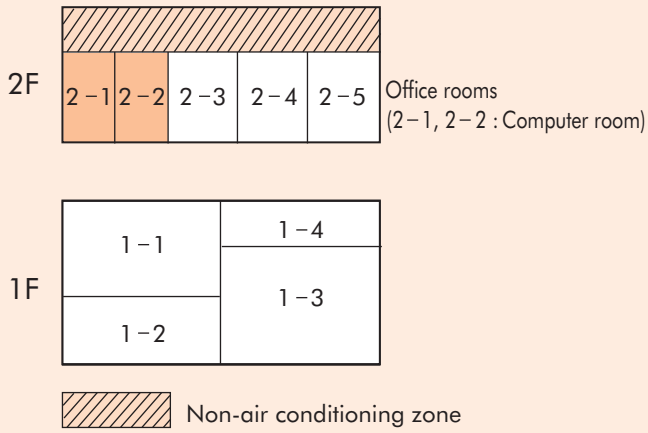
4.4 Example of Equipment Selection

4.4.1. Overview of building model

<Outside view>



<Rooms configuration>



Steel frame, reinforced concrete building, four stories above ground.

Total floor area : 210m²

Outdoor unit is installed on the roof.

- Design indoor conditions

Cooling : 27.0℃(81℉)/19.0℃(66.6℉) DB/WB

- Design outdoor conditions

Cooling : 35℃(95.4℉) DB (Standard condition)

4.4.2. Selection Criteria for each floor

2F : Outdoor capacity exactly matches the total indoor capacity.

Total indoor HP = Outdoor unit HP

Indoor : 2.5 HP x 2 units + 1.25 HP + 2 HP x 2 = 10.25 HP

Outdoor : 10 HP (Same capacity)

Heat load of room 2-1 and 2-2 is higher than other rooms.

1F : Consider the increasing heat load in the specific room.

- Total indoor units HP > Outdoor unit HP
- Select each indoor unit based on individual peak room load.

Indoor : 2.5HP + 2.5HP + 3.2HP + 2.0HP =10.2HP

Outdoor : 10HP (Same capacity)

- The outdoor module should have sufficient capacity to cover the peak demand of the indoor unit connected.

4.4.3. Procedure and result of equipment selection

A. Procedure of Equipment Selection

① Calculate cooling for every rooms.

② Select an indoor unit to match the cooling load for every room.

③ Choose a tentative outdoor that will match with the indoor units. Perform capacity correction based on the pipe length, system lift, indoor set temperature, outdoor temperature. Then, make sure the corrected system cooling capacity satisfies the cooling load.

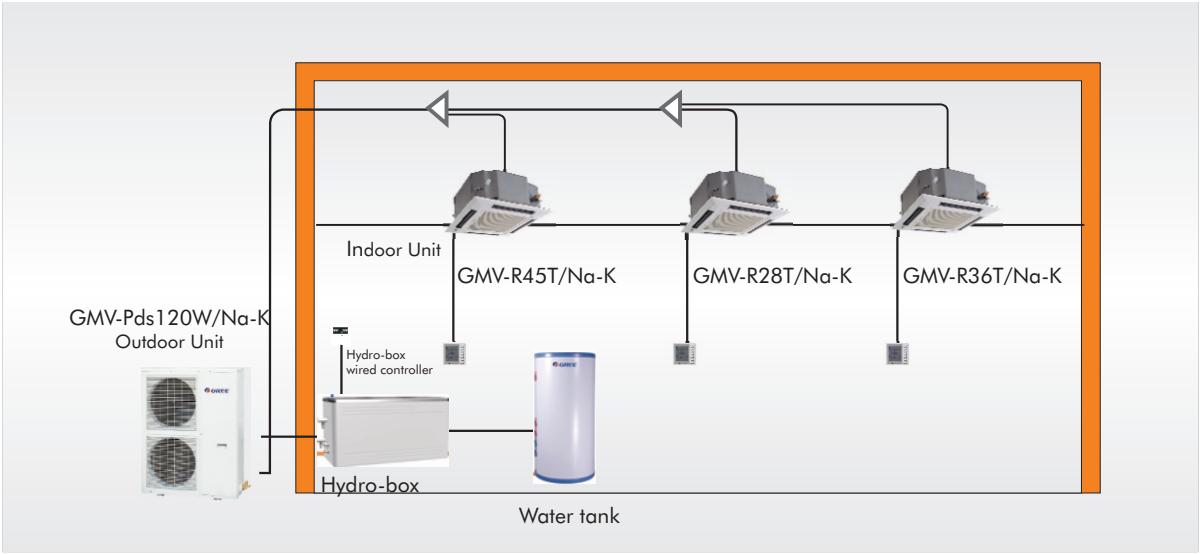
B. Equipment Selection and Capacity Check

Air conditioning load			Equipment selection					
Floor	Room No	Indoor cooling load(kW)	Indoor unit			Outdoor unit		
			Model	Capacity(kW)		Model	Capacity(kW)	
				Cooling	Heating		Cooling	Heating
1F	2-1	6.0	GMV-R56P/NaB-K	5.6	6.3	GMV-Pds280 W/Na-M	28.0	31.5
	2-2	5.2	GMV-R56P/NaB-K	5.6	6.3			
	2-3	5.0	GMV-R56P/NaB-K	5.6	6.3			
	2-4	3.2	GMV-R36P/NaB-K	3.6	4.0			
	2-5	6.4	GMV-R71P/NaB-K	7.1	8.0			
2F	1-1	6.1	GMV-R56P/NaB-K	5.6	6.3	GMV-Pds280 W/Na-M	28.0	31.5
	1-2	6.3	GMV-R71P/NaB-K	7.1	8.0			
	1-3	7.2	GMV-R90P/NaB-K	9.0	10.0			
	1-4	5.1	GMV-R56P/NaB-K	5.6	6.3			

Piping distance				Capacity correction		Capacity check after correction		
Floor	Room No.	Equivalent length (m)	Height difference (m)	Pipe correction x temp. correction		Capacity(kW)		Judgement
				Cooling	Heating	Cooling	Heating	
2F	2-1	30	1.5	(0.960-0) ×1.0=0.960	(0.995-0) ×0.94 =0.935	5.6	6.0	good
	2-2					5.6	6.0	
	2-3					5.6	6.0	
	2-4					3.5	3.8	
	2-5					7.0	7.6	
1F	1-1	50	5	(0.928-0.01) ×1.0=0.918	(0.99-0.01) ×0.94 =0.920	5.3	5.9	good
	1-2					6.7	7.6	
	1-3					8.4	9.5	
	1-4					5.3	5.9	

Conversion Formula: KW=Btu/h×3412

C. Schematic diagram



5 PIPING DESIGN

5.1 Warning on Refrigerant Leakage

The room in which the air conditioner is to be installed requires a design that in the event of refrigerant gas leaking out, its concentration will not exceed a set limit.

The refrigerant R410 which is used in the air conditioner is safe, without the toxicity or combustibility of ammonia. However, since it contains more than air, it poses the risk of suffocation if its concentration should rise excessively. Suffocation from leakage of R410 is almost non-existent. With the recent increase in the number of high concentration buildings, the installation of multi air conditioner systems is on the increase because of the need for effective use of floor space, individual control, energy conservation by curtailing heat and carrying power etc.

Most importantly, the multi air conditioner system is able to replenish a large amount of refrigerant com pared with conventional individual air conditioners. If a single unit of the multi conditioner system is to be installed in a small room, select a suitable model and installation procedure so that if the refrigerant accidentally leaks out, its concentration does not reach the limit (and in the event of an emergency, measures can be made before injury can occur).

In a room where the concentration may exceed the limit, create an opening with adjacent rooms, or install mechanical ventilation combined with a gas leak detection device.

5.1.1. The Concentration Limit of R410 Which is Used in Multi Air Conditioners

The concentration limit of R410 which means the concentration limit of R410 that can be control by emergency measures to prevent human body from harming. The refrigerant concentration unit is kg/m^3 (Which means the weight of refrigerant per m^{3}air).

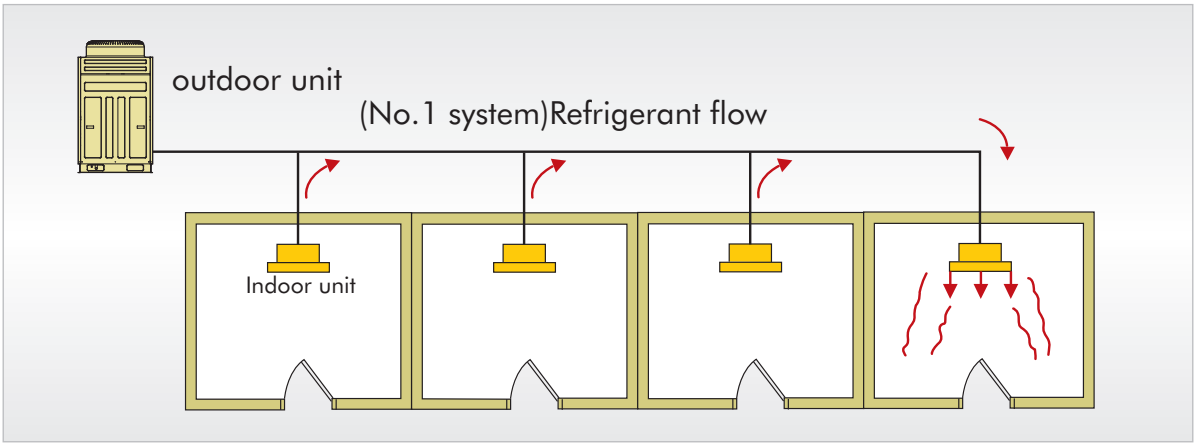


Fig.5.1

5.1.2. Check of Refrigerant Leakage

Calculate the refrigerant concentration as follows:

①**Calculate the Amount of Refrigerant of Each Refrigeration System**

The amount of refrigerant of each system of outdoor unit:

Refrigerant amount of the outdoor unit at factory

Additional charged amount at field installation:

According to the liquid tube length and diameter

[The amount of refrigerant of each system of outdoor unit] + [Additional charged amount at field installation] = System total amount of refrigerant(kg)

Remark : Please refer to the manual for calculating method

NOTE:

When single refrigeration system is consists of several independent refrigeration circuit, figure out the total refrigerant amount by each independent refrigerant circuit.

For the amount of charge in this example:

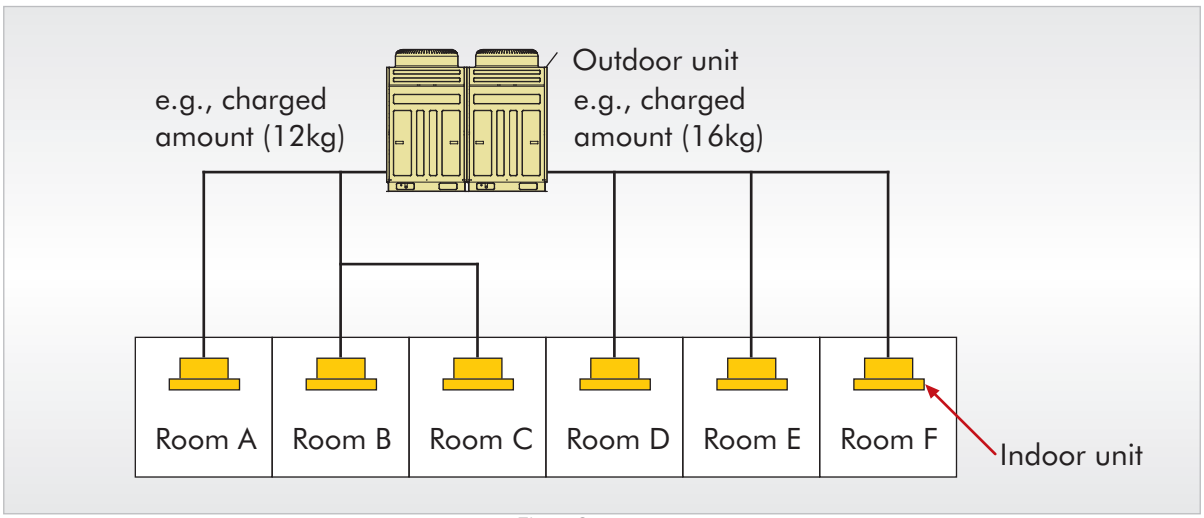


Fig.5.2

The possible amount of leaked refrigerant gas in rooms A, B and C is 12kg.
The possible amount of leaked refrigerant gas in rooms D, E and F is 16kg.
No partition (shaded portion)

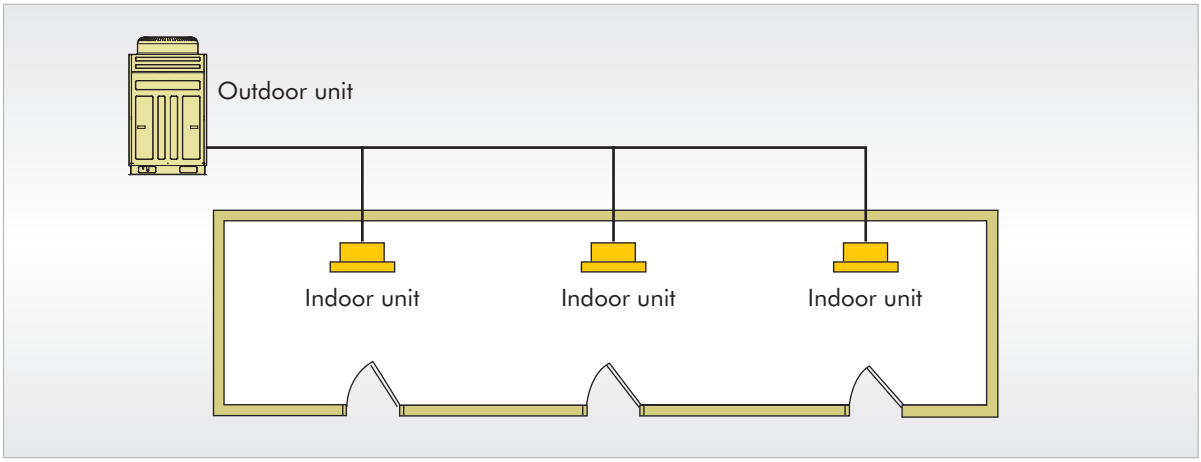


Fig.5.3

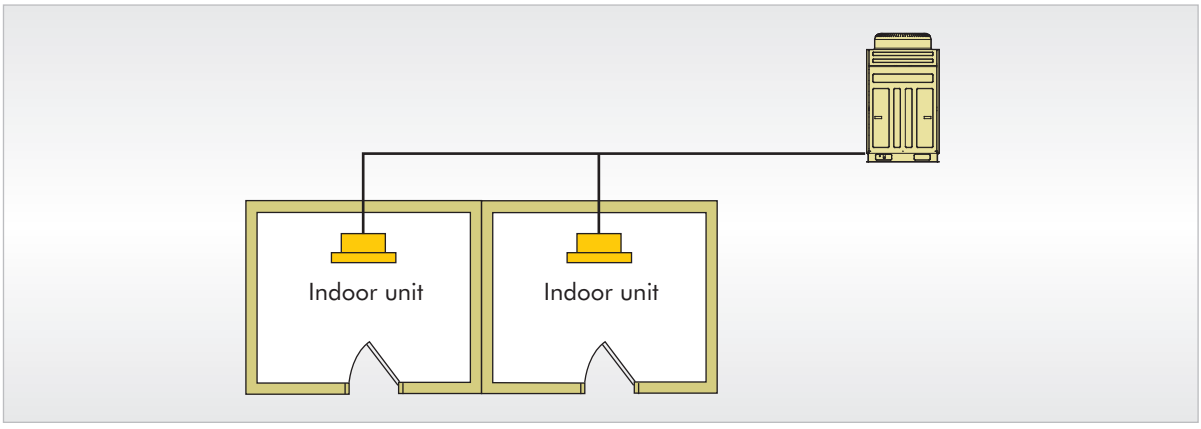


Fig.5.4

- If an indoor unit is installed in each partitioned room and the refrigerant tubing is interconnected, the smallest room of course becomes the object.

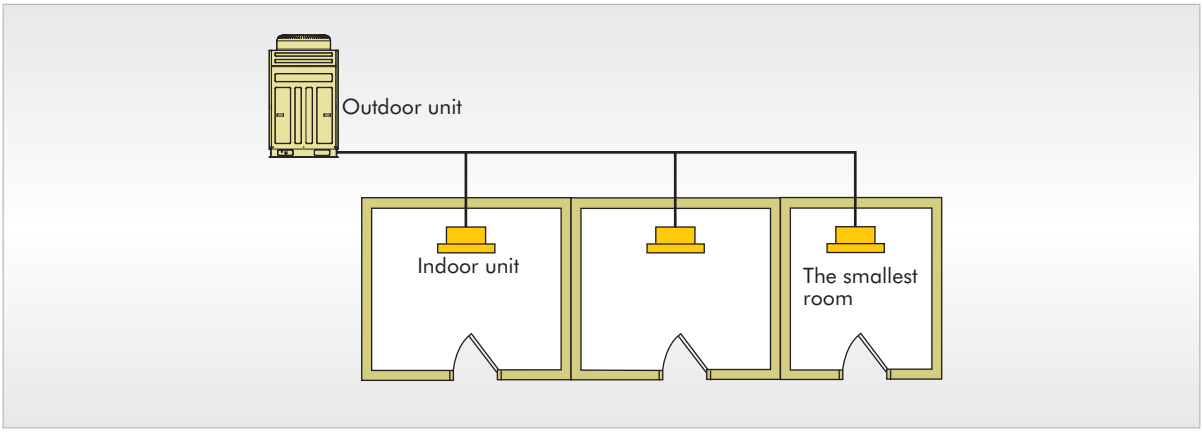


Fig.5.5

The concentration limit of R410A which is used in multi air conditioners is 0.3kg/m^3
Use the results of calculations①and②to calculate the refrigerant concentration:
The concentration is as given below.

$$\frac{\text{Total amount of refrigerant (kg)}}{\text{Min. volume of the indoor unit installed room } (m^3)} \leqslant \text{Concentration limit } (kg/m^3)$$

5.1.3. Measures When The Refrigerant Concentration Limit is Exceeded

When the refrigerant concentration exceeds the density limit value relative to indoor volume, take proper actions according to following key points:

◆ **Method 1:** Set up an opening for efficient air exchange

opening with a door, or an opening 0.15% or larger than the respective floor spaces at the top or bottom of the door

◆ **Method 2:** Decrease the total amount of refrigerant in refrigerant equipment

Shorten the Length of Refrigerant Pipe

Install the outdoor unit closer to the indoor unit and shorten the length of refrigerant pipe, hence to decrease the total amount of refrigerant in refrigerant equipment.

Decrease the Capacity of Outdoor Unit

Split the outdoor unit into multiple sets, thus decreasing the capacity of each outdoor unit to which one refriger ant system corresponds and hence to decrease the filling amount of refrigerant.

For example: If one 20HP system is split into 2 sets of 10HP systems, the amount of refrigerant in one refrigerant system may be half decreased approximately.

◆ **Method 3:** Set up an air exchange system

An air exchange system can be set to avoid too high concentration of refrigerant in event of refrigerant leakage. The air exchange system includes twp types, i.e. external air import and air discharge. From the property of refrigerant, it is recommended to adopt the external air import.

Exchanging Air Volume

According to the total amount of refrigerant of refrigerant equipment and the room volume, air exchange volume should be greater than the volum e showed in Fig.5.6.

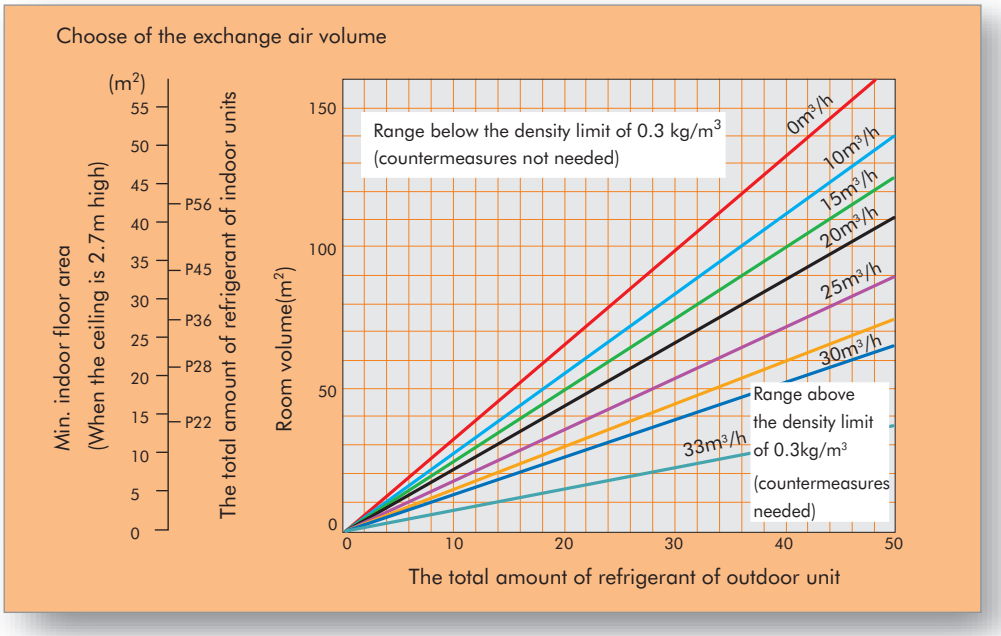


Fig:5.6

Detector and Interlink

In principle, the air exchange system shall always work normally no matter the air conditioner is used or any person stays in the room. If it is impossible to realize long-term working, please use a detector system to activate the air exchange system upon leakage of refrigerant.
Shown in Fig. 5.7 is the air exchange system in long-term working. Shown in Fig. 5.8 is the detector interlink system.

