



inventor®

Your-conditions

DC INVERTER MULTI VRF

Pd SERIES TECHNICAL SALES GUIDE

CAPACITY RANGE : 10-180 kW



R410A

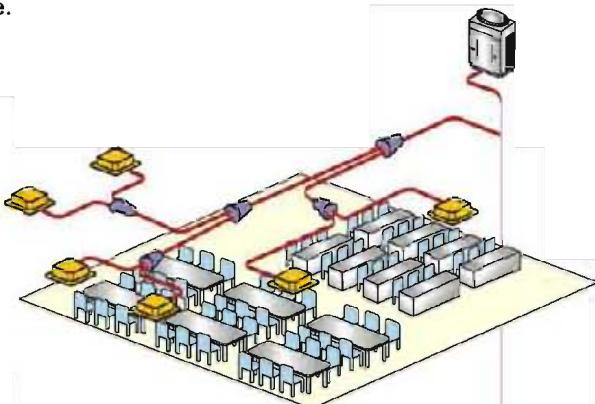
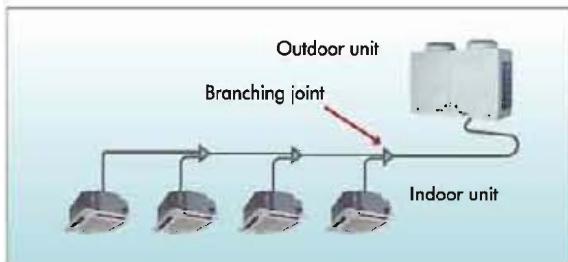
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1 OUTLINE OF MULTI VRF

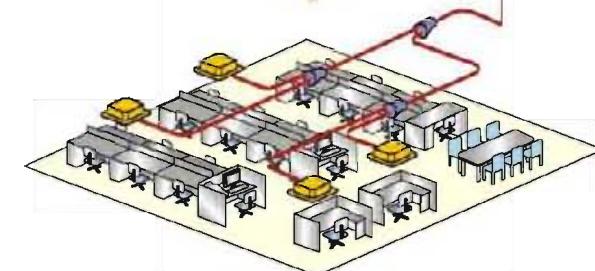
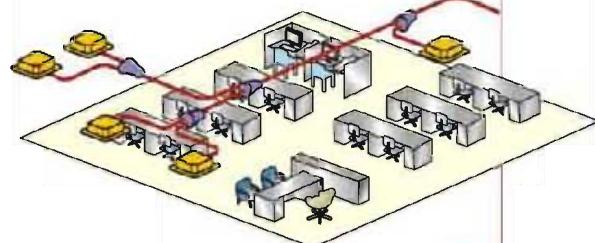
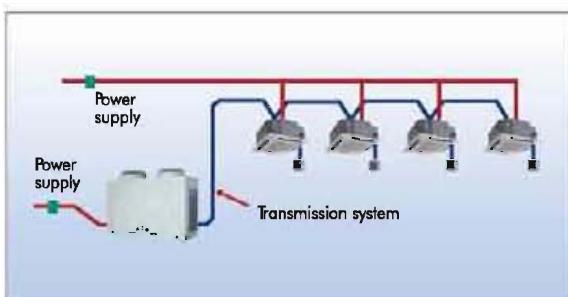
Shortest Route Design by Free Branching

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



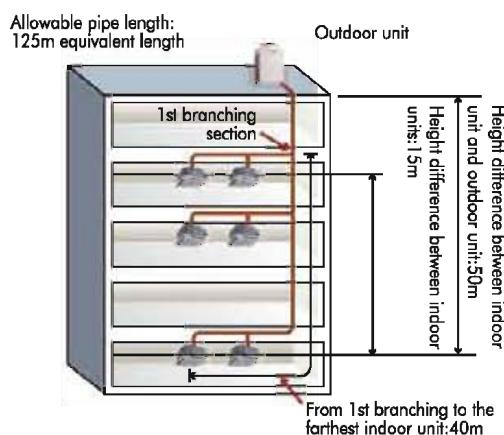
Simple Wiring

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.



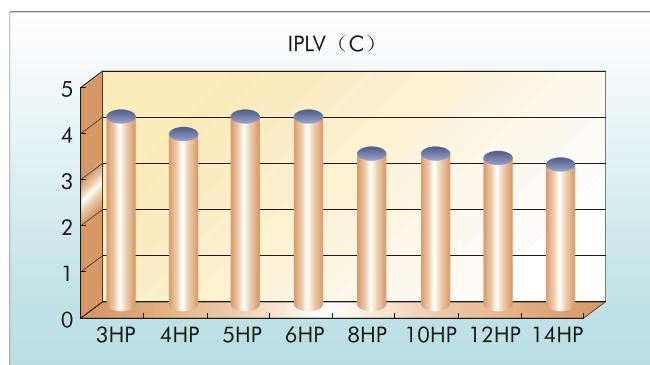
High Lift Design

Equivalent pipe length of 125m and vertical lift of 50m is made possible with INVENTOR.INV. 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

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 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.



Self Diagnostics System

Comprehensive troubleshooting code allows for timely identification of problems arising.

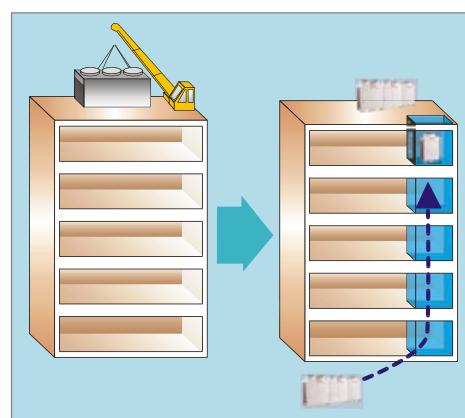
Self diagnostics examples

Error code	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	Transmit malfunction
E7	Modes conflict

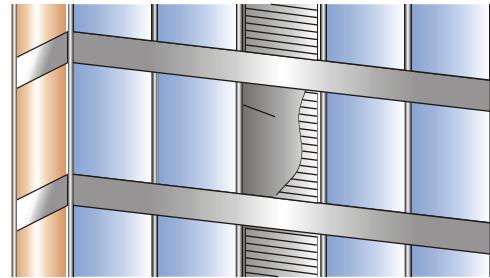
Compact Design

We offer a wide lineup of outdoor and indoor units to answer the needs of building size and interior design. The length of refrigerant pipes is kept without narrow on design, thus allowing for 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.



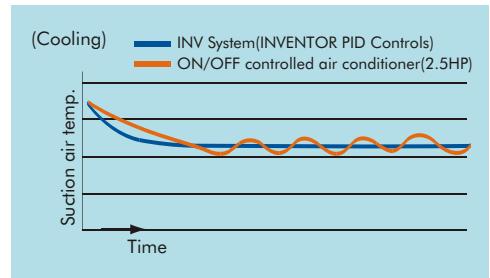
If necessary, installation can be performed by floor. The installers do not have to wait until the entire system is installed in the building to test the system in each section.



Intelligent Control

INVENTOR INV 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, 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 INV system without the typical temperature changes that occurs with a conventional ON/OFF control system. The extremely refined PID controls maintains the room temperature within.



Wide Control Application

- ◆ Central control available (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

D.C.Inverter Multi-variable outdoor unit			Appearance
Model	INV-Pd100W/NaB-K	INVL-Pd100W/NaB-K	
Cooling Capacity(kW)	10.0	10.0	
Heating Capacity(kW)	11.0	--	
D.C.Inverter Multi-variable outdoor unit			Appearance
Model	INV-Pd120W/NaB-K	INVL-Pd120W/NaB-K	
Cooling Capacity(kW)	12.0	12.0	
Heating Capacity(kW)	14.0	--	
D.C.Inverter Multi-variable outdoor unit			Appearance
Model	INV-Pd140W/NaB-K	INVL-Pd140W/NaB-K	
Cooling Capacity(kW)	14.0	14.0	
Heating Capacity(kW)	15.4	--	
D.C.Inverter Multi-variable outdoor unit			Appearance
Model	INV-Pd160W/NaB-K	INVL-Pd160W/NaB-K	
Cooling Capacity(kW)	16.0	16.0	
Heating Capacity(kW)	17.6	--	
D.C.Inverter Multi-variable outdoor unit			Appearance
Model	INV-Pdm224W/NaB-M		
Cooling Capacity(kW)	22.4		
Heating Capacity(kW)	25.0		

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	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm280W/NaB-M	
Cooling Capacity(kW)	28.0	
Heating Capacity(kW)	31.5	

	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm335W/NaB-M	
Cooling Capacity(kW)	33.5	
Heating Capacity(kW)	37.5	

	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm400W/NaB-M	
Cooling Capacity(kW)	40.0	
Heating Capacity(kW)	45.0	

	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm450W/NaB-M	
Cooling Capacity(kW)	45.0	
Heating Capacity(kW)	50.0	

	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm504W2/NaB-M	
Cooling Capacity(kW)	50.4	
Heating Capacity(kW)	56.5	

	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm560W2/NaB-M	
Cooling Capacity(kW)	56.0	
Heating Capacity(kW)	63.0	

	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm615W2/NaB-M	
Cooling Capacity(kW)	61.5	
Heating Capacity(kW)	69.0	
Model	INV-Pdm670W2/NaB-M	
Cooling Capacity(kW)	68.0	
Heating Capacity(kW)	76.5	
Model	INV-Pdm730W/NaB-M	
Cooling Capacity(kW)	73.0	
Heating Capacity(kW)	81.5	
Model	INV-Pdm785W2/NaB-M	
Cooling Capacity(kW)	78.5	
Heating Capacity(kW)	87.5	
Model	INV-Pdm850W2/NaB-M	
Cooling Capacity(kW)	85.0	
Heating Capacity(kW)	95.0	
Model	INV-Pdm900W2/NaB-M	
Cooling Capacity(kW)	90.0	
Heating Capacity(kW)	100.0	

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	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm950W3/NaB-M	
Cooling Capacity(kW)	96.0	
Heating Capacity(kW)	108.0	
	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm1008W3/NaB-M	
Cooling Capacity(kW)	101.0	
Heating Capacity(kW)	113.0	
	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm1065W3/NaB-M	
Cooling Capacity(kW)	106.5	
Heating Capacity(kW)	119.0	
	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm1130W3/NaB-M	
Cooling Capacity(kW)	113.0	
Heating Capacity(kW)	126.5	
	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm1180W3/NaB-M	
Cooling Capacity(kW)	118.0	
Heating Capacity(kW)	131.5	
	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm1235W3/NaB-M	
Cooling Capacity(kW)	123.5	
Heating Capacity(kW)	137.5	
	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm1300W3/NaB-M	
Cooling Capacity(kW)	130.0	
Heating Capacity(kW)	145.0	

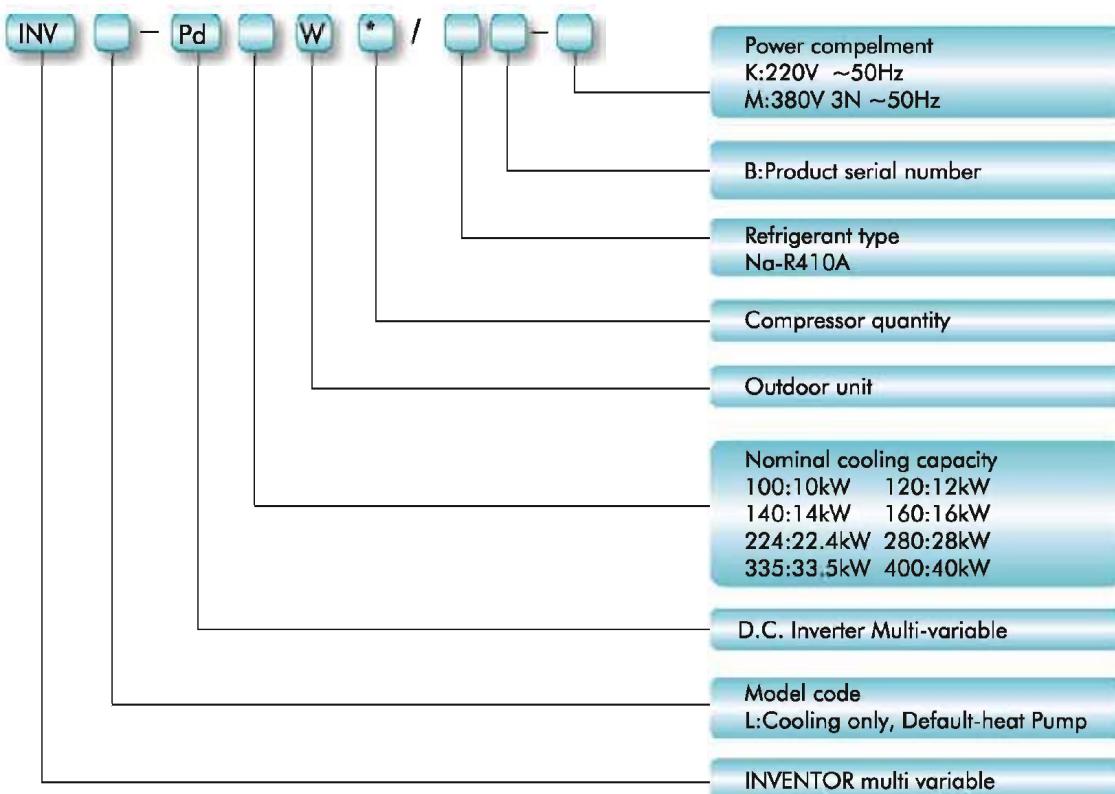
	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm1350W3/NaB-M	
Cooling Capacity(kW)	135.0	
Heating Capacity(kW)	150.0	
Model	INV-Pdm1405W4/NaB-M	
Cooling Capacity(kW)	141.0	
Heating Capacity(kW)	158.0	
Model	INV-Pdm1456W4/NaB-M	
Cooling Capacity(kW)	146.0	
Heating Capacity(kW)	163.0	
Model	INV-Pdm1512W4/NaB-M	
Cooling Capacity(kW)	151.5	
Heating Capacity(kW)	169.0	
Model	INV -Pdm1570W4/NaB-M	
Cooling Capacity(kW)	155.0	
Heating Capacity(kW)	176.5	
Model	INV -Pdm1650W4/NaB-M	
Cooling Capacity(kW)	163.0	
Heating Capacity(kW)	181.5	
Model	INV-Pdm1700W4/NaB-M	
Cooling Capacity(kW)	168.5	
Heating Capacity(kW)	187.5	

	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm1750W4/NaB-M	
Cooling Capacity(kW)	175.0	
Heating Capacity(kW)	195.0	

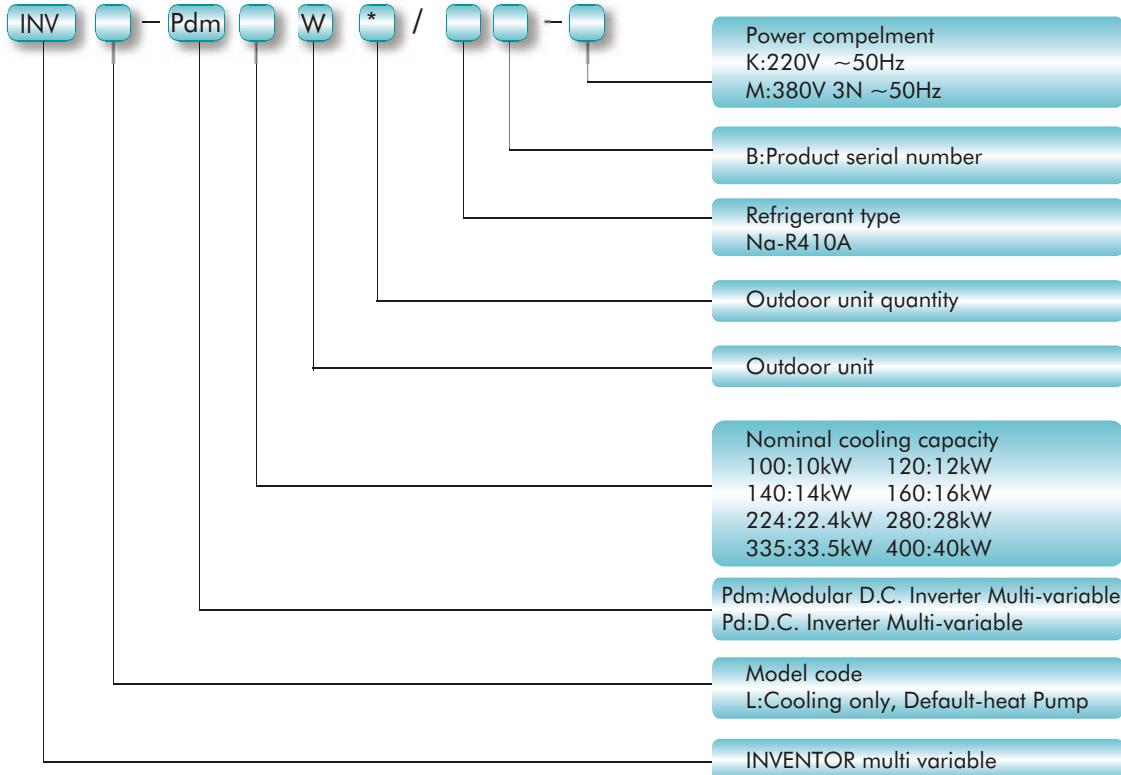
	D.C.Inverter Multi-variable outdoor unit	Appearance
Model	INV-Pdm1800W4/NaB-M	
Cooling Capacity(kW)	180.0	
Heating Capacity(kW)	200.0	

Conversion Formula: 1kW=3412Btu/h

a. Nomenclature



Example: INV-Pd120W/NaB-K:D. C.Inverter Multi-variable outdoor unit of INVENTOR,with single compressor and the nominal cooling capacity is 12kW. The power supply is 220V ~50Hz.



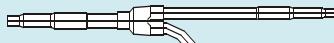
Example: INV-Pdm1700W4/Na-M :D.C.Inverter Multi-variable outdoor unit of INVENTOR,with 4 outdoor units and the nominal cooling capacity is 170kW. The power supply is 380-415V ~50Hz.

b. Rated Conditions

Cooling : Indoor air temperature 27 °C (80.6 °F)DB/19 °C (66.2 °F)
Outdoor air temperature 35 °C (95 °F)DB/24 °C (75.2 °F)

Heating : Indoor air temperature 20 °C (68 °F)DB/1 °C (59 °F)
Outdoor air temperature 7 °C (44.6 °F)DB/1 °C (42.8 °F)

2.2 Branching Joints

	Model name	Indoor unit capacity code total X	Appearance
Y-Type branching joint	FQ01A/A	X≤200	
	FQ01B/A	200<X≤300	
	FQ02/A	300<X≤700	

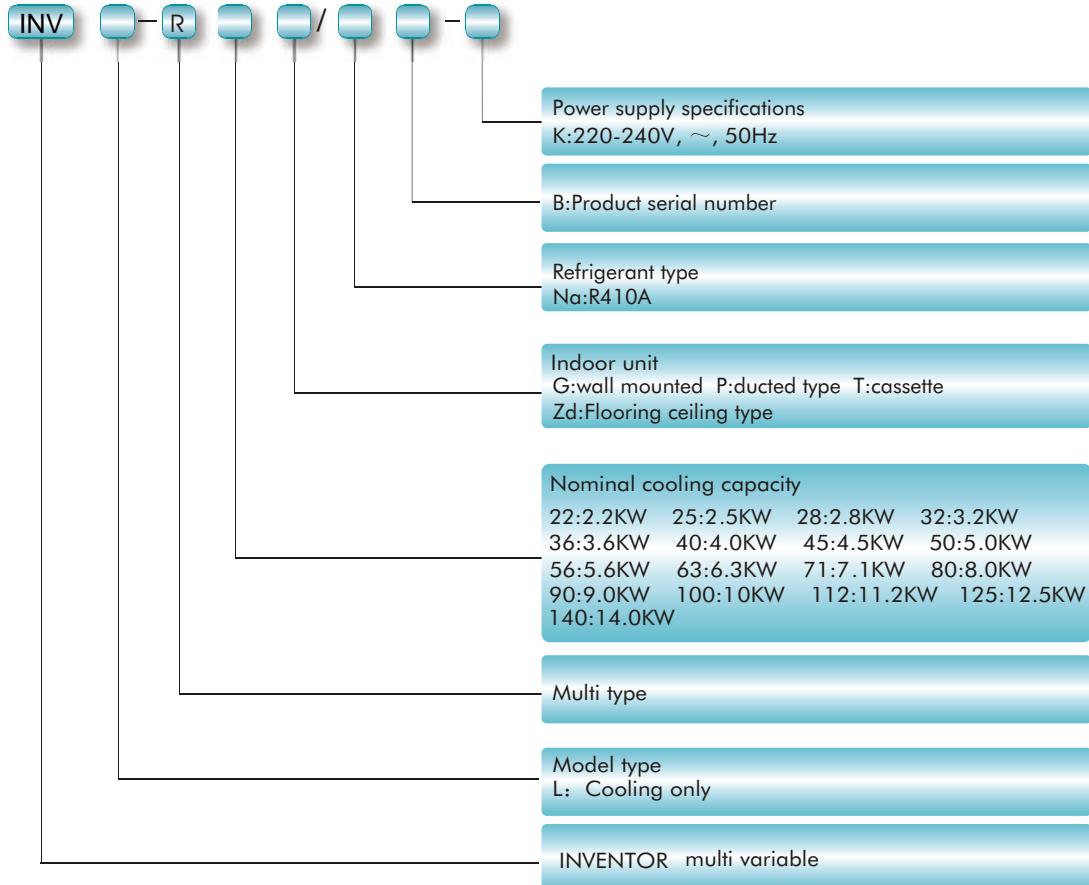
2.3 Indoor Unit

Type	Appearance	Model Name	Capacity Code	Cooling Capacity(kW)	Heating Capacity(kW)
4-way Air Discharge Cassette Type		INV-R22T/NaA-K	22	2.2	2.5
		INV-R28T/NaA-K	28	2.8	3.2
		INV-R36T/NaA-K	36	3.6	4.0
		INV-R45T/NaA-K	45	4.5	5.0
		INV-R28T/Na-K	28	2.8	3.2
		INV-R36T/Na-K	36	3.6	4.0
		INV-R45T/Na-K	45	4.5	5.0
		INV-R50T/Na-K	50	5.0	5.8
		INV-R56T/Na-K	56	5.6	6.3
		INV-R63T/Na-K	63	6.3	7.0
		INV-R71T/Na-K	71	7.1	8.0
		INV-R80T/Na-K	80	8.0	8.8
		INV-R90T/Na-K	90	9.0	10.0
		INV-R100T/Na-K	100	10.0	11.0
		INV-R112T/Na-K	112	11.2	12.5
		INV-R125T/Na-K	125	12.5	13.5
		INV-R140T/Na-K	140	14.0	14.5
		INVL-R22T/NaA-K	22	2.2	--
		INVL-R28T/NaA-K	28	2.8	--
		INVL-R36T/NaA-K	36	3.6	--
		INVL-R45T/NaA-K	45	4.5	--
		INVL-R28T/Na-K	28	2.8	--
		INVL-R36T/Na-K	36	3.6	--
		INVL-R45T/Na-K	45	4.5	--
		INVL-R50T/Na-K	50	5.0	--
		INVL-R56T/Na-K	56	5.6	--
		INVL-R63T/Na-K	63	6.3	--
		INVL-R71T/Na-K	71	7.1	--
		INVL-R80T/Na-K	80	8.0	--
		INVL-R90T/Na-K	90	9.0	--
		INVL-R100T/Na-K	100	10.0	--
		INVL-R112T/Na-K	112	11.2	--
		INVL-R125T/Na-K	125	12.5	--
		INVL-R140T/Na-K	140	14.0	--
Concealed Duct Standard Type		INV-R22P/Na-K	22	2.2	2.5
		INV-R25P/Na-K	25	2.5	3.0
		INV-R28P/Na-K	28	2.8	3.2
		INV-R32P/Na-K	32	3.2	3.6
		INV-R36P/Na-K	36	3.6	4.0
		INV-R40P/Na-K	40	4.0	4.5
		INV-R45P/Na-K	45	4.5	5.0
		INV-R50P/Na-K	50	5.0	5.8
		INV-R56P/Na-K	56	5.6	6.3
		INV-R63P/Na-K	63	6.3	7.0
		INV-R71P/Na-K	71	7.1	8.0
		INV-R80P/Na-K	80	8.0	8.8
		INV-R90P/Na-K	90	9.0	10.0
		INV-R100P/Na-K	100	10.0	11.0
		INV-R112P/Na-K	112	11.2	12.5