Note:

- In order to avoid malfunction of air exchange system, please do not choose the range showed in oblique line in Fig. 5.6 even though equipped with air exchange system. If entering into this range, should set effective air exchange port, expand room volume or decrease the amount of outdoor unit, change the piping length in order to decrease total refrigerant amount, in principle according to method 1 and 2.
- Where an air exchange system is provided but it is impossible to take Method 1 or Method 2 when the refrigerant concentration is within the range indicated by the oblique line in Fig. 5.6, please use other means independent from air exchange system to ensure safety. In detail, we can set a refrigerant cutoff valve that can be activated by the detector upon refrigerant leakage and as well, set an alarm system that can notify the indoor person. The detector here is different from the detector in aforementioned air exchange system. Shown in Fig. 5.9 is the status that a refrigerant cutoff valve is set.
- To set an air exchange system, please ensure to leave an efficient air exchange gap (e.g. gap below the door) at the lowest part of the room.
- For connection of pipes within living area, please make sure to comply with JIS specification and perform thorough airtight test after the work is completed. Additionally, please ensure that the pipe is installed with shockproof device to avoid damage due to earthquake or the other external forces. (But on axial direction, a leeway shall be left to eliminate the stress caused by temperature

Long Term Working Air Exchange System

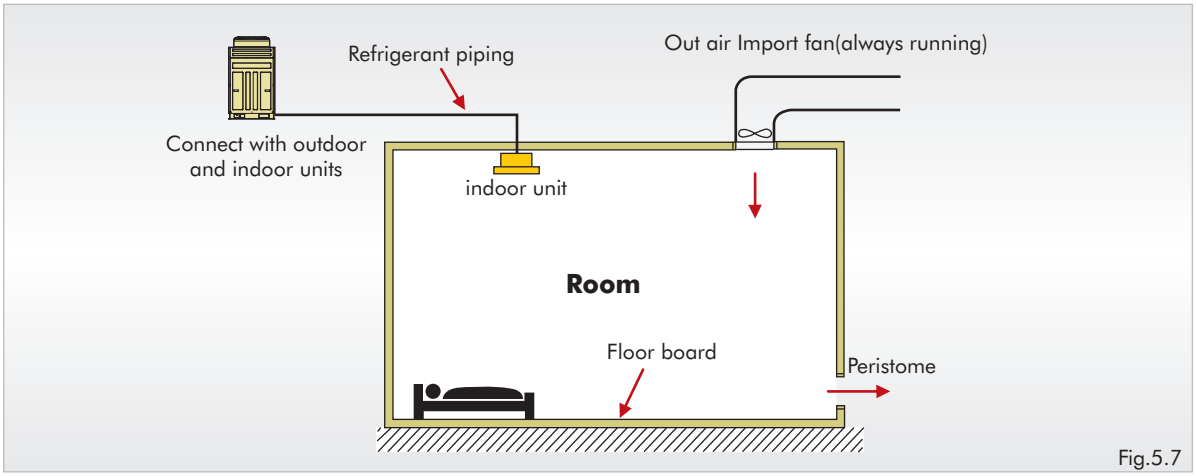


Fig.5.7

Detector Interlink System

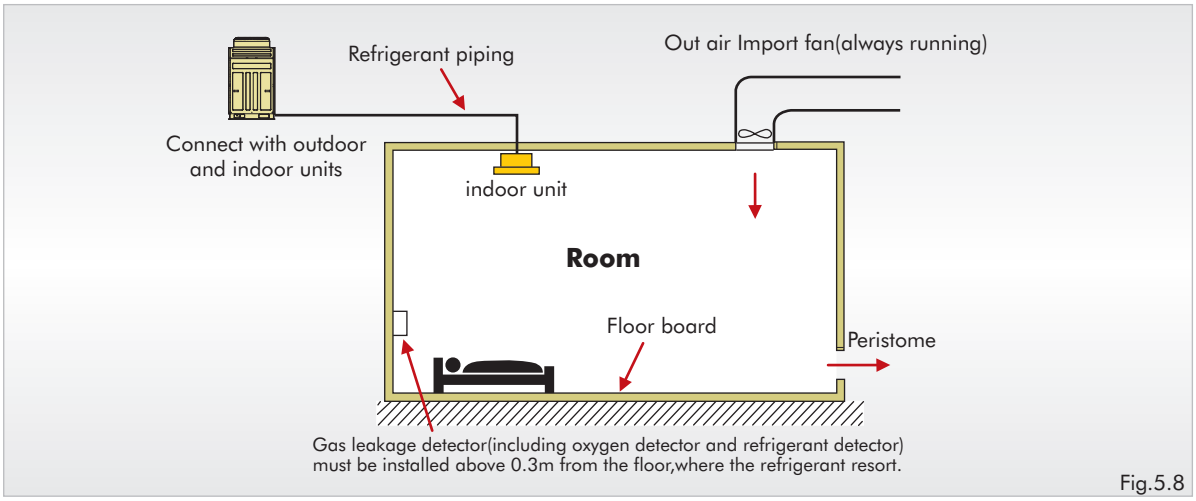


Fig.5.8

Position of Long Term Running Ventilation System and Refrigerant Cut-off Valve

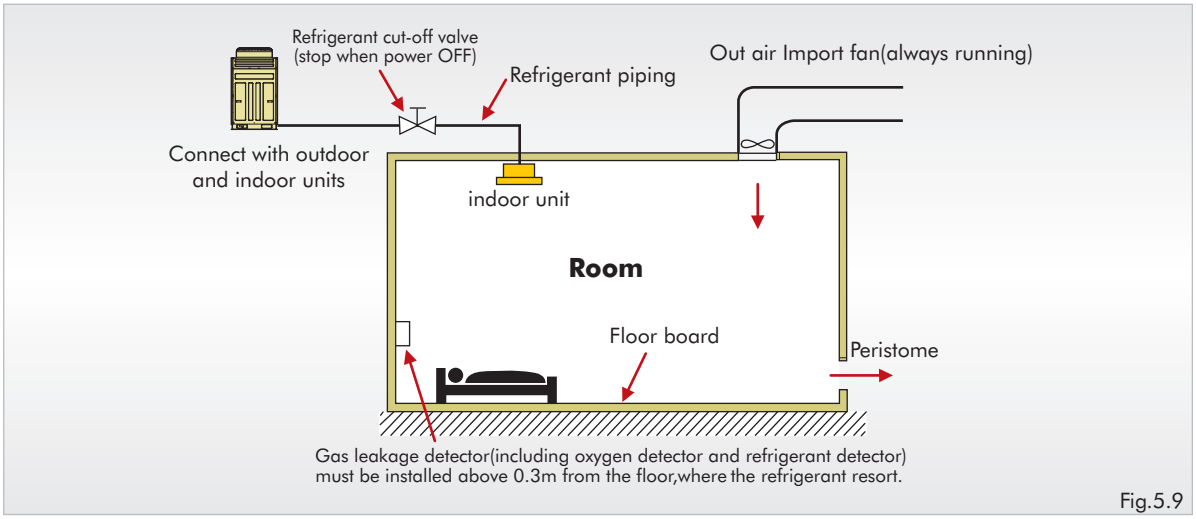
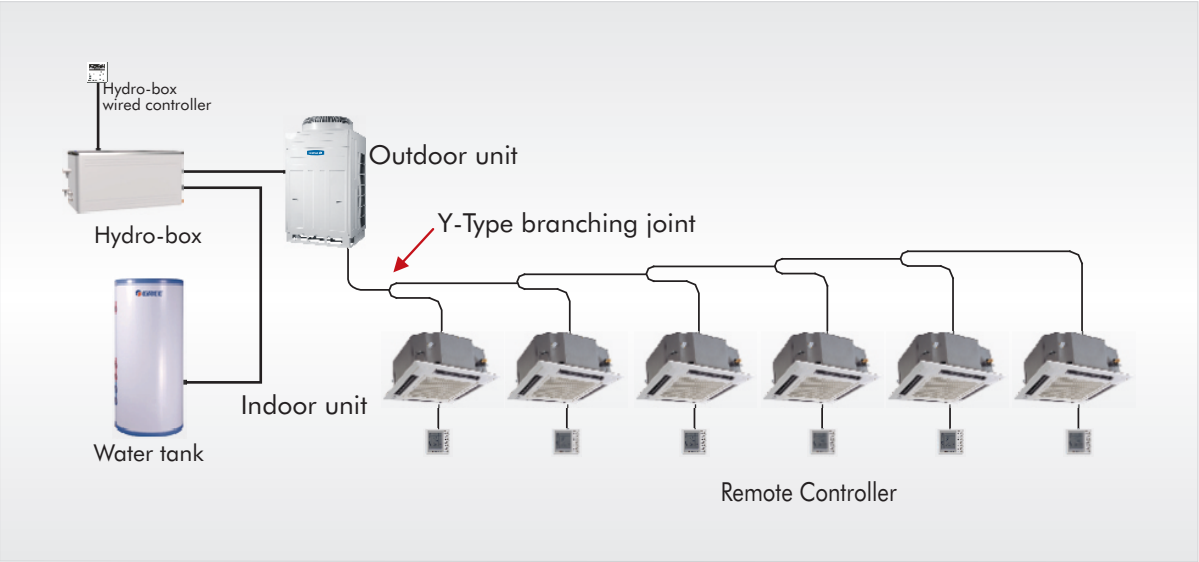


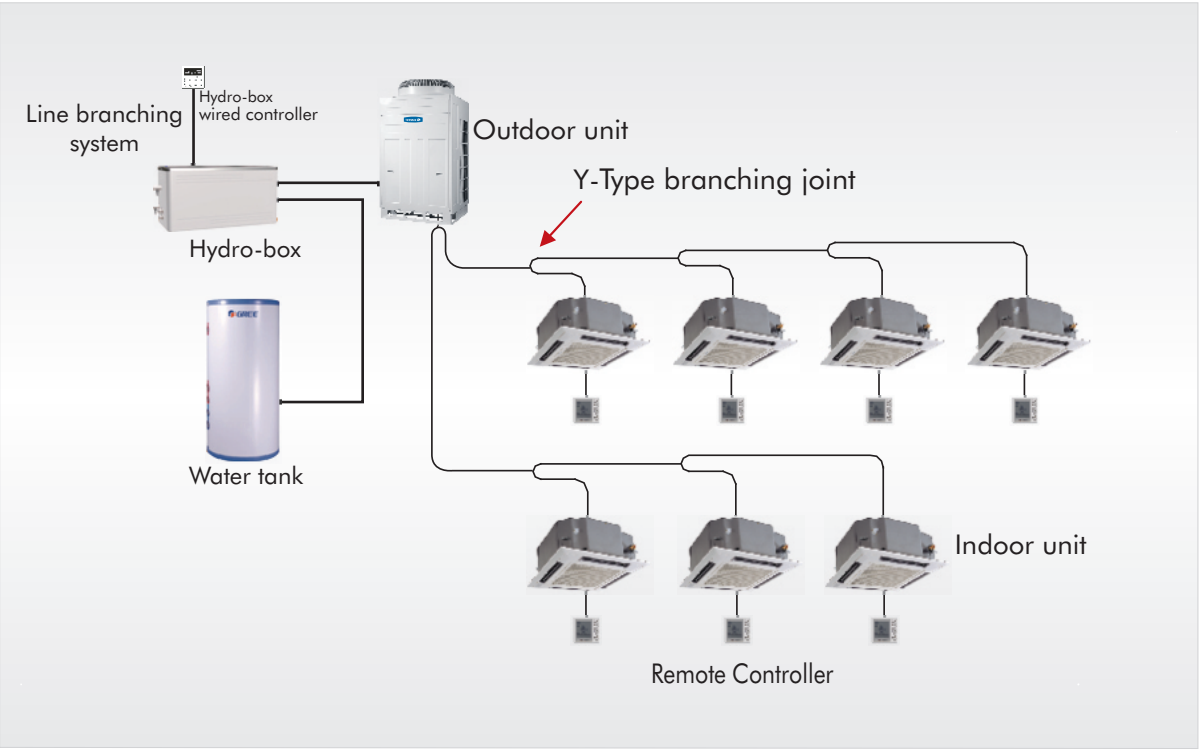
Fig.5.9

5.2 Free Branching System

Mode of tube layout

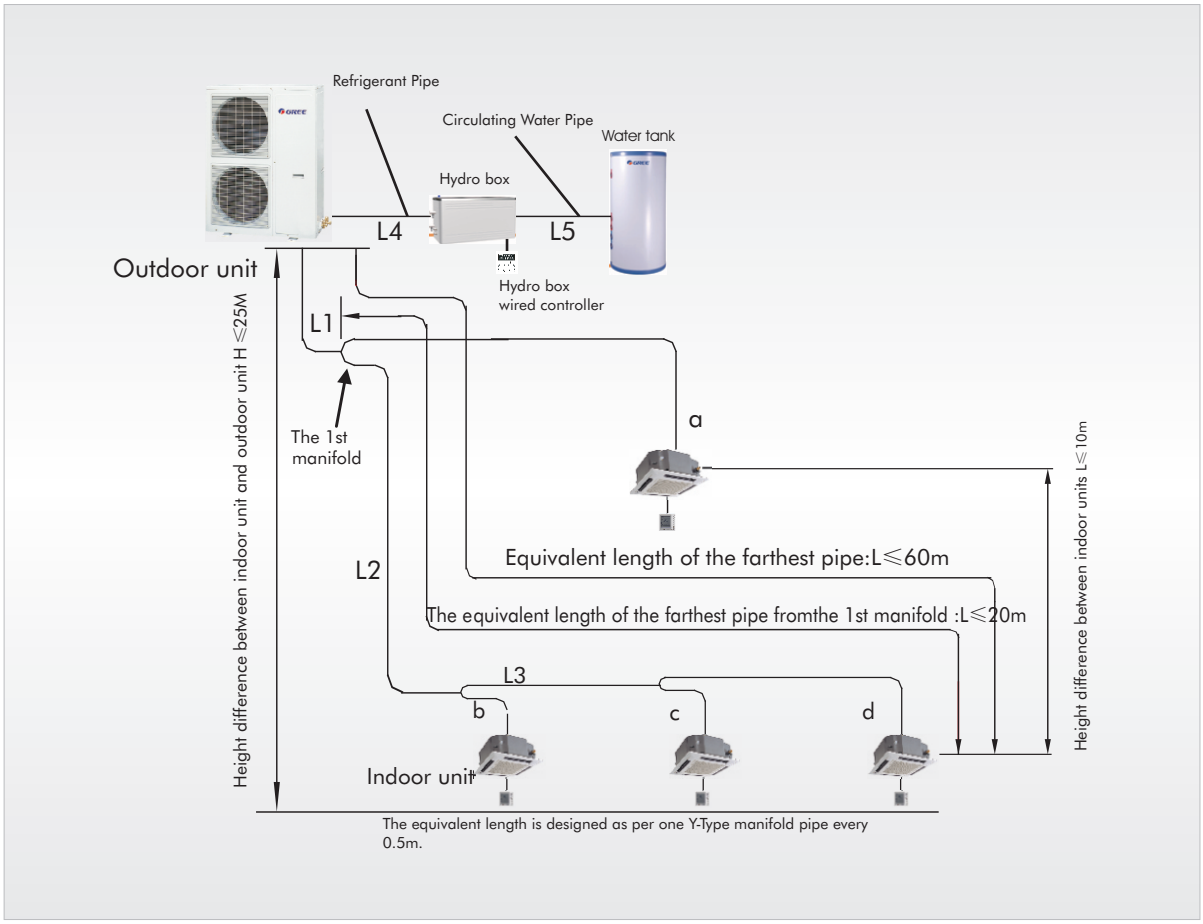


Piping drawing



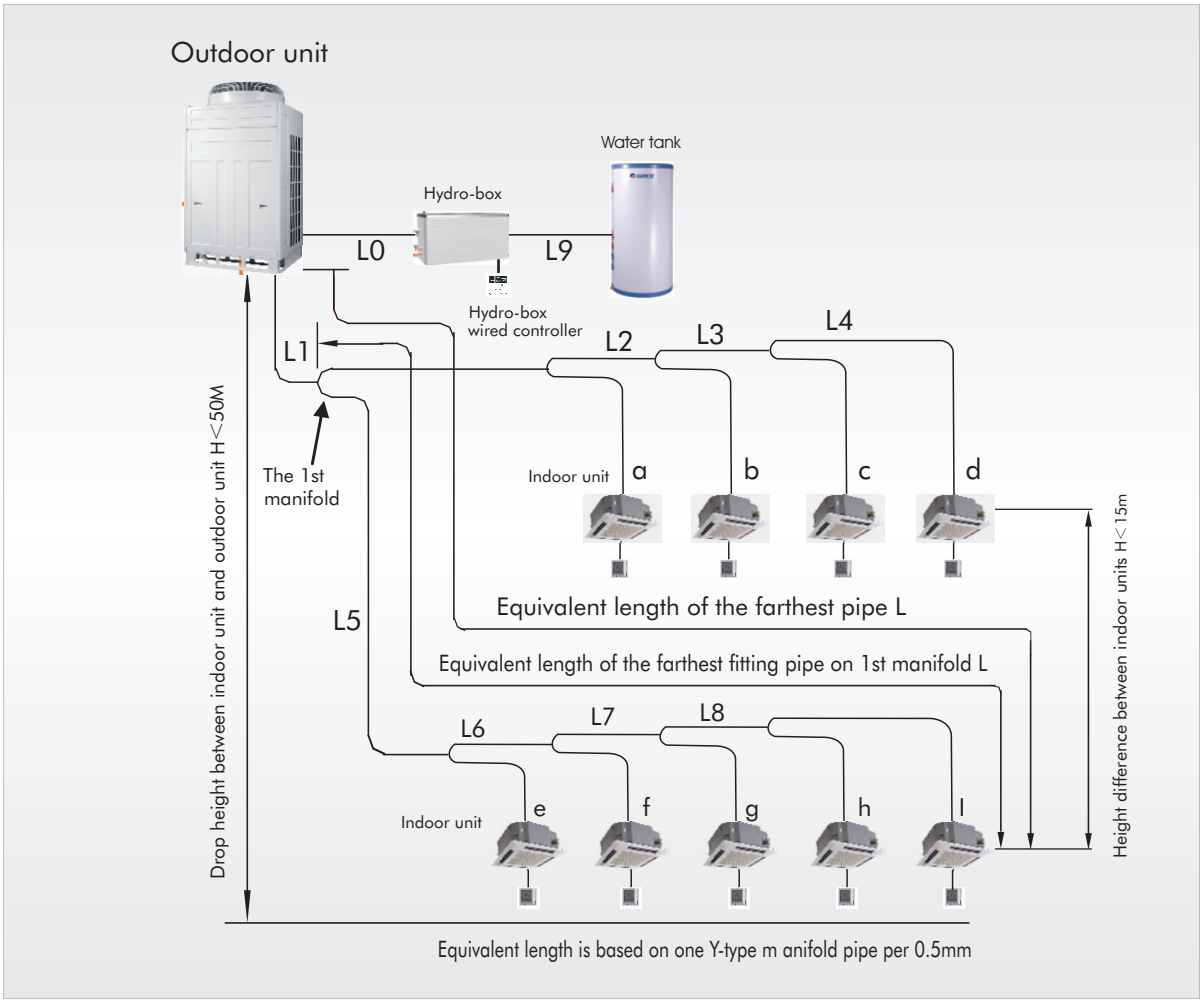
5.3 Allowable Length/Height Difference of Refrigerant Piping

Units with capacity between 10kw to 19kw



		Allowable Value	Pipe
Total Length (Actual Length) of Pipes		150m	L1 +L2+L3+2L4 +a+b+c+d
Length of farthest pipe (m)	Actual Length	50m	L 1+L2+L3+d
	Equivalent Length	60m	
Length of pipe from the 1st Branching to the farthest indoor unit		20m	L 2+L3+d
Height difference between indoor unit and outdoor unit	Outdoor unit on upper	25m	——
	Outdoor unit at lower	20m	——
Height difference between indoor unit and outdoor unit		10m	——
Height difference between hydro indoor unit and outdoor unit		5m	——
Length of the farthest pipe between hydro indoor unit and outdoor unit		10m	L 4
Length of the water pipe between hydro indoor unit and water tank		5m	L 5
Height difference between Hydro Unit and water tank		3m	——

Units with capacity between 20kW and 60 kW



		Allowable Value	Pipe
Total Length (Actual Length) of Pipes		300m	L1+L2+L3+L4+L5+L6+a+b+...+i+j
Length of farthest pipe (m)	Actual Length	100m	L1+L3+L4+L5+L6+j
	Equivalent Length	125m	
Length of pipe from the 1st Branching to the farthest indoor unit		40m	L3+L4+L6+j
Height difference between indoor unit and outdoor unit	Outdoor unit on upper	50m	——
	Outdoor unit at lower	40m	——
Height difference between indoor unit and outdoor unit		15m	——
Height difference between hydro indoor unit and outdoor unit		10m	——
Length of the farthest pipe between hydro indoor unit and outdoor unit		5m	L0
Length of the water pipe between hydro indoor unit and water tank		5m	L9
Height difference between Hydro Unit and water tank		5m	——

Caution:
The rate between two branches's corresponding downstream capacity of first Y-type refnet pipe can not exceed 3:1.

5.4 Selection of refrigerant piping

5.4.1. Size of main pipe

According to the total capacity code of the outdoor units, side of main pipe as follows:

The total capacity of the outdoor units C	Gas pipe (mm/Inch)	Liquid pipe (mm/Inch)
C≤50	Φ12.7/1/2	Φ6.35/1/4
50<C≤70	Φ15.9/5/8	Φ9.52/3/8
70<C≤180	Φ19.05/3/4	Φ9.52/3/8
180<C≤280	Φ22.2/7/8	Φ9.52/3/8

5.4.2. Pipe size between branching joints

Total capacity code of indoor units at downstream side	Gas pipe (mm/Inch)	Liquid pipe (mm/Inch)
C≤50	Φ12.7/1/2	Φ6.35/1/4
50<C≤70	Φ15.9/5/8	Φ9.52/3/8
70<C≤180	Φ19.05/3/4	Φ9.52/3/8
180<C≤300	Φ22.2/7/8	Φ9.52/3/8

5.4.3. Piping of indoor unit

Capacity rank of indoor unit C	Gas pipe (mm/Inch)	Liquid pipe (mm/Inch)
C<36	Φ9.52/3/8	Φ6.35/1/4
36≤C≤50	Φ12.7/1/2	Φ6.35/1/4
50<C≤140	Φ15.9/5/8	Φ9.52/3/8

5.4.4. Selection for branching section

	Total capacity code of indoor unit	Model name
Y-type branching joint	X≤200	FQ01A/A
	200<C≤300	FQ01B/A

5.5 Charging requirement with additional refrigerant

5.5.1 Refrigerant in the system when shipped from the factory

Model name	GMV-Pds100W/Na-K	GMV-Pds120W/Na-K	GMV-Pds140W/Na-K
Refrigerant amount charged in factory	5kg	5kg	7kg

Model name	GMV-Pds160W/Na-K	GMV-Pds224W/Na-M	GMV-Pds280W/Na-M
Refrigerant amount charged in factory	7kg	15kg	16kg

5.5.2 [Additional Refrigerant Charge Amount]=[Real Length of Liquid Pipe] [Additional Refrigerant Charge Amount Per Meter Liquid Pipe]

Pipe dia. at liquid side(mm/Inch)	Φ25.4/1	Φ22.2/7/8	Φ19.05/3/4	Φ15.9/5/8	Φ12.7/1/2	Φ9.52/3/8	Φ6.35/1/4
Additional refrigerant amount(kg/m)	0.520	0.350	0.250	0.170	0.110	0.054	0.022

Remark : Please refer to the manual for calculating method

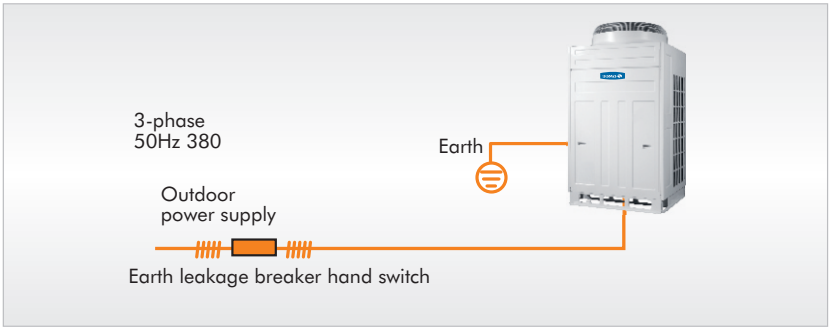
6 WIRING DESIGN

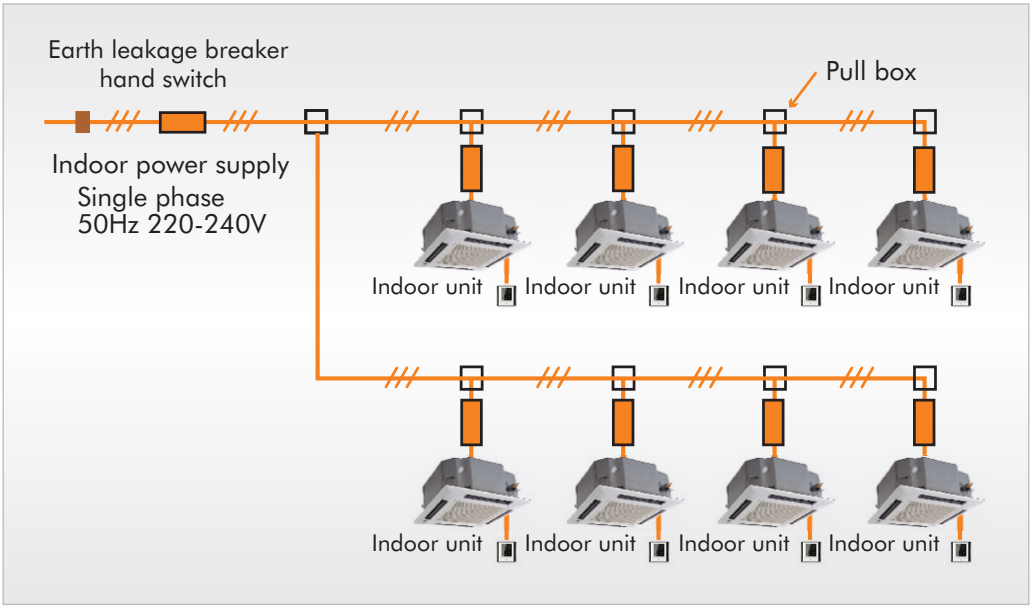
6.1 General

(1) Perform wiring of the power supply in conformance with the regulations of the local electric company..
(2) For the control wires connecting indoor units, and between indoor and outdoor units, use of twisted-pair shield wires is recommended to prevent noise trouble.
(3) Be sure to set the earth leakage breaker and the switches to the power supply section of the indoor unit.
(4) Supply power to each outdoor unit and provide an earth leakage breaker or hand switch for each outdoor unit.
(5) Store wiring system for control and refrigerant piping system in the same line.
(6) Arrange the cables so that the electric wires do not contact with high-temperature part of the pipe;otherwise coating melts and an accident may be caused.
(7) Do not turn on power of the indoor unit until vacuuming of the refrigerant pipe finish.

6.2 Electrical wiring design

6.2.1 Wiring Drawing





6.2.2. Selection of power supply cabing and fuse of units

	Model	Wire size	Field fuse(A)
Outdoor Unit	GMV-Pds100W/Na-K	3×6.0mm	32
	GMV-Pds120W/Na-K	3×6.0mm	32
	GMV-Pds140W/Na-K	3×10.0mm	40
	GMV-Pds160W/Na-K	3×10.0mm	40
	GMV-Pds224W/Na-M	5×6.0mm	32
	GMV-Pds280W/Na-M	5×6.0mm	32
Hydro box Unit	RQD5GA-K、RQD8GA-K	3×1.5mm	16
	RQD5GB-K、RQD8GB-K	3×6.0mm	25
	RQ5GB-K、RQ8GB-K	3×4.0mm	20
	RQD20LA-M、RQD30LA-M	5×2.5mm	16
	RQ20LA-K、RQ30LA-K	3×6.0mm	25
Indoor Unit	All models of indoor units	1.0mm	6A

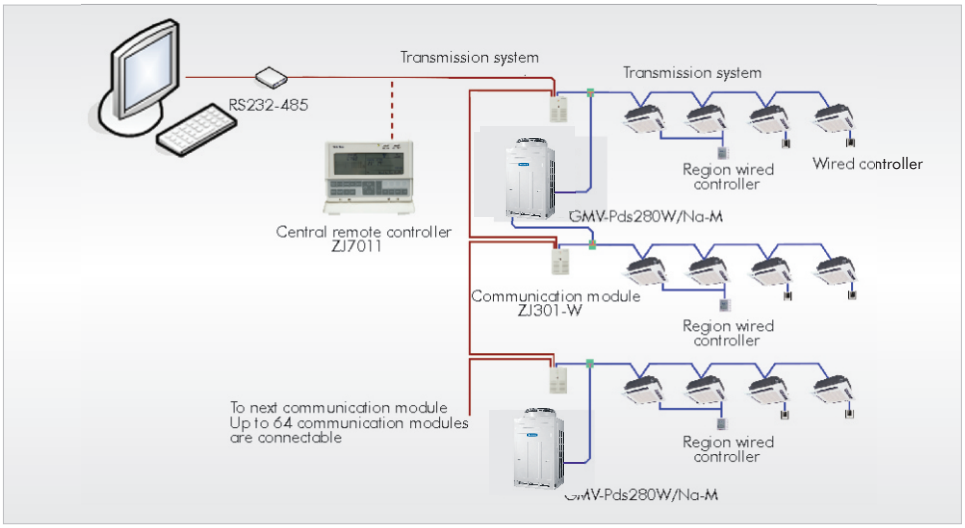
- Determine the wire size for indoor unit according to the number of connected indoor units downstream.
- Observe local regulation regarding wire size selection and installation.

NOTE :

The connecting length indicated in the table represents the length from the pull box to the outdoor unit when the indoor units are connected in parallel for power, as shown in the above illustration. A voltage drop of no more than 2% is also assumed. If the connecting length will exceed the length indicated in the table, select the wire thickness in accordance with local wiring standards.

6.3 Design of Control Wiring

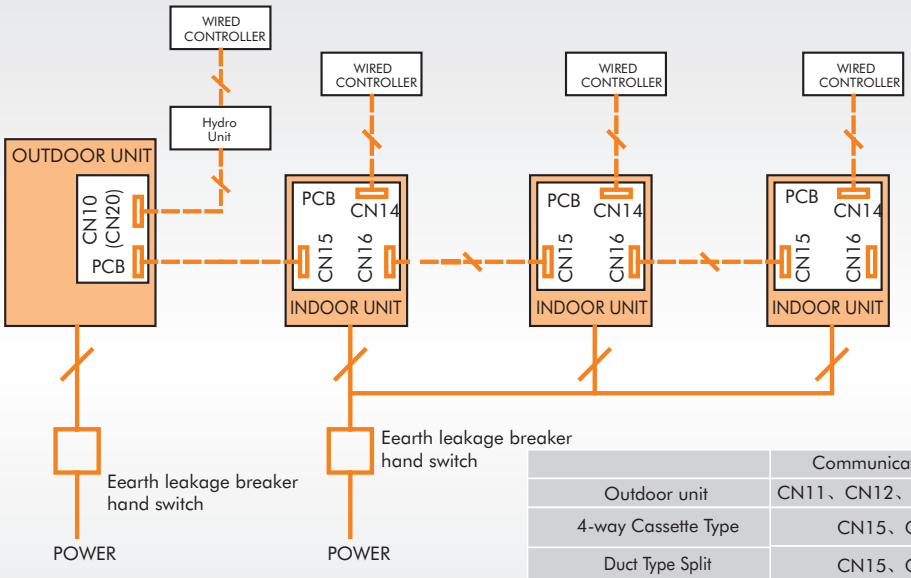
6.3.1. Control Wiring Drawing



6.3.2. Wire Specification, Quantity,Size of Crossover Wiring and Remote Controller Wiring

Name	Quantity	Size&Specification
Communication cable between outdoor and indoor	2 cores	Ul 2835 24
Communication cable between outdoor and indoor wiring(indoor-wired conrtoller)		

6.4 Wiring Diagram of Units



		Communication port	Port of wired controller
Outdoor unit		CN11、CN12、CN13、CN14	
4-way Cassette Type		CN15、CN16	CN17
Duct Type Split		CN15、CN16	CN14
Floor Ceiling Type		X27、X28	X31
Wall Mounted Type	22~45	CN13、CN14	CN15
	50~56	COMU3、COMU4	COMU5
	71~80	CN15、CN16	CN17

6.5 Parameters

6.5.1. Outdoor unit

Model name	Voltage Range		Compressor		Fan Motor		Power Supply	
	Min	Max	RLA	LRA	kW	FLA	MCA	MOCP
GMV-Pds100W/Na-K	198	264	21	–	0.068×2	0.37×2	23.3	32
GMV-Pds120W/Na-K	198	264	21	–	0.068×2	0.37×2	23.3	32
GMV-Pds140W/Na-K	198	264	21	–	0.068×2	0.37×2	24.3	40
GMV-Pds160W/Na-K	198	264	21	–	0.068×2	0.57×2	25.5	40
GMV-Pds224W/Na-M	342	462	7.5	58	0.75	4.4	3	32
GMV-Pds280W/Na-M	342	462	7.5	58	0.75	4.4	3	32

LEGEND: MCA: Minimum Circuit Amps
MOCP: Maximum Overcurrent Protection(Amps)
kW: Fan Motor Rated Output(kW)
LRA: Locked Rotor Amps
FLA: Full Load Amps
RLA: Rated Load Amps

Note: RLA is based on the following conditions.

6.5.1. Indoor unit

Type	Model	Nominal Voltage (V/Ph/Hz)	Voltage Range		Fan Motor		Power Supply	
			Min	Max	kW	FLA	MCA	MOCP
4-way Cassette Type	GMV(L)-R22T/NaA-K	220-240/1/50	198	264	0.011	0.05	0.24	0.43
	GMV(L)-R28T/NaA-K				0.011	0.05	0.24	0.43
	GMV(L)-R36T/NaA-K				0.011	0.05	0.24	0.43
	GMV(L)-R45T/NaA-K				0.011	0.05	0.24	0.43
	GMV(L)-R28T/Na-K				0.035	0.27	0.3	0.6
	GMV(L)-R36T/ Na -K				0.035	0.27	0.3	0.6
	GMV(L)-R45T/ Na -K				0.035	0.28	0.3	0.6
	GMV(L)-R50T/ Na -K				0.035	0.28	0.3	0.6
	GMV(L)-R56T/ Na -K				0.035	0.37	0.5	0.8
	GMV(L)-R63T/ Na -K				0.035	0.37	0.5	0.8
	GMV(L)-R71T/ Na -K				0.035	0.37	0.5	0.8
	GMV(L)-R80T/ Na -K				0.035	0.37	0.5	0.8
	GMV(L)-R90T/ Na -K				0 06	0.59	0.7	1.3
	GMV(L)-R100T/ Na -K				0.06	0.59	0.7	1.3
	GMV(L)-R112T/ Na -K				0.06	0.59	0.7	1.3
	GMV(L)-R125T/ Na -K				0.06	0.59	0.7	1.3
	GMV(L)-R140T/ Na -K				0.06	0.59	0.7	1.3
Duct Type Split	GMV(L)-R22P/NaB-K	220-240/1/50	198	264	0.04	0.28	0.35	0.63
	GMV(L)-R28P/NaB-K				0.06	0.41	0.51	0.92
	GMV(L)-R36P/NaB-K				0.06	0.41	0.51	0.92
	GMV(L)-R45P/NaB-K				0.07	0.55	0.69	1.24
	GMV(L)-R56P/NaB-K				0.15	1.3	1.63	2.93
	GMV(L)-R71P/NaB-K				0.15	1.3	1.63	2.92
	GMV(L)-R90P/NaB-K				0.225	2.15	2.69	4.84
	GMV(L)-R112P/NaB-K				0.225	2.15	2.69	4.48
	GMV(L)-R140P/NaB-K				0.26	2.67	3.34	6.01
	GMV(L)-R22PS/NaB-K				0.04	0.28	0.35	0.63
	GMV(L)-R28PS/NaB-K				0.06	0.41	0.51	0.92
	GMV(L)-R36PS/NaB-K				0.06	0.41	0.51	0.92
	GMV(L)-R45PS/NaB-K				0.07	0.55	0.69	1.24
	GMV(L)-R56PS/NaB-K				0.15	1.3	1.63	2.93
	GMV(L)-R71PS/NaB-K				0.15	1.3	1.63	2.93
	GMV(L)-R90PS/NaB-K				0.225	2.15	2.69	4.84
	GMV(L)-R112PS/NaB-K				0.225	2.15	2.69	4.84
	GMV(L)-R140PS/NaB-K				0.26	2.67	3.34	6.01
	GMV(L)-R22PS/NaE-K				0.03	0.28	0.35	0.63
	GMV(L)-R28PS/NaE-K				0.03	0.28	0.35	0.63
	GMV(L)-R36PS/NaE-K				0.04	0.31	0.39	0.6975
	GMV(L)-R45PS/NaE-K				0.06	0.41	0.51	0.9225
	GMV(L)-R56PS/NaE-K				0.06	0.41	0.51	0.9225
	GMV(L)-R71PS/NaE-K				0.02	0.50	0.63	1.13
Wall Mounted Type	GMV(L)-R22G/NaB-K	220-240/1/50	198	264	0.01	0.06	0.07	0.1
	GMV(L)-R28G/NaB-K				0.01	0.06	0.07	0.1
	GMV(L)-R36G/NaB-K				0.022	0.11	0.1	0.2
	GMV(L)-R45G/NaB-K				0.022	0.11	0.25	0.45
	GMV(L)-R50G/NaB-K				0.01	0.09	0.25	0.45
	GMV(L)-R56G/NaB-K				0.04	0.2	0.25	0.45
	GMV(L)-R71G/Na-K				0.04	0.2	0.25	0.45
	GMV(L)-R80G/Na-K				0.04	0.2	0.25	0.45

Type	Model	Nominal Voltage (V/Ph/Hz)	Voltage Range		Fan Motor		Power Supply	
			Min	Max	kW	FLA	MCA	MOCP
Wall-mounted type	GMV(L)-R22G/NaG-K	220-240/1/50	198	264	0.02	0.09	0.11	0.20
	GMV(L)-R28G/NaG-K				0.02	0.09	0.11	0.20
	GMV(L)-R36G/NaG-K				0.02	0.09	0.11	0.20
	GMV(L)-R45G/NaG-K				0.02	0.09	0.11	0.20
	GMV(L)-R50G/NaG-K				0.02	0.09	0.11	0.20
	GMV(L)-R56G/NaG-K				0.03	0.16	0.20	0.36
	GMV(L)-R63G/NaG-K				0.03	0.16	0.20	0.36
	GMV(L)-R71G/NaG-K				0.03	0.16	0.20	0.36
Floor Ceiling Type	GMV-R28Zd/Na-K	220-240/1/50	198	264	0.01	0.06	0.07	0.13
	GMV-R36Zd/Na-K				0.01	0.06	0.07	0.13
	GMV-R50Zd/Na-K				0.04	0.3	0.33	0.6
	GMV-R71Zd/Na-K				0.1	0.8	0.88	1.6
	GMV-R90Zd/Na-K				0.15	1.2	1.32	2.38
	GMV-R112Zd/Na-K				0.18	1.4	1.54	2.8
	GMV-R125Zd/Na-K				0.18	1.4	1.54	2.8
	GMV-R28Zd/NaB-K				0.01	0.28	0.35	0.63
	GMV-R36Zd/NaB-K				0.01	0.28	0.35	0.63
	GMV-R50Zd/NaB-K				0.02	0.5	0.625	1.125
	GMV-R71Zd/NaB-K				0.075	0.72	0.9	1.6
	GMV-R90Zd/NaB-K				0.15	1.6	2.0	3.6
	GMV-R112Zd/NaB-K				0.18	2.3	2.9	5.2
	GMV-R125Zd/NaB-K				0.18	2.3	2.9	5.2

LEGEND: MCA: Minimum Circuit Amps FLA: Full Load Amps
MOCP: Maximum Overcurrent Protection(Amps) kW: Fan Motor Rated Output(kW)

6.5.3. Water-tank

Model	Nominal Voltage (V-Ph-Hz)	Voltage Range	
		Min	Max
SXD250LC-K	220-240/1/50	198	264
SXD300LC-K	220-240/1/50	198	264
SXD350LC-K	220-240/1/50	198	264
SXD400LC-K	220-240/1/50	198	264
SXD200LCJ/A-K	220-240/1/50	198	264
SXD300LCJ/A-K	220-240/1/50	198	264
SXD350LCJ/A-K	220-240/1/50	198	264
SXD400LCJ/A-K	220-240/1/50	198	264
SXD200LCJ2/A-K	220-240/1/50	198	264
SXD300LCJ2/A-K	220-240/1/50	198	264
SXD350LCJ2/A-K	220-240/1/50	198	264
SXD400LCJ2/A-K	220-240/1/50	198	264

6.5.4. Hydro box unit

Model	Nominal Voltage (V-Ph-Hz)	Voltage Range	
		Min	Max
RQD5GA-K RQD5GB-K RQ5GB-K	220-240/1/50	198	264
RQD8GA-K RQD8GB-K RQ8GB-K	220-240/1/50	198	264
RQD20LA-M	380-415/3/50	342	462
RQD30LA-M	380-415/3/50	342	462
RQ20LA-K	220-240/1/50	198	264
RQ30LA-K	220-240/1/50	198	264

7 ACCESSORIES

7.1 Outdoor Unit

Accessories model name	Standard	Option	Field supply
Communication Cable between units	√		
Y-type Branching Joint and Connecting Pipe		√	
Power Cable	√		√
Flexible pipe	Only for GMV(L)-R120W/Na-K and GMV(L)-R160W/Na-M		

7.2 Indoor Unit

Accessories model name	Standard	Option	Fieled Supplied
Power Cable			√
Remote Controller	√		
New Remote Controller (Only for G Series Wall mounted type indoor unit and B Series Floor ceiling type indoor unit)	√		
Wired Controller	√		
Touch Button Wired Controller		√	
Connecting Cable for Wired Controller (8m)	√		
Communication Line between units	√		
Drain Pipe	√		

7.3 Indoor Unit

Accessories name	Standard	Option	Field supply
Power supply line	√		
Water temperature sensor	√		

7.4 Hydro unit

Accessories name	Standard	Option	Field supply
Solenoid valve C		√	
Solenoid valve D		√	
Wired controller	√		

7.5 Controller

Accessories name	Model name	Standard	Option	Remark
Wired remote controller	Z60151F (30296013) Z60351F (30296014) Z63151F (30296308) Z63351F (30296309)	√		
Wireless remote controller	Y512 (305125063)	√		Common parts for all type model.
Region controller	ZJA011 (MC207006)		√	Common parts for all type model. But on the other hand unable Region controller when Central remote controller or Long-distance control system is put into use.
Central remote controller	ZJ7011 (MC207004)		√	
Long-distance control system -- for GMV	FC232/422-W (EN0230001)		√	
Communication Module	ZJ301-W (EN0210001)		√	Use for Central remote controller or Long-distance
Touch Button Wired Controller	XK02 (30296020)		√	It is only applicable to G series wall-mounted indoor unit and B series floor ceiling indoor unit.
Wireless Remote Controller	YB1FA (30510041		√	Remote controller YB1FA is only applicable to new split units GMV (L) -R**G/NaG-D, GMV(L)-R**G/NaG–K and new floor ceiling indoor unit GMV(L)- R**Zd/NaB–K. GMV(L)- R**Zd/NaB–D.
Wired controller for Hydro box unit	Z6P301 Z6P301A	√		

Note: All indoor controllers are used for GMV units;At the same time,the Central remote controller and the Long-distance Control Syetem are used for GMV series units only

8 TECHNICAL SPECIFICATIONS

8.1 Indoor Unit

◆4-way Cassette Type

Model			GMV(L)-R22T/NaA-K	GMV(L)-R28T/NaA-K	GMV(L)-R36T/NaA-K	GMV(L)-R45T/NaA-K
Cooling capacity		kW	2.2	2.8	3.6	4.5
		Btu/h	7506	9554	12283	15354
Heating capacity		kW	2.5	3.2	4.0	5.0
		Btu/h	8530	10918	13648	17060
Air Flow Rate		m^3/h	600	600	600	600
		CFM	353	353	353	353
Sound Pressure Level(H/L)		dB(A)	47/41	47/41	47/41	47/41
Power Supply			220-240V-1Ph~ 50Hz			
Fan Motor	Output	kW	0.011	0.011	0.011	0.011
	Running Current	A	0.05	0.05	0.05	0.05
Connecting Pipes	Gas Pipe	mm	Φ9.52		Φ12.7	
		Inch	3/8		1/2	
	Liquid Pipe	mm	Φ6.35		Φ6.35	
		Inch	1/4		1/4	
	Connection Method		Flare Connection			
Drainage Pipe (External Dia.×Thickness)		mm	Φ30×1.5			
Unit dimensions (Main Body/Panel) (W×D×H)		mm	Main Body:570×570×230 Panel:650×650×50			
Package dimensions (W×D×H)		mm	Main Body:848×728×310 Panel:730×670×102			
Net Weight (Main Body/Panel)		kg	20/5			
Gross Weight (Main Body/Panel)		kg	27/10			

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB, Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB, Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Model			GMV(L)-R28T/Na-K	GMV(L)-R36T/Na-K	GMV(L)-R45T/Na-K	GMV(L)-R50T/Na-K
Cooling capacity		kW	2.8	3.6	4.5	5.0
		Btu/h	9,550	12,280	15,360	17,060
Heating capacity		kW	3.2	4.0	5.0	5.8
		Btu/h	10,900	13,650	17,060	19,790
Air Flow Rate		m^3/h	680	680	680	680
		CFM	400	400	400	400
Sound Pressure Level(H/L)		dB(A)	37/34	37/34	37/34	37/34
Power Supply			220-240V-1Ph~ 50Hz			
Fan Motor	Output	kW	0.035	0.035	0.035	0.035
	Running Current	A	0.27	0.27	0.28	0.28
Connecting Pipes	Gas Pipe	mm	Φ9.52	Φ12.7	Φ12.7	Φ12.7
		Inch	3/8	1/2	1/2	1/2
	Liquid Pipe	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35
		Inch	1/4	1/4	1/4	1/4
	Connection Method		Flare Connection			
Drainage Pipe (External Dia.×Thickness)		mm	Φ30×1.5		Φ30×1.5	
Unit dimensions (Main Body/Panel) (W×D×H)		mm	Main Body:840×840×190 Panel:950×950×60		Main Body:840×840×190 Panel:950×950×60	
Package dimensions (W×D×H)		mm	Main Body:960×960×257 Panel:1040×1025×115		Main Body:960×960×257 Panel:1040×1025×115	
Net Weight (Main Body/Panel)		kg	25/6.5		25/6.5	
Gross Weight (Main Body/Panel)		kg	33/10		33/10	

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Model			GMV(L)-R56T/Na-K	GMV(L)-R63T/Na-K	GMV(L)-R71T/Na-K	GMV(L)-R80T/Na-K
Cooling capacity		kW	5.6	6.3	7.1	8.0
		Btu/h	19,100	21,500	24,230	27,300
Heating capacity		kW	6.3	7.0	8.0	8.8
		Btu/h	21,500	23,890	27,300	30,030
Air Flow Rate		m^3/h	1180	1180	1180	1180
		CFM	695	695	695	695
Sound Pressure Level(H/L)		dB(A)	39/35	39/35	39/35	39/35
Power Supply			220-240V-1Ph~ 50Hz			
Fan Motor	Output	kW	0.035	0.035	0.035	0.035
	Running Current	A	0.37	0.37	0.37	0.37
Connecting Pipes	Gas Pipe	mm	Φ15.9			
		Inch	5/8			
	Liquid Pipe	mm	Φ9.52			
		Inch	3/8			
	Connection Method		Flare Connection			
Drainage Pipe (External Dia.×Thickness)		mm	Φ30×1.5			
Unit dimensions (Main Body/Panel) (W×D×H)		mm	Main Body:840×840×240 Panel:950×950×60			
Package dimensions (W×D×H)		mm	Main Body:960×960×310 Panel:1040×1025×115			
Net Weight (Main Body/Panel)		kg	30/6.5			
Gross Weight (Main Body/Panel)		kg	38/10			

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Model			GMV(L)-R90T/Na-K	GMV(L)-R100T/Na-K	GMV(L)-R112T/Na-K	GMV(L)-R125T/Na-K	GMV(L)-R140T/Na-K
Cooling capacity		kW	9.0	10.0	11.2	12.5	14.0
		Btu/h	30,700	34,120	38,210	42,650	47,770
Heating capacity		kW	10.0	11.0	12.5	13.5	14.5
		Btu/h	34,120	37,540	42,650	46,060	49,470
Air Flow Rate		m^3/h	1860	1860	1860	1860	1860
		CFM	1095	1095	1095	1095	1095
Sound Pressure Level(H/L)		dB(A)	40/36	40/36	40/36	40/36	40/36
Power Supply			220-240V-1Ph~ 50Hz				
Fan Motor	Output	kW	0.06	0.06	0.06	0.06	0.06
	Running Current	A	0.59	0.59	0.59	0.59	0.59
Connecting Pipes	Gas Pipe	mm	Φ15.9				
		Inch	5/8				
	Liquid Pipe	mm	Φ9.52				
		Inch	3/8				
	Connection Method		Flare Connection				
Drainage Pipe (External Dia.×Thickness)		mm	Φ30×1.5				
Unit dimensions (Main Body/Panel) (W×D×H)		mm	Main Body:840×840×320 Panel:950×950×60				
Package dimensions (W×D×H)		mm	Main Body:960×960×394 Panel:1040×1025×115				
Net Weight (Main Body/Panel)		kg	38/6.5				
Gross Weight (Main Body/Panel)		kg	46/10				

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

◆ Duct Type

Item \ Model			GMV(L)-R22P/NaB-K	GMV(L)-R28P/NaB-K	GMV(L)-R36P/NaB-K
Cooling capacity		kW	2.2	2.8	3.6
		Btu/h	7,510	9,550	10,280
Heating capacity		kW	2.5	3.2	4.0
		Btu/h	8,530	10,920	13,650
Air volume		m^3/h	450	570	570
		CFM	265	335	335
Noise(H/L)		dB(A)	37/33	39/35	39/35
Motor output power		kW	0.04	0.06	0.06
Motor Running Current		A	0.28	0.41	0.41
ESP		Pa	50/20	50/20	50/20
Power supply			220-240V-1Ph～ 50Hz		
Connecting Pipes	Gas Pipe	mm	Φ9.52		Φ12.7
		Inch	3/8		1/2
	Liquid Pipe	mm	Φ6.35		Φ6.35
		Inch	1/4		1/4
	Connection Method		Flare Connection		
The aperture of condensing drainage pipe (External Dia.×Thickness)		mm	Φ20×1.5		
Unit dimensions (W×D×H)		mm	880×665×250		
Package dimensions (W×D×H)		mm	1020×745×305		
Net Weight		kg	27	28.5	28.5
Gross Weight		kg	31	33.5	33.5

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Item \ Model			GMV(L)-R45P/NaB-K	GMV(L)-R56P/NaB-K	GMV(L)-R71P/NaB-K
Cooling capacity		kW	4.5	5.6	7.1
		Btu/h	15,360	19,100	24,230
Heating capacity		kW	5.0	6.3	8.0
		Btu/h	17,060	21,500	27,300
Air volume		m^3/h	700	1000	1100
		CFM	412	589	647
Noise(H/L)		dB(A)	40/36	44/40	45/41
Motor output power		kW	0.07	0.15	0.15
Motor Running Current		A	0.55	1.3	1.3
ESP		Pa	50/20	60/30	60/30
Power supply			220-240V-1Ph～ 50Hz		
Connecting Pipes	Gas Pipe	mm	Φ12.7	Φ15.9	Φ15.9
		Inch	1/2	5/8	5/8
	Liquid Pipe	mm	Φ6.35	Φ9.52	Φ9.52
		Inch	1/4	3/8	3/8
	Connection Method		Flare Connection		
The aperture of condensing drainage pipe (External Dia.×Thickness)		mm	Φ20×1.5	Φ30×1.5	Φ30×1.5
Unit dimensions (W×D×H)		mm	980×721×266	1155×736×300	1155×736×300
Package dimensions (W×D×H)		mm	1068×766×320	1245×785×360	1245×785×360
Net Weight		kg	34	49	49
Gross Weight		kg	37	56	56