Type	Appearance	Model Name	Capacity Code	Cooling Capacity(kW)	Heating Capacity(kW)
Concealed Duct Standard Type		INVL-R63P/Na-K	63	6.3	--
		INVL-R71P/Na-K	71	7.1	--
		INVL-R80P/Na-K	80	8.0	--
		INVL-R90P/Na-K	90	9.0	--
		INVL-R100P/Na-K	100	10.0	--
		INVL-R112P/Na-K	112	11.2	--
		INVL-R125P/Na-K	125	12.5	--
		INVL-R140P/Na-K	140	14.0	--
		INV-R22G/NaB-K	22	2.2	2.5
		INV-R28G/NaB-K	28	2.8	3.2
Wall-mounted Type		INV-R36G/NaB-K	36	3.6	4.0
		INV-R45G/NaB-K	45	4.5	5.0
		INV-R50G/NaB-K	50	5.0	5.8
		INV-R56G/NaB-K	56	5.6	6.3
		INVL-R22G/NaB-K	22	2.2	--
		INVL-R28G/NaB-K	28	2.8	--
		INVL-R36G/NaB-K	36	3.6	--
		INVL-R45G/NaB-K	45	4.5	--
		INVL-R50G/NaB-K	50	5.0	--
		INVL-R56G/NaB-K	56	5.6	--
Flooring ceiling Type		INV-R71G/Na-K	71	7.1	8.0
		INV-R80G/Na-K	80	8.0	8.8
		INVL-R71G/Na-K	71	7.1	--
		INVL-R80G/Na-K	80	8.0	--
		INV-R28Zd/Na-K	28	2.8	3.2
		INV-R36Zd/Na-K	36	3.6	4.0
		INV-R50Zd/Na-K	50	5.0	5.8
		INV-R71Zd/Na-K	71	7.1	8.0
		INV-R90Zd/Na-K	90	9.0	10.0
		INV-R112Zd/Na-K	112	11.2	12.5

Conversion Formula: 1kW=3412Btu/h

a. Nomenclature



Example:

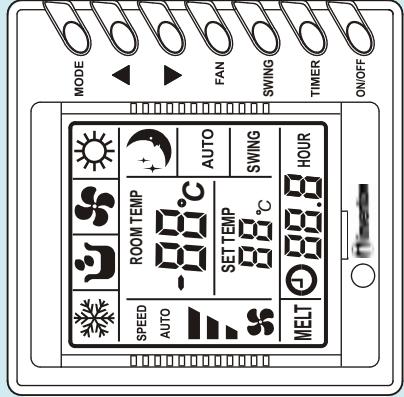
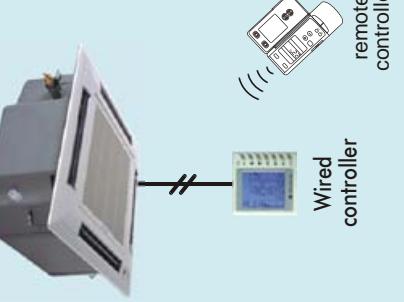
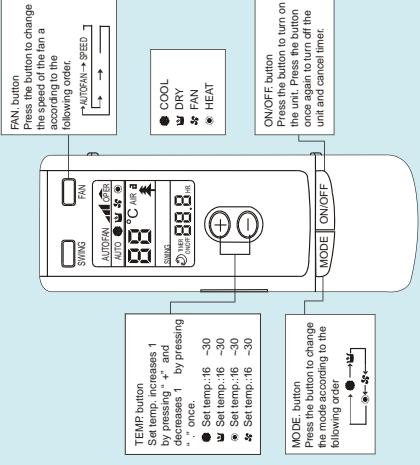
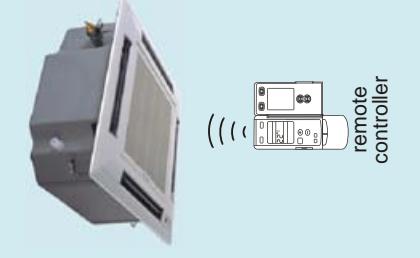
INV — R22P/Na-K: A ducted type indoor unit of INVENTOR, and the nominal cooling capacity is 2.2kw. It is the R410A product, and can be connected to D.C. Inverter Multi-variable outdoor unit. The power supply is 220V~50Hz.

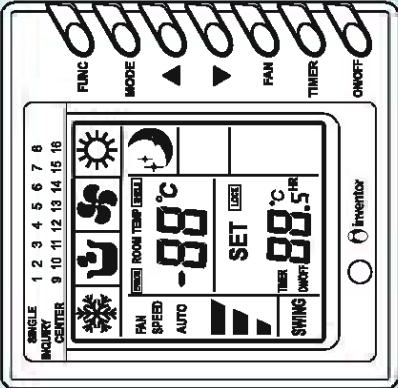
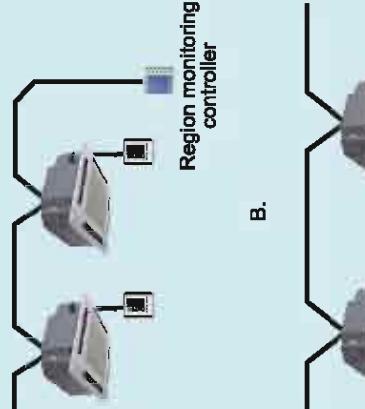
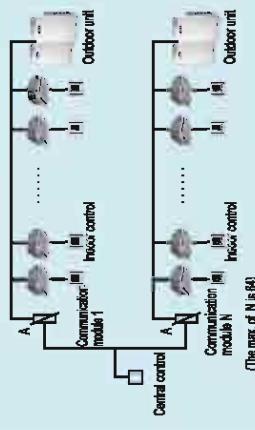
b. Rated Conditions

Cooling : Indoor air temperature 27 °C (80.6 °F)DB/19 °C (66.2 °F)
Outdoor air temperature 35 °C (95 °F)DB/24 °C (75.2 °F)

Heating : Indoor air temperature 20 °C (68 °F)DB/1 °C (59 °F)
Outdoor air temperature 7 °C (44.6 °F)DB/1 °C (42.8 °F)

2.4 Controller

Name	Model Name	Appearance	Application	Function
Wired controller	Z60151F Z60351F Z63151F Z63351F		 Wired controller	<ul style="list-style-type: none"> 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	Y512A1			<ul style="list-style-type: none"> Start / Stop mode Changing Temperature setting Air flow changing Timing setting

Name	Model Name	Appearance	Application	Function
Region controller	ZJA011 (MC207006)		<p>A.</p>  <p>B.</p> 	<p>Region Controller has two functions:</p> <ul style="list-style-type: none"> •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. •02 Function mode: Region wired controller It can replace the No. 1~6 selected wired controllers to uniformly set or control the indoor units.
Centralized controller	ZJ7011 (MC207004)			<ul style="list-style-type: none"> •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:

INV-Pd160W/NaB-K

9 units

Allowed capacity code of indoor unit:

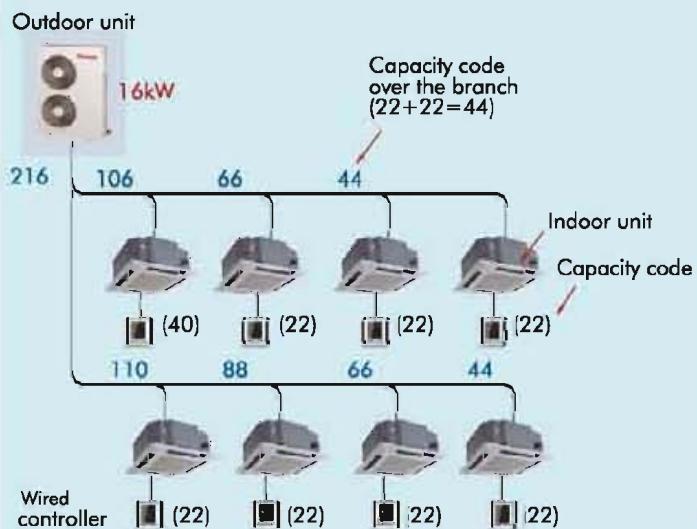
Min. : 8.0 Max. : 21.6

Capacity code

Total 216

No. of total units

9



Model name of outdoor unit:

INV-Pdm400W/NaB-M

16 units

Allowed capacity code of indoor unit:

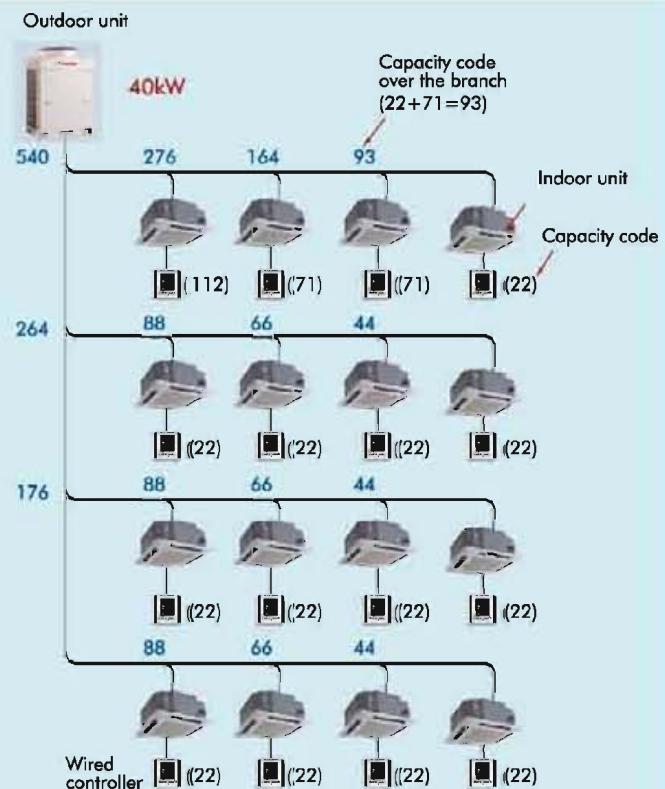
Min. : 20.0 Max. : 54.0

Capacity code

Total 540

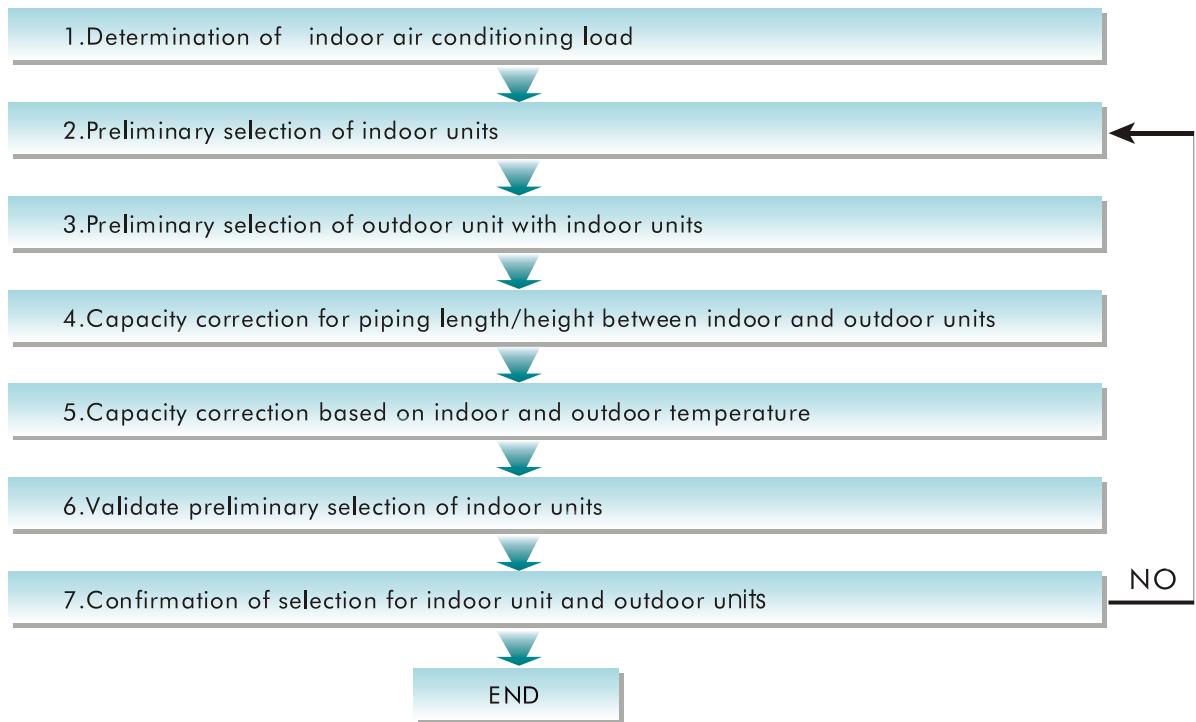
No. of total units

16



4 EQUIPMENT SELECTION PROCEDURE

4.1 Selection Flow Chart



4.2 Combination Conditions for Indoor Unit and Outdoor Unit

- (1) The capacity code of indoor units = the nominal cooling capacity (W)
- (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
INV-Pd100W/NaB-K	100	6	50 to 135
INV-Pd120W/NaB-K	120	7	62 to 162
INV-Pd140W/NaB-K	140	8	70 to 188
INV-Pd160W/NaB-K	160	9	80 to 216
INV-Pdm224W/NaB-M	224	14	112 to 308
INV-Pdm280W/NaB-M	280	16	140 to 380
INV-Pdm335W/NaB-M	335	16	160 to 454
INV-Pdm400W/NaB-M	400	16	196 to 540
INV-Pdm450W/NaB-M	450	16	225 to 607
INV-Pdm504W2/NaB-M	504	16	252 to 680
INV-Pdm560W2/NaB-M	560	32	280 to 756

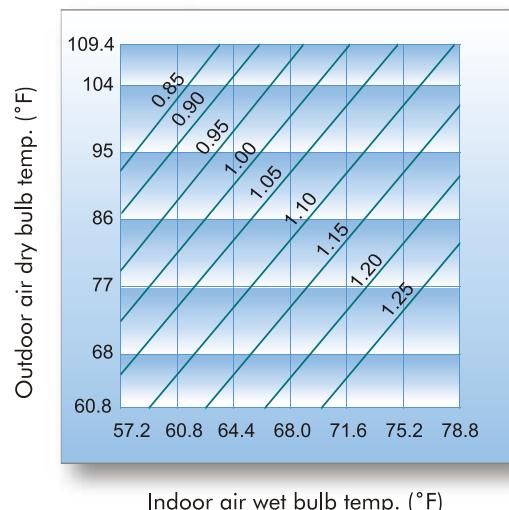
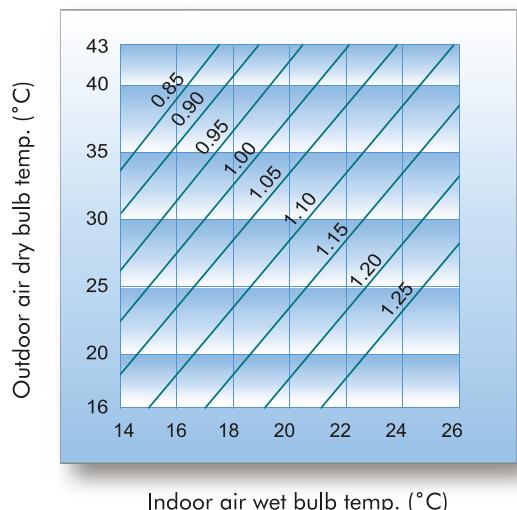
Model name of outdoor unit	Capacity code of outdoor unit	Max. No.of indoor units	Total capacity code of indoor units
INV-Pdm615W2/NaB-M	615	32	307 to 830
INV-Pdm670W2/NaB-M	670	32	335 to 904
INV-Pdm730W2/NaB-M	730	32	365 to 985
INV-Pdm785W2/NaB-M	785	32	392 to 1059
INV-Pdm850W2/NaB-M	850	32	425 to 1147
INV-Pdm900W2/NaB-M	900	32	450 to 1350
INV-Pdm950W3/NaB-M	950	48	475 to 1282
INV-Pdm1008W3/NaB-M	1008	48	504 to 1360
INV-Pdm1065W3/NaB-M	1065	48	532 to 1437
INV-Pdm1130W3/NaB-M	1130	48	565 to 1532
INV-Pdm1135W3/NaB-M	1135	48	567 to 1532
INV-Pdm1405W4/NaB-M	1405	54	702 to 1896
INV-Pdm1456W4/NaB-M	1456	54	728 to 1965
INV-Pdm1512W4/NaB-M	1512	54	728 to 1965
INV-Pdm1570W4/NaB-M	1570	54	756 to 2119
INV-Pdm1650W4/NaB-M	1650	54	825 to 2227
INV-Pdm1700W4/NaB-M	1700	54	850 to 2295
INV-Pdm1750W4/NaB-M	1750	54	875 to 2362
INV-Pdm1800W4/NaB-M	1800	54	900 to 2430

4.3 Cooling/Heating Capacity Characteristics

4.3.1 Cooling Capacity Calculation Method

Required cooling capacity=cooling capacity×Factor①×Factor②kW

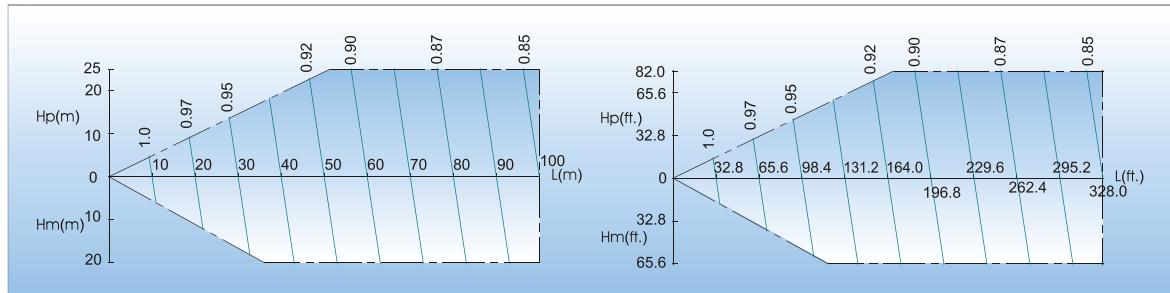
① Ambient Temperature vs. Capacity Correction Value



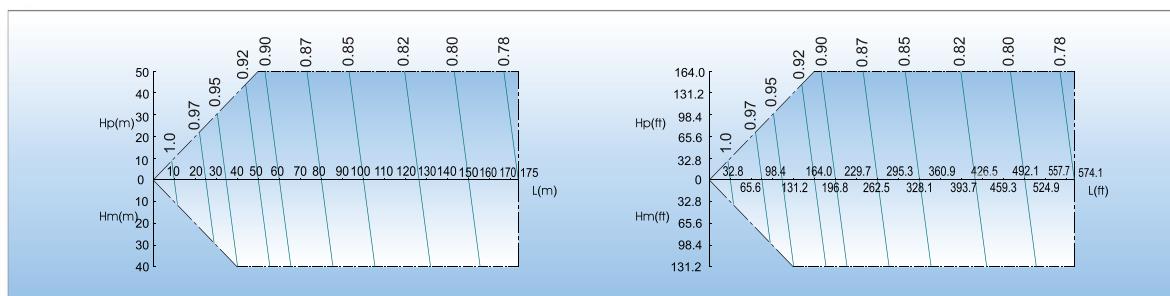
② Connecting Pipe Length and Height Difference Between Indoor and Outdoor Units vs. Capacity Correction Value