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Item \ Model			GMV(L)-R90P/NaB-K	GMV(L)-R112P/NaB-K	GMV(L)-R140P/NaB-K
Cooling capacity		kW	9.0	11.2	14.0
		Btu/h	30,700	38,210	47,770
Heating capacity		kW	10.0	12.5	15.0
		Btu/h	34,120	42,650	49,470
Air volume		m^3/h	1700	1700	2000
		CFM	1001	1001	1177
Noise(H/L)		dB(A)	48/44	48/44	50/45
Motor output power		kW	0.225	0.225	0.26
Motor Running Current		A	2.15	2.15	2.67
ESP		Pa	80/40	80/40	100/50
Power supply			220-240V-1Ph～ 50Hz		
Connecting Pipes	Gas Pipe	mm	Φ15.7	Φ15.9	Φ15.9
		Inch	5/8	5/8	5/8
	Liquid Pipe	mm	Φ9.52	Φ9.52	Φ9.52
		Inch	3/8	3/8	3/8
	Connection Method		Flare Connection		
The aperture of condensing drainage pipe (External Dia.×Thickness)		mm	Φ30×1.5		
Unit dimensions (W×D×H)		mm	1425×736×300		
Package dimensions (W×D×H)		mm	1514×785×360		
Net Weight		kg	62		63.5
Gross Weight		kg	71		73

Note:

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- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Item \ Model			GMV(L)-R22PS/NaB-K	GMV(L)-R28PS/NaB-K	GMV(L)-R36PS/NaB-K
Cooling capacity		kW	2.2	2.8	3.6
		Btu/h	7,510	9,550	10,280
Heating capacity		kW	2.5	3.2	4.0
		Btu/h	8,530	10,920	13,650
Air volume		m^3/h	450	570	570
		CFM	265	335	335
Noise(H/L)		dB(A)	37/33	39/35	39/35
Motor output power		kW	0.04	0.06	0.06
Motor Running Current		A	0.28	0.41	0.41
ESP		Pa	50/20	50/20	50/20
Power supply			220-240V-1Ph～ 50Hz		
Connecting Pipes	Gas Pipe	mm	Φ9.52		Φ12.7
		Inch	3/8		1/2
	Liquid Pipe	mm	Φ6.35		Φ6.35
		Inch	1/4		1/4
	Connection Method		Flare Connection		
The aperture of condensing drainage pipe (External Dia.×Thickness)		mm	Φ20×1.5		
Unit dimensions (W×D×H)		mm	880×665×250		
Package dimensions (W×D×H)		mm	1020×745×305		
Net Weight		kg	28.5	30.5	30.5
Gross Weight		kg	33.5	35.5	35.5

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Item \ Model			GMV(L)-R45PS/NaB-K	GMV(L)-R56PS/NaB-K	GMV(L)-R71PS/NaB-K
Cooling capacity		kW	4.5	5.6	7.1
		Btu/h	15,360	19,100	24,230
Heating capacity		kW	5.0	6.3	8.0
		Btu/h	17,060	21,500	27,300
Air volume		m^3/h	700	1000	1100
		CFM	412	589	647
Noise(H/L)		dB(A)	40/36	44/40	45/41
Motor output power		kW	0.07	0.15	0.15
Motor Running Current		A	0.55	1.3	1.3
ESP		Pa	50/20	60/30	60/30
Power supply			220-240V-1Ph～ 50Hz		
Connecting Pipes	Gas Pipe	mm	Φ12.7	Φ15.9	Φ15.9
		Inch	1/2	5/8	5/8
	Liquid Pipe	mm	Φ6.35	Φ9.52	Φ9.52
		Inch	1/4	3/8	3/8
	Connection Method		Flare Connection		
The aperture of condensing drainage pipe (External Dia.×Thickness)		mm	Φ20×1.5	Φ30×1.5	Φ30×1.5
Unit dimensions (W×D×H)		mm	980×721×266	1155×736×300	1155×736×300
Package dimensions (W×D×H)		mm	1068×766×320	1245×785×360	1245×785×360
Net Weight		kg	36	51	51
Gross Weight		kg	39	58	58

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Item \ Model			GMV(L)-R90PS/NaB-K	GMV(L)-R112PS/NaB-K	GMV(L)-R140PS/NaB-K
Cooling capacity		kW	9.0	11.2	14.0
		Btu/h	30,700	38,210	47,770
Heating capacity		kW	10.0	12.5	15.0
		Btu/h	34,120	42,650	49,470
Air volume		m^3/h	1700	1700	2000
		CFM	1001	1001	1177
Noise(H/L)		dB(A)	48/44	48/44	50/45
Motor output power		kW	0.225	0.225	0.26
Motor Running Current		A	2.15	2.15	2.67
ESP		Pa	80/40	80/40	100/50
Power supply			220-240V-1Ph～ 50Hz		
Connecting Pipes	Gas Pipe	mm	Φ15.7	Φ15.9	Φ15.9
		Inch	5/8	5/8	5/8
	Liquid Pipe	mm	Φ9.52	Φ9.52	Φ9.52
		Inch	3/8	3/8	3/8
	Connection Method		Flare Connection		
The aperture of condensing drainage pipe (External Dia.×Thickness)		mm	Φ30×1.5		
Unit dimensions (W×D×H)		mm	1425×736×300		
Package dimensions (W×D×H)		mm	1514×785×360		
Net Weight		kg	64		65.5
Gross Weight		kg	73		75

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Item \ Model			GMV(L)-R22PS/NaE-K	GMV(L)-R28PS/NaE-K	GMV(L)-R36PS/NaE-K
Cooling capacity		kW	2.2	2.8	3.6
		Btu/h	7510	9550	12280
Heating capacity		kW	2.5	3.2	4.0
		Btu/h	8530	10920	13650
Air volume		m^3/h	450	450	550
		CFM	265	265	324
Noise(H/L)		dB(A)	37/34	37/34	39/35
Motor output power		kW	0.03	0.03	0.04
Motor Running Current		A	0.28	0.28	0.31
ESP		Pa	20	20	20
Power supply			220-240V-1Ph～ 50Hz		
Connecting Pipes	Gas Pipe	mm	Φ9.52	Φ9.52	Φ12.7
		Inch	3/8	3/8	1/2
	Liquid Pipe	mm	Φ6.35	Φ6.35	Φ6.35
		Inch	1/4	1/4	3/8
	Connection Method		Flare Connection		
The aperture of condensing drainage pipe (External Dia.×Thickness)		mm	Φ20×1.5		
Unit dimensions (W×D×H)		mm	700×615×200		
Package dimensions (W×D×H)		mm	890×740×290		
Net Weight		kg	21		22
Gross Weight		kg	27		28

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Item \ Model			GMV(L)-R45PS/NaE-K	GMV(L)-R56PS/NaE-K	GMV(L)-R71PS/NaE-K
Cooling capacity		kW	4.5	5.6	7.1
		Btu/h	15350	19110	24230
Heating capacity		kW	5.0	6.3	8.0
		Btu/h	17060	21500	37300
Air volume		m^3/h	700	700	1000
		CFM	412	412	588
Noise(H/L)		dB(A)	40/36	41/37	42/38
Motor output power		kW	0.06	0.06	0.02
Motor Running Current		A	0.41	0.41	0.45
ESP		Pa	20	20	20
Power supply			220-240V-1Ph～ 50Hz		
Connecting Pipes	Gas Pipe	mm	Φ12.7	Φ15.9	Φ15.9
		Inch	1/2	5/8	5/8
	Liquid Pipe	mm	Φ6.35	Φ9.52	Φ9.52
		Inch	1/4	3/8	3/8
	Connection Method		Flare Connection		
The aperture of condensing drainage pipe (External Dia.×Thickness)		mm	Φ30×1.5		
Unit dimensions (W×D×H)		mm	900×615×200		
Package dimensions (W×D×H)		mm	1120×740×290		
Net Weight		kg	26		30
Gross Weight		kg	33		39

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Wall-mounted Type

Model			GMV(L)-R22G/NaB-K	GMV(L)-R28G/NaB-K	GMV(L)-R36G/NaB-K	GMV(L)-R45G/NaB-K
Cooling capacity		kW	2.2	2.8	3.6	4.5
		Btu/h	7,510	9,550	12,280	15,360
Heating capacity		kW	2.5	3.2	4.0	5.0
		Btu/h	8,530	10,920	13,650	17,060
Air Flow Rate		m^3/h	360	360	500	700
		CFM	212	212	294	412
Sound Pressure Level(H/L)		dB(A)	37/28	37/28	43/28	43/28
Power Supply			220-240V-1Ph~ 50Hz			
Fan Motor	Output	kW	0.014	0.014	0.022	0.022
	Running Current	A	0.15	0.15	0.22	0.22
Connecting Pipes	Gas Pipe	mm	Φ9.52	Φ9.52	Φ12.7	Φ12.7
		Inch	3/8	3/8	1/2	1/2
	Liquid Pipe	mm	Φ6.35	Φ6.35	Φ6.35	Φ6.35
		Inch	1/4	1/4	1/4	1/4
	Connection Method		Flare Connection			
Drainage Pipes (External Dia.×Thickness)		mm	Φ30×1.5			
Dimensions (W×D×H)		mm	770×190×250		770×190×250	830×189×285
Package dimensions (W×D×H)		mm	955×272×330		955×272×330	1006×265×385
Net Weight		kg	8		11	11
Gross Weight		kg	14.3		15.8	15.8

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Model			GMV(L)-R50G/NaB-K	GMV(L)-R56G/NaB-K	GMV(L)-R71G/Na-K	GMV(L)-R80G/Na-K
Cooling capacity		kW	5.0	5.6	7.1	8.0
		Btu/h	17,060	19,100	24,230	27,300
Heating capacity		kW	5.8	6.3	8.0	9.0
		Btu/h	19,790	21,500	27,300	30,030
Air Flow Rate		m^3/h	700	750	1200	1200
		CFM	412	441	706	706
Sound Pressure Level(H/L)		dB(A)	45/40	45/40	43/28	43/28
Power Supply			220-240V-1Ph~ 50Hz			
Fan Motor	Output	kW	0.020	0.020	0.026	0.026
	Running Current	A	0.25	0.26	0.29	0.39
Connecting Pipes	Gas Pipe	mm	Φ12.7	Φ15.9	Φ15.9	Φ15.9
		Inch	1/2	5/8	5/8	5/8
	Liquid Pipe	mm	Φ6.5	Φ9.52	Φ9.52	Φ9.52
		Inch	1/4	3/8	3/8	3/8
	Connection Method		Flare Connection			
Drainage Pipes (External Dia.×Thickness)		mm	Φ30×1.5			
Dimensions (W×D×H)		mm	1020×228×310		1178×227×326	
Package dimensions (W×D×H)		mm	1178×325×390		1365×333×417	
Net Weight		kg	15.5		17.5	
Gross Weight		kg	20.5		23	

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Model			GMV(L)-R22G/NaG-K	GMV(L)-R28G/NaG-K	GMV(L)-R36G/NaG-K	GMV(L)-R45G/NaG-K
Cooling capacity		kW	2.2	2.8	3.6	4.5
		Btu/h	7,507	9,554	12,284	15,355
Heating capacity		kW	2.5	3.2	4.0	5.0
		Btu/h	8,530	10,919	13,649	17,061
Air Flow Rate		m^3/h	500	500	630	630
		CFM	294	294	371	371
Sound Pressure Level		dB(A)	38/34	38/34	44/38	44/38
Power Supply			220-240V~ 50Hz			
Fan Motor	Output	kW	0.02	0.02	0.02	0.02
	Running Current	A	0.31	0.31	0.36	0.36
Connecting Pipes	Gas Pipe	mm	Φ9.52		Φ12.7	Φ12.7
		inch	3/8		1/2	1/2
	Liquid Pipe	mm	Φ6.35		Φ6.35	Φ6.35
		inch	1/4		1/4	1/4
	Connection Method		Flare Connection		Flare Connection	Flare Connection
Drain Pipes (External Dia.×Thickness)		mm	Φ28×4		Φ28×4	Φ28×4
Unit Dimensions (W×D×H)		mm	843×180×275		940×200×298	940×200×298
Package Dimensions (W×D×H)		mm	915×255×355		1010×380×285	1010×380×285
Net Weight		kg	10.5		13	13
Gross Weight		kg	12.5		16	16

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Model			GMV(L)-R50G/NaG-K	GMV(L)-R56G/NaG-K	GMV(L)-R63G/NaG-K	GMV(L)-R71G/NaG-K
Cooling capacity		kW	5.0	5.6	6.3	7.1
		Btu/h	17,061	19,108	21,496	24,226
Heating capacity		kW	5.8	6.3	7.0	8.0
		Btu/h	19,790	21,496	23,885	27,297
Air Flow Rate		m^3/h	630	800	800	800
		CFM	371	471	471	471
Sound Pressure Level		dB(A)	44/38	44/38	44/38	44/38
Power Supply			220-240V~ 50Hz			
Fan Motor	Output	kW	0.02	0.03	0.03	0.03
	Running Current	A	0.36	0.40	0.40	0.40
Connecting Pipes	Gas Pipe	mm	Φ12.7		Φ15.87	Φ15.87
		inch	1/2		5/8	5/8
	Liquid Pipe	mm	Φ6.35		Φ6.35	Φ6.35
		inch	1/4		1/4	1/4
	Connection Method		Flare Connection		Flare Connection	Flare Connection
Drain Pipes (External Dia.×Thickness)		mm	Φ28×4			
Unit Dimensions (W×D×H)		mm	940×200×298	1008×221×319		
Package Dimensions (W×D×H)		mm	1010×380×285	1073×395×313		
Net Weight		kg	13	15		
Gross Weight		kg	16	20		

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

◆ Ceiling Type

Model			GMV-R28Zd/Na-K	GMV-R36Zd/Na-K	GMV-R50Zd/Na-K	GMV-R71Zd/Na-K
Cooling capacity		kW	2.8	3.6	5.0	7.1
		Btu/h	9,550	12,280	17,060	24,230
Heating capacity		kW	3.2	4.0	5.8	8.0
		Btu/h	10,920	13,650	19,790	27,300
Air Flow Rate		m^3/h	550	600	700	1170
		CFM	324	353	412	689
Sound Pressure Level(H/L)		dB(A)	43	44	50	48
Power Supply			220-240V-1Ph~ 50Hz			
Fan Motor	Output	kW	0.01	0.01	0.04	0.1
	Running Current	A	0.1	0.1	0.4	1
Connecting Pipes	Gas Pipe	mm	Φ9.52	Φ12.7	Φ12.7	Φ15.9
		Inch	3/8	1/2	1/2	5/8
	Liquid Pipe	mm	Φ6.35	Φ6.35	Φ6.35	Φ9.52
		Inch	1/4	1/4	1/4	3/8
	Connection Method		Flare Connection			
Drainage Pipes (External Dia.×Thickness)		mm	Φ17×1.75			
Dimensions (W×D×H)		mm	840×238×695			1300×188×600
Package dimensions (W×D×H)		mm	1035×295×805			1514×248×724
Net Weight (Main Body/Panel)		kg	28	28	28	34
Gross Weight (Main Body/Panel)		kg	37	37	37	38

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Model			GMV-R90Zd/Na-K	GMV-R112Zd/Na-K	GMV-R125Zd/Na-K
Cooling capacity		kW	9.0	11.2	12.5
		Btu/h	30,700	38,210	42,650
Heating capacity		kW	10.0	12.5	13.5
		Btu/h	34,120	42,650	46,060
Air Flow Rate		m^3/h	2100	2200	2300
		CFM	1236	1295	1354
Sound Pressure Level(H/L)		dB(A)	51	54	55
Power Supply			220-240V-1Ph~ 50Hz		
Fan Motor	Output	kW	0.15	0.18	0.18
	Running Current	A	1.5	1.8	1.8
Connecting Pipes	Gas Pipe	mm	Φ15.9	Φ15.9	Φ15.9
		Inch	5/8	5/8	5/8
	Liquid Pipe	mm	Φ9.52	Φ9.52	Φ9.52
		Inch	3/8	3/8	3/8
	Connection Method		Flare Connection		
Drainage Pipes (External Dia.×Thickness)		mm	Φ17×1.75		
Dimensions (W×D×H)		mm	1590×238×695		
Package dimensions (W×D×H)		mm	1714×330×830		
Net Weight (Main Body/Panel)		kg	44	44	44
Gross Weight (Main Body/Panel)		kg	53	53	53

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Model			GMV-R28Zd/NaB-K	GMV-R36Zd/NaB-K	GMV-R50Zd/NaB-K
Cooling capacity		kW	2.8	3.6	5.0
		Btu/h	9,550	12,280	17,060
Heating capacity		kW	3.2	4.0	5.8
		Btu/h	10,920	13,650	19,790
Air Flow Rate		m^3/h	650	650	950
		CFM	383	383	559
Sound Pressure Level(H/L)		dB(A)	40	40	45
Power Supply			220-240V-1Ph~ 50Hz		
Fan Motor	Output	kW	0.01	0.01	0.02
	Running Current	A	0.25	0.25	0.50
Connecting Pipes	Gas Pipe	mm	Φ9.52	Φ12.7	Φ12.7
		Inch	3/8	1/2	1/2
	Liquid Pipe	mm	Φ6.35	Φ6.35	Φ6.35
		Inch	1/4	1/4	1/4
	Connection Method		Flare Connection		
Drainage Pipes (External Dia.×Thickness)		mm	Φ17×1.75		
Dimensions (W×D×H)		mm	1220×700×225		
Package dimensions (W×D×H)		mm	1340×820×300		
Net Weight (Main Body/Panel)		kg	40	40	40
Gross Weight (Main Body/Panel)		kg	50	50	50

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

Model			GMV-R71Zd/NaB-K	GMV-R90Zd/NaB-K	GMV-R112Zd/NaB-K	GMV-R125Zd/NaB-K
Cooling capacity		kW	7.1	9.0	11.2	12.5
		Btu/h	24225.2	30708	38214.4	42650
Heating capacity		kW	8.0	10.0	12.5	13.5
		Btu/h	27296	34120	42650	46062
Air Flow Rate		m^3/h	1400	1600	2000	2000
		CFM	824	942	1177	1177
Sound Pressure Level(H/L)		dB(A)	49	51	55	55
Power Supply			220-240V～ 50Hz			
Fan Motor	Output	kW	0.075	0.15	0.18	0.18
	Running Current	A	0.64	0.82	1.1	1.1
Connecting Pipes	Gas Pipe	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9
		Inch	5/8	5/8	5/8	5/8
	Liquid Pipe	mm	Φ9.52	Φ9.52	Φ9.52	Φ9.52
		Inch	3/8	3/8	3/8	3/8
	Connection Method		Flare Connection			
Drainage Pipes (External Dia.×Thickness)		mm	Φ17×1.75			
Dimensions (W×D×H)		mm	1420×700×245		1700×700×245	
Package dimensions (W×D×H)		mm	1545×825×330		1825×825×330	
Net Weight (Main Body/Panel)		kg	52	54	64	66
Gross Weight (Main Body/Panel)		kg	61	63	72	74

Note:

- The technical parameters are changed along with the productsimprovement; please refer to the nameplate of the unit for actual data.
- The cooling only type (GMVL) has no heating parameter. The Heating capacity of the heat pump type (GMV) is the capacity of heat pump.
- The model GMVL is refers to cooling only while the model GMV is heat pump type. The model with the last code of "K" is single phase.
- Noise is tested in the semi-anechoic room, so it should be slightly higher in the actual operation due to the environmental change.
- Rated conditions:
  Cooling : Indoor air temperature 27℃(81℉) DB/19℃(66.6℉) WB , Outdoor air temperature 35℃(95.4℉) DB/24℃(75.6℉) WB.
  Heating : Indoor air temperature 20℃(68℉) DB/15℃(59℉) WB , Outdoor air temperature 7℃(44.6℉) DB/6℃(42.8℉) WB.

8.2 Outdoor unit

Model			GMV-Pds100W /Na-K	GMV-Pds120W /Na-K	GMV-Pds140W /Na-K	GMV-Pds160W /Na-K
Capacity	Cooling	kW	10	12	14	16
		kBtu/h	34,12	40,94	47,77	54,59
	Heating	kW	11	13.2	15.4	17.6
		kBtu/h	37,53	45,04	52,54	60,05
	Water heating	kW	5.0	5.0	8.0	8.0
		kBtu/h	17.06	17.06	27.30	27.30
Noise		dB(A)	56	56	58	60
Ref Filling Amount		kg	5	5	7	7
Power Supply			220~240V-1Ph-50Hz			
Power input	Cooling	kW	4.5	5.0	5.5	5.9
	Heating	kW	3.8	4.2	4.9	5.3
	Water heating	kW	2.0	2.0	2.86	2.86
Rated current	Cooling	A	20.2	23.0	25.0	26.8
	Heating	A	18.1	19.1	22.3	24.1
	Water heating	A	9.0	9.0	12.8	12.8
Dimension	Width	mm	950	950	950	950
	Depth	mm	340	340	340	340
	Height	mm	1250	1250	1250	1250
Compressor			DC Inverter Dual-rotor Type Compressor 1	DC Inverter Dual-rotor Type Compressor 1	DC Inverter Dual-rotor Type Compressor 1	DC Inverter Dual-rotor Type Compressor 1
Moisture protection			IP24	IP24	IP24	IP24
Climate Type			T1	T1	T1	T1
Pipes	Gas Pipe (to indoor unit)	mm	Φ19.05	Φ19.05	Φ19.05	Φ19.05
		Inch	3/4	3/4	3/4	3/4
	Liquid Pipe (to indoor unit)	mm	Φ9.52	Φ9.52	Φ9.52	Φ9.52
		Inch	3/8	3/8	3/8	3/8
	Gas Pipe (to Hydro-box)	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9
		Inch	5/8	5/8	5/8	5/8
	Liquid Pipe (to Hydro-box)	mm	Φ12.7	Φ12.7	Φ12.7	Φ12.7
		Inch	1/2	1/2	1/2	1/2
	Connection Method		Flared connection	Flared connection	Flared connection	Flared connection
Net weigth		kg	105	105	115	115
Gross Weigth		kg	115	115	125	125

Recommended Power Lines	mm2× Number of Lines		6.0×3	6.0×3	10.0×3	10.0×3
Dimensions of Installation			1250×572×378	1250×572×378	1250×572×378	1250×572×378
Dimensions of Package	Width	mm	1110	1110	1110	1110
	Depth	mm	450	450	450	450
	Height	mm	1370	1370	1370	1370
Circuit breaker		A	32	32	40	40

Note:

- The comprehensive energy-efficiency ratio is (the cooling capacity obtained by indoor unit +Heating capacity of hot water / Power consumption. Example: ECOP=(5kW+5kW+2kW)/2kW=6.0.
- The performance data of the air conditioner unit are measured under rated working conditions 8.5
- The R410A charge volume above refers to the charge volume in the outdoor unit at the time of shipment. During installation, the charge volume of additional refrigerant shall be calculated according to the pipe length and the configuration of indoor units.
- The data above shall be based on the nameplate

Model			GMV-Pds224W/Na-M	GMV-Pds280W/Na-M
Capacity	Cooling	kW	22.4	28
		kBtu/h	76.43	95.54
	Heating	kW	25	31.5
		kBtu/h	85.30	107.48
	Water heating	kW	12kw (default), adjustable between 12~20kW by setting the wire controller of Hydro unit	12kw (default), adjustable between 12~30kW by setting the wire controller of Hydro unit
		kBtu/h	-	-
Noise		dB(A)	58	58
Ref Filling Amount		kg	15	16
Power Supply			380-415V 3N~50Hz	
Power input	Cooling	kW	6.82	7.52
	Heating	kW	6.97	7.70
	Water heating	kW	8.0	10.7
Rated current	Cooling	A	11.7	13.44
	Heating	A	11.4	13.76
	Water heating	A	13.1	19.1
Dimension	Width	mm	930	930
	Depth	mm	770	770
	Height	mm	1670	1670
Compressor			(D.C.Inverter Scroll type compressor +constant speed scroll compressor)	(D.C.Inverter Scroll type compressor +constant speed scroll compressor)
Moisture protection			IP24	IP24
Climate Type			T1	T1
Pipes	Gas Pipe (to indoor unit)	mm	Φ22.2	Φ22.2
		Inch	7/8	7/8
	Liquid Pipe (to indoor unit)	mm	Φ9.52	Φ9.52
		Inch	3/8	3/8
	Gas Pipe (to Hydro-box)	mm	Φ19.05	Φ19.05
		Inch	3/4	3/4
	Liquid Pipe (to Hydro-box)	mm	Φ15.9	Φ15.9
		Inch	5/8	5/8
	Connection Method		Flared connection	Flared connection
Net weigth		kg	265	265
Gross Weigth		kg	285	285
Recommended Power Lines	mm2× Number of Lines		6.0×5	6.0×5

Dimensions of Package	Width	mm	1010	1010
	Depth	mm	850	850
	Height	mm	1850	1850
Circuit breaker		A	32	32

Note:

- The comprehensive energy-efficiency ratio is (the cooling capacity obtained by indoor unit +Heating capacity of hot water / Power consumption. Example: ECOP=(5kW+5kW+2kW)/2kW=6.0.
- The performance data of the air conditioner unit are measured under rated working conditions 8.5
- The R410A charge volume above refers to the charge volume in the outdoor unit at the time of shipment. During installation, the charge volume of additional refrigerant shall be calculated according to the pipe length and the configuration of indoor units.
- The data above shall be based on the nameplate.