- ◆ Hp: Height Difference Between Indoor and Outdoor Units(Outdoor unit higher)
- ◆ Hm: Height Difference Between Indoor and Outdoor Units(Outdoor unit lower)
- ◆ L: Equivalent pipe length

INV(L)-Pd100W/NaB-K, INV(L)-Pd120W/NaB-K , INV(L)-Pd140W/NaB-K,
INV(L)-Pd160W/NaB-K



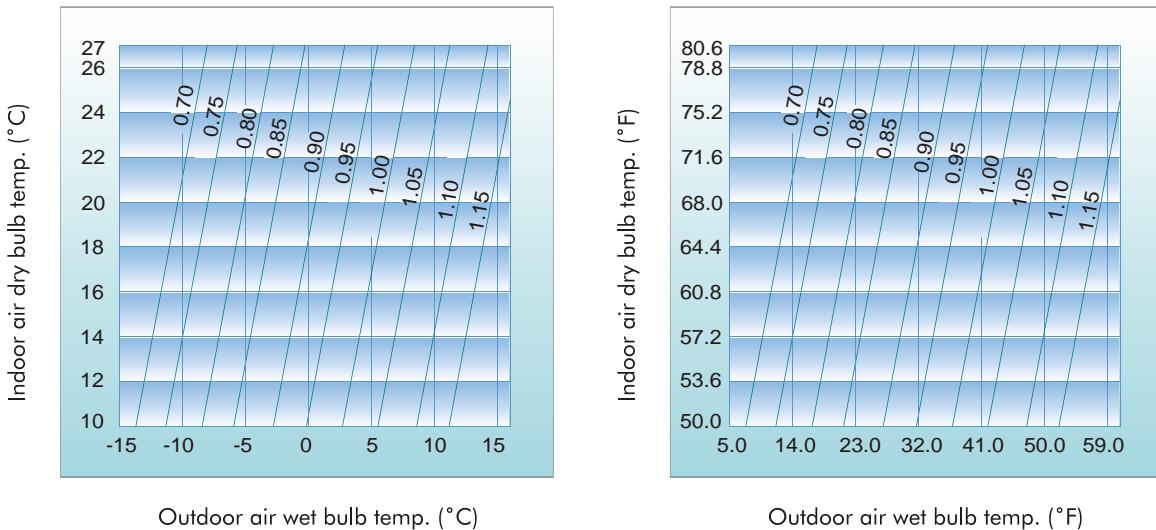
INV-Pdm224W/NaB-M, INV-Pdm280W/NaB-M, INV-Pdm335W/NaB-M,
INV-Pdm400W/NaB-M, INV-Pdm450W/NaB-M, INV-Pdm504W2/NaB-M,
INV-Pdm560W2/NaB-M, INV-Pdm615W2/NaB-M, INV-Pdm670W2/NaB-M,
INV-Pdm730W2/NaB-M, INV-Pdm785W2/NaB-M, INV-Pdm850W2/NaB-M,
INV-Pdm900W2/NaB-M, INV-Pdm950W3/NaB-M, INV-Pdm1008W3/NaB-M,
INV-Pdm1065W3/NaB-M, INV-Pdm1130W3/NaB-M, INV-Pdm1180W3/NaB-M,
INV-Pdm1235W3/NaB-M, INV-Pdm1300W3/NaB-M, INV-Pdm1350W3/NaB-M,
INV-Pdm1405W4/NaB-M, INV-Pdm1456W4/NaB-M, INV-Pdm1512W4/NaB-M,
INV-Pdm1570W4/NaB-M, INV-Pdm1650W4/NaB-M, INV-Pdm1700W4/NaB-M,
INV-Pdm1750W4/NaB-M, INV-Pdm1800W4/NaB-M



4.3.2 Heating Capacity Calculation Method

$$\text{Required heating capacity} = \text{Heating capacity} \times \text{Factor } ① \times \text{Factor } ②$$

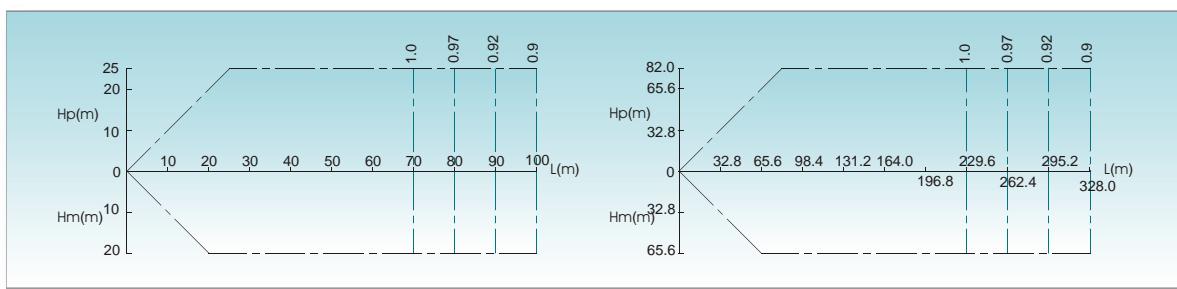
① Ambient Temperature vs. Capacity Correction Value



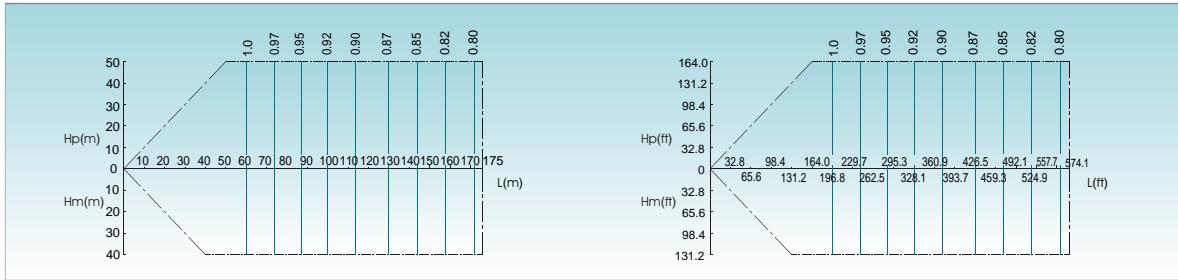
② Connecting Pipe Length Between Indoor and Outdoor Units vs. Capacity Correction Value

- ◆ Hp: Height Difference Between Indoor and Outdoor Units (Outdoor unit higher)
- ◆ Hm: Height Difference Between Indoor and Outdoor Units (Outdoor unit lower)
- ◆ L: Equivalent pipe length

**INV-Pd100W/NaB-K, INV -Pd120W/NaB-K, INV-Pd140W/NaB-K,
INV-Pd160W/NaB-K**



INV-Pdm224W/NaB-M, INV-Pdm280W/NaB-M, INV-Pdm335W/NaB-M,
INV-Pdm400W/NaB-M, INV-Pdm450W/NaB-M, INV-Pdm504W2/NaB-M,
INV-Pdm560W2/NaB-M, INV-Pdm615W2/NaB-M, INV-Pdm670W2/NaB-M,
INV-Pdm730W2/NaB-M, INV-Pdm785W2/NaB-M, INV-Pdm850W2/NaB-M,
INV-Pdm900W2/NaB-M, INV-Pdm950W3/NaB-M, INV-Pdm1008W3/NaB-M,
INV-Pdm1065W3/NaB-M, INV-Pdm1130W3/NaB-M, INV-Pdm1180W3/NaB-M,
INV-Pdm1235W3/NaB-M, INV-Pdm1300W3/NaB-M, INV-Pdm1350W3/NaB-M,
INV-Pdm1405W4/NaB-M, INV-Pdm1456W4/NaB-M, INV-Pdm1512W4/NaB-M,
INV-Pdm1570W4/NaB-M, INV-Pdm1650W4/NaB-M, INV-Pdm1700W4/NaB-M,
INV-Pdm1750W4/NaB-M, INV-Pdm1800W4/NaB-M



4.3.3 Capacity Calculation for Each Indoor Unit

Capacity for each indoor unit

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

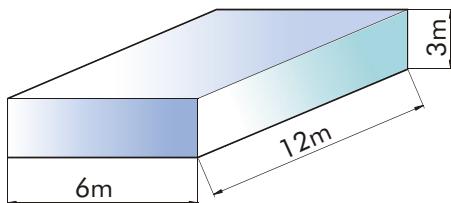
4.3.4 Operating temperature range

Mode	Range	Outdoor temperature range °C(°F)
Cooling	10~48°C(50~118.4°F)	
Heating	-20~27°C(-4~81°F)	

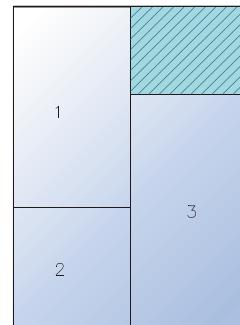
4.4 Example of Equipment Selection

4.4.1 Overview of Building Model

<Outside view>



<Stories configuration>



Non-air conditioning zone



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

An apartment area : 72m^2

Outdoor unit is installed on the balcony

Design indoor conditions

Cooling : $27.0\text{ °C (80.6 °F)}/19.0\text{ °C (66.2 °F)}$ DB/WB

Design outdoor conditions

Cooling : 35 °C (95 °F) DB (Standard condition)

4.4.2 Selection Criteria for Each Apartment

Outdoor capacity exactly matches the total indoor capacity.

Total indoor HP = Outdoor unit HP

Indoor : 1.5 HP + 1HP + 2 HP = 4.5 HP

Outdoor : 5 HP (Same capacity)

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

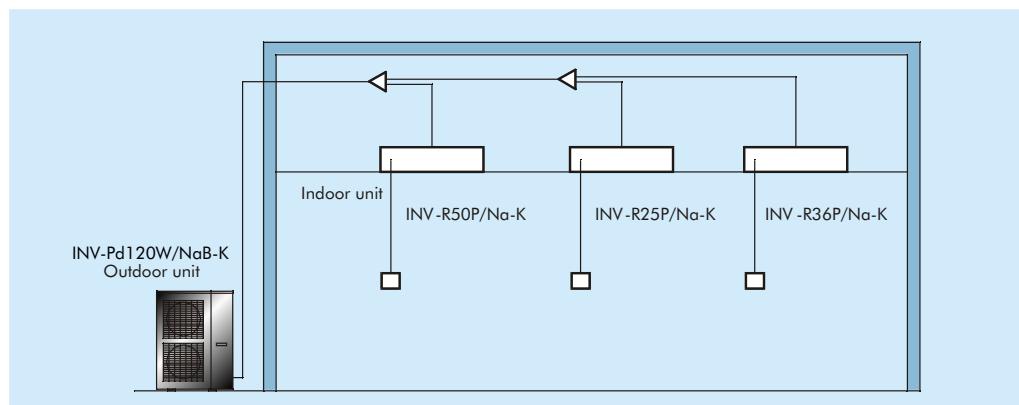
Air conditioning load			Equipment selection					
Floor	Room No.	Indoor cooling load (kW)	Indoor unit			Outdoor unit		
			Model	Capacity (kW)		Model	Capacity (kW)	
5F	1	3.0	INV-R36P/Na-K	3.6	4.0	INV-Pd120W /NaB-K	12.0	14.0
	2	2.2	INV-R25P/Na-K	2.5	3.0			
	3	4.5	INV-R50P/Na-K	5.0	5.8			

Conversion Formula: $1\text{ kW}=3412\text{ Btu/h}$

Piping distance				Capacity correction			Capacity check after correction		
Floor	Room No.	Equivalent length (m)	Height Pipe difference (m)	correction x temp. correction			Capacity		Judgment
				Cooling	Heating	Cooling	Heating	Cooling	
5F	1	30	0	0.95	1	3.42	4.0	good	
	2					2.375	3.0		
	3					4.75	5.8		

Conversion Formula: $1\text{ kW}=3412\text{ Btu/h}$

c. Schematic Diagram



5 REFRIGERANT 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 R410A 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 R410A 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 compared 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 R410A Which is Used in Multi Air Conditioners

The concentration limit of R410A which means the concentration limit of R410A that can be controlled by emergency measures to prevent human body from harming. The refrigerant concentration unit is kg/m³ (Which means the weight of refrigerant per m³ air).

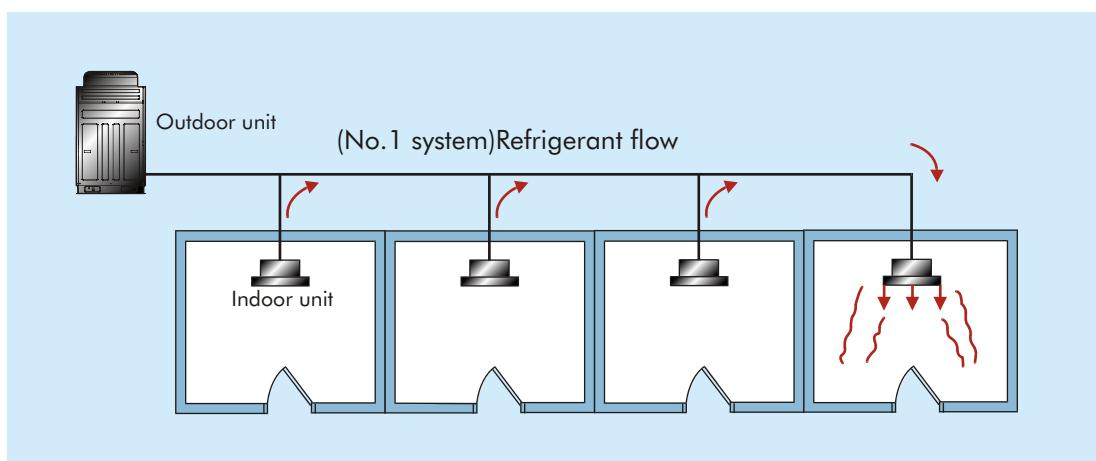


Fig.5.1

5.1.2 Check of Refrigerant Leakage

Calculate the refrigerant concentration as follows:

" $\frac{\text{c}}{\text{C}}$ Calculate the Amount of Refrigerant of Each Refrigeration System

[The amount of refrigerant of each system of outdoor unit] + [Additional charged amount at field installation]

Refrigerant amount of the outdoor unit at ex-factory

According to the liquid tube length and diameter

= **System total amount of refrigerant(kg)**

NOTE:

When single refrigeration system 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:

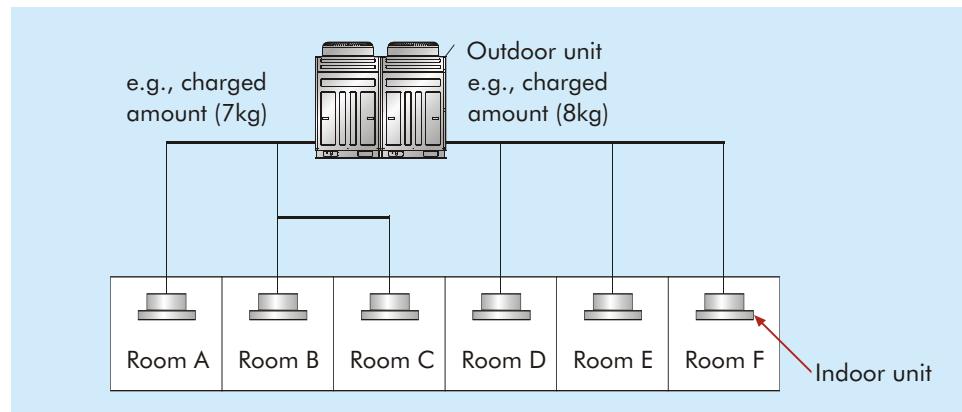


Fig.5.2

The possible amount of leaked refrigerant gas in rooms A, B and C is 7kg.

The possible amount of leaked refrigerant gas in rooms D, E and F is 8kg.

② Calculate the Minimum Room Volume are as Follows

- ◆ No partition (shaded portion)

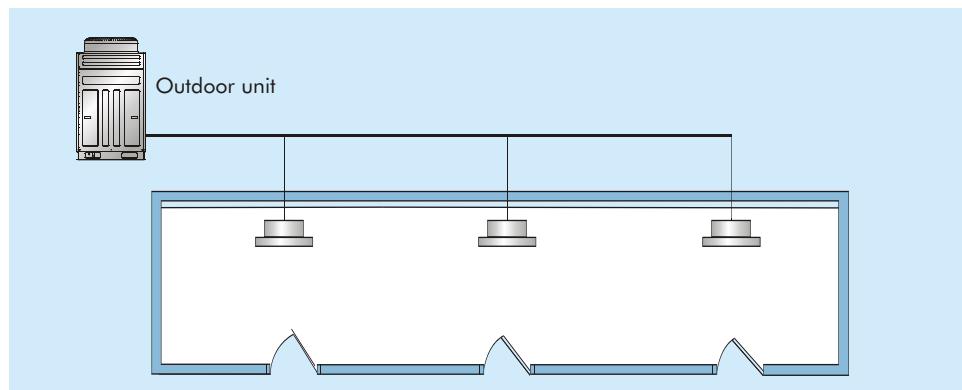
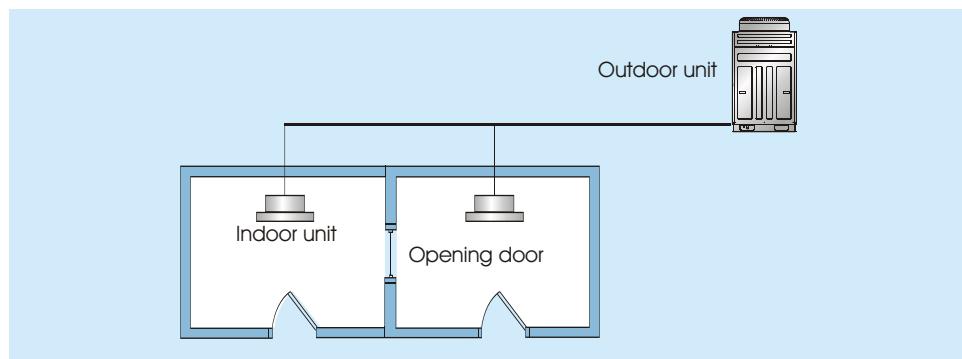


Fig.5.3

- ◆ When there is an effective opening with the adjacent room for ventilation of leaking refrigerant gas(opening with a door,or an opening 0.15% or larger than the respective floor spaces at the top or bottom of the door).



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

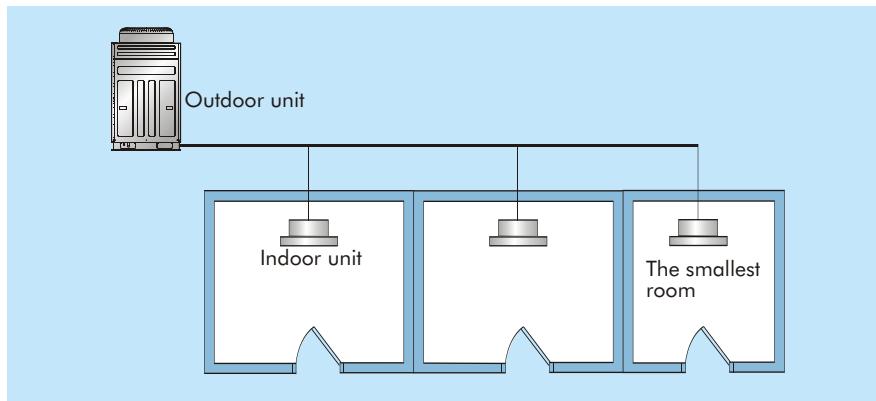


Fig.5.5

The concentration limit of R410A which is used in multi air conditioners is 0.3kg/m³

- ③ Use the results of calculations ① and ② to calculate the refrigerant concentration:
The concentration is as given below.

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

5.1.3 Measures When The Refrigerant Concentration Limit is Exceeded(JRA-GL 13-1998)

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

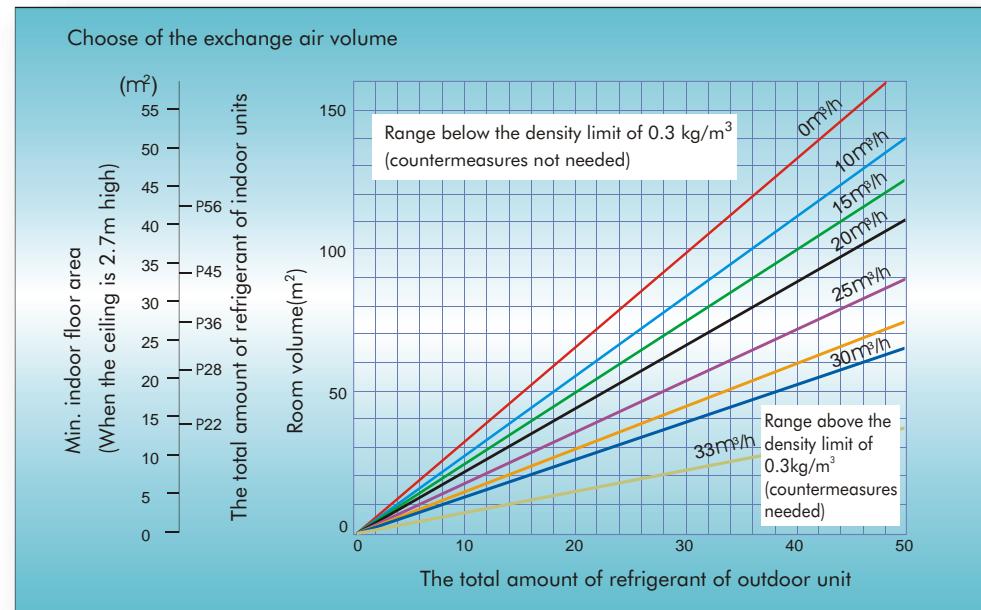
Split the outdoor unit into multiple sets, thus decreasing the capacity of each outdoor unit to which one refrigerant system corresponds and hence to decrease the filling amount of refrigerant.

For example: If one 10HP system is split into 2 sets of 5HP 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 two 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 volume showed in 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:

- (a) 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.
- (b) 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.
- (c) 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.
- (d) 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 variation).

Long Term Working Air Exchange System

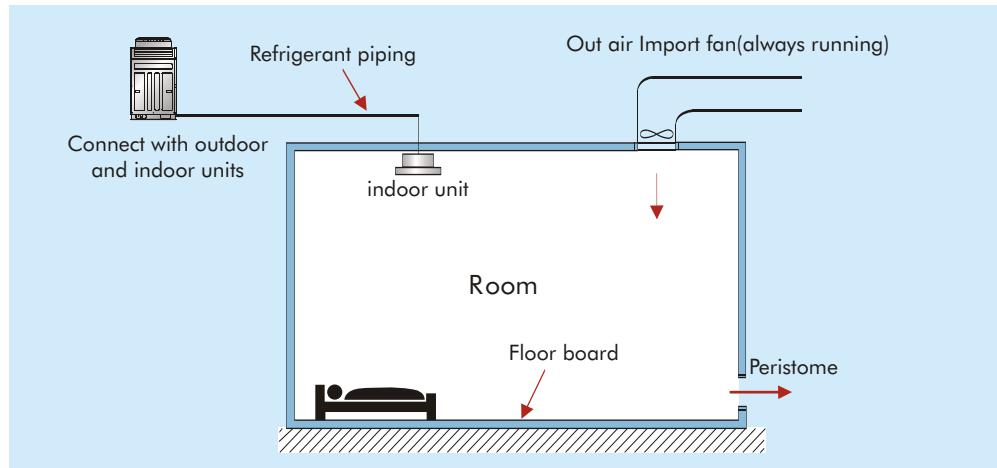


Fig.5.7

Detector Interlink System

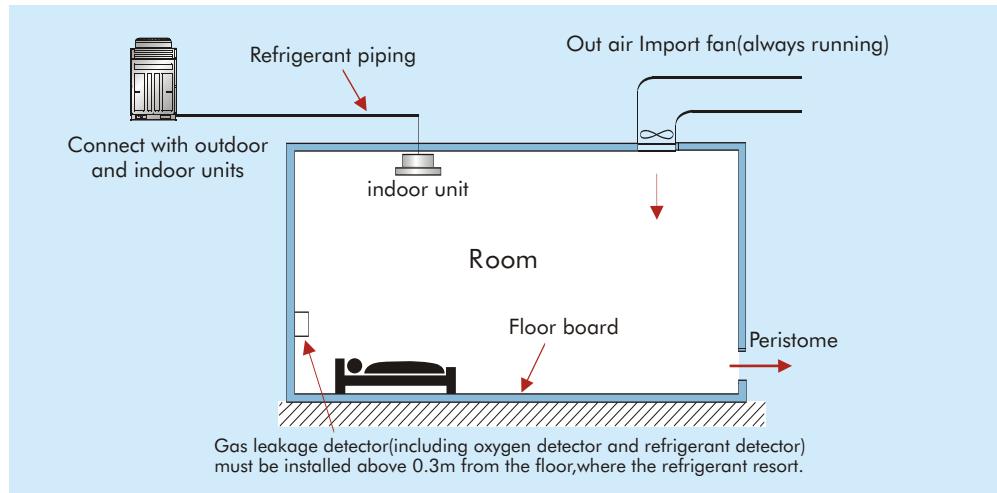


Fig.5.8

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

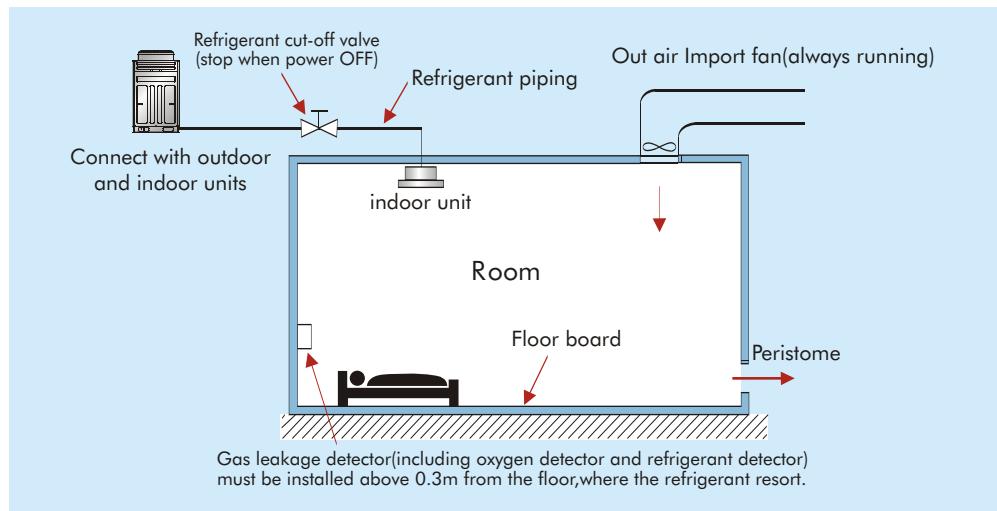
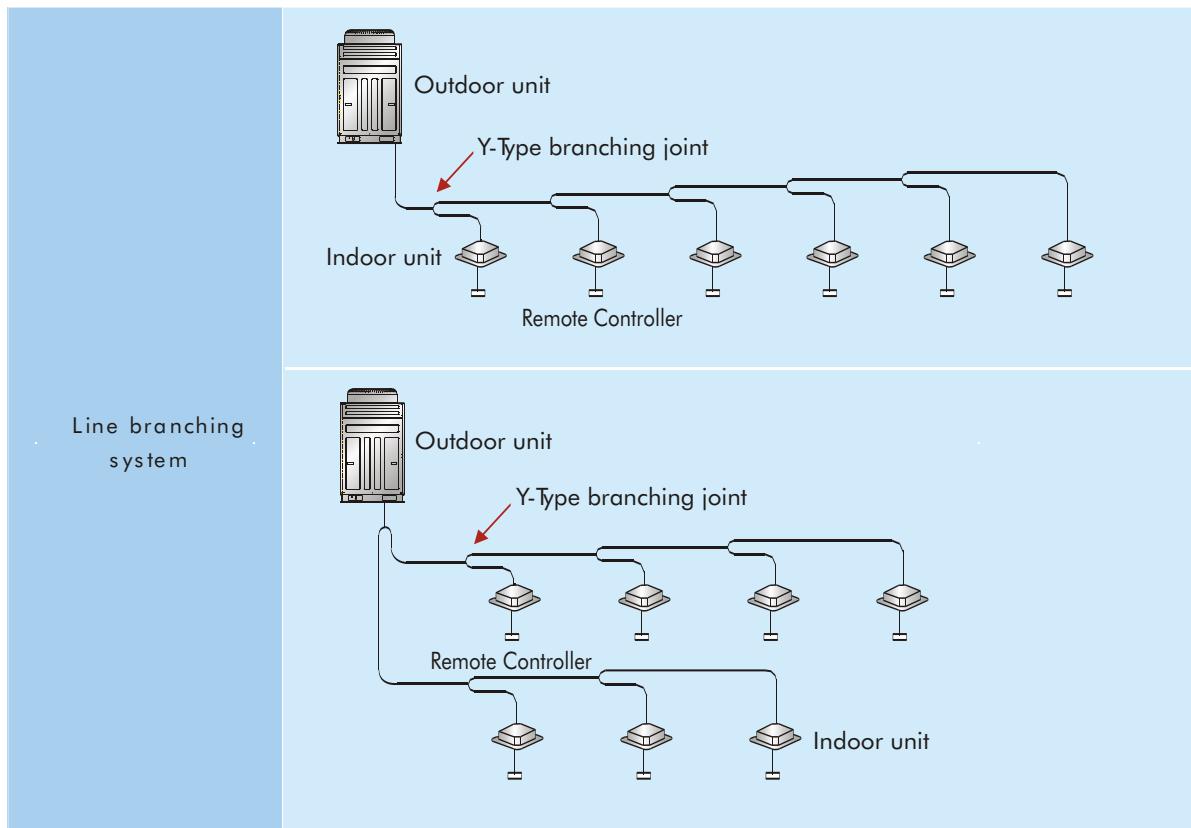


Fig.5.9



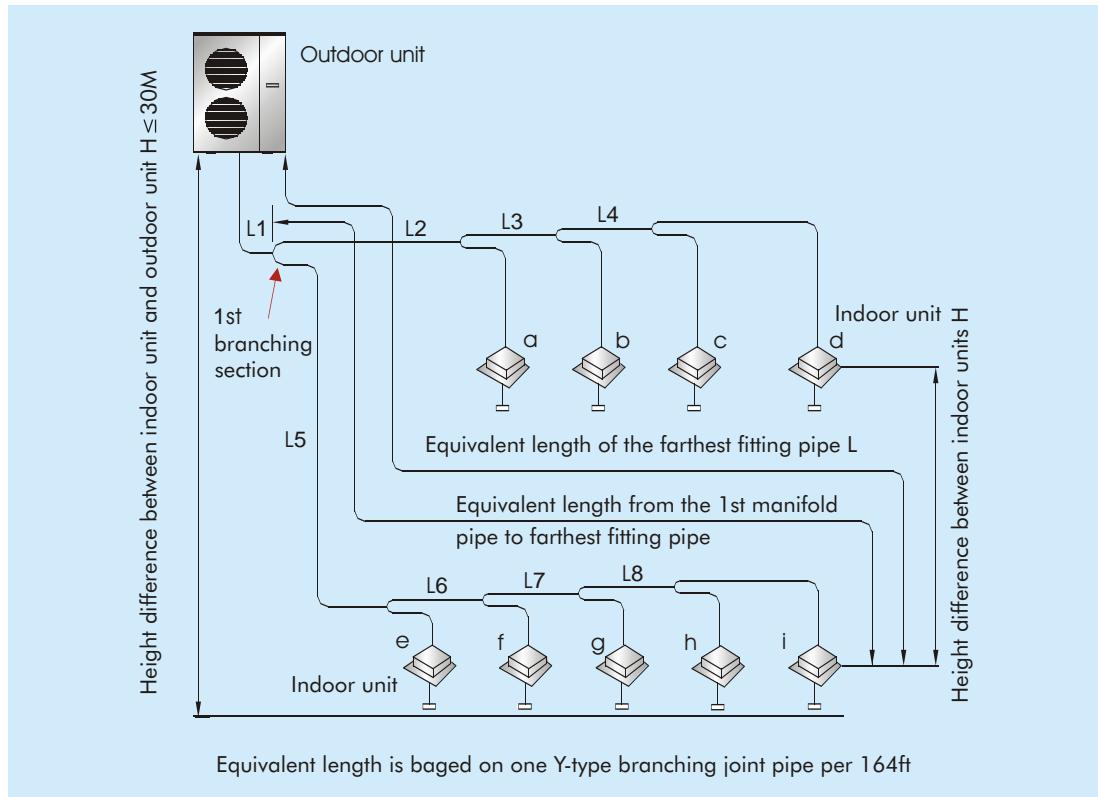
5.2 Free Branching System



5.3 Allowable Length/Height Difference of Refrigerant Piping

INV(L)-Pd100W/NaB-K, INV(L)-Pd120W/NaB-K, INV(L)-Pd140W/NaB -K,
INV(L)-Pd160W/NaB-K

		Allowable Value	Fitting Pipe
Total length (actual length) of fitting pipe (m/ft)		150m/492.12ft	$L_1+L_2+\dots+L_7+L_8+a+b+\dots+h+i$
Length of farthest fitting pipe (m/ft)	Actual length	70m/229.65ft	$L_1+L_5+L_6+L_7+L_8+i$
	Equivalent length	80m/262.46ft	
Equivalent length from the 1 st manifold pipe to farthest fitting pipe (m/ft)		25m/82.02ft	$L_5+L_6+L_7+L_8+i$
Drop height between indoor unit and outdoor unit	Outdoor unit at upper	30m/98.42ft	—
	Outdoor unit at lower	25m/82.02ft	—
Drop height between indoor unit and outdoor unit		10m/32.80ft	—

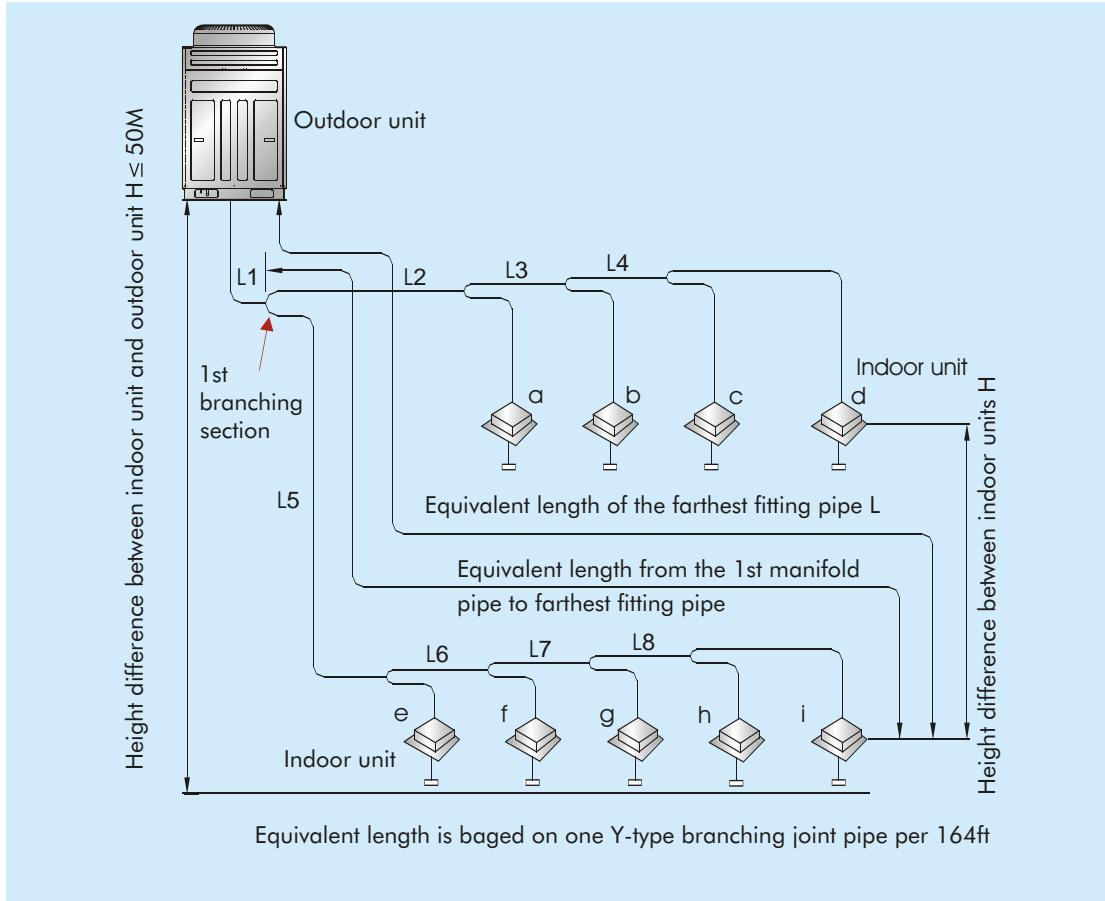


Units with capacity between 20kW and 60 kW

		Allowable Value	Fitting Pipe
Total length (actual length) of fitting		300m	$L_1+L_2+L_3+L_4+L_5+L_6+a+b+\dots+i+j$
Length of farthest fitting	Actual length	100m	$L_1+L_3+L_4+L_5+L_6+j$
	Equivalent length	125m	
length from the first branch to the furthest piping		40m	$L_3+L_4+L_5+L_6+j$
Height difference between outdoor unit and indoor unit	Outdoor unit at upper	50m	—
	Outdoor unit at lower	40m	—
Height difference between indoor units (m)		15m	—

Units with capacity of 60kW or more (fitting pipe mode is as above)

		Allowable Value	Fitting Pipe
Total length (actual length) of fitting		500m	$L_1+L_2+L_3+L_4+\dots+L_8+a+b+\dots+i$
Length of farthest fitting	Actual length	150m	$L_1+L_5+L_6+L_7+L_8+i$
	Equivalent length	175m	
length from the first branch to the furthest piping		40m	$L_5+L_6+L_7+L_8+i$
Height difference between outdoor unit and indoor unit	Outdoor unit at upper	50m	—
	Outdoor unit at lower	40m	—
Height difference between indoor units (m)		15m	—



5.4 Selection of Refrigerant Piping

5.4.1 Size of Main Pipe

According to the total capacity code of the outdoor unit, size of main pipe as follows:

The total capacity code of the outdoor units C	Gas pipe(mm/Inch)	Liquid pipe(mm/Inch)
$C \leq 50$	$\Phi 12.7 / 1/2$	$\Phi 6.35 / 1/4$
$50 < C \leq 70$	$\Phi 15.9 / 5/8$	$\Phi 9.52 / 3/8$
$70 < C \leq 180$	$\Phi 19.05 / 3/4$	$\Phi 9.52 / 3/8$
$180 < C \leq 280$	$\Phi 22.2 / 7/8$	$\Phi 9.52 / 3/8$
$280 < C \leq 450$	$\Phi 28.6 / 1$	$\Phi 12.7 / 1/2$
$450 < C \leq 615$	$\Phi 28.6 / 9/8$	$\Phi 15.9 / 5/8$
$615 < C \leq 670$	$\Phi 34.9 / 11/8$	$\Phi 15.9 / 5/8$
$670 < C \leq 950$	$\Phi 34.9 / 11/8$	$\Phi 19.05 / 3/4$
$950 < C \leq 1350$	$\Phi 41.3 / 13/8$	$\Phi 19.05 / 3/4$
$1050 < C \leq 1570$	$\Phi 44.5 / 15/8$	$\Phi 22.2 / 7/8$
$1570 < C \leq 1800$	$\Phi 54.1 / 17/8$	$\Phi 25.4 / 1$

5.4.2 Pipe Size Between Branching Joints

If 3 outdoor units are parallel connected, piping between module connecting sub-assies should be taken into consideration. Dimension of piping between module connecting sub-assies is decided by total capacity of upstream modules.

The total capacity code of the outdoor units C	Gas pipe(mm/Inch)	Liquid pipe(mm/Inch)
$C \leq 280$	$\Phi 22.2 / 7/8$	$\Phi 9.52 / 3/8$
$280 < C \leq 450$	$\Phi 28.6 / 9/8$	$\Phi 12.7 / 1/2$
$450 < C \leq 670$	$\Phi 28.6 / 9/8$	$\Phi 15.9 / 5/8$
$670 < C \leq 950$	$\Phi 34.9 / 11/8$	$\Phi 19.05 / 3/4$
$950 < C \leq 1350$	$\Phi 41.3 / 13/8$	$\Phi 19.05 / 3/4$
$1350 < C \leq 1600$	$\Phi 44.5 / 15/8$	$\Phi 22.2 / 7/8$
$1600 < C$	$\Phi 54.1 / 17/8$	$\Phi 25.4 / 1$

According to the total capacity code of indoor units units at downstream side(take the total capacity code of outdoor unit as while the total capacity code of indoor units exceed the outdoor unit pipe size between branching joints as follows:

The total capacity code of the outdoor units C	Gas pipe(mm/Inch)	Liquid pipe(mm/Inch)
$C \leq 50$	$\Phi 12.7 / 1/2$	$\Phi 6.35 / 1/4$
$50 < C \leq 70$	$\Phi 15.9 / 5/8$	$\Phi 9.52 / 3/8$
$70 < C \leq 180$	$\Phi 19.05 / 3/4$	$\Phi 9.52 / 3/8$
$180 < C \leq 300$	$\Phi 22.2 / 7/8$	$\Phi 9.52 / 3/8$
$300 < C \leq 450$	$\Phi 28.6 / 9/8$	$\Phi 12.7 / 1/2$
$450 < C \leq 670$	$\Phi 28.6 / 9/8$	$\Phi 15.9 / 5/8$
$670 < C \leq 950$	$\Phi 34.9 / 11/8$	$\Phi 19.05 / 3/4$
$950 < C \leq 1350$	$\Phi 41.3 / 13/8$	$\Phi 19.05 / 3/4$
$1350 < C \leq 1600$	$\Phi 44.5 / 15/8$	$\Phi 22.2 / 7/8$
$1600 < C \leq 2100$	$\Phi 54.1 / 17/8$	$\Phi 25.4 / 1$

5.4.3 Piping of Indoor Unit

Capacity rank of indoor unit C	Gas pipe (mm/Inch)	Liquid pipe (mm/Inch)
$C < 36$	$\Phi 9.52 / 3/8$	$\Phi 6.35 / 1/4$
$36 \leq C \leq 50$	$\Phi 12.7 / 1/2$	$\Phi 6.35 / 1/4$
$50 < C \leq 140$	$\Phi 15.9 / 5/8$	$\Phi 9.52 / 3/8$

5.4.4 Selection for Branching Section

	Total capacity code of indoor unit	Model name
Y-type branching joint	$X \leq 200$	FQ01A/A
	$200 < C \leq 300$	FQ01B/A
	$300 < C \leq 700$	FQ02/A