8.3 Water-tank

Model			SXD250LC-K	SXD300LC-K
Tankage		L	250	300
Highest working pressure		Mpa	0.7	0.7
Power Supply			220~240V-1Ph-50Hz	
Circular Pipe	Outer diameter	mm	DN20	DN20
		Inch	G3/4	G3/4
	Screw thread spec		-	-
Cold water pipe	Outer diameter	mm	DN15	DN15
		Inch	G1/2	G1/2
	Screw thread spec		-	-
Hot water pipe	Outer diameter	mm	DN15	DN15
		Inch	G1/2	G1/2
	Screw thread spec		-	-
Outline dimension	Outline diameter×high	mm	Φ540×1945	Φ620×1620
Net weight/Gross weight		kg	68/77	71/81

Model			SXD350LC-K	SXD400LC-K
Tankage		L	350	400
Highest working pressure		Mpa	0.7	0.7
Power Supply			220-240V-1Ph~50Hz	220-240V-1Ph~50Hz
Circular Pipe	Outer diameter	mm	DN20	DN20
		Inch	G3/4	G3/4
	Screw thread spec		-	-
Cold water pipe	Outer diameter	mm	DN15	DN15
		Inch	G1/2	G1/2
	Screw thread spec		-	-
Hot water pipe	Outer diameter	mm	DN15	DN15
		Inch	G1/2	G1/2
	Screw thread spec		-	-
Outline dimension	Outline diameter×high	mm	Φ620×1895	Φ620×2125
Net weight/Gross weight		kg	79/90	86/98

Model			SXVD200LCJ /A-K	SXVD300LCJ /A-K	SXVD350LCJ /A-K	SXVD400LCJ /A-K
Tankage		L	200	300	350	400
Highest working pressure		Mpa	0.7	0.7	0.7	0.7
Power Supply			220-240V-1Ph~50Hz			
Circular Pipe	Outer diameter	mm	DN20	DN20	DN20	DN20
		Inch	G3/4	G3/4	G3/4	G3/4
	Screw thread spec		-	-	-	-
Cold water pipe	Outer diameter	mm	DN15	DN15	DN15	DN15
		Inch	G1/2	G1/2	G1/2	G1/2
	Screw thread spec		-	-	-	-
Hot water pipe	Outer diameter	mm	DN15	DN15	DN15	DN15
		Inch	G1/2	G1/2	G1/2	G1/2
	Screw thread spec		-	-	-	-
Outline dimension	Outline diameter×high	mm	Φ540×1595	Φ620×1620	Φ620×1895	Φ620×2125
Net weight/Gross weight		kg	68/77	82/92	103/137	110/145

Model			SXVD200LCJ2/A-K	SXVD300LCJ2/A-K	SXVD350LCJ2/A-K	SXVD400LCJ2/A-K
Tankage		L	200	300	350	400
Highest working pressure		Mpa	0.7	0.7	0.7	0.7
Circular Pipe	Outer diameter	mm	DN20	DN20	DN20	DN20
		Inch	G3/4	G3/4	G3/4	G3/4
	Screw thread spec		-	-	-	-
Cold water pipe	Outer diameter	mm	DN15	DN15	DN15	DN15
		Inch	G1/2	G1/2	G1/2	G1/2
	Screw thread spec		-	-	-	-
Hot water pipe	Outer diameter	mm	DN15	DN15	DN15	DN15
		Inch	G1/2	G1/2	G1/2	G1/2
	Screw thread spec		-	-	-	-
Outline dimension	Outline diameter×high	mm	Φ540×1595	Φ620×1620	Φ620×1895	Φ620×2125
Net weight/Gross weight		kg	71/80	87/97	100/126	110/139

Note:

- The performance data of the air conditioner unit are measured under rated working conditions 8.5
- The data above shall be based on the nameplate.
- Rated working condition refer to the annotation in table 8.2.
- Rated working condition

Rated working condition	Indoor Side Status		Outdoor Side Status		Water Tank Temp	
	Dry bulb temp°C	Wet bulb temp°C	Dry bulb temp°C	Wet bulb temp°C	Start Temp°C	End Temp°C
Rated Cooling	27	19	35	24	-	-
Rated Heating	20	15	7	6	-	-
Rated Cooling and water heating	27	19	35	24	15	55
Rated Heating and water heating	20	15	7	6	15	55
Rated Hot Water	-	-	20	15	15	55

8.4 Hydro-box

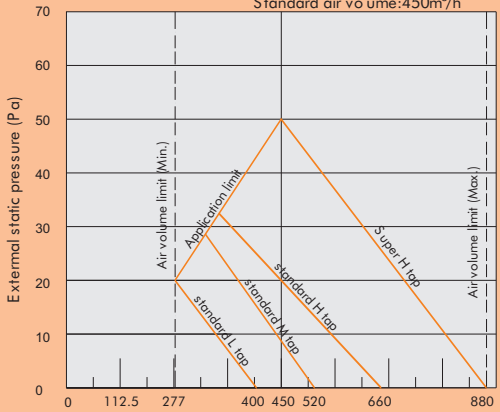
Model			RQD5GB-K	RQD8GB-K	RQD5GA-K RQ5GB-K	RQD8GA-K RQ8GB-K
Heat exchanger capacity		kW	5	8	5	8
Electrical heater		kW	1.5	1.5	–	–
Power supply		V/Ph/Hz	220~240V-1Ph-50Hz	220~240V-1Ph-50Hz	220~240V-1Ph-50Hz	220~240V-1Ph-50Hz
Water Yield		L/h	107	171	107	171
Water Pump	Type	-	1	1	1	1
	Power input	W	80	80	80	80
	Water flow	L/m	16.7	16.7	16.7	16.7
	Head of delivery	m	6	6	6	6
Type of heat exchanger			Tube in tube	Tube in tube	Tube in tube	Tube in tube
Connection pipes(to water-tank)	Outer diameter	mm	DN20	DN20	DN20	DN20
		Inch	3/4	3/4	3/4	3/4
	Screw thread spec		G3/4	G3/4	G3/4	G3/4
Connection pipes(to outdoor unit)	Gas pipe	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9
		Inch	5/8	5/8	5/8	5/8
	Liquid pipe	mm	Φ12.7	Φ12.7	Φ12.7	Φ12.7
		Inch	1/2	1/2	1/2	1/2
Unit Dimension	WxDxH	mm	650x435x270		650x300x250	
Package Dimension	WxDxH	mm	750x505x332		725x365x313	
Net weigth/Gross Weigth		kg	31/34		25/28	

Model			RQD20LA-M	RQ20LA-K	RQD30LA-M	RQ30LA-K
Heat exchanger capacity		kW	20	20	30	30
Electrical heater		kW	5	–	5	–
Power supply		V/Ph/Hz	380~415V-3Ph-50Hz	220~240V-1Ph-50Hz	380~415V-3Ph-50Hz	220~240V-1Ph-50Hz
Water Pump	Type	-	-	-	-	-
	Power input	W	370	370	370	370
	Water flow	L/m	43.3	43.3	43.3	43.3
	Head of delivery	m	15	15	15	15
Type of heat exchanger			Tube in tube	Tube in tube	Tube in tube	Tube in tube
Connection pipes(to water-tank)	Outer diameter	mm	DN25	DN25	DN25	DN25
		Inch	G1	G1	G1	G1
	Screw thread spec		-	-	-	-
Connection pipes(to outdoor unit)	Gas pipe	mm	Φ19.05	Φ19.05	Φ19.05	Φ19.05
		Inch	3/4	3/4	3/4	3/4
	Liquid pipe	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9
		Inch	5/8	5/8	5/8	5/8
Unit Dimension	WxDxH	mm	1050x470x760	1050x470x760	1050x470x910	1050x470x910
Package Dimension	WxDxH	mm	1120x500x890	1120x500x890	1120x500x1040	1120x500x1040
Net weigth/Gross Weigth		kg	110/122	75/90	120/135	100/115

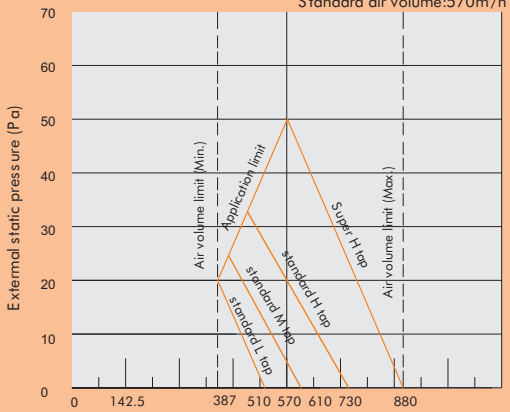
The note refer to the annotation in Table 8.3.

9 FAN CHARACTERISTICS

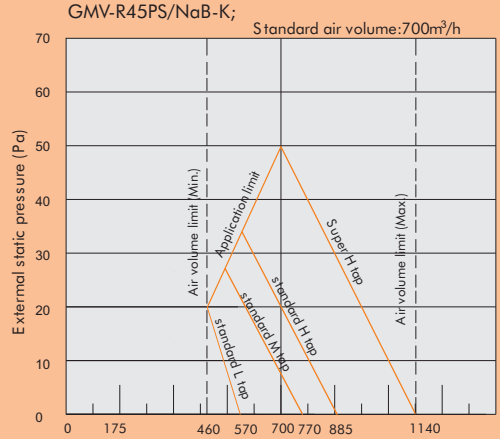
GMV-R22P/NaB-K;
GMV-R22PS/NaB-K;
Standard air vo ume:450m³/h



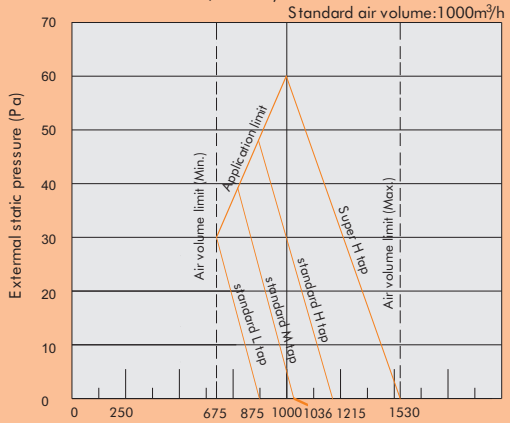
GMV-R28P/NaB-K; GMV-R36P/NaB-K
GMV-R28PS/NaB-K;GMV-R36PS/NaB-K;
Standard air volume:570m³/h



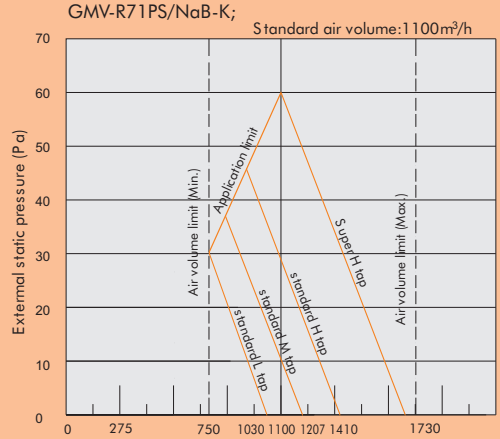
GMV-R45P/NaB-K;
GMV-R45PS/NaB-K;
Standard air volume:700m³/h



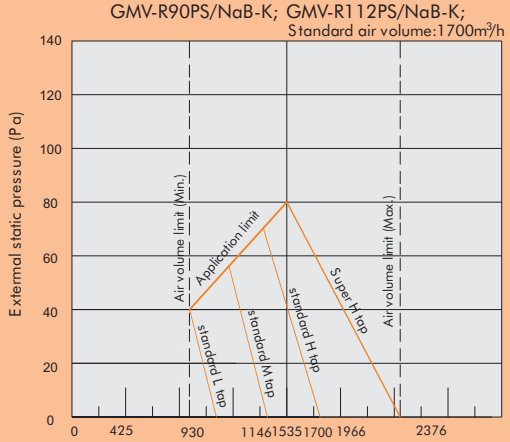
GMV-R56P/NaB-K;
GMV-R56PS/NaB-K;
Standard air volume:1000m³/h



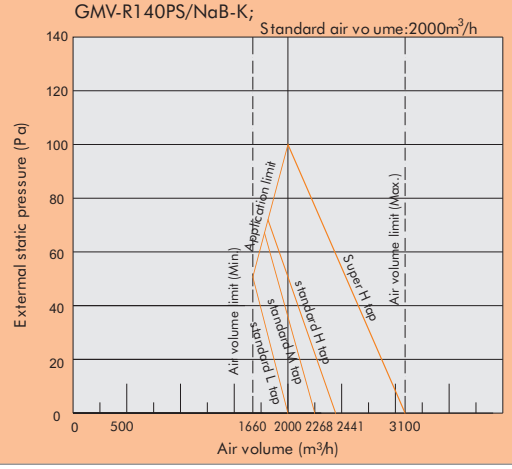
GMV-R71P/NaB-K;
GMV-R71PS/NaB-K;
Standard air volume:1100m³/h



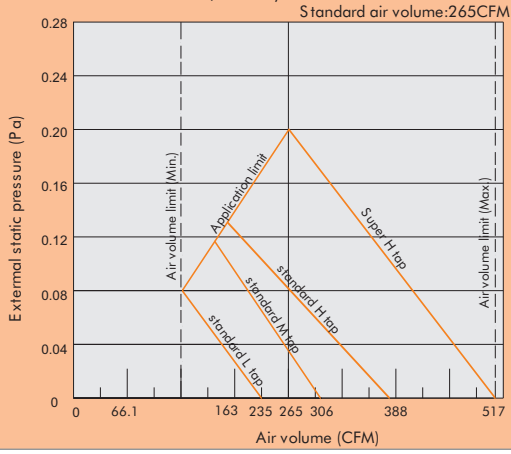
GMV-R90P/NaB-K; GMV-R112P/NaB-K
GMV-R90PS/NaB-K; GMV-R112PS/NaB-K;
Standard air volume:1700m³/h



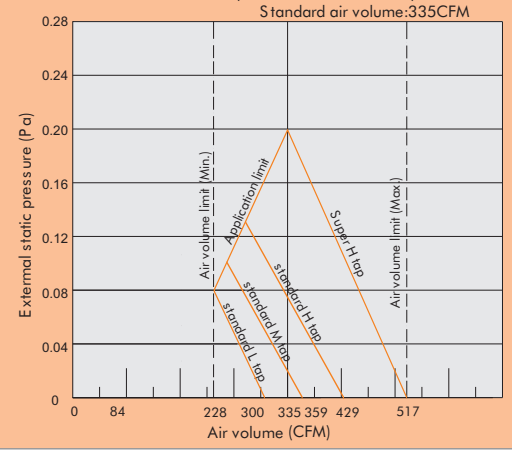
GMV-R140P/NaB-K;
GMV-R140PS/NaB-K;



GMV-R22P/NaB-K;
GMV-R22PS/NaB-K;



GMV-R28P/NaB-K; GMV-R36P/NaB-K;
GMV-R28PS/NaB-K; GMV-R36PS/NaB-K;



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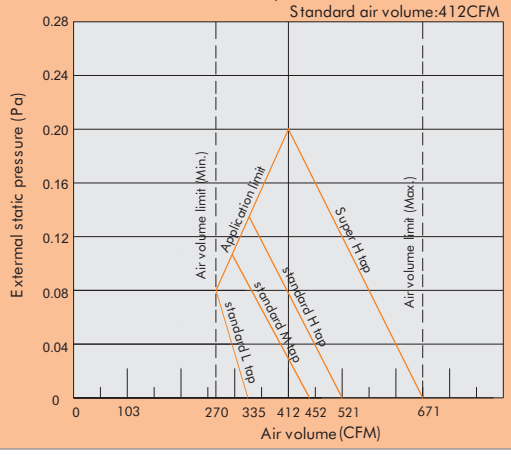
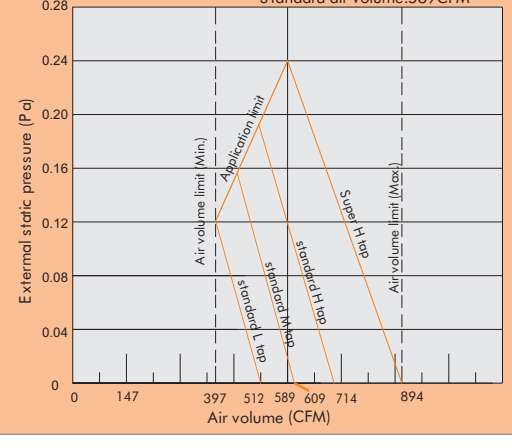
GMV-R45PS/NaB-K;



GMV-R56P/NaB-K;
GMV-R56PS/NaB-K;



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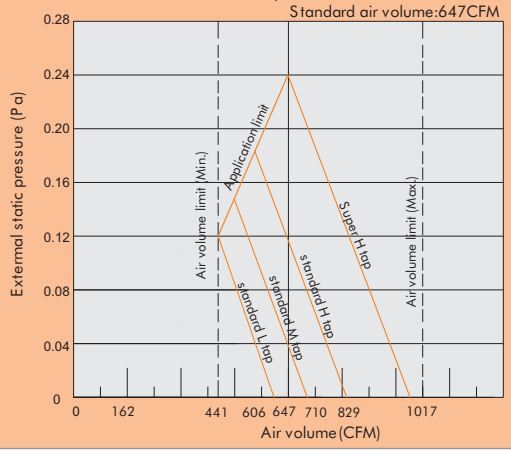
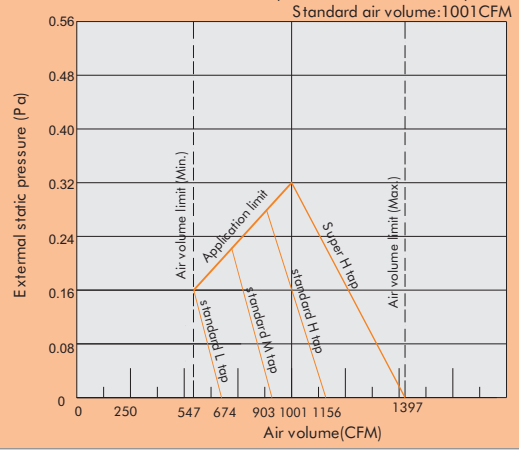
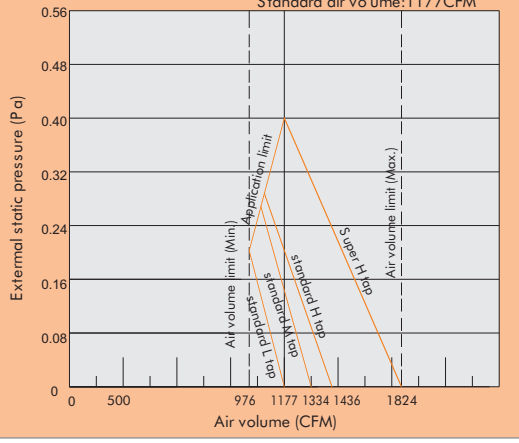
GMV-R71PS/NaB-K;



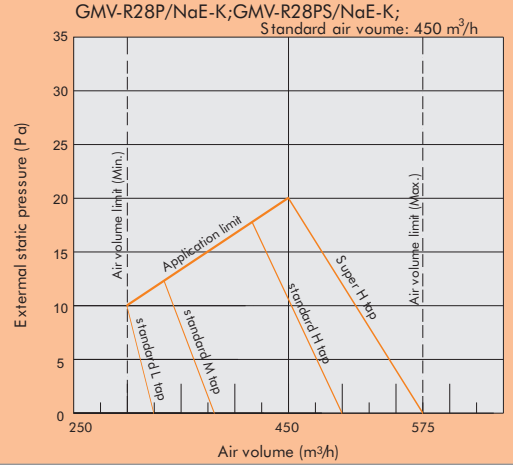
GMV-R90P/NaB-K; GMV-R112P/NaB-K;
GMV-R90PS/NaB-K; GMV-R112PS/NaB-K;



GMV-R140P/NaB-K;
GMV-R140PS/NaB-K;



GMV-R22P/NaE-K;GMV-R22PS/NaE-K;
GMV-R28P/NaE-K;GMV-R28PS/NaE-K;



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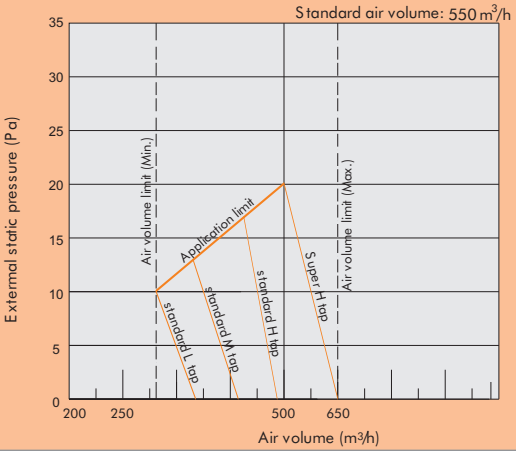
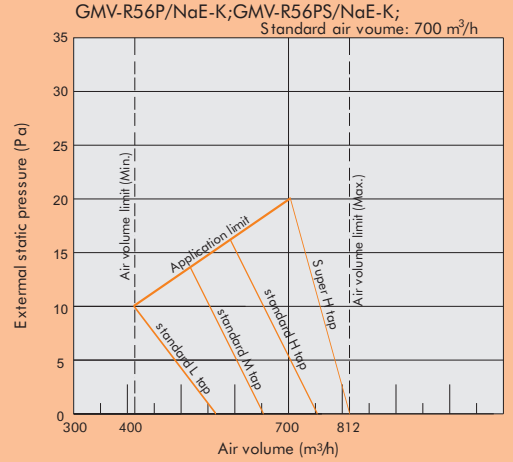


GMV-R45P/NaE-K;GMV-R45PS/NaE-K;
GMV-R56P/NaE-K;GMV-R56PS/NaE-K;



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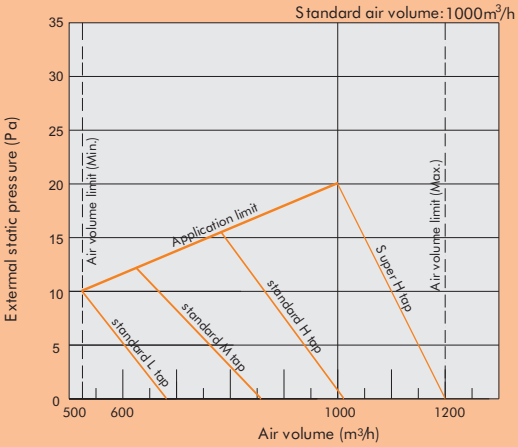
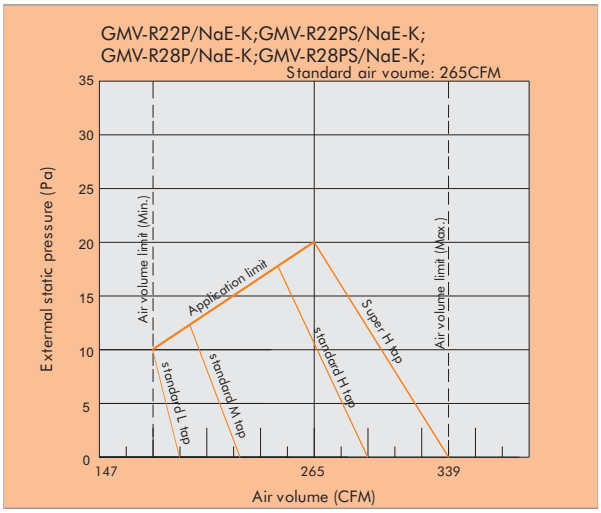
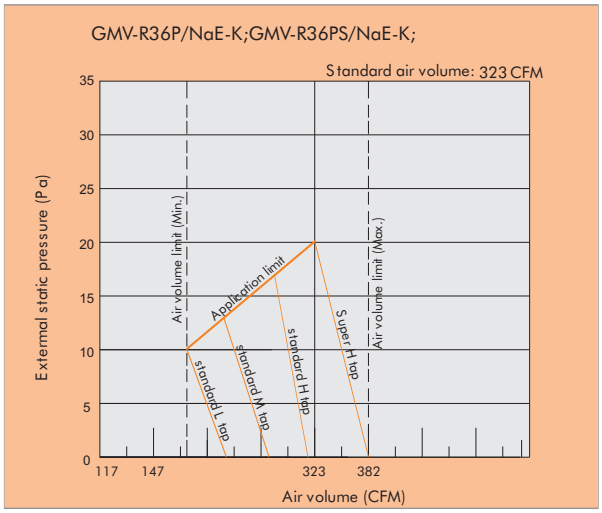