5.5 Charging Requirement with Additional Refrigerant

5.5.1 Refrigerant in the System When Shipped from the Factory

Model name	INV(L)-Pd100W/NaB-K	INV(L)-Pd120W/NaB-K	INV(L)-Pd140W/NaB-K	INV(L)-Pd160W/NaB-K
Refrigerant amount charged in factory	5	5	7	7
Model name	INV-Pdm224W/NaB-M	INV-Pdm280W/NaB-M	INV-Pdm335W/NaB-M	INV-Pdm400W/NaB-M
Refrigerant amount charged in factory	12	13	15	16
Model name	INV-Pdm450W/NaB-M	INV-Pdm504W2/NaB-M	INV-Pdm560W2/NaB-M	INV-Pdm615W2/NaB-M
Refrigerant amount charged in factory	17	12+13	13+13	13+15
Model name	INV-Pdm670W2/NaB-M	INV-Pdm730W2/NaB-M	INV-Pdm785W2/NaB-M	INV-Pdm850W2/NaB-M
Refrigerant amount charged in factory	13+16	13+17	15+16	16+17
Model name	INV-Pdm900W2/NaB-M	INV-Pdm950W3/NaB-M	INV-Pdm1008W3/NaB-M	INV-Pdm1065W3/NaB-M
Refrigerant amount charged in factory	17+17	13+13+16	13+13+17	13+15+17
Model name	INV-Pdm1130W3/NaB-M	INV-Pdm1180W3/NaB-M	INV-Pdm1235W3/NaB-M	INV-Pdm1300W3/NaB-M
Refrigerant amount charged in factory	13+16+17	13+17+17	15+17+17	16+17+17
Model name	INV-Pdm1350W3/NaB-M	INV-Pdm1405W4/NaB-M	INV-Pdm1456W4/NaB-M	INV-Pdm1512W4/NaB-M
Refrigerant amount charged in factory	17+17+17	13+13+16+17	13+13+17+17	13+15+17+17
Model name	INV-Pdm1570W4/NaB-M	INV-Pdm1650W4/NaB-M	INV-Pdm1700W4/NaB-M	INV-Pdm1750W4/NaB-M
Refrigerant amount charged in factory	13+16+17+17	13+17+17+17	15+17+17+17	16+17+17+17
Model name	INV-Pdm1800W4/NaB-M			
Refrigerant amount charged in factory	17+17+17+17			

**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	Φ 9.52 / 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

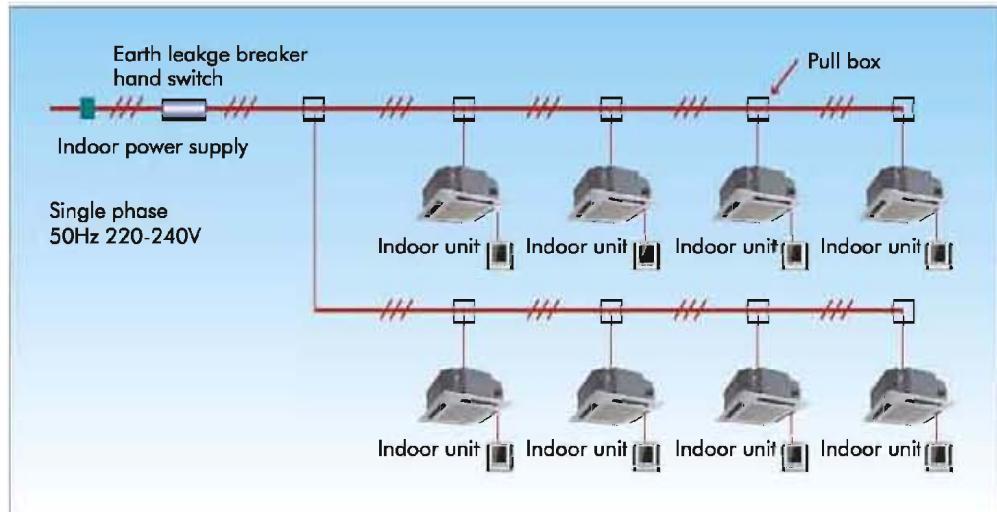
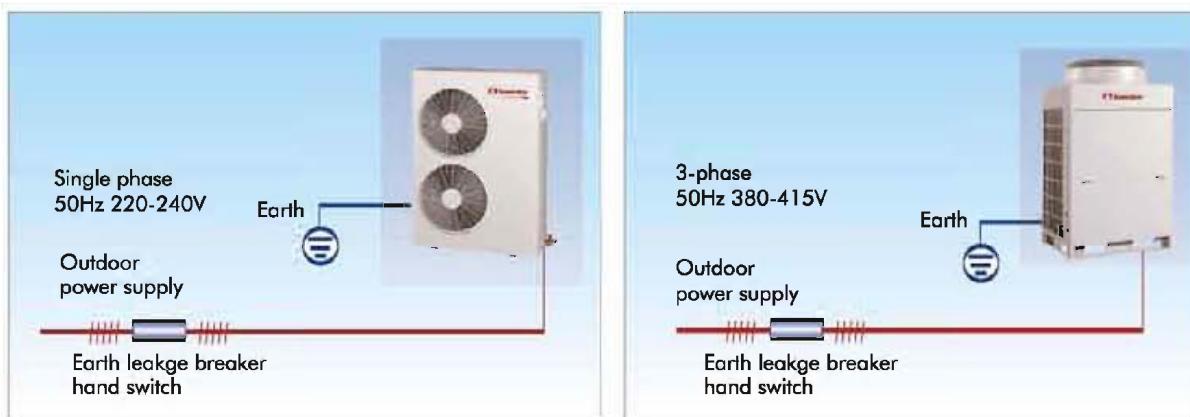
6 WIRING DESIGN

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		Power supply wiring	
		Wire Size	Field Fuse
Outdoor Unit	INV(L)-Pd100W/NaB-K	10mm ²	32A
	INV(L)-Pd120W/NaB-K	10mm ²	32A
	INV(L)-Pd140W/NaB-K	10mm ²	40A
	INV(L)-Pd160W/NaB-K	10mm ²	40A
ltdoor Unit	All models of indoor units	1.0mm ²	6A

Model	The basic combination model	Air switch capacity (A)	Each air switch of combination models	Line dia. Of the main power	Line dia.of each combination model
INV-Pdm224W/NaB-M	224	32	32	6.0	6.0
INV-Pdm280W/NaB-M	280	32	32	6.0	6.0
INV-Pdm335W/NaB-M	335	40	40	10.0	10.0
INV-Pdm400W/NaB-M	400	40	40	10.0	10.0
INV-Pdm450W/NaB-M	450	40	40	10.0	10.0
INV-Pdm504W2/NaB-M	224+280	63	32+32	16.0	6.0+6.0
INV-Pdm560W2/NaB-M	280+280	63	32+32	16.0	6.0+6.0
INV-Pdm615W2/NaB-M	280+335	63	32+40	25.0	6.0+10.0
INV-Pdm670W2/NaB-M	280+400	80	32+40	25.0	6.0+10.0
INV-Pdm730W2/NaB-M	280+450	80	32+40	25.0	6.0+10.0
INV-Pdm785W2/NaB-M	335+450	80	40+40	25.0	10.0+10.0
INV-Pdm850W2/NaB-M	400+450	80	40+40	25.0	10.0+10.0
INV-Pdm900W2/NaB-M	450+450	80	40+40	25.0	10.0+10.0
INV-Pdm950W3/NaB-M	280+280+400	125	32+32+40	35.0	6.0+6.0+10.0
INV-Pdm1008W3/NaB-M	280+280+450	125	32+32+40	35.0	6.0+6.0+10.0
INV-Pdm1065W3/NaB-M	280+335+450	125	32+40+40	35.0	6.0+10.0+10.0
INV-Pdm1130W3/NaB-M	280+400+450	125	32+40+40	35.0	6.0+10.0+10.0
INV-Pdm1180W3/NaB-M	280+450+450	125	32+40+40	35.0	6.0+10.0+10.0
INV-Pdm1235W3/NaB-M	335+450+450	125	40+40+40	35.0	10.0+10.0+10.0
INV-Pdm1300W3/NaB-M	400+450+450	125	40+40+40	35.0	10.0+10.0+10.0
INV-Pdm1350W3/NaB-M	450+450+450	125	40+40+40	35.0	10.0+10.0+10.0
INV-Pdm1405W4/NaB-M	280+280+400+450	160	32+32+40+40	35.0	6.0+6.0+10.0+10.0
INV-Pdm1456W4/NaB-M	280+280+450+450	160	32+32+40+40	50.0	6.0+6.0+10.0+10.0
INV-Pdm1512W4/NaB-M	280+335+450+450	160	32+40+40+40	50.0	6.0+10.0+10.0+10.0
INV-Pdm1570W4/NaB-M	280+400+450+450	160	32+40+40+40	50.0	6.0+10.0+10.0+10.0
INV-Pdm1650W4/NaB-M	280+450+450+450	160	32+40+40+40	50.0	6.0+10.0+10.0+10.0
INV-Pdm1700W4/NaB-M	335+450+450+450	160	40+40+40+40	50.0	10.0+10.0+10.0+10.0
INV-Pdm1750W4/NaB-M	400+450+450+450	160	40+40+40+40	50.0	10.0+10.0+10.0+10.0
INV-Pdm1800W4/NaB-M	450+450+450+450	160	40+40+40+40	50.0	10.0+10.0+10.0+10.0

- ◆ 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 :

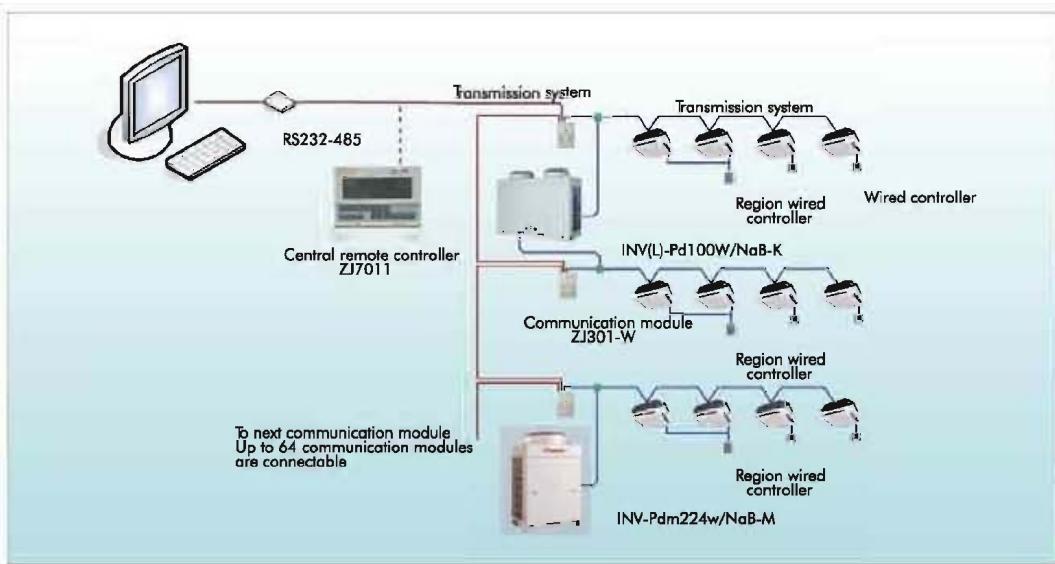
The specification of power cord mentioned hereby is defined as the required specification when wiring with BV single core cable (2 ~ 4 pieces) under the cover of PVC pipe, and environment temperature shall be at 40°C ; Air switch shall be selected according to 40°C temperature condition, and shall in D type. if the installation condition on site changed, please consider the modification on the required specification of Power cord and Air switch, according to the specification manual provided by manufacture.

 **CAUTIONS**

- (1) Keep the refrigerant piping system and the indoor-indoor/indoor-outdoor control wiring systems together.
- (2) When running power wires and control wires parallel to each other, either run them through separate conduits or
(Current capacity of power wires: 10A or less for 300m, 50A or less for 500m)

6.3 Design of Control Wiring

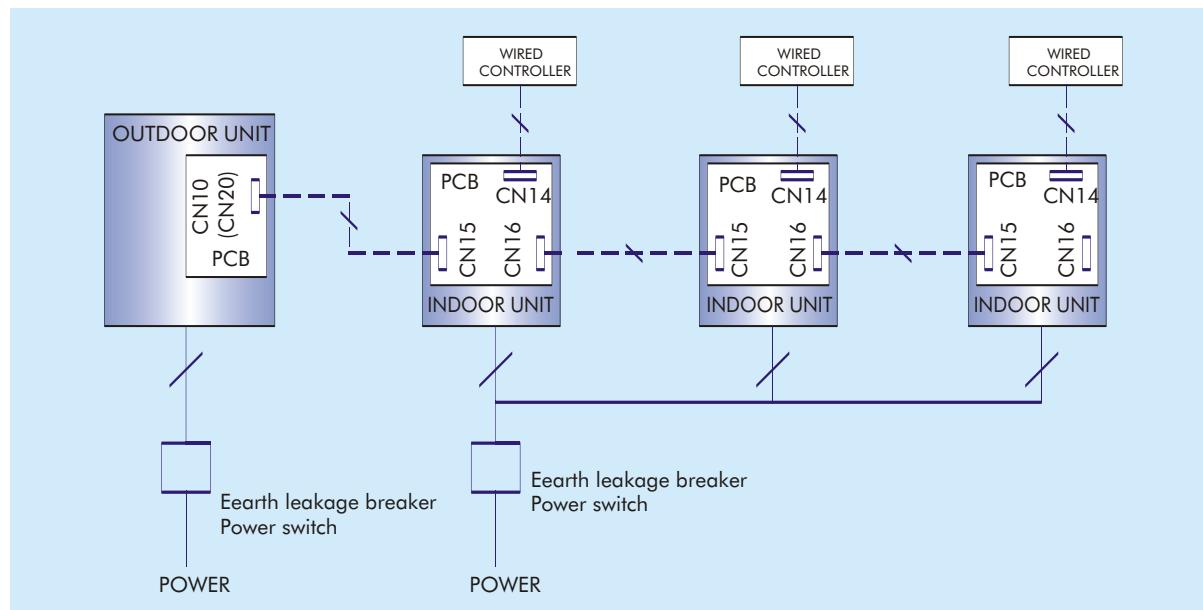
6.3.1 Control Wiring Drawing



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

Name	Quantity	Size& Specification
communication cable between outdoor and indoor		
communication cable between outdoor and indoor wiring(indoor-wired controller)	2 cores	UL 2835 24 #

6.4 Wiring Diagram of Units



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
INV(L)-Pd100W/NaB-K	198	264	21	----	0.068 × 2	0.37 × 2	23.3	32
INV(L)-Pd120W/NaB-K	198	264	21	----	0.068 × 2	0.37 × 2	23.3	32
INV(L)-Pd140W/NaB-K	198	264	21	----	0.068 × 2	0.37 × 2	24.3	40
INV(L)-Pd160W/NaB-K	198	264	21	----	0.092 × 2	0.5 × 2	25.5	40
INV-Pdm224W/NaB-M	342	420	7.5	58	0.75	4.4	3	32
INV-Pdm280W/NaB-M	342	420	7.5	58	0.75	4.4	3	32
INV-Pdm335W/NaB-M	342	420	7.5+7.5	58+58	0.35+0.35	2.0+2.0	3	40
INV-Pdm400W/NaB-M	342	420	9.2+9.2	62+62	0.35+0.35	2.0+2.0	3	40
INV-Pdm450W/NaB-M	342	420	9.2+9.2	62+62	0.35+0.35	2.0+2.0	3	40

LEGEND:

MCA: Minimum Circuit Amps

LRA: Locked Rotor Amps

MOCP: Maximum Overcurrent Protection(Amps)

FLA: Full Load Amps

ICF: Maximum Instantaneous Current Flow Star

kW: Fan Motor Rated Output(kW)

RLA: Rated Load Amps

Note: RLA is based on the following conditions.

Indoor temperature: 29°C(84.2 F)DB/19°C(66.6 F)WB

Outdoor temperature: 46°C(114.8 F) DB

6.5.2 Indoor Unit

Type	Model	Nominal Voltage (V/Ph/Hz)	Voltage Range		Fan Motor		Power Supply	
			Min	Max	kW	FLA	MCA	MOCP
4-way Air Discharge cassette type	INV(L)-R22T/NaA-K	220-240/1/50	198	264	0.011	0.19	0.24	0.43
	INV(L)-R28T/NaA-K				0.011	0.19	0.24	0.43
	INV(L)-R36T/NaA-K				0.011	0.19	0.24	0.43
	INV(L)-R45T/NaA-K				0.011	0.19	0.24	0.43
	INV(L)-R28T/Na-K				0.06	0.27	0.3	0.6
	INV(L)-R36T/ Na -K				0.06	0.27	0.3	0.6
	INV(L)-R45T/ Na -K				0.06	0.27	0.3	0.6
	INV(L)-R50T/ Na -K				0.06	0.27	0.3	0.6
	INV(L)-R56T/ Na -K				0.08	0.37	0.5	0.8
	INV(L)-R63T/ Na -K				0.08	0.37	0.5	0.8
	INV(L)-R71T/ Na -K				0.08	0.37	0.5	0.8
	INV(L)-R80T/ Na -K				0.08	0.37	0.5	0.8
	INV(L)-R90T/ Na -K				0.133	0.59	0.7	1.3
	INV(L)-R100T/ Na -K				0.133	0.59	0.7	1.3
	INV(L)-R112T/ Na -K				0.133	0.59	0.7	1.3
	INV(L)-R125T/ Na -K				0.133	0.59	0.7	1.3
	INV(L)-R140T/ Na -K				0.133	0.59	0.7	1.3
Duct type	INV(L)-R22P/Na-K	220-240/1/50	198	264	0.054	0.24	0.3	0.5
	INV(L)-R25P/ Na -K				0.054	0.24	0.3	0.5
	INV(L)-R28P/ Na -K				0.054	0.24	0.3	0.5
	INV(L)-R32P/ Na -K				0.054	0.24	0.3	0.5
	INV(L)-R36P/ Na -K				0.091	0.42	0.5	0.9
	INV(L)-R40P/ Na -K				0.091	0.42	0.5	0.9
	INV(L)-R45P/ Na -K				0.091	0.42	0.5	0.9
	INV(L)-R50P/ Na -K				0.157	0.72	0.9	1.6
	INV(L)-R56P/ Na -K				0.157	0.72	0.9	1.6
	INV(L)-R63P/ Na -K				0.157	0.72	0.9	1.6
	INV(L)-R71P/ Na -K				0.157	0.72	0.9	1.6
	INV(L)-R80P/ Na -K				0.157	0.72	0.9	1.6
	INV(L)-R90P/ Na -K				0.27	1.2	1.5	2.7
	INV(L)-R100P/ Na -K				0.27	1.2	1.5	2.7
Wall-mounted type	INV(L)-R112P/ Na -K	220-240/1/50	198	264	0.27	1.2	1.5	2.7
	INV(L)-R125P/ Na -K				0.27	1.2	1.5	2.7
	INV(L)-R140P/ Na -K				0.47	2.1	1.5	2.7
	INV(L)-R22G/NaB-K				0.01	0.06	0.07	0.1
	INV(L)-R28G/NaB-K				0.01	0.06	0.07	0.1
	INV(L)-R36G/NaB-K				0.022	0.11	0.1	0.2
	INV(L)-R45G/NaB-K				0.022	0.11	0.25	0.45
	INV(L)-R50G/NaB-K				0.01	0.09	0.25	0.45
Floor Ceiling Type	INV(L)-R56G/NaB-K	220-240/1/50	198	264	0.04	0.2	0.25	0.45
	INV(L)-R71G/Na-K				0.04	0.2	0.25	0.45
	INV(L)-R80G/Na-K				0.04	0.2	0.25	0.45
	INV(L)-R28Zd/Na-K				0.01	0.06	0.07	0.13
	INV(L)-R36Zd/Na-K				0.01	0.06	0.07	0.13
	INV(L)-R50Zd/Na-K				0.04	0.3	0.33	0.6
	INV(L)-R71Zd/Na-K				0.1	0.8	0.88	1.6

LEGEND:

MCA: Minimum Circuit Amps

FLA: Full Load Amps

MOCP: Maximum Overcurrent Protection(Amps)

kW: Fan Motor Rated Output(kW)

7 ACCESSORIES

7.1 Outdoor Unit

Accessories name	Standard	Option	Prepared by Installer
Communication cable between units	✓		
Y-type branching join and collecting pipe		✓	
Power Cable			✓
Flexible pipe	✓		

7.2 Indoor Unit

Accessories name	Standard	Option	Prepared by Installer
Power Cable			✓
Wireless controller	✓		
Wired Controller	✓		
Connecting Cable for Line Controller(8m)	✓		
Communication Line between units	✓		
Drain Pipe	✓		

7.3 Controller

Accessories name	Model Name	Standard	Option	Remark
Wired controller	Z60151F Z60351F Z60151F Z60351F	✓		
Wireless controller	Y512	✓		Common parts for all type model
Region controller	ZJA011		✓	Common parts for all type model.But on the other hand unable Region controller sum Central remote controller or Long-distance control system put into use.
Central remote controller	ZJ7011		✓	
Long-distance control system--for INV	FC232/422-W		✓	
Communication Module	ZJ301-W		✓	Use for Central remote controller or Long-distance Control System

NOTE

All indoor controllers are used for INV units;At the same time,the Central remote controller and the Long-distance Control System are used for INV series units only

8 TECHNICAL SPECIFICATIONS

8.1 Indoor Unit

◆ 4-way Air Discharge Cassette Type

Model			INV(L)-R22T/NaA-K	INV(L)-R28T/NaA-K	INV(L)-R36T/NaA-K	INV(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	47/41				
Power Supply		220-240V~ 50Hz								
Fan Motor	Output	kW	0.024	0.024	0.024	0.024				
	Running Current	A	0.05	0.05	0.05	0.05				
Connecting Pipes	Gas Pipe	mm	φ 9.52		φ 12.7					
		Inch	3/8		1/2					
	Liquid Pipe	mm	φ 6.35		φ 6.35					
		Inch	1/4		1/4					
Connection Method		Flare Connection								
Drainage Pipe (External Dia. × Thickness)	mm	φ 30 × 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 products' improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INV L) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INV L refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
 Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.