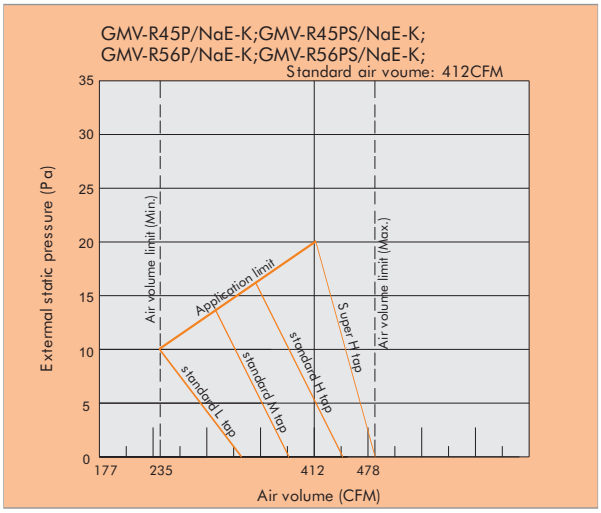
GMV-R22P/NaE-K;GMV-R22PS/NaE-K;
GMV-R28P/NaE-K;GMV-R28PS/NaE-K;



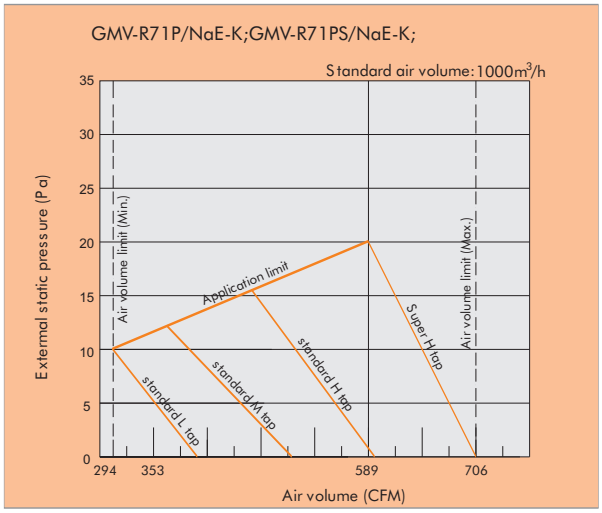
GMV-R36P/NaE-K;GMV-R36PS/NaE-K;



GMV-R45P/NaE-K;GMV-R45PS/NaE-K;
GMV-R56P/NaE-K;GMV-R56PS/NaE-K;



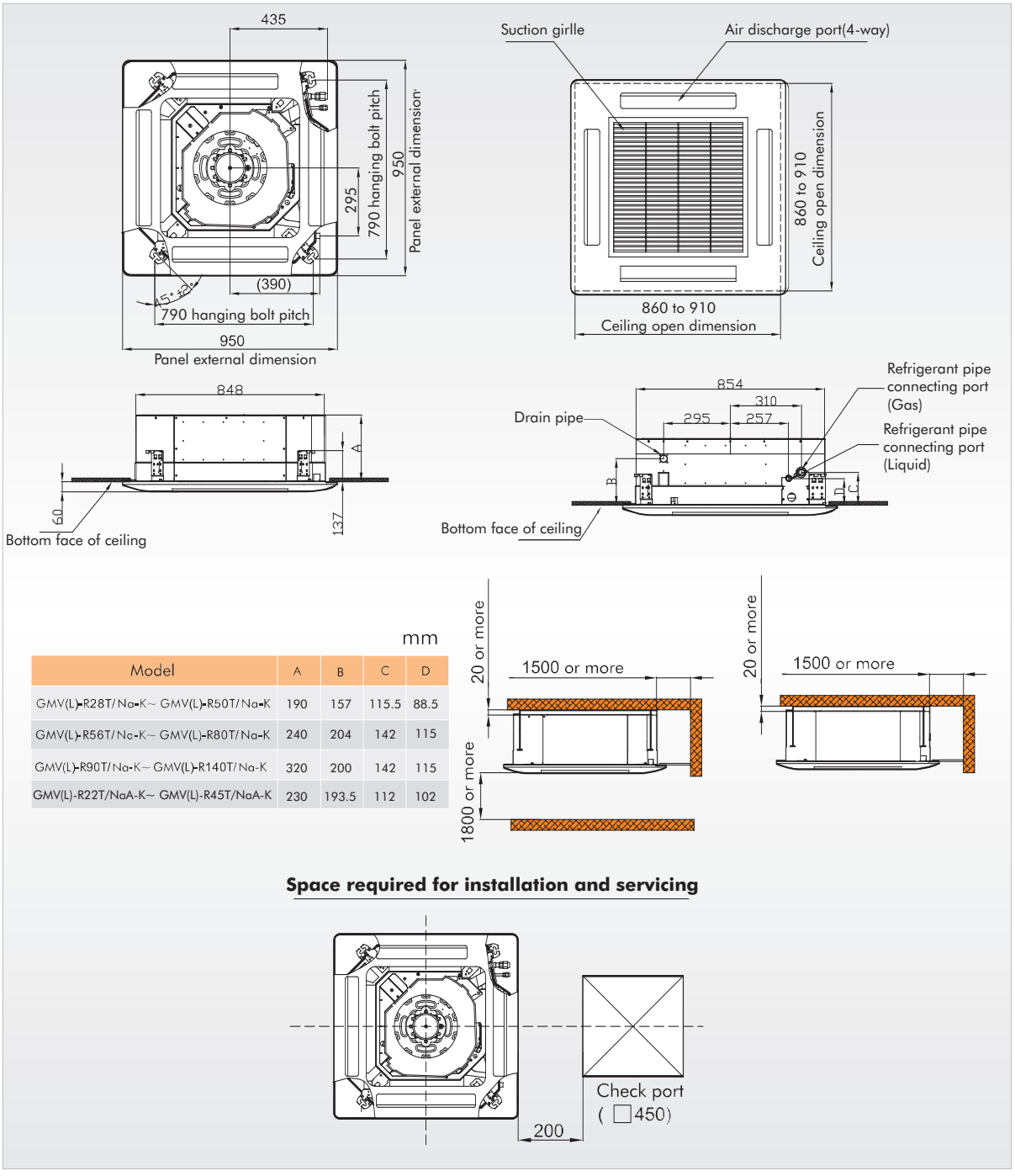
GMV-R71P/NaE-K;GMV-R71PS/NaE-K;



10 DIMENSION DRAWINGS

10.1 Indoor Unit

◆ 4-way Air Discharge Cassette Type



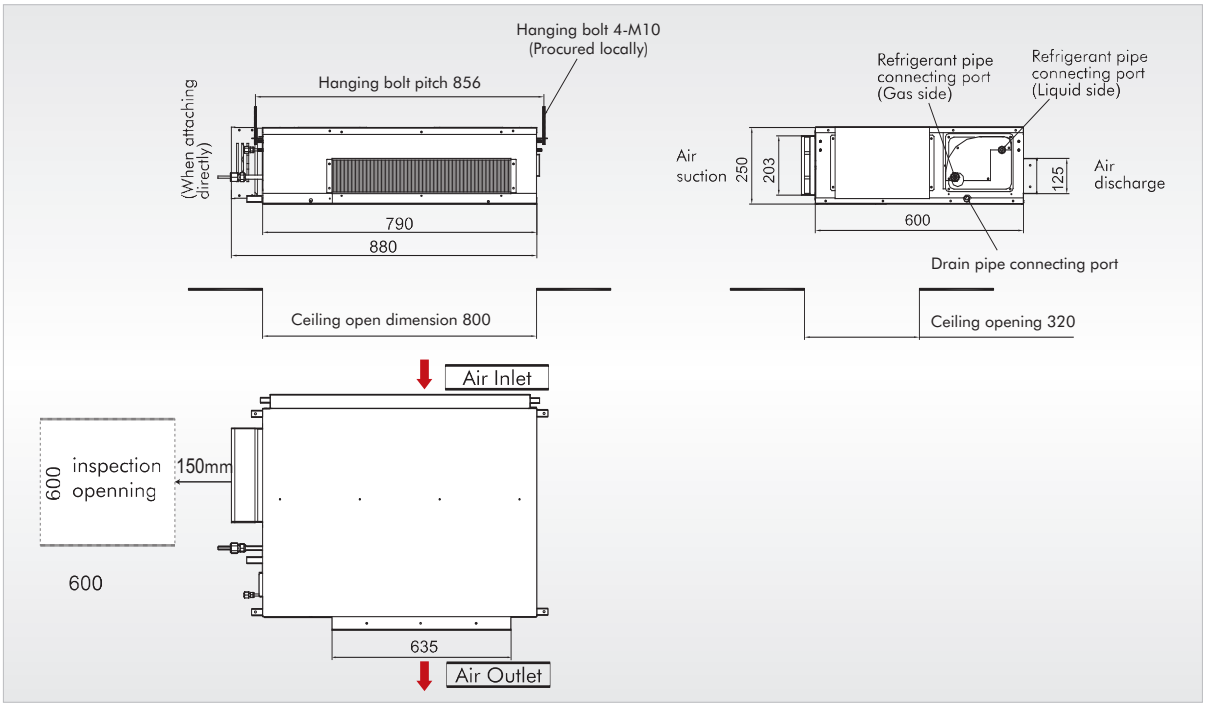
mm

Model	A	B	C	D
GMV(L)-R28T/Na-K~ GMV(L)-R50T/Na-K	190	157	115.5	88.5
GMV(L)-R56T/Na-K~ GMV(L)-R80T/Na-K	240	204	142	115
GMV(L)-R90T/Na-K~ GMV(L)-R140T/Na-K	320	200	142	115
GMV(L)-R22T/NaA-K~ GMV(L)-R45T/NaA-K	230	193.5	112	102

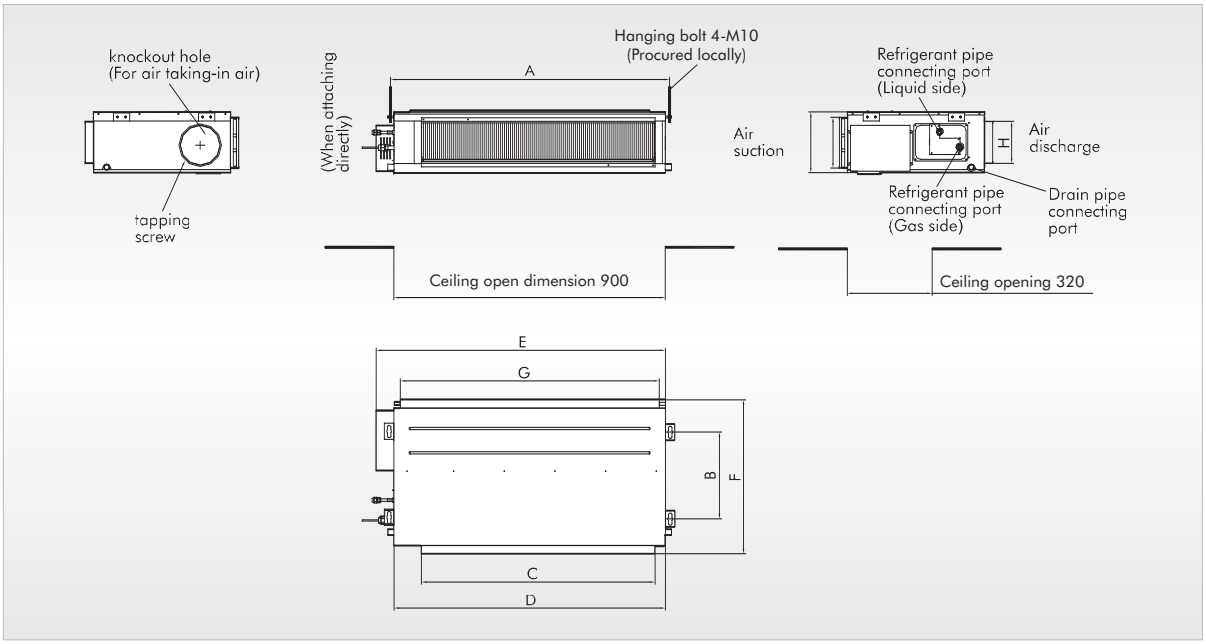
Space required for installation and servicing

Duct Type

Dimensions for:
GMV(L)-R22P/NaB-K;GMV(L)-R28P/NaB-K;GMV(L)-R36P/NaB-K;
GMV(L)-R22PS/NaB-K;GMV(L)-R28PS/NaB-K;GMV(L)-R36PS/NaB-K;



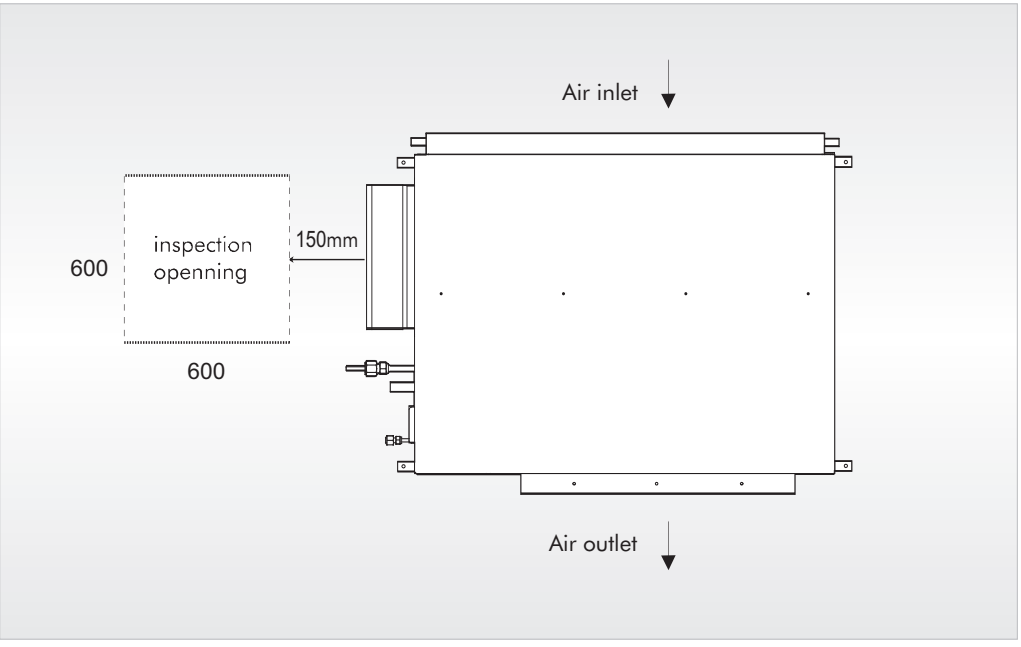
Dimensions for :
GMV(L)-R45P/NaB-K;GMV(L)-R56P/NaB-K;GMV(L)-R71P/NaB-K;
GMV(L)-R90P/NaB-K;GMV(L)-R112P/NaB-K;GMV(L)-R140P/NaB-K;
GMV(L)-R45PS/NaB-K;GMV(L)-R56PS/NaB-K;GMV(L)-R71PS/NaB-K;
GMV(L)-R90PS/NaB-K;GMV(L)-R112PS/NaB-K;GMV(L)-R140PS/NaB-K;



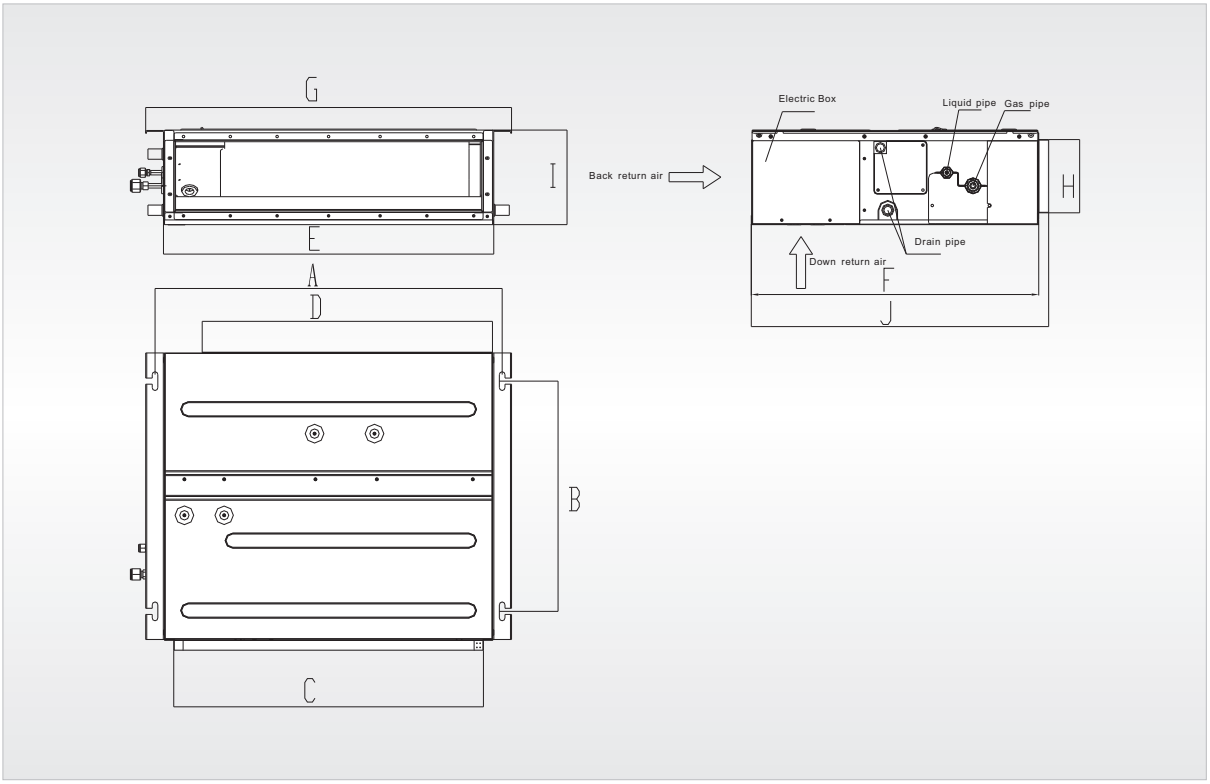
model	A	B	C	D	E	F	G	H	I	J
GMV(L)-R45P/NaB-K GMV(L)-R45PS/NaB-K	932	430	738	892	980	721	738	125	203	266
GMV(L)-R56P/NaB-K GMV(L)-R56PS/NaB-K GMV(L)-R71P/NaB-K GMV(L)-R71PS/NaB-K	1114	420	918	1074	1155	736	918	207	207	300
GMV(L)-R90P/NaB-K GMV(L)-R90PS/NaB-K GMV(L)-R112P/NaB-K GMV(L)-R112PS/NaB-K	1382	420	1155	1340	1425	736	1278	207	250	300
GMV(L)-R140P/NaB-K GMV(L)-R140PS/NaB-K	1382	420	1155	1340	1425	736	1278	207	250	300

Note:

Be sure to place a inspection openning at the position indicated in the following figure for maintenance of the equipment.

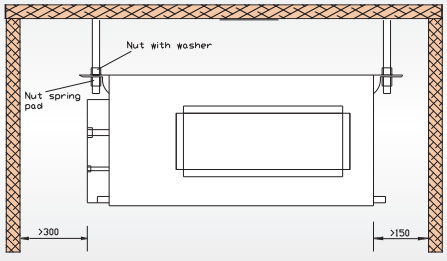


GMV(L)-R22PS/NaE-K;GMV(L)-R28PS/NaE-K;GMV(L)-R36PS/NaE-K;
GMV(L)-R45PS/NaE-K;GMV(L)-R56PS/NaE-K;GMV(L)-R71PS/NaE-K;

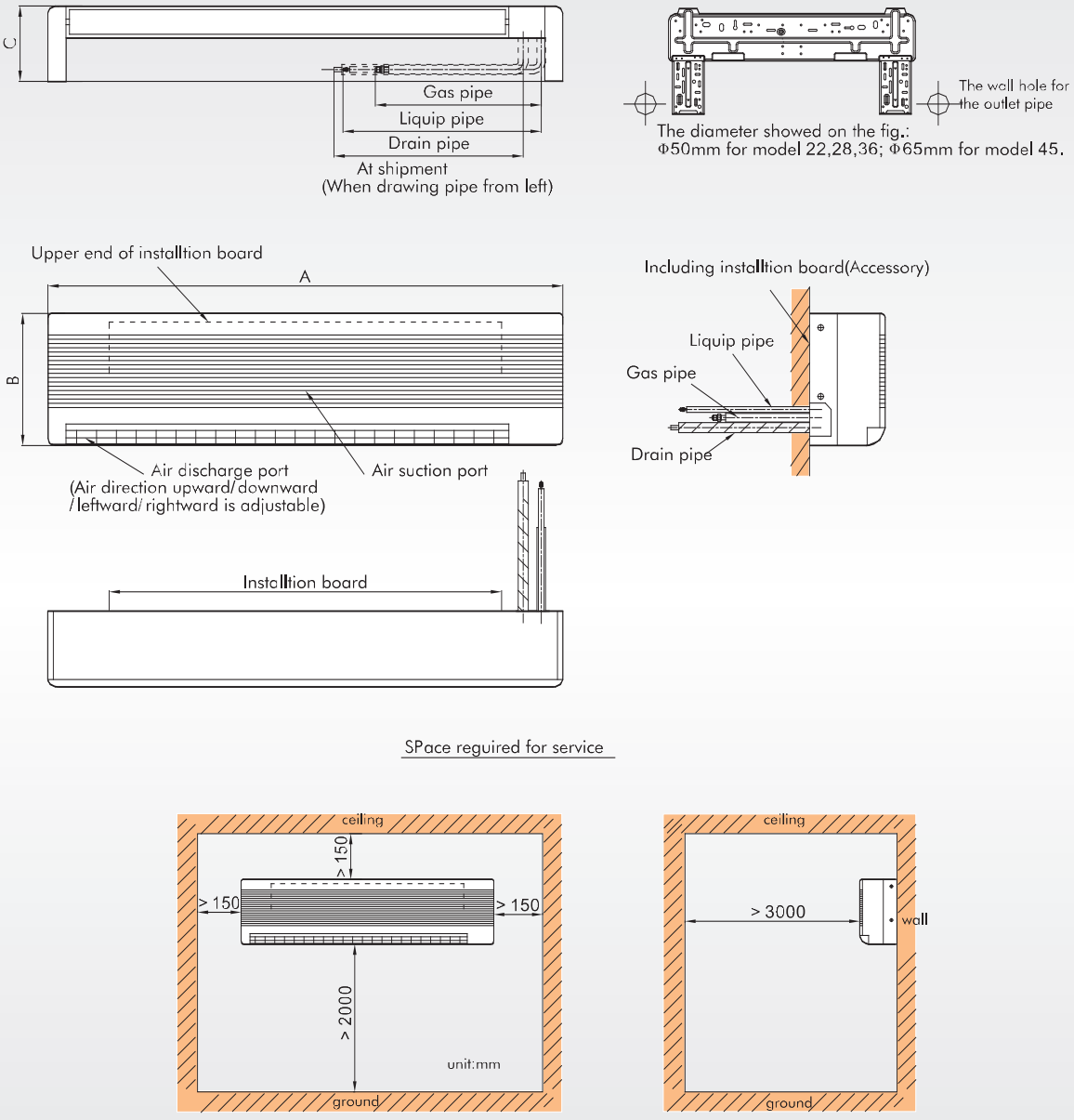


Models	A	B	C	D	E	F	G	H	I	J
GMV(L)-R22PS/NaE-K	742	491	662	620	700	615	782	156	200	635
GMV(L)-R28PS/NaE-K	742	491	662	620	700	615	782	156	200	635
GMV(L)-R36PS/NaE-K	742	491	662	620	700	615	782	156	200	635
GMV(L)-R45PS/NaE-K	942	491	862	820	900	615	982	156	200	635
GMV(L)-R56PS/NaE-K	942	491	862	820	900	615	982	156	200	635
GMV(L)-R71PS/NaE-K	1142	491	1062	1020	1100	615	1182	156	200	635

Note: Installation space requirements



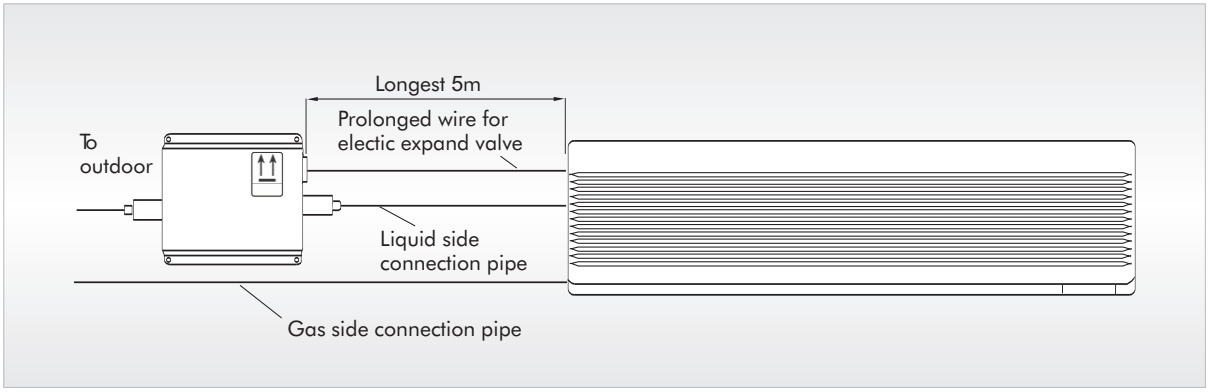
Wall-mounted Type



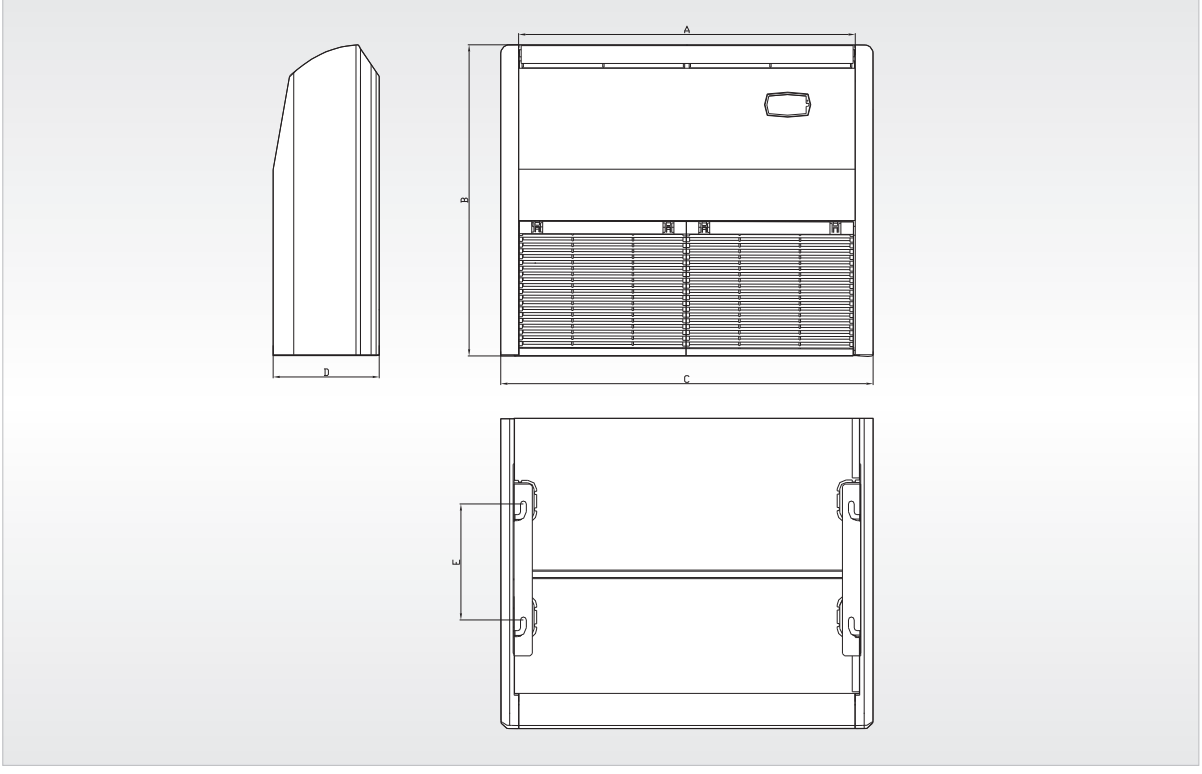
Model	GMV(L)-R22G/NaB-K GMV(L)-R28G/NaB-K GMV(L)-R36G/NaB-K	GMV(L)-R45G/NaB-K GMV(L)-R50G/NaB-K GMV(L)-R56G/NaB-K	GMV(L)-R71G/Na-K GMV(L)-R80G/Na-K
A(mm)	830	907	1178
B(mm)	285	290	326
C(mm)	189	195	227

Model	GMV(L)-R22G/NaG-K GMV(L)-R28G/NaG-K	GMV(L)-R36G/NaG-K GMV(L)-R45G/NaG-K GMV(L)-R50G/NaG-K	GMV(L)-R56G/NaG-K GMV(L)-R63G/NaG-K GMV(L)-R71G/NaG-K
A(mm)	843	940	1008
B(mm)	275	298	319
C(mm)	180	200	221

Connect silencing box with liquid side pipe of indoor unit by connection pipe, and also connect it with liquid side pipe of outdoor unit, tighten the connection pipe with joint nut.

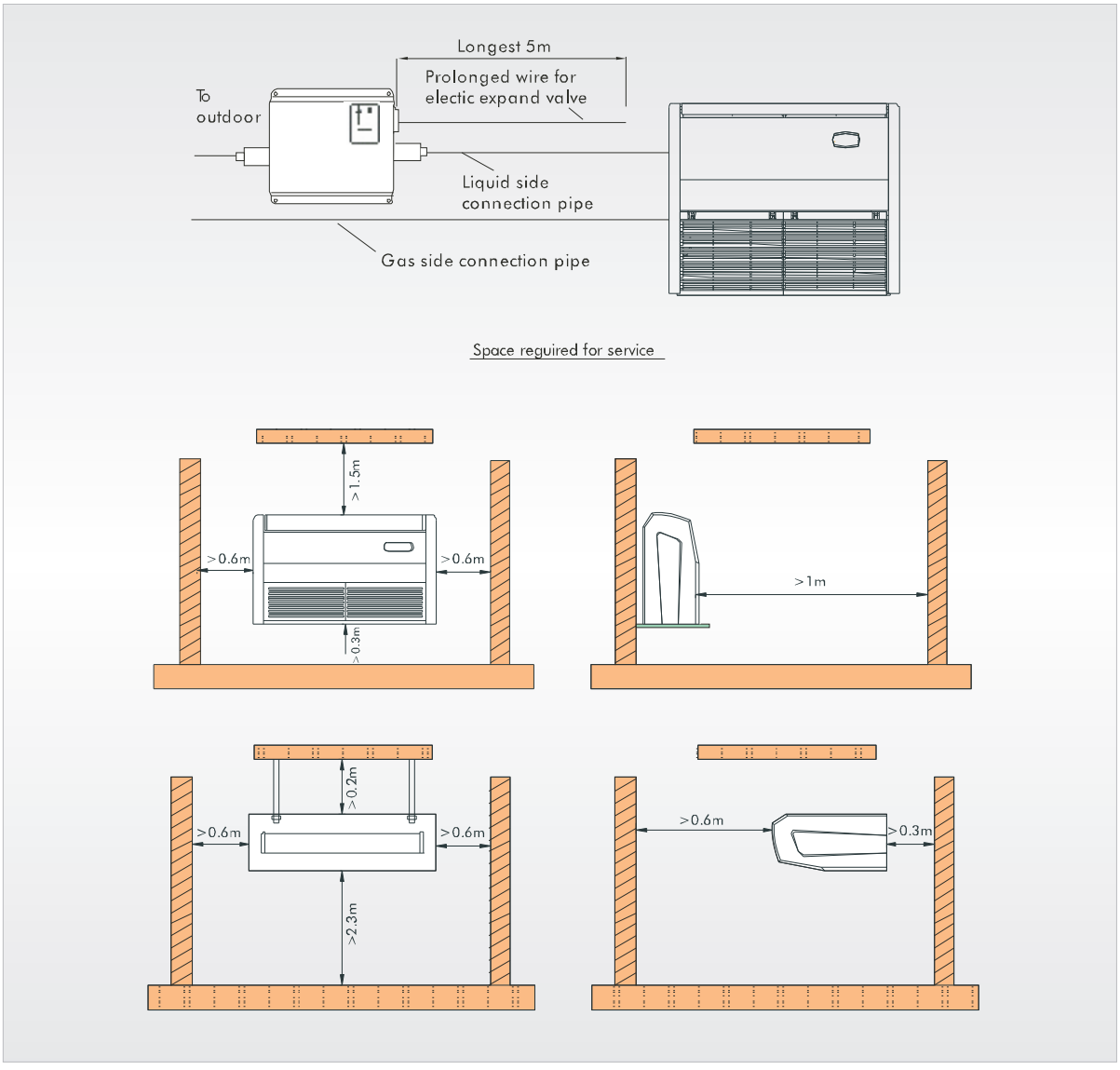


◆ Floor Ceiling Type



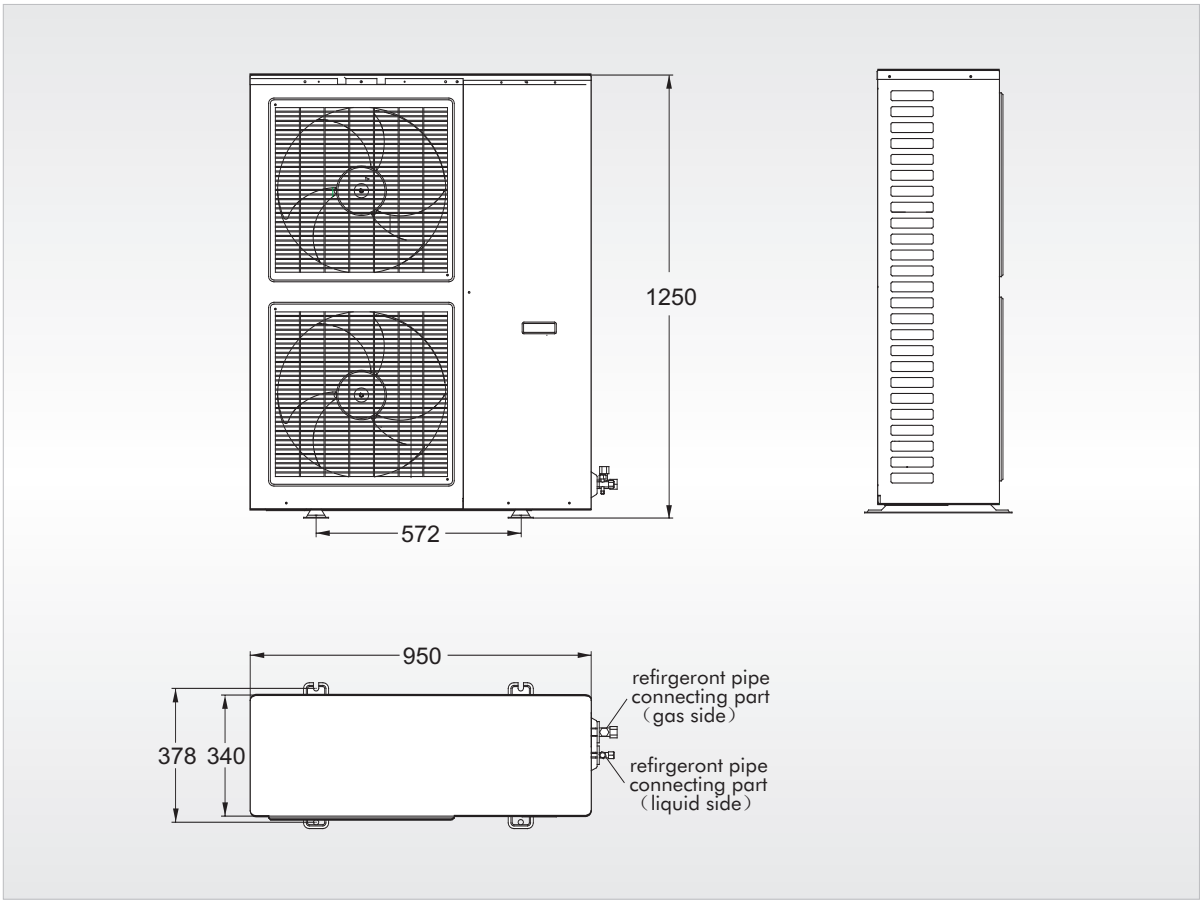
Connect silencing box with liquid side pipe of indoor unit by connection pipe, and also connect it with liquid side pipe of outdoor unit, tighten the connection pipe with joint nut.

Model	A	B	C	D	E
GMV(L)-R28Zd/NaB-K	1158	700	1220	225	280
GMV(L)-R36Zd/NaB-K	1158	700	1220	225	280
GMV(L)-R50Zd/NaB-K	1158	700	1220	225	280
GMV(L)-R71Zd/NaB-K	1354	700	1420	245	280
GMV(L)-R90Zd/NaB-K	1354	700	1420	245	280
GMV(L)-R112Zd/NaB-K	1634	700	1700	245	280
GMV(L)-R125Zd/NaB-K	1634	700	1700	245	280

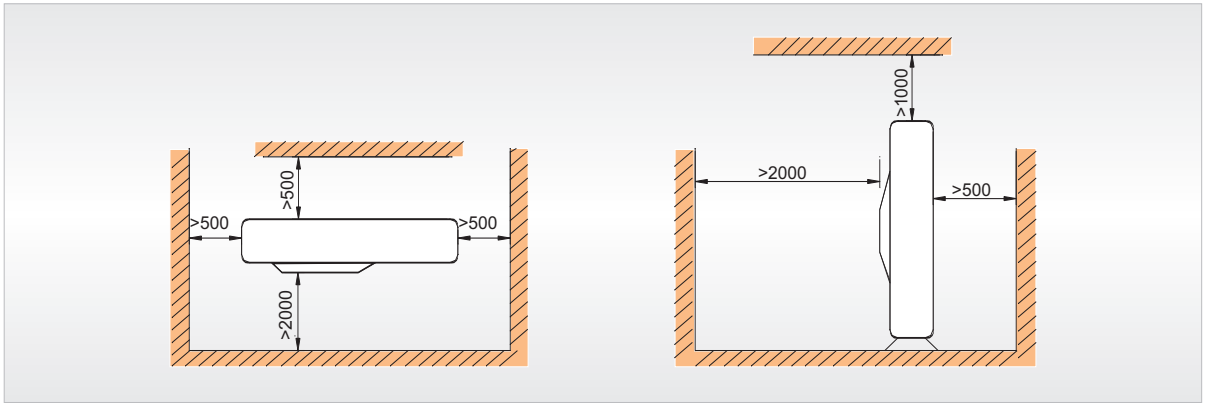


10.2 Outdoor Unit

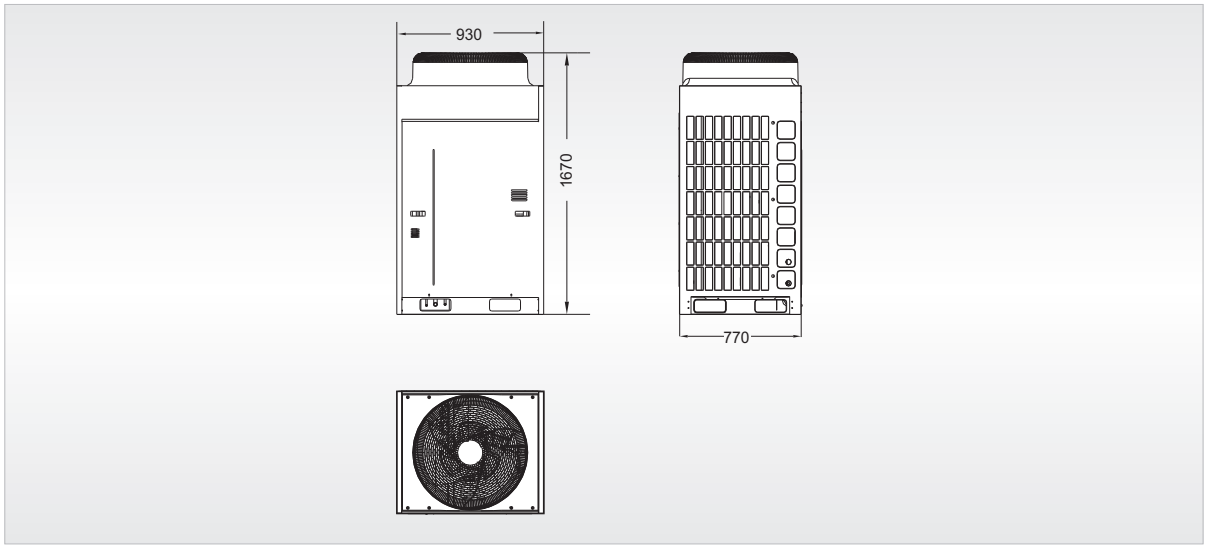
Outline dimension drawing of GMV-Pds100W/Na-K GMV-Pds120W/Na-K GMV-Pds140W/Na-K GMV-Pds160W/Na-K



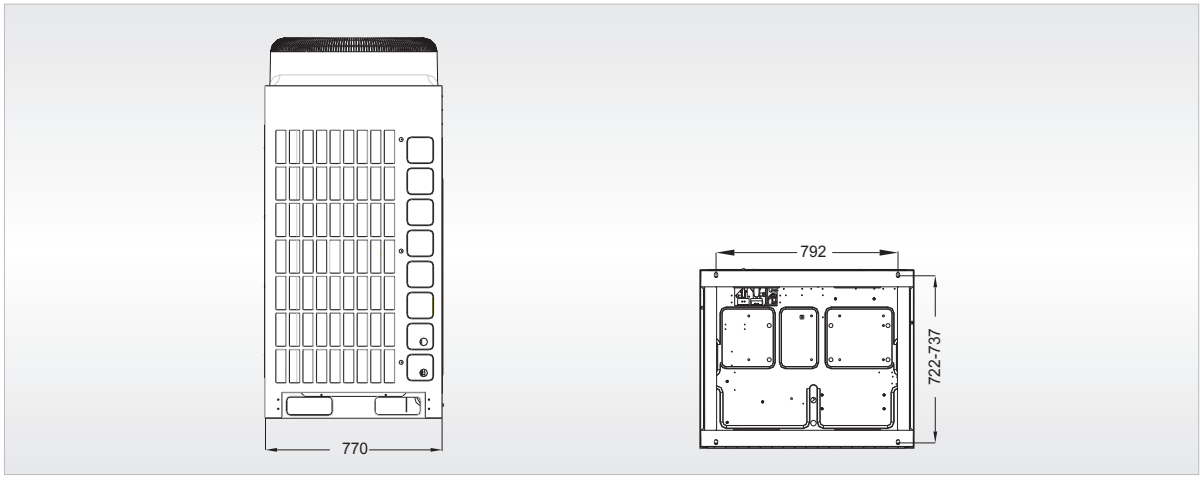
During installation, tighten the support and base of the unit by using M12 screws.
Outdoor unit shall be installed on a concrete base 10cm high.
Space dimension for installation of the unit is shown below.



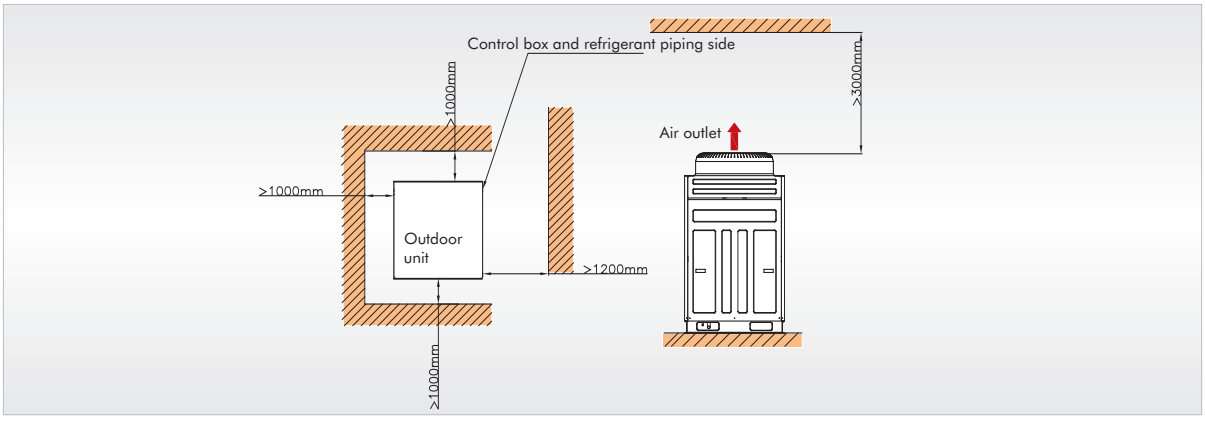
Outline dimension drawing of GMV-Pds224W/Na-M GMV-Pds280W/Na-M



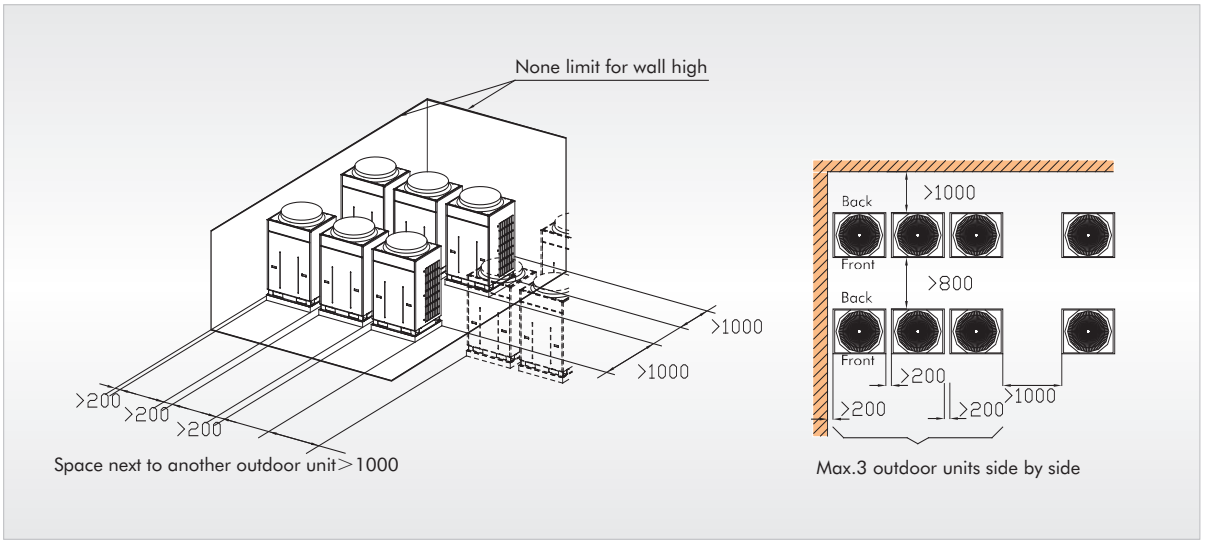
Outdoor Unit Installation Holes
GMV-Pds224W/Na-M GMV-Pds280W/Na-M Outdoor Unit Installation Holes



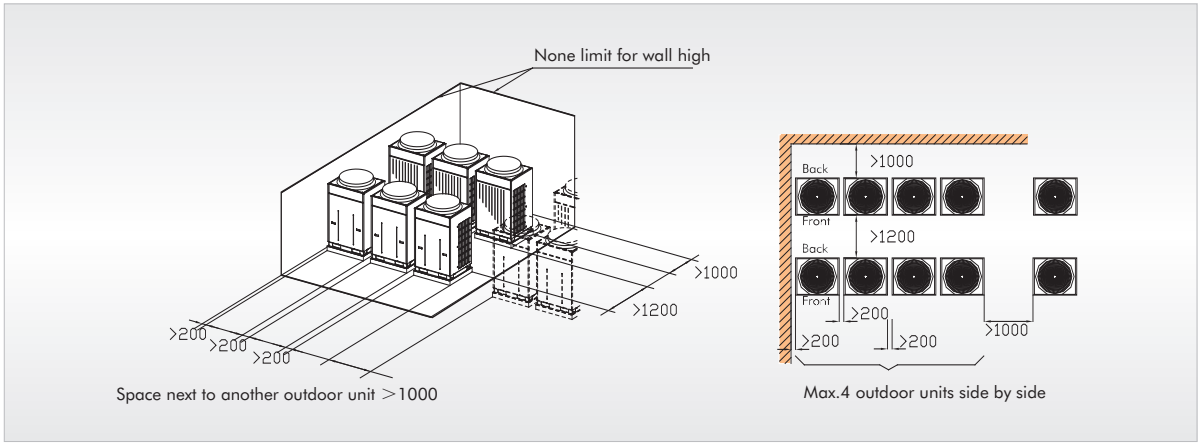
Installation space dimension for stand-alone:



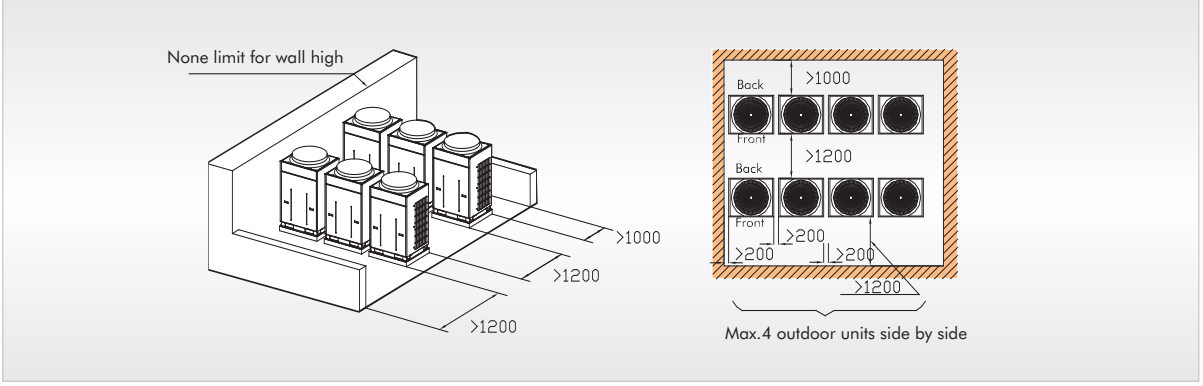
Installation space dimension for several units:



Installation space dimension for several units back to back:

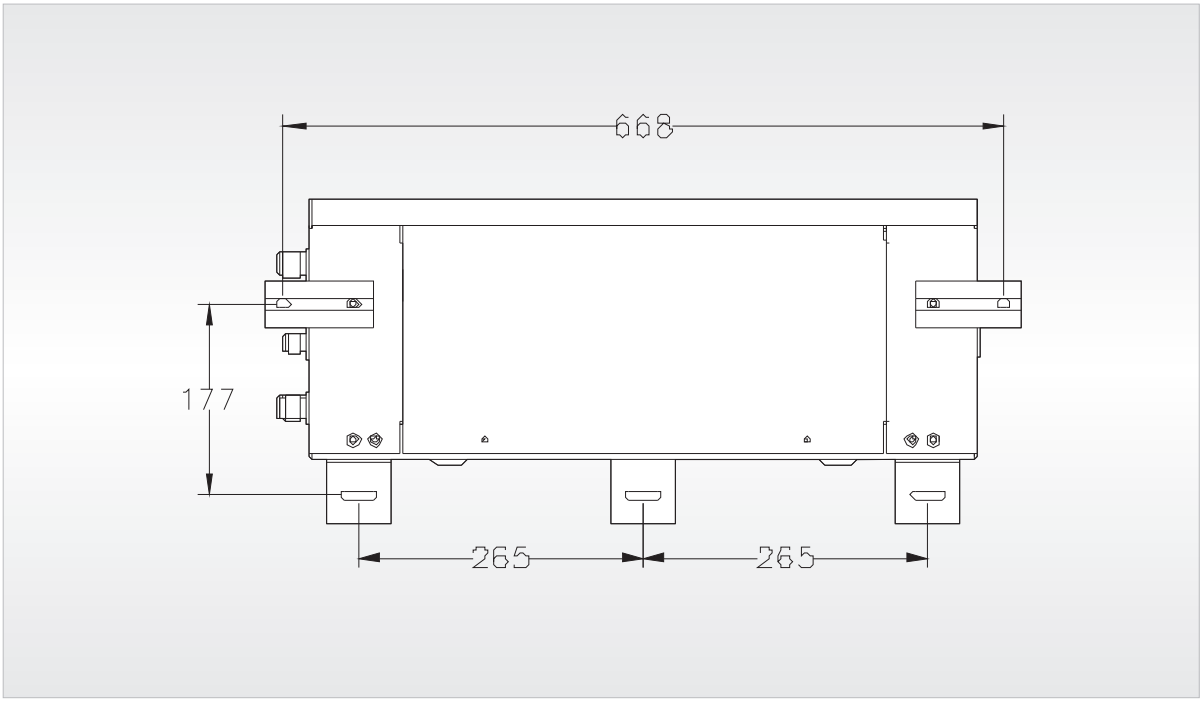


Under the circumstance that the units are surrounded by walls, the installation facing to the same direcyion is suggested

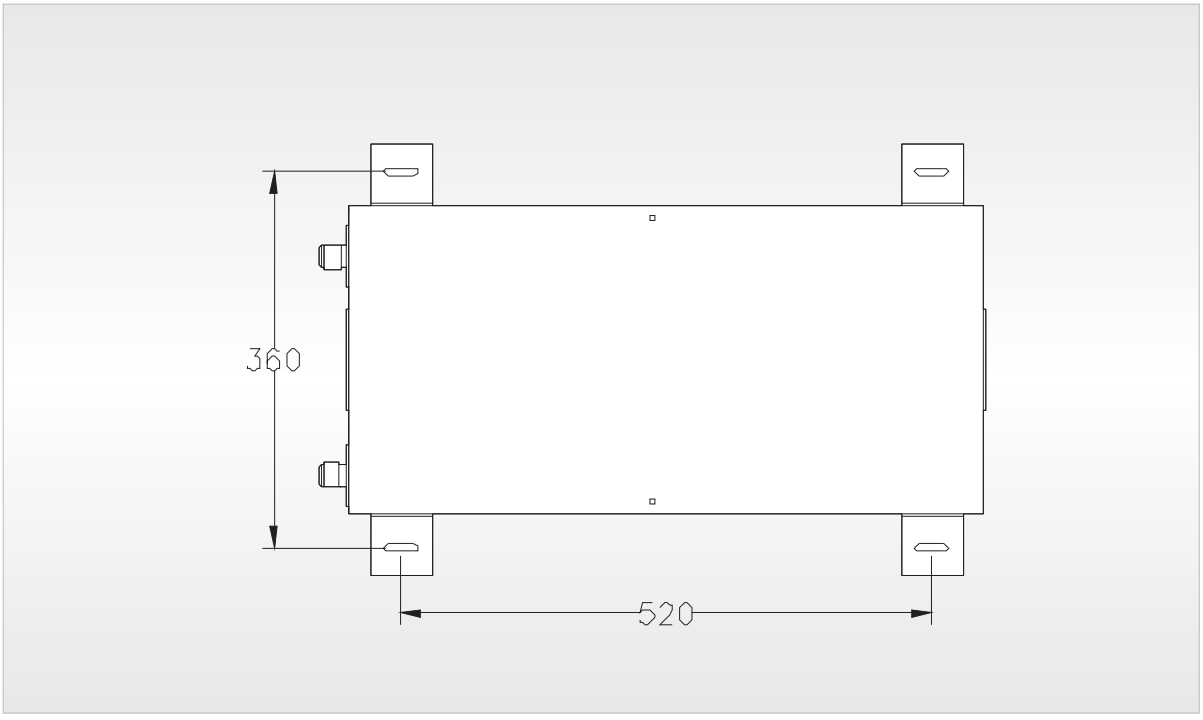


10.3 Hydro-box

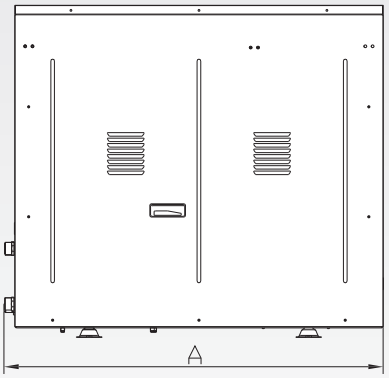
Wall Mounting Hole for Ceiling Mounting for model RQD5GA-K、RQD8GA-K、RQD5GB-K、RQD8GB-K:

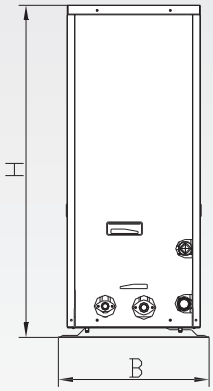


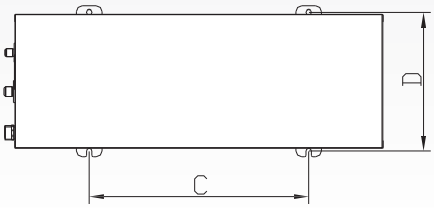
Floor Standing and Ceiling Mounting Hole for Floor Standing for modelRQD5GA-K、RQD8GA-K、RQD5GB-K、RQD8GB-K:



Floor standing for model RQ20LA-K、RQ30LA-K、RQD20LA-K and RQD30LA-M

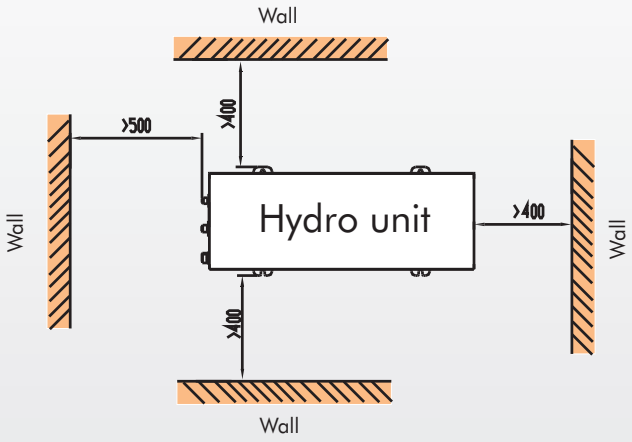


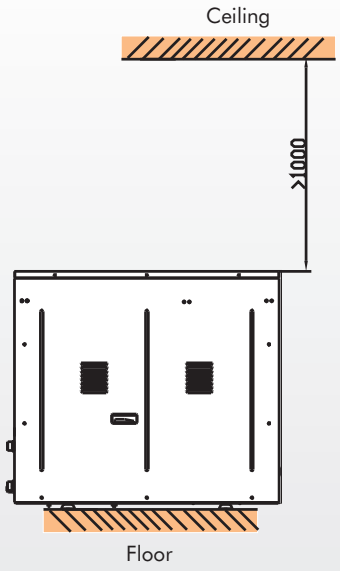




units(mm)

Model	A	B	C	D	H
RQ20LA-K	1050	470	600	430	910
RQD20LA-M	1050	470	600	430	910
RQ30LA-K	1050	470	600	430	910
RQD30LA-M	1050	470	600	430	910



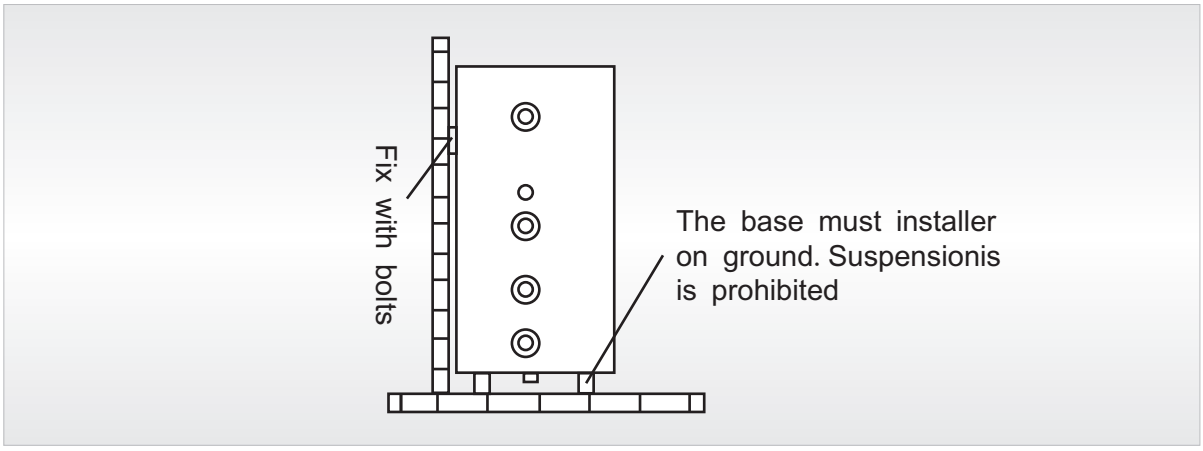


10.4 Water-tank

◆ Installation of Water Tank

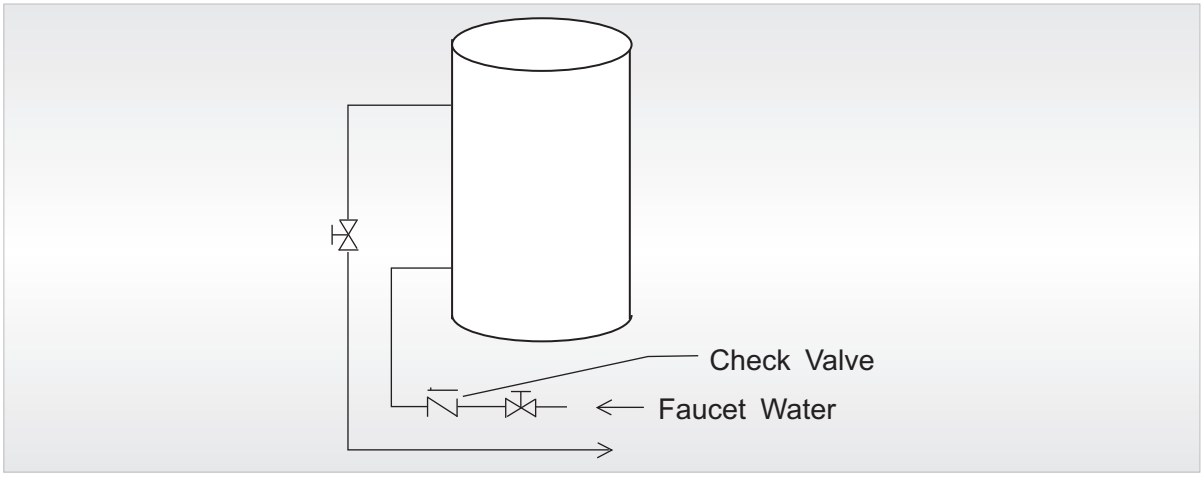
1. The thermal insulation water tank shall be installed within a horizontal distance of 5m and a vertical fall of 3m to the water heater. It may be installed outdoors, e.g. balcony, roof or ground, according to the position of water heater. It may also be installed indoor.

2. The vertical thermal insulation water tank must be placed upright, with the bottom on ground. The installing position must be firm and solid. To avoid shaking, the water tank must be fixed onto the wall with bolts. See below for details. The weight bearing capacity of the installing position must be considered when installing the water tank.



3. For replenishing to water tank, supply of hot water and drainage of water tank, the faucet water pipe, hot water connector and ground drain shall be available close to the thermal insulation water tank.

4. Connection of inlet / outlet pipe: The included safety check valve (Take care that the "→" direction shall point toward the thermal insulation tank) shall be connected to the inlet of water tank by using PPR pipe and be sealed with adhesive tape, as shown below. Another end of the check valve shall be connected to the faucet water. The hot water pipe shall be connected to the outlet of water tank by using PPR pipe.



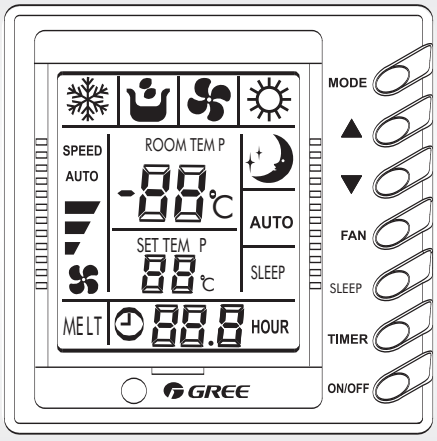
Note:

To ensure safety during use of water, the inlet and outlet of water tank must be connected with a specific length of PPR pipe. The length "L" is calculated as below: L≥70×R2, in which "L" refers to pipe length (unit: mm) and "R" refers to the inner radius of the pipe (unit: cm). Thermal insulation shall be done and metal pipe shall not be used. For the first time of use, make sure that the water tank is filled with water before connecting to the power. The water tank shall not run without water.

10.5 Controller

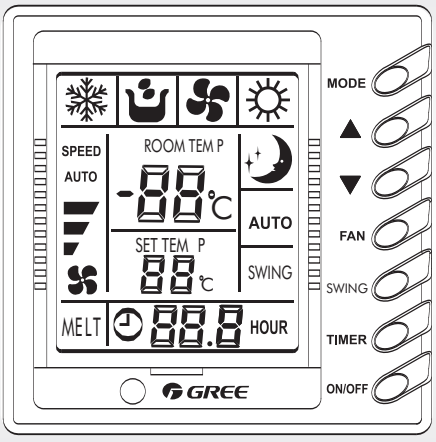
◆ Wired Remote Controller

Z60151F、Z60351F



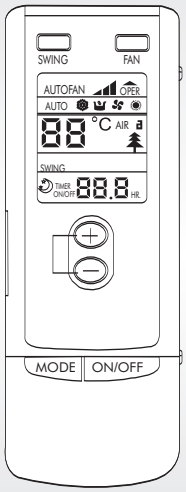
Outline size: 85mm × 85mm × 21mm

Z63151F、Z63351F



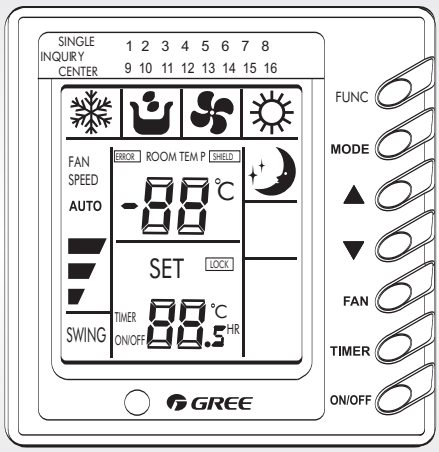
Outline size: 85mm × 85mm × 21mm

◆ Wireless Remote Controller



Outline size:160 mm × 57mm × 22mm

◆ Region Controller

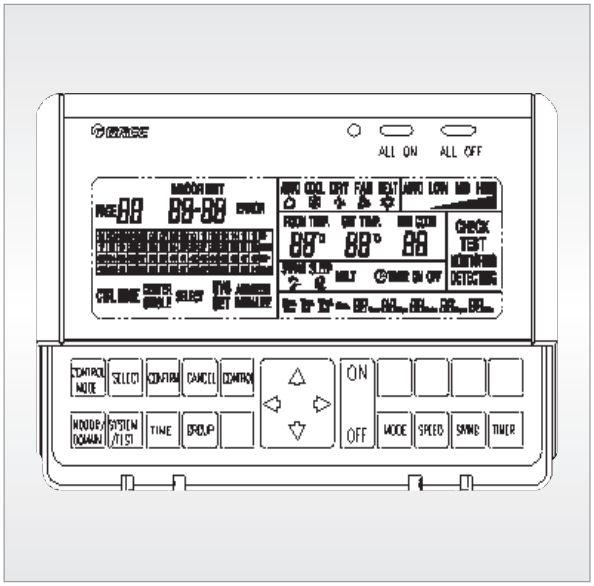


Outline size: 85mm × 85mm × 21mm

Wired Remote Controller

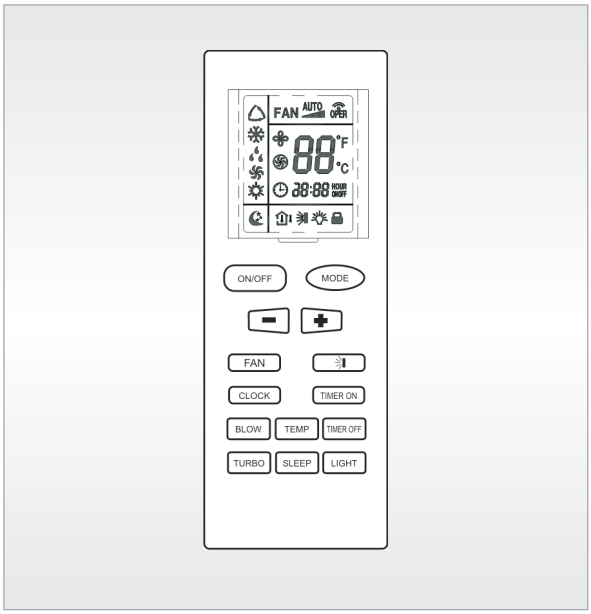
Outline size: 92mm×92mm×26mm

Central Remote Controller



Outline size:185 mm × 135mm × 70mm

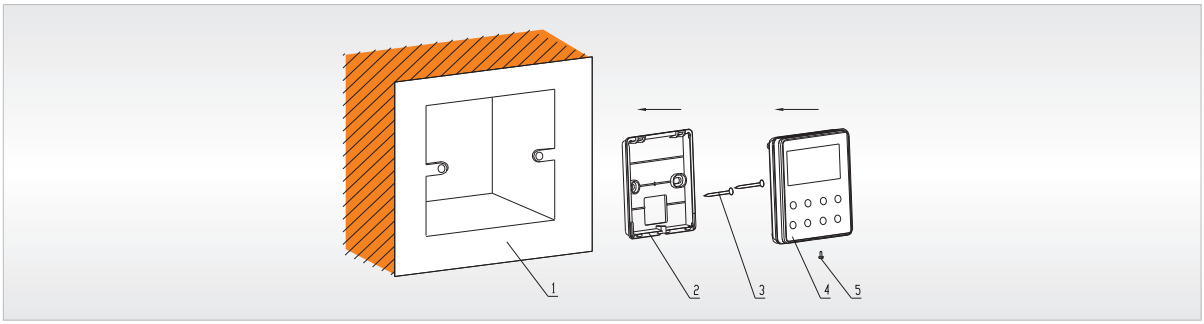
Wireless Remote Controller



Outline size: 122 mm×44 mm×19mm

Wired Remote Controller for Hydro unit

Outline size: 92mm × 92mm × 26mm



Fiq: Installation Schematics of Wired Controller

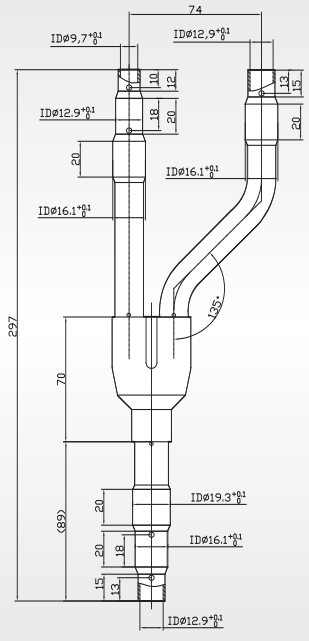
No.	1	2	3	4	5
Name	Socket housing installed in wall	Base plate of controller	Screw M4X25	Control Panel	Screw ST2.2X6.5

Fig illustrates the simple installation process of wired controller. Care shall be taken to the following points: firstly cut off the power supply to the cables buried in the mounting hole of wall. Do not operate on live components during the entire installation process. Pull out the 4-cord twisted wire from the mounting hole on wall and insert this wire into square hole behind the base plate of wired controller. Attach the base plate of wired controller onto the wall and fix it to the mounting hole of wall with screws M4X25. Finally, insert the 4-cord twisted wire into the slot on wired controller and clamp the panel of wired controller to the base plate.

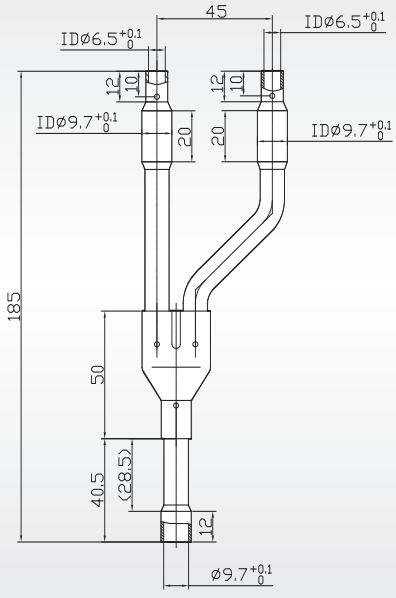
10.6 Branching joint

FQ01A/A

Gas side

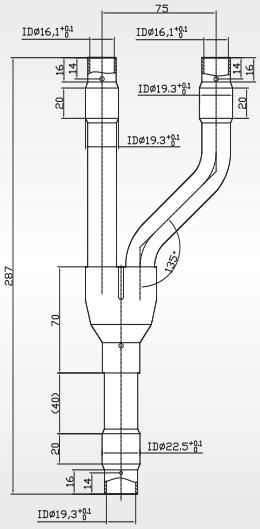


Liquid side

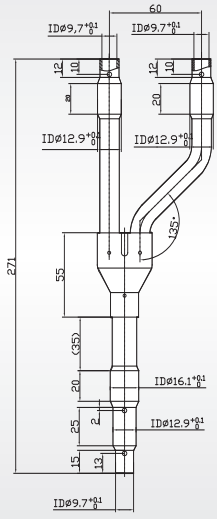


FQ01B/A

Gas side

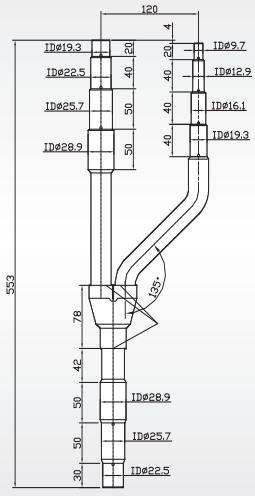


Liquid side

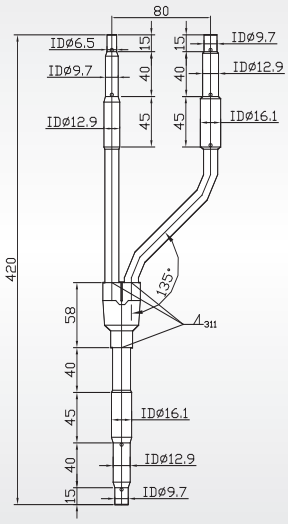


FQ02/A

Gas side



Liquid side



Branching Pipe Diameter ID (mm)	Pipe Diameter OD (Inch)
Φ6.5	1/4
Φ9.7	3/8
Φ12.9	1/2
Φ16.1	5/8
Φ19.3	3/4
Φ22.5	7/8
Φ25.8	1
Φ29	1-1/8

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