Model			INV(L)-R28T/Na-K	INV(L)-R36T/Na-K	INV(L)-R45T/Na-K	INV(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	37/34
Power Supply		220-240V~ 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	φ 9.52	φ 12.7	φ 12.7	φ 12.7
		Inch	3/8	1/2	1/2	1/2
	Liquid Pipe	mm	φ 6.35	φ 6.35	φ 6.35	φ 6.35
		Inch	1/4	1/4	1/4	1/4
Connection Method		Flare Connection				
Drainage Pipe (External Dia.×Thickness)	mm	φ 30×1.5			φ 30×1.5	
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 products' improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INVL) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INVL is refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
 Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.

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Model			INV(L)-R56T/Na-K	INV(L)-R63T/Na-K	INV(L)-R71T/Na-K	INV(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	39/35
Power Supply		220-240V~ 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	Φ 15.9			
		Inch	5/8			
	Liquid Pipe	mm	Φ 9.52			
		Inch	3/8			
Connection Method			Flare Connection			
Drainage Pipe (External Dia.×Thickness)	mm		Φ 30×1.5			
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 products improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INV) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INV is refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C(95°F) DB/24°C(75.2°F) WB.
 Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C(42.8°F) WB.

Model			INV(L)-R90T/Na-K	INV(L)-R100T/Na-K	INV(L)-R112T/Na-K	INV(L)-R125T/Na-K	INV(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	m³/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~ 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	Φ 15.9									
		Inch	5/8									
	Liquid Pipe	mm	Φ 9.52									
		Inch	3/8									
Connection Method		Flare Connection										
Drainage Pipe (External Dia.×Thickness)	mm	Φ 30×1.5										
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 products improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INVL) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INVL is refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C(95°F) DB/24°C(75.2°F) WB.
 Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C(42.8°F) WB.

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◆ Duct Type

Item	Model	INV(L)-R22P/Na-K	INV(L)-R25P/Na-K	INV(L)-R28P/Na-K	INV(L)-R32P/Na-K	INV(L)-R36P/Na-K				
Cooling capacity	kW	2.2	2.5	2.8	3.2	3.6				
	Btu/h	7,510	8,530	9,550	10,920	10,280				
Heating capacity	kW	2.5	3.0	3.2	3.6	4.0				
	Btu/h	8,530	10,236	10,920	10,280	13,650				
Air volume	m ³ /h	450	450	570	570	570				
	CFM	265	265	336	336	336				
Noise(H/L)	dB(A)	37/33	37/33	39/35	39/35	39/35				
Motor output power	kW	0.02	0.02	0.02	0.02	0.02				
Motor Running Current	A	0.17	0.17	0.16	0.16	0.16				
Indoor unit surplus pressure	Pa	0/25	0/25	0/25	0/25	0/25				
Phase number-Voltage-Frequency										
Connecting Pipes	Gas Pipe	mm	Φ 9.52		Φ 12.7					
		Inch	3/8		1/2					
	Liquid Pipe	mm	Φ 6.35		Φ 6.35					
		Inch	1/4		1/4					
Connection Method										
The aperture of condensing drainage pipe (External Dia.×Thickness)	mm	Φ 20×1.5								
Unit dimensions (W×D×H)	mm	875×680×220								
Package dimensions (W×D×H)	mm	1012×708×275								
Net Weight	kg	27								
Gross Weight	kg	31								

NOTE:

- ◆ The technical parameters are changed along with the products improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INV) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INV is refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.

Item	Model	INV(L)-R40P/Na-K	INV(L)-R45P/Na-K	INV(L)-R50P/Na-K	INV(L)-R56P/Na-K		
Cooling capacity	kW	4.0	4.5	5.0	5.6		
	Btu/h	13,650	15,360	17,060	19,100		
Heating capacity	kW	4.5	5.0	5.8	6.3		
	Btu/h	15,360	17,060	19,790	21,500		
Air volume	m³/h	840	840	840	1400		
	CFM	494	494	494	824		
Noise(H/L)	dB(A)	40/36	40/36	40/36	42/38		
Motor output power	kW	0.07	0.07	0.07	0.15		
Motor Running Current	A	0.69	0.69	0.69	1.32		
Indoor unit surplus pressure	Pa	0/20	15/40	15/40	≤50		
Phase number-Voltage-Frequency		220-240V~ 50Hz					
Connect-ing Pipes	Gas Pipe	mm	φ 12.7		φ 15.9		
		Inch	1/2		5/8		
	Liquid Pipe	mm	φ 6.35		φ 9.52		
		Inch	1/4		3/8		
	Connection Method						
The aperture of condensing drainage pipe (External Dia.×Thickness)	mm	φ 30×1.5					
Unit dimensions (W×D×H)	mm	980×736×266			1112×756×300		
Package dimensions (W×D×H)	mm	1068×766×320			1245×785×360		
Net Weight	kg	36			55		
Gross Weight	kg	39			59		

NOTE:

- ◆ The technical parameters are changed along with the products' improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INV L) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INV L is refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.

Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.

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Item	Model	INV(L)-R63P/Na-K	INV(L)-R71P/Na-K	INV(L)-R80P/Na-K	INV(L)-R90P/Na-K		
Cooling capacity	kW	6.3	7.1	8.0	9.0		
	Btu/h	21,500	24,230	27,300	30,700		
Heating capacity	kW	7.0	8.0	8.8	10.0		
	Btu/h	23,890	27,300	30,025	34,120		
Air volume	m³/h	1400	1400	1400	2000		
	CFM	824	824	824	1177		
Noise(H/L)	dB(A)	42/38	42/38	42/38	44/40		
Motor output power	kW	0.15	0.15	0.15	0.225		
Motor Running Current	A	1.32	1.32	1.32	2.14		
Indoor unit surplus pressure	Pa	≤50	≤50	≤50	≤50		
Phase number-Voltage-Frequency		220-240V~ 50Hz					
Connect-ing Pipes	Gas Pipe	mm	φ 15.9				
		Inch	5/8				
	Liquid Pipe	mm	φ 9.52				
		Inch	3/8				
	Connection Method	Flare Connection					
The aperture of condensing drainage pipe (External Dia.×Thickness)	mm	φ 30×1.5					
Unit dimensions (W×D×H)	mm	1112×756×300			1385×736×300		
Package dimensions (W×D×H)	mm	1245×785×360			1514×795×360		
Net Weight	kg	55			75		
Gross Weight	kg	59			79		

NOTE:

- ◆ The technical parameters are changed along with the products' improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INV L) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INV L is refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
 Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.

Item	Model	INV(L)-R100P/Na-K	INV(L)-R112P/Na-K	INV(L)-R125P/Na-K	INV(L)-R140P/Na-K			
Cooling capacity	kW	10.0	11.2	12.5	14.0			
	Btu/h	34,120	38,210	42,650	47,770			
Heating capacity	kW	11.0	12.5	13.5	15.0			
	Btu/h	37,540	42,650	46,060	51,180			
Air volume	m³/h	2000	2000	2000	2000			
	CFM	1177	1177	1177	1177			
Noise(H/L)	dB(A)	44/40	44/40	44/40	45/41			
Motor output power	kW	0.225	0.225	0.225	0.225			
Motor Running Current	A	2.14	2.14	2.14	2.14			
Indoor unit surplus pressure	Pa	≤50	≤50	≤50	≤50			
Phase number-Voltage-Frequency		220-240V~ 50Hz						
Connect-ing Pipes	Gas Pipe	mm	φ 15.9					
		Inch	5/8					
	Liquid Pipe	mm	φ 9.52					
		Inch	3/8					
	Connection Method	Flare Connection						
The aperture of condensing drainage pipe (External Dia.×Thickness)	mm	φ 30×1.5						
Unit dimensions (W×D×H)	mm	1385×736×300						
Package dimensions (W×D×H)	mm	1514×795×360						
Net Weight	kg	75						
Gross Weight	kg	79						

NOTE:

- ◆ The technical parameters are changed along with the products' improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INVL) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INVL is refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.

Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.

◆ Wall-mounted Type

Model			INV(L)-R22G/NaB-K	INV(L)-R28G/NaB-K	INV(L)-R36G/NaB-K	INV(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~ 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	φ 9.52	φ 9.52	φ 12.7	φ 12.7
		Inch	3/8	3/8	1/2	1/2
	Liquid Pipe	mm	φ 6.35	φ 6.35	φ 6.35	φ 6.35
		Inch	1/4	1/4	1/4	1/4
Connection Method		Flare Connection				
Drainage Pipes (External Dia.×Thickness)	mm	φ 30×1.5				
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 products' improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INV L) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INV L refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
 Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.

Model			INV(L)-R50G/NaB-K	INV(L)-R56G/NaB-K	INV(L)-R71G/Na-K	INV(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~ 50Hz				
Fan Motor	Output Running Current	kW A	0.020 0.25	0.020 0.26	0.026 0.29	0.026 0.39
Connecting Pipes	Gas Pipe	mm	φ 12.7	φ 15.9	φ 15.9	φ 15.9
		Inch	1/2	5/8	5/8	5/8
	Liquid Pipe	mm	φ 6.5	φ 9.52	φ 9.52	φ 9.52
		Inch	1/4	3/8	3/8	3/8
Connection Method		Flare Connection				
Drainage Pipes (External Dia.×Thickness)	mm	φ 30×1.5				
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 products' improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INV L) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INV L refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
 Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.

◆ Ceiling Type

Model			INV(L)-R28Zd/Na-K	INV(L)-R36Zd/Na-K	INV(L)-R50Zd/Na-K	INV(L)-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	m³/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~ 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	Φ 9.52	Φ 12.7	Φ 12.7	Φ 15.9
		Inch	3/8	1/2	1/2	5/8
	Liquid Pipe	mm	Φ 6.35	Φ 6.35	Φ 6.35	Φ 9.52
		Inch	1/4	1/4	1/4	3/8
Connection Method		Flare Connection				
Drainage Pipes (External Dia. × Thickness)	mm	Φ 17 × 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 products' improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INV) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INV is refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C(95°F) DB/24°C(75.2°F) WB.
 Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C(42.8°F) WB.

Model			INV(L)-R90Zd/Na-K	INV(L)-R112Zd/Na-K	INV(L)-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~ 50Hz			
Fan Motor	Output Running Current	kW A	0.15 1.5	0.18 1.8	0.18 1.8
Connecting Pipes	Gas Pipe	mm Inch	φ 15.9 5/8	φ 15.9 5/8	φ 15.9 5/8
		mm Inch	φ 9.52 3/8	φ 9.52 3/8	φ 9.52 3/8
	Connection Method				
	Drainage Pipes (External Dia.×Thickness)	mm	φ 17×1.75		
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 products improvement; please refer to the nameplate of the unit for actual data.
- ◆ The cooling only type (INVL) has no heating parameter. The Heating capacity of the heat pump type (INV) is the capacity of heat pump.
- ◆ The model INVL is refers to cooling only while the model INV 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°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C(95°F) DB/24°C(75.2°F) WB.
 Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C(42.8°F) WB.

◆ **Outdoor Unit**

Model			INV(L)-R100W/NaB-K	INV(L)-R120W/NaB-K	INV(L)-R140W/NaB-K	INV(L)-R160W/NaB-K	
Capacity	Cooling①	kW(Btu/h)	10(34,120)	12(40,944)	14(47,770)	16.0(54,560)	
	Heating②	kW(Btu/h)	11(37,540)	14(47,770)	15.4(52,544)	17.6(60,050)	
Noise		dB(A)	56	56	58	60	
R410A Filling Amount		kg	5.0	5.0	7.0	7.0	
Power Supply			220-240V~ 50Hz				
Power input	Cooling	kW	3.1	3.8	4.5	5.1	
	Heating	kW	2.9	3.6	4.3	4.8	
Rated current	Cooling	A	14.2	17.3	20.5	23.2	
	Heating	A	13.2	16.4	19.6	21.9	
Dimensions	Width	mm	950				
	Depth	mm	340				
	Height	mm	1250				
Compressor			DC Inverter Dual-rotor Type Compressor×1				
Moisture protection			IP24				
Climate Type			T1				
Connection Pipes	Gas Pipe	mm	φ15.9			φ19.05	
		Inch	5/8			3/4	
	Liquid Pipe	mm	φ9.52			φ9.52	
		Inch	3/8			3/8	
Connection Method			Flare Connection				
Net Weight		kg	110	110	135	135	
Gross Weight		kg	115	115	140	140	
Recommended Power Lines	mm ² × number of Lines		6.0×3	10.0×3	10.0×3	10.0×3	
Dimensions of Installation			1650×590×1700				
Dimensions of Package	Width	mm	1110				
	Depth	mm	450				
	Height	mm	1280				
Loading Quantity (20' Container) ①		Unit	26	26	26	26	
Loading Quantity (40' Container) ②		Unit	52	52	52	52	
Loading Quantity (40' High Cube Container) ③		Unit	52	52	52	52	
Circuit breaker		A	32	32	40	40	

NOTE:

- ◆ Cooling : Indoor air temperature 27°C (80.4°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
- ◆ Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.
- ◆ Interior Dimensions: L×W×H: 5898×2352×2393,Door Opening W×H: 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2390, Door Opening W×H : 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2697,Door Opening W×H: 2338×2585.

Model			INV-Pdm224W/NaB-M	INV-Pdm280W/NaB-M	INV-Pdm335W/NaB-M	
Capacity	Cooling	kW(Btu/h)	22.4(76428)	28.0(95536)	33.5(114302)	
	Heating	kW(Btu/h)	25.0(85300)	31.5(107478)	37.5(127950)	
Noise		dB(A)	58	58	60	
R410A Filling Amount		kg	12	13	15	
Power Supply			380-415V 3N~50Hz	380-415V 3N~50Hz	380-415V 3N~50Hz	
Power input	Cooling	kW	5.52	7.52	9.23	
	Heating	kW	5.82	7.70	9.38	
Rated current	Cooling	A	9.87	13.44	16.50	
	Heating	A	10.40	13.76	16.77	
Dimensions	Width	mm	930	930	1340	
	Depth	mm	770	770	770	
	Height	mm	1670	1670	1670	
Compressor			(D.C.Inverter Scroll type compressor +constant speed scroll compressor)	(D.C.Inverter Scroll type compressor +constant speed scroll compressor)	(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2)	
Moisture protection			IP×4	IP×4	IP×4	
Climate Type			T1	T1	T1	
Connection Pipes	Gas Pipe	mm	Φ22.2	Φ22.2	Φ28.6	
		Inch	7/8	7/8	9/8	
	Liquid Pipe	mm	Φ9.52	Φ9.52	Φ12.7	
		Inch	3/8	3/8	1/2	
Connection Method			Brazing Connection	Brazing Connection	Brazing Connection	
Net Weight		kg	255	255	350	
Gross Weight		kg	275	275	380	
Recommended Power Lines	mm ² × number of Lines		6.0×5	6.0×5	10.0×5	
Dimensions of Package	Width	mm	1010	1010	1420	
	Depth	mm	850	850	850	
	Height	mm	1850	1850	1850	
Loading Quantity (20' Container) ③		Unit	12	12	7	
Loading Quantity (40' Container) ④		Unit	24	24	16	
Loading Quantity (40' High Cube Container) ⑤		Unit	24	24	16	
Circuit breaker		A	32	32	40	

NOTE:

- ◆ Cooling : Indoor air temperature 27°C(80.6°F) DB/19°C(66.2°F) WB , Outdoor air temperature 35°C(95°F) DB/24°C(75.2°F) WB.
- ◆ Heating : Indoor air temperature 20°C(68°F) DB/15°C(59°F) WB , Outdoor air temperature 7°C(44.6°F) DB/6°C(42.8°F) WB.
- ◆ Interior Dimensions: L×W×H: 5898×2352×2393,Door Opening W×H: 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2390, Door Opening W×H : 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2697,Door Opening W×H: 2338×2585.

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Model (Combined unit)			—	—	INV-Pdm504W/NaB-M	
Model			INV-Pdm400W/NaB-M	INV-Pdm450W/NaB-M	INV-Pdm224W/NaB-M +INV-Pdm280W/NaB-M	
Capacity	Cooling	kW(Btu/h)	40.0(136480)	45.0(153540)	50.4(171964)	
	Heating	kW(Btu/h)	45.0(153540)	50.0(170600)	56.5(192778)	
Noise		dB(A)	61	61	62	
R410A Filling Amount		kg	16	17	12+13	
Power Supply			380-415V 3N~50Hz	380-415V 3N~50Hz	380-415V 3N~50Hz	
Power input	Cooling	kW	12.45	14.32	5.52+7.52	
	Heating	kW	11.2	13.90	5.82+7.70	
Rated current	Cooling	A	22.25	25.60	9.87+13.44	
	Heating	A	20.02	24.85	10.40+13.76	
Dimensions	Width	mm	1340	1340	930+930	
	Depth	mm	770	770	770+770	
	Height	mm	1670	1670	1670+1670	
Compressor		(D.C.Inverter Scroll type compressor +constant speed scroll compressor × 2)	(D.C.Inverter Scroll type compressor +constant speed scroll compressor × 2)	(D.C.Inverter Scroll type compressor +constant speed scroll compressor) × 2	(D.C.Inverter Scroll type compressor +constant speed scroll compressor) × 2	
Moisture protection			IP×4	IP×4	IP×4	
Climate Type			T1	T1	T1	
Connection Pipes	Gas Pipe	mm	Φ28.6	Φ28.6	Φ28.6	
		Inch	9/8	9/8	9/8	
	Liquid Pipe	mm	Φ12.7	Φ12.7	Φ15.9	
		Inch	1/2	1/2	5/8	
Connection Method			Brazing Connection	Brazing Connection	Brazing Connection	
Net Weight		kg	350	370	255+255	
Gross Weight		kg	380	400	275+575	
Recommended Power Lines	mm ² × number of Lines		10.0×5	10.0×5	6.0×5+6.0×5	
Dimensions of Package	Width	mm	1420	1420	1010+1010	
	Depth	mm	850	850	850+850	
	Height	mm	1850	1850	1850+1850	
Loading Quantity (20' Container) ③		Unit	7	7	—	
Loading Quantity (40' Container) ④		Unit	16	16	—	
Loading Quantity (40' High Cube Container) ⑤		Unit	16	16	—	
Circuit breaker		A	40	40	32+32	

NOTE:

- ◆ Cooling : Indoor air temperature 27°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
- ◆ Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.
- ◆ Interior Dimensions: L×W×H: 5898×2352×2393,Door Opening W×H: 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2390, Door Opening W×H : 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2697,Door Opening W×H: 2338×2585.

Model (Combined unit)			INV-Pdm560W2/NaB-M	INV-Pdm615W2/NaB-M	INV-Pdm670W2/NaB-M	
Model			INV-Pdm280W/NaB-M +INV-Pdm280W/NaB-M	INV-Pdm280W/NaB-M +INV-Pdm335W/NaB-M	INV-Pdm280W/NaB-M +INV-Pdm400W/NaB-M	
Capacity	Cooling	kW(Btu/h)	56.0(191072)	61.5(209838)	68.0(232016)	
	Heating	kW(Btu/h)	63.0(214956)	69.0(235428)	76.5(261018)	
Noise		dB(A)	62	62	62	
R410A Filling Amount		kg	13+13	13+15	13+16	
Power Supply			380-415V 3N~50Hz	380-415V 3N~50Hz	380-415V 3N~50Hz	
Power input	Cooling	kW	7.52+7.52	7.52+9.23	7.52+12.45	
	Heating	kW	7.70+7.70	7.70+9.38	7.70+11.2	
Rated current	Cooling	A	13.44+13.44	13.44+16.50	13.44+22.25	
	Heating	A	13.76+13.76	13.76+16.77	13.76+20.02	
Dimensions	Width	mm	930+930	930+1340	930+1340	
	Depth	mm	770+770	770+770	770+770	
	Height	mm	1670+1670	1670+1670	1670+1670	
Compressor			(D.C.Inverter Scroll type compressor +constant speed scroll compressor)×2	(D.C.Inverter Scroll type compressor +constant speed scroll compressor) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2)	(D.C.Inverter Scroll type compressor +constant speed scroll compressor×1) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2)	
Moisture protection			IP×4	IP×4	IP×4	
Climate Type			T1	T1	T1	
Connection Pipes	Gas Pipe	mm	Φ28.6	Φ28.6	Φ34.9	
		Inch	9/8	9/8	11/8	
	Liquid Pipe	mm	Φ15.9	Φ15.9	Φ15.9	
		Inch	5/8	5/8	5/8	
		mm	Φ12.7	Φ12.7	Φ12.7	
		Inch	1/2	1/2	1/2	
Connection Method			Brazing Connection	Brazing Connection	Brazing Connection	
Net Weight		kg	255+255	255+350	255+350	
Gross Weight		kg	275+275	275+380	275+380	
Recommended Power Lines	mm ² × number of Lines		6.0×5+6.0×5	6.0×5+10.0×5	6.0×5+10.0×5	
Dimensions of Package	Width	mm	1010+1010	1010+1420	1010+1420	
	Depth	mm	850+850	850+850	850+850	
	Height	mm	1850+1850	1850+1850	1850+1850	
Circuit breaker		A	32+32	32+40	32+40	

NOTE:

- ◆ Cooling : Indoor air temperature 27°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
- ◆ Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.
- ◆ Interior Dimensions: L×W×H: 5898×2352×2393,Door Opening W×H: 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2390, Door Opening W×H : 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2697,Door Opening W×H: 2338×2585.

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Model (Combined unit)			INV-Pdm730W2/NaB-M	INV-Pdm785W2/NaB-M	INV-Pdm850W2/NaB-M	
Model			INV-Pdm280W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm335W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm400W/NaB-M +INV-Pdm450W/NaB-M	
Capacity	Cooling	kW(Btu/h)	73.0(249076)	78.5(267842)	85.0(290020)	
	Heating	kW(Btu/h)	81.5(278078)	87.5(298550)	95.0(324140)	
Noise		dB(A)	63	63	63	
R410A Filling Amount		kg	13+17	15+16	16+17	
Power Supply			380-415V 3N~50Hz	380-415V 3N~50Hz	380-415V 3N~50Hz	
Power input	Cooling	kW	7.52+14.32	9.23+14.32	12.45+14.32	
	Heating	kW	7.70+13.90	9.38+13.90	11.2+13.90	
Rated current	Cooling	A	13.44+25.60	16.50+25.60	22.25+25.60	
	Heating	A	13.76+24.85	16.77+24.85	20.02+24.85	
Dimensions	Width	mm	930+1340	1340+1340	1340+1340	
	Depth	mm	770+770	770+770	770+770	
	Height	mm	1670+1670	1670+1670	1670+1670	
Compressor			(D.C.Inverter Scroll type compressor +constant speed scroll compressor×1) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2)×2	(D.C.Inverter Scroll type compressor +constant speed scroll compressor ×2)×2	(D.C.Inverter Scroll type compressor +constant speed scroll compressor ×2)×2	
Moisture protection			IP×4	IP×4	IP×4	
Climate Type			T1	T1	T1	
Connection Pipes	Gas Pipe	mm	Φ34.9	Φ34.9	Φ34.9	
		Inch	11/8	11/8	11/8	
	Liquid Pipe	mm	Φ19.05	Φ19.05	Φ19.05	
		Inch	3/4	3/4	3/4	
		mm	Φ12.7	Φ12.7	Φ12.7	
		Inch	1/2	1/2	1/2	
Connection Method			Brazing Connection	Brazing Connection	Brazing Connection	
Net Weight		kg	255+370	350+370	350+370	
Gross Weight		kg	275+400	380+400	380+400	
Recommended Power Lines	$\text{mm}^2 \times$ number of Lines		6.0×5+10.0×5	10.0×5+10.0×5	10.0×5+10.0×5	
Dimensions of Package	Width	mm	1010+1420	1420+1420	1010+1420	
	Depth	mm	850+850	850+850	850+850	
	Height	mm	1850+1850	1850+1850	1850+1850	
Loading Quantity (20' Container) ③	Unit	6				
Loading Quantity (40' Container) ④	Unit	12				
Loading Quantity (40' High Cube Container) ⑤	Unit	12				
Circuit breaker	A	32+40	40+40	40+40	40+40	

NOTE:

- ◆ Cooling : Indoor air temperature 27°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
- ◆ Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.
- ◆ Interior Dimensions: L×W×H: 5898×2352×2393,Door Opening W×H: 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2390, Door Opening W×H : 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2697,Door Opening W×H: 2338×2585.

Model (Combined unit)			INV-Pdm900W2/NaB-M	INV-Pdm950W3/NaB-M	INV-Pdm1008W3/NaB-M	
Model			INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm280W/NaB-M +INV-Pdm280W/NaB-M +INV-Pdm400W/NaB-M	INV-Pdm280W/NaB-M +INV-Pdm280W/NaB-M +INV-Pdm450W/NaB-M	
Capacity	Cooling	kW(Btu/h)	90.0(307080)	96.0(327552)	101.0(344612)	
	Heating	kW(Btu/h)	100.0(341200)	108.0(368496)	113.0(3855526)	
Noise		dB(A)	63	64	64	
R410A Filling Amount		kg	17+17	13+13+16	13+13+17	
Power Supply			380-415V 3N~50Hz	380-415V 3N~50Hz	380-415V 3N~50Hz	
Power input	Cooling	kW	14.32+14.32	7.52+7.52+12.45	7.52+7.52+14.32	
	Heating	kW	13.90+13.90	7.70+7.70+11.2	7.70+7.70+13.90	
Rated current	Cooling	A	25.60+25.60	13.44+13.44+22.25	13.44+13.44+25.60	
	Heating	A	24.85+24.85	13.76+13.44+20.02	13.76+13.76+24.85	
Dimensions	Width	mm	1340+1340	930+930+1340	930+930+1340	
	Depth	mm	770+770	770+770+770	770+770+770	
	Height	mm	1670+1670	1670+1670+1670	1670+1670+1670	
Compressor			(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2)×2	(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor)×2	(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor)×2	
Moisture protection			IP×4	IP×4	IP×4	
Climate Type			T1	T1	T1	
Connection Pipes	Gas Pipe	mm	Φ34.9	Φ34.9	Φ 41.3	
		Inch	11/8	11/8	13/8	
	Liquid Pipe	mm	Φ19.05	Φ19.05	Φ19.05	
		Inch	3/4	3/4	3/4	
		mm	Φ12.7	Φ12.7	Φ12.7	
		Inch	1/2	1/2	1/2	
Connection Method			Brazing Connection	Brazing Connection	Brazing Connection	
Net Weight		kg	370+370	255+255+350	255+255+370	
Gross Weight		kg	400+400	275+275+380	275+275+400	
Recommended Power Lines	$\text{mm}^2 \times$ number of Lines		10.0×5+10.0×5	6.0×5+6.0×5+10.0×5	6.0×5+6.0×5+10.0×5	
Dimensions of Package	Width	mm	1420+1420	1010+1010+1420	1010+1010+1420	
	Depth	mm	850+850	850+850+850	850+850+850	
	Height	mm	1850+1850	1850+1850+1850	1850+1850+1850	
Circuit breaker		A	40+40	32+32+40	32+32+40	

NOTE:

- ◆ Cooling : Indoor air temperature 27°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
- ◆ Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.
- ◆ Interior Dimensions: L×W×H: 5898×2352×2393,Door Opening W×H: 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2390, Door Opening W×H : 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2697,Door Opening W×H: 2338×2585.

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Model (Combined unit)			INV-Pdm1065W3/NaB-M	INV-Pdm1130W3/NaB-M	INV-Pdm1180W3/NaB-M	
Model			INV-Pdm280W/NaB-M +INV-Pdm335W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm280W/NaB-M +INV-Pdm400W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm280W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	
Capacity	Cooling	kW(Btu/h)	106.5(363378)	113.0(385556)	118.0(402616)	
	Heating	kW(Btu/h)	119.0(406028)	126.5(431618)	131.5(448678)	
Noise		dB(A)	63	64	64	
R410A Filling Amount		kg	13+15+17	13+16+17	13+17+17	
Power Supply			380-415V 3N~50Hz	380-415V 3N~50Hz	380-415V 3N~50Hz	
Power input	Cooling	kW	7.52+9.23+14.32	7.52+12.45+14.32	7.52+14.32+14.32	
	Heating	kW	7.70+9.38+13.90	7.70+11.2+13.90	7.70+13.90+13.90	
Rated current	Cooling	A	13.44+16.50+25.60	13.44+22.25+25.60	13.44+25.60+25.60	
	Heating	A	13.76+16.77+24.85	13.76+20.02+24.85	13.76+24.85+24.85	
Dimensions	Width	mm	930+1340+1340	930+1340+1340	930+1340+1340	
	Depth	mm	770+770+770	770+770+770	770+770+770	
	Height	mm	1670+1670+1670	1670+1670+1670	1670+1670+1670	
Compressor			(D.C.Inverter Scroll type compressor +constant speed scroll compressor) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor)×2	(D.C.Inverter Scroll type compressor +constant speed scroll compressor) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2)×2	(D.C.Inverter Scroll type compressor +constant speed scroll compressor) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2)×2	
Moisture protection			IP×4	IP×4	IP×4	
Climate Type			T1	T1	T1	
Connection Pipes	Gas Pipe	mm	Φ 41.3	Φ 41.3	Φ 41.3	
		Inch	13/8	13/8	13/8	
	Liquid Pipe	mm	Φ 19.05	Φ 19.05	Φ 19.05	
		Inch	3/4	3/4	3/4	
		mm	Φ 12.7	Φ 12.7	Φ 12.7	
		Inch	1/2	1/2	1/2	
Connection Method			Brazing Connection	Brazing Connection	Brazing Connection	
Net Weight		kg	255+350+370	255+350+370	255+370+370	
Gross Weight		kg	275+380+400	275+380+400	275+380+400	
Recommended Power Lines	mm ² × number of Lines		6.0×5+10.0×5+10.0×5	6.0×5+10.0×5+10.0×5	6.0×5+10.0×5+10.0×5	
Dimensions of Package	Width	mm	1010+1420+1420	1010+1420+1420	1010+1420+1420	
	Depth	mm	850+850+850	850+850+850	850+850+850	
	Height	mm	1850+1850+1850	1850+1850+1850	1850+1850+1850	
Circuit breaker		A	32+40+40	32+40+40	32+40+40	

NOTE:

- ◆ Cooling : Indoor air temperature 27°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
- ◆ Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.
- ◆ Interior Dimensions: L×W×H: 5898×2352×2393,Door Opening W×H: 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2390, Door Opening W×H : 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2697,Door Opening W×H: 2338×2585.

Model (Combined unit)			INV-Pdm1235W3/NaB-M	INV-Pdm1300W3/NaB-M	INV-Pdm1350W3/NaB-M	
Model			INV-Pdm335W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm400W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	
Capacity	Cooling	kW(Btu/h)	123.5(421382)	130.0(443560)	135.0(460620)	
	Heating	kW(Btu/h)	137.5(469150)	145.0(494740)	150.0(511800)	
Noise		dB(A)	65	65	65	
R410A Filling Amount		kg	15+17+17	16+17+17	17+17+17	
Power Supply			380-415V 3N~50Hz	380-415V 3N~50Hz	380-415V 3N~50Hz	
Power input	Cooling	kW	9.23+14.32+14.32	12.45+14.32+14.32	14.32+14.32+14.32	
	Heating	kW	9.38+13.90+13.90	11.2+13.90+13.90	13.90+13.90+13.90	
Rated current	Cooling	A	16.50+25.60+25.60	22.25+25.60+25.60	25.60+25.60+25.60	
	Heating	A	16.77+24.85+24.85	20.02+24.85+24.85	24.85+24.85+24.85	
Dimensions	Width	mm	1340+1340+1340	1340+1340+1340	1340+1340+1340	
	Depth	mm	770+770+770	770+770+770	770+770+770	
	Height	mm	1670+1670+1670	1670+1670+1670	1670+1670+1670	
Compressor			(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) ×3	(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) ×3	(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) ×3	
Moisture protection			IP×4	IP×4	IP×4	
Climate Type			T1	T1	T1	
Connection Pipes	Gas Pipe	mm	Φ 41.3	Φ 41.3	Φ 41.3	
		Inch	13/8	13/8	13/8	
	Liquid Pipe	mm	Φ 19.05	Φ 19.05	Φ 19.05	
		Inch	3/4	3/4	3/4	
		mm	Φ 12.7	Φ 12.7	Φ 12.7	
		Inch	1/2	1/2	1/2	
Connection Method			Brazing Connection	Brazing Connection	Brazing Connection	
Net Weight		kg	350+370+370	350+370+370	370+370+370	
Gross Weight		kg	380+400+400	380+400+400	400+400+400	
Recommended Power Lines	mm ² × number of Lines		6.0×5+10.0×5+10.0×5	6.0×5+10.0×5+10.0×5	10.0×5+10.0×5+10.0×5	
Dimensions of Package	Width	mm	1340+1420+1420	1340+1420+1420	1420+1420+1420	
	Depth	mm	850+850+850	850+850+850	850+850+850	
	Height	mm	1850+1850+1850	1850+1850+1850	1850+1850+1850	
Circuit breaker		A	40+40+40	40+40+40	40+40+40	

NOTE:

- ◆ Cooling : Indoor air temperature 27°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
- ◆ Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.
- ◆ Interior Dimensions: L×W×H: 5898×2352×2393,Door Opening W×H: 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2390, Door Opening W×H : 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2697,Door Opening W×H: 2338×2585.

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Model (Combined unit)			INV-Pdm1405W4/NaB-M	INV-Pdm1456W4/NaB-M	INV-Pdm1512W4/NaB-M	
Model			INV-Pdm280W/NaB-M +INV-Pdm280W/NaB-M +INV-Pdm400W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm280W/NaB-M +INV-Pdm280W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm280W/NaB-M +INV-Pdm335W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	
Capacity	Cooling	kW(Btu/h)	141.0(481092)	146.0(498152)	151.5(516918)	
	Heating	kW(Btu/h)	158.0(539096)	163.0(556156)	169.0(576628)	
Noise		dB(A)	65	65	65	
R410A Filling Amount		kg	13+13+16+17	13+13+17+17	13+15+17+17	
Power Supply			380-415V 3N~50Hz	380-415V 3N~50Hz	380-415V 3N~50Hz	
Power input	Cooling	kW	7.52+7.52+12.45+14.32	7.52+7.52+14.32+14.32	7.52+9.23+14.32+14.32	
	Heating	kW	7.70+7.70+11.2+13.90	7.70+7.70+13.90+13.90	7.70+9.38+13.90+13.90	
Rated current	Cooling	A	13.44+13.44+22.25+25.60	13.44+13.44+25.60+25.60	13.44+16.50+25.60+25.60	
	Heating	A	13.76+13.76+20.02+24.85	16.3+16.3+24.85+24.85	13.76+16.77+24.85+24.85	
Dimensions	Width	mm	930+930+1340+1340	930+930+1340+1340	930+1340+1340+1340	
	Depth	mm	770+770+770+770	770+770+770+770	770+770+770+770	
	Height	mm	1670+1670+1670+1670	1670+1670+1670+1670	1670+1670+1670+1670	
Compressor			(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) ×2	(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) ×2	(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) ×3	
Moisture protection			IP×4	IP×4	IP×4	
Climate Type			T1	T1	T1	
Connection Pipes	Gas Pipe	mm	Φ44.5	Φ44.5	Φ44.5	
		Inch	7/4	7/4	7/4	
	Liquid Pipe	mm	Φ22.2	Φ22.2	Φ22.2	
		Inch	7/8	7/8	7/8	
		mm	Φ12.7	Φ12.7	Φ12.7	
		Inch	1/2	1/2	1/2	
Connection Method			Brazing Connection	Brazing Connection	Brazing Connection	
Net Weight		kg	255+255+350+370	255+255+370+370	255+350+370+370	
Gross Weight		kg	275+275+380+400	275+275+400+400	275+380+400+400	
Recommended Power Lines	$\text{mm}^2 \times$ number of Lines		6.0×5+6.0×5+10.0×5 +10.0×5	6.0×5+10.0×5+10.0×5 +10.0×5	6.0×5+6.0×5+10.0×5 +10.0×5	
Dimensions of Package	Width	mm	1010+1010+1420+1420	1010+1010+1420+1420	1010+1420+1420+1420	
	Depth	mm	850+850+850+850	850+850+850+850	850+850+850+850	
	Height	mm	1850+1850+1850+1850	1850+1850+1850+1850	1850+1850+1850+1850	
Circuit breaker		A	32+32+40+40	32+32+40+40	32+32+40+40	

NOTE:

- ◆ Cooling : Indoor air temperature 27°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
- ◆ Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.
- ◆ Interior Dimensions: L×W×H: 5898×2352×2393,Door Opening W×H: 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2390,Door Opening W×H : 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2697,Door Opening W×H: 2338×2585.

Model (Combined unit)			INV-Pdm1570W4/NaB-M	INV-Pdm1650W4/NaB-M	INV-Pdm1700W4/NaB-M	
Model			INV-Pdm280W/NaB-M +INV-Pdm400W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm280W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm335W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	
Capacity	Cooling	kW(Btu/h)	155.0(528860)	163.0(556156)	168.5(574922)	
	Heating	kW(Btu/h)	176.5(602218)	181.5(619278)	187.5(639750)	
Noise		dB(A)	65	66	66	
R410A Filling Amount		kg	13+16+17+17	13+17+17+17	15+17+17+17	
Power Supply			380-415V 3N~50Hz	380-415V 3N~50Hz	380-415V 3N~50Hz	
Power input	Cooling	kW	7.52+12.45+14.32+14.32	7.52+14.32+14.32+14.32	9.23+14.32+14.32+14.32	
	Heating	kW	7.70+11.2+13.90+13.90	7.70+13.90+13.90+13.90	9.38+13.90+13.90+13.90	
Rated current	Cooling	A	13.44+22.25+25.60+25.60	13.44+25.60+25.60+25.60	16.50+25.60+25.60+25.60	
	Heating	A	13.76+20.02+24.85+24.85	13.76+24.85+24.85+24.85	16.77+24.85+24.85+24.85	
Dimensions	Width	mm	930+1340+1340+1340	930+1340+1340+1340	1340+1340+1340+1340	
	Depth	mm	770+770+770+770	770+770+770+770	770+770+770+770	
	Height	mm	1670+1670+1670+1670	1670+1670+1670+1670	1670+1670+1670+1670	
Compressor			(D.C.Inverter Scroll type compressor +constant speed scroll compressor) +(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) ×3	(D.C.Inverter Scroll type compressor +constant speed scroll compressor)+(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) ×3	(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) ×4	
Moisture protection			IP×4	IP×4	IP×4	
Climate Type			T1	T1	T1	
Connection Pipes	Gas Pipe	mm	Φ44.5	Φ54.1	Φ54.1	
		Inch	7/4	17/8	17/8	
	Liquid Pipe	mm	Φ22.2	Φ25.4	Φ25.4	
		Inch	7/8	1	1	
		mm	Φ12.7	Φ12.7	Φ12.7	
		Inch	1/2	1/2	1/2	
Connection Method			Brazing Connection	Brazing Connection	Brazing Connection	
Net Weight		kg	255+350+370+370	255+370+370+370	350+370+370+370	
Gross Weight		kg	275+380+400+400	275+400+400+400	380+400+400+400	
Recommended Power Lines	mm ² × number of Lines		6.0×5+10.0×5+10.0×5 +10.0×5	6.0×5+10.0×5+10.0×5 +10.0×5	10.0×5+10.0×5+10.0×5 +10.0×5	
Dimensions of Package	Width	mm	1010+1420+1420+1420	1010+1420+1420+1420	1420+1420+1420+1420	
	Depth	mm	850+850+850+850	850+850+850+850	850+850+850+850	
	Height	mm	1850+1850+1850+1850	1850+1850+1850+1850	1850+1850+1850+1850	
Circuit breaker		A	32+40+40+40	32+40+40+40	40+40+40+40	

NOTE:

- ◆ Cooling : Indoor air temperature 27°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
- ◆ Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.
- ◆ Interior Dimensions: L×W×H: 5898×2352×2393,Door Opening W×H: 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2390, Door Opening W×H : 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2697,Door Opening W×H: 2338×2585.

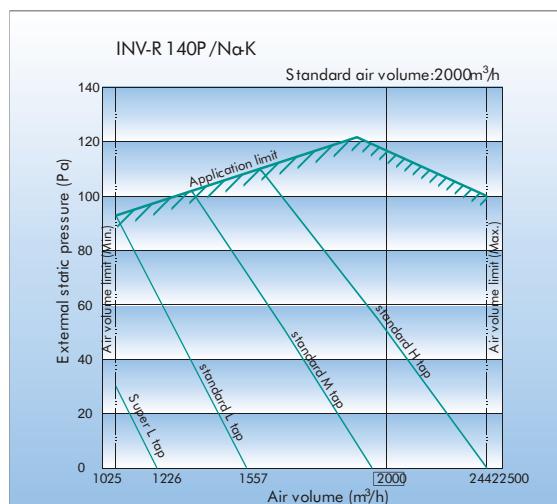
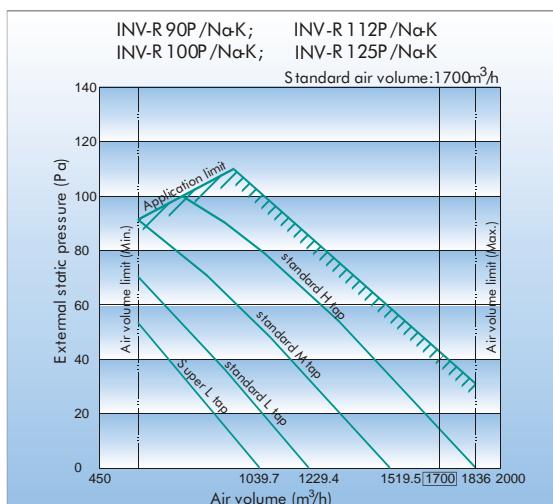
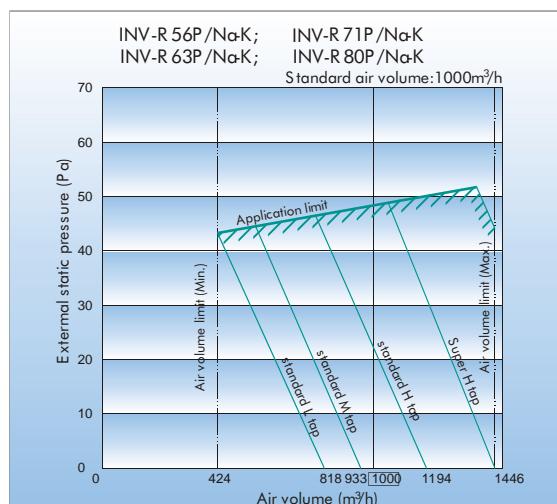
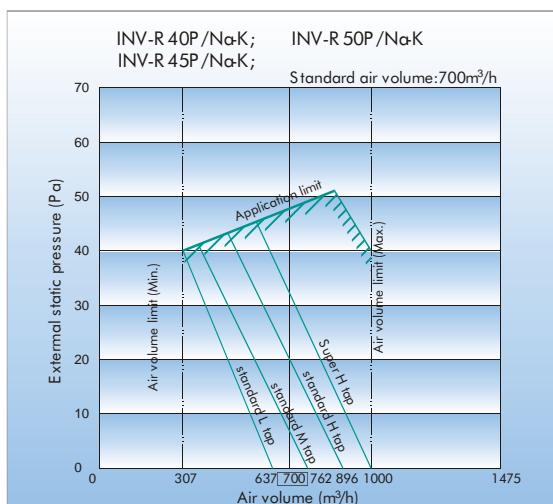
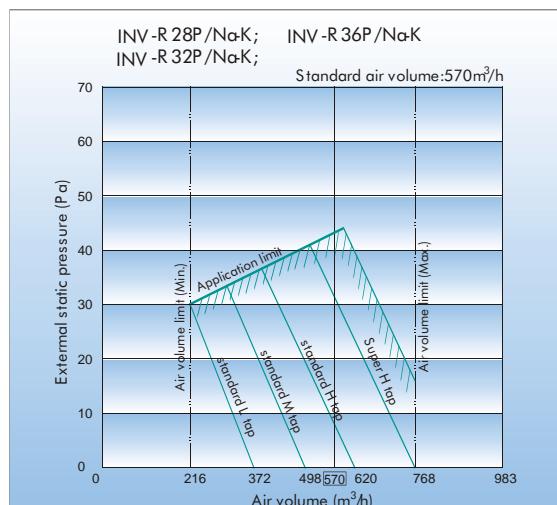
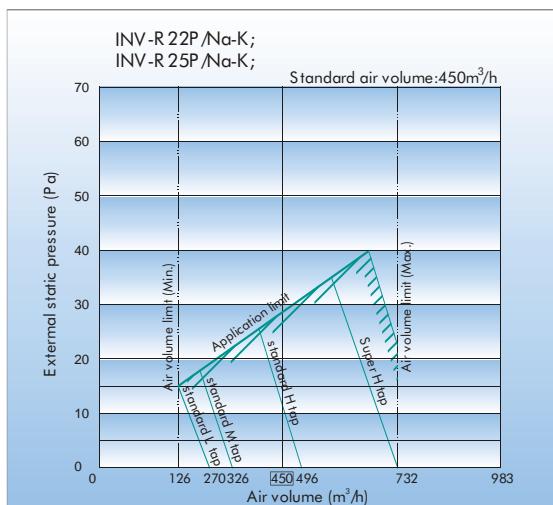
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Model (Combined unit)			INV-Pdm1750W4/NaB-M	INV-Pdm1800W4/NaB-M	
Model			INV-Pdm400W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M +INV-Pdm450W/NaB-M	
Capacity	Cooling	kW(Btu/h)	175.0(597100)	180.0(614160)	
	Heating	kW(Btu/h)	195.0(665340)	200.0(682400)	
Noise		dB(A)	65	66	
R410A Filling Amount		kg	16+17+17+17	17+17+17+17	
Power Supply			380-415V 3N~50Hz	380-415V 3N~50Hz	
Power input	Cooling	kW	12.45+14.32+14.32+14.32	14.32+14.32+14.32+14.32	
	Heating	kW	11.2+13.90+13.90+13.90	13.90+13.90+13.90+13.90	
Rated current	Cooling	A	22.25+25.60+25.60+25.60	25.60+25.60+25.60+25.60	
	Heating	A	20.02+24.85+24.85+24.85	24.85+24.85+24.85+24.85	
Dimensions	Width	mm	1340+1340+1340+1340	1340+1340+1340+1340	
	Depth	mm	770+770+770+770	770+770+770+770	
	Height	mm	1670+1670+1670+1670	1670+1670+1670+1670	
Compressor			(D.C.Inverter Scroll type compressor +constant speed scroll compressor×2) ×4	(D.C.Inverter Scroll type compressor×1 +constant speed scroll compressor×2) ×4	
Moisture protection			IP×4	IP×4	
Climate Type			T1	T1	
Connection Pipes	Gas Pipe	mm	Φ 54.1	Φ 54.1	
		Inch	17/8	17/8	
	Liquid Pipe	mm	Φ 22.2	Φ 25.4	
		Inch	7/8	1	
		mm	Φ 12.7	Φ 12.7	
		Inch	1/2	1/2	
Connection Method			Brazing Connection	Brazing Connection	
Net Weight		kg	250+370+370+370	370+370+370+370	
Gross Weight		kg	380+400+400+400	400+400+400+400	
Recommended Power Lines	mm ² × number of Lines		10.0×5+10.0×5+10.0×5 +10.0×5	10.0×5+10.0×5+10.0×5 +10.0×5	
Dimensions of Package	Width	mm	1420+1420+1420+1420	1420+1420+1420+1420	
	Depth	mm	850+850+850+850	850+850+850+850	
	Height	mm	1850+1850+1850+1850	1850+1850+1850+1850	
Circuit breaker		A	40+40+40+40	40+40+40+40	

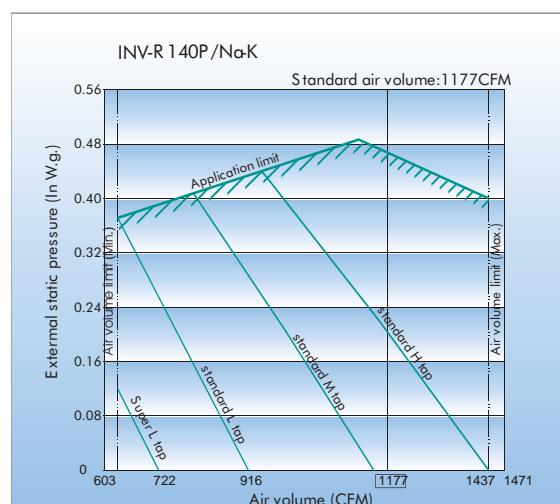
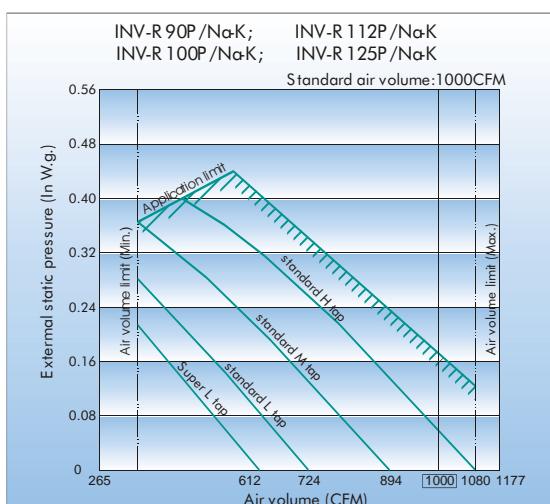
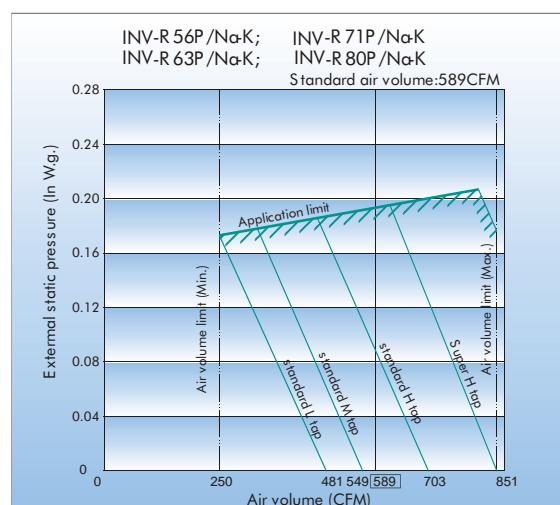
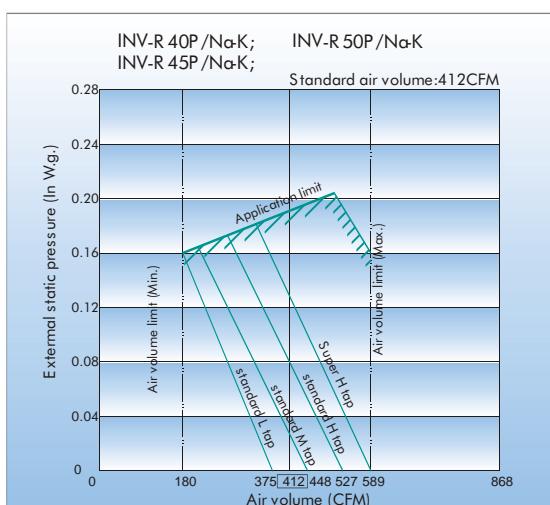
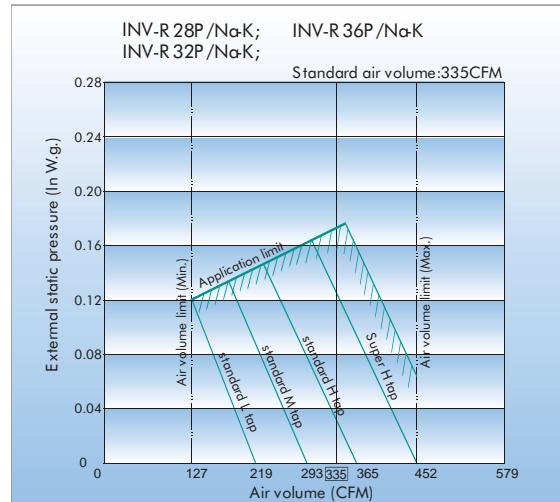
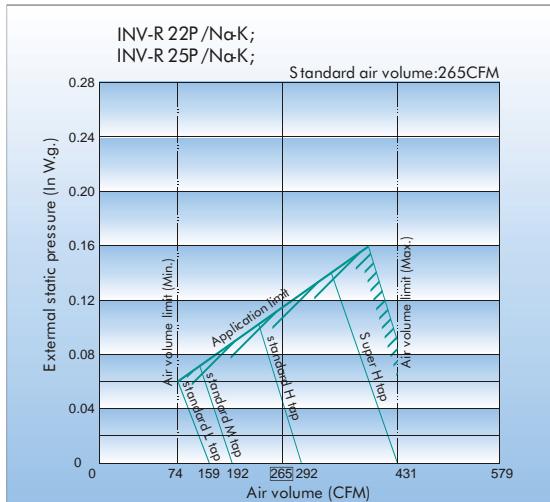
NOTE:

- ◆ Cooling : Indoor air temperature 27°C (80.6°F) DB/19°C (66.2°F) WB , Outdoor air temperature 35°C (95°F) DB/24°C (75.2°F) WB.
- ◆ Heating : Indoor air temperature 20°C (68°F) DB/15°C (59°F) WB , Outdoor air temperature 7°C (44.6°F) DB/6°C (42.8°F) WB.
- ◆ Interior Dimensions: L×W×H: 5898×2352×2393,Door Opening W×H: 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2390, Door Opening W×H : 2343×2280;
- ◆ Interior Dimensions: L×W×H: 12032×2350×2697,Door Opening W×H: 2338×2585.

9 FAN CHARACTERISTICS



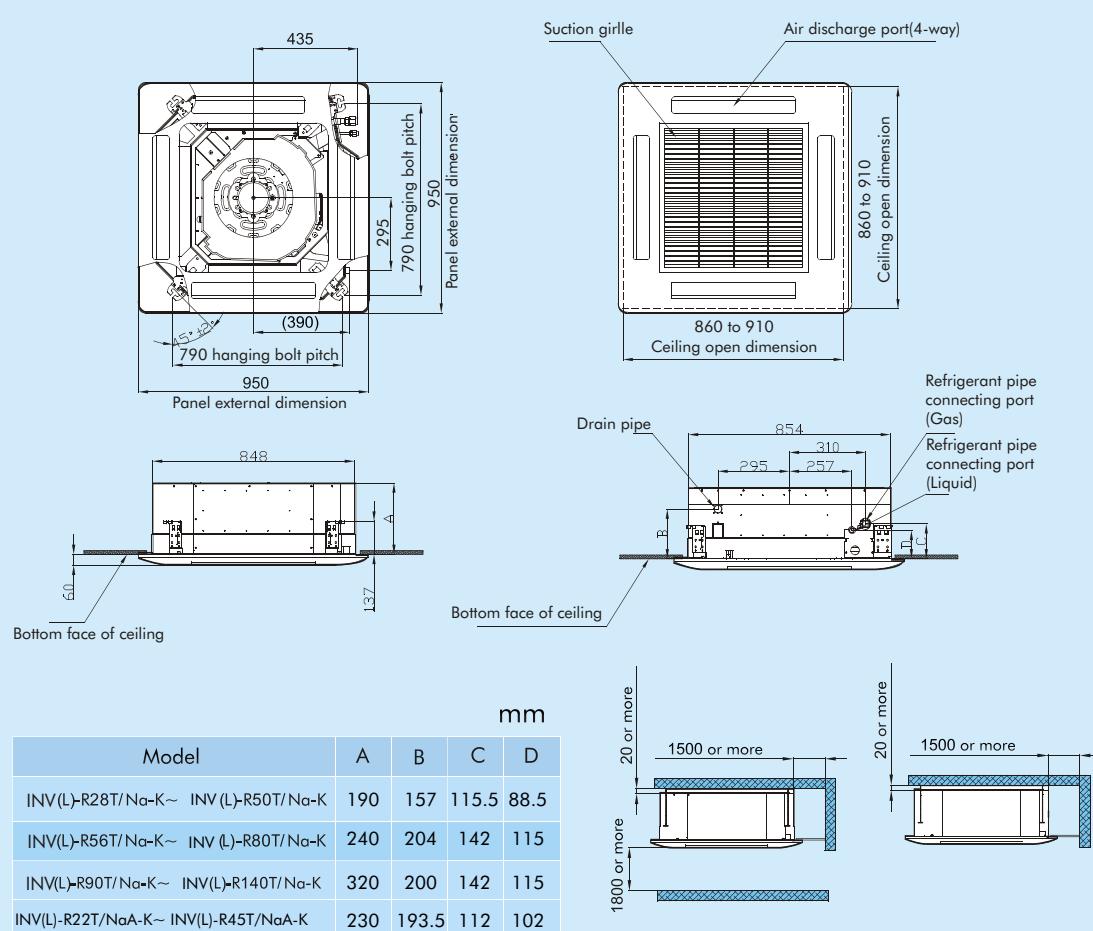
DC Inverter Multi VRF Technical Sales Guide



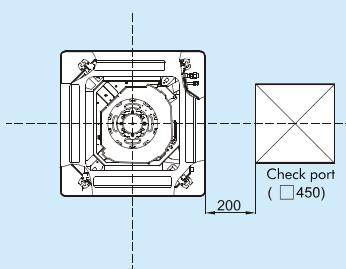
10 DIMENSIONAL DRAWINGS

10.1 Indoor Unit

◆ 4-way Air Discharge Cassette Type



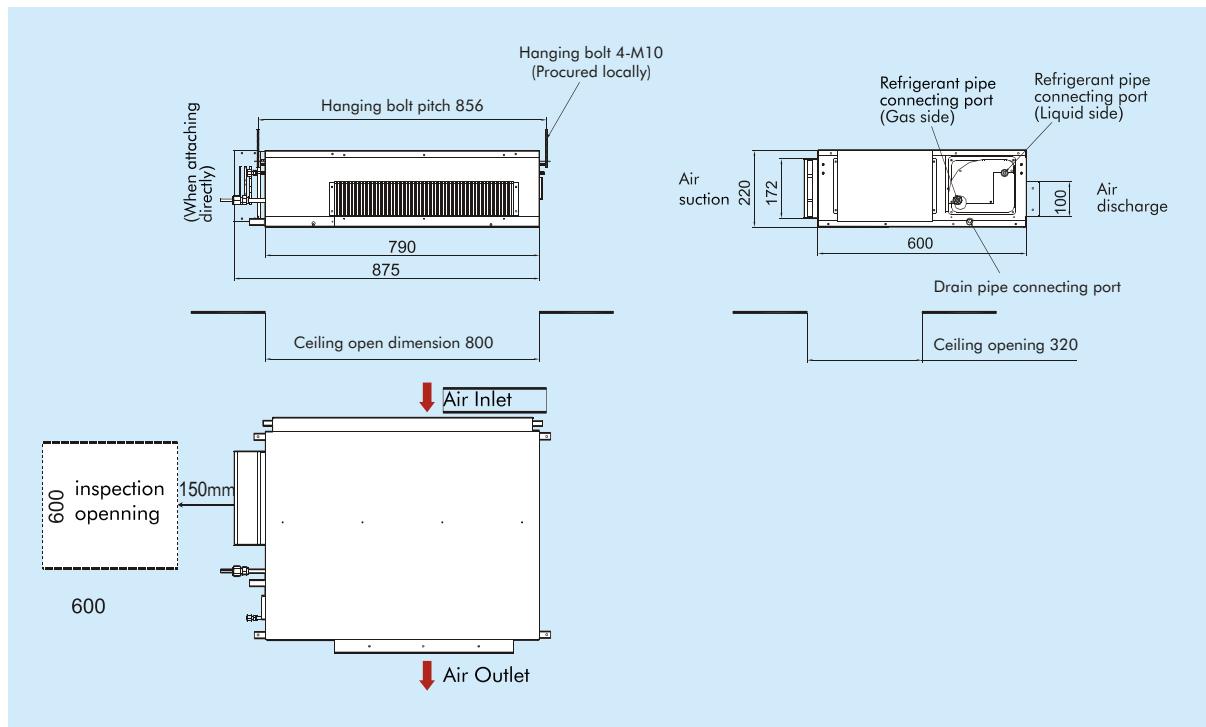
Space required for installation and servicing



◆ Duct Type

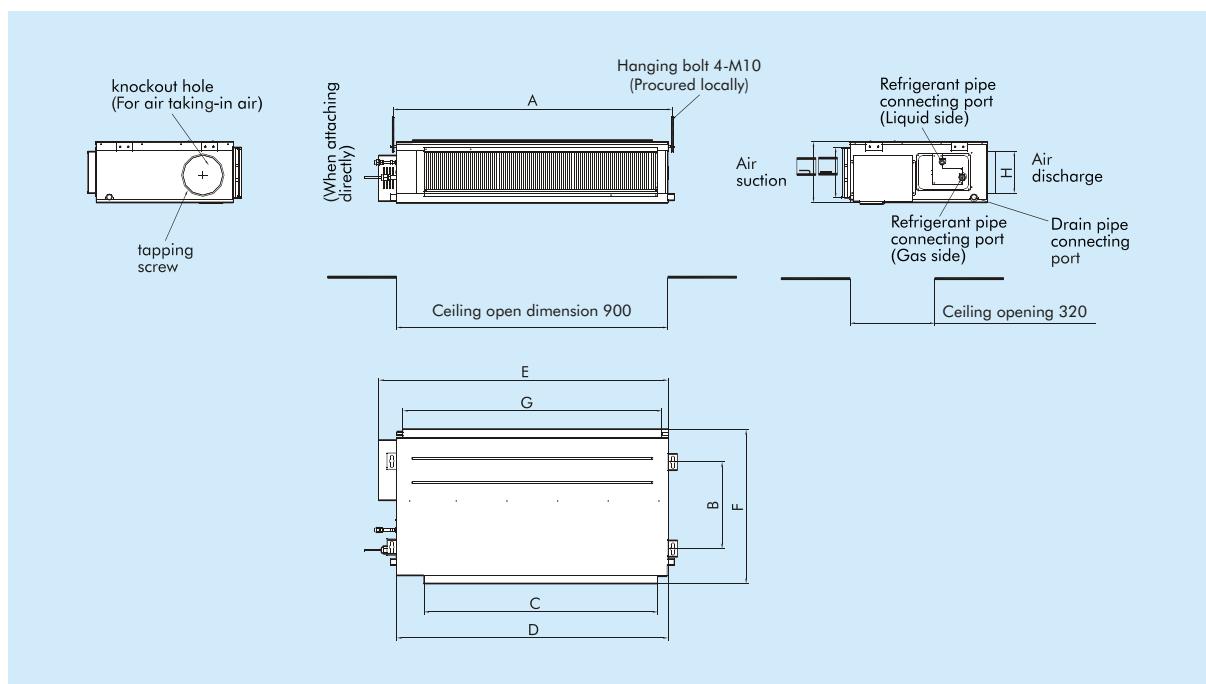
Dimensions for:

INV(L)-R22P/Na-K; INV(L)-R25P/Na-K; INV(L)-R28P/Na-K; INV(L)-R32P/Na-K; INV(L)



Dimensions for :

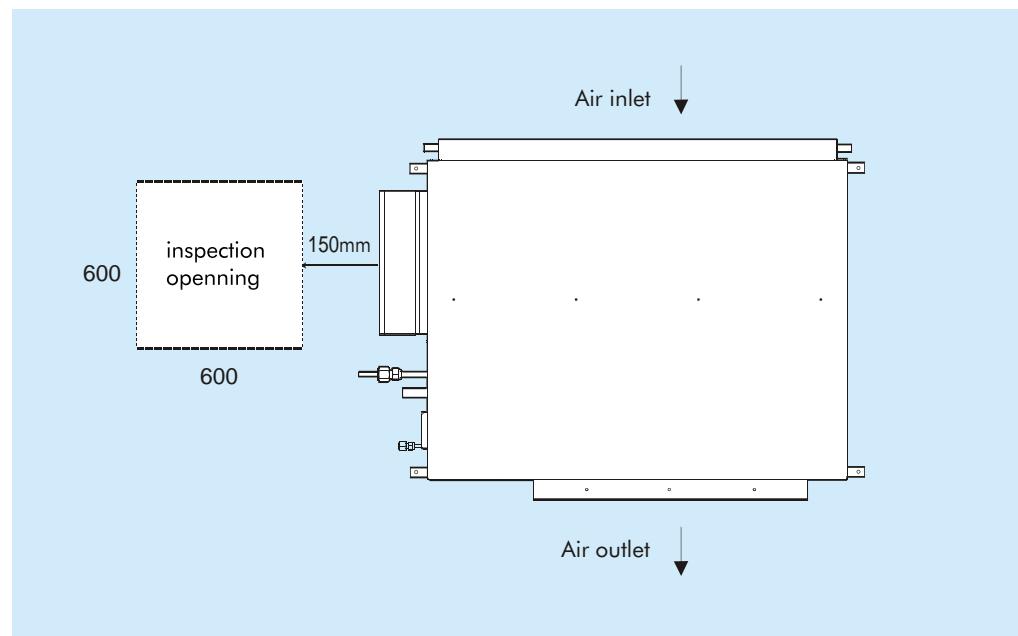
INV(L)-R40P/Na-K; INV(L)-R45P/Na-K; INV(L)-R50P/Na-K; INV(L)-R56P/Na-K; INV(L)-R63P/Na-K; INV(L)-R71P/Na-K; INV(L)-R80P/Na-K; INV(L)-R90P/Na-K; INV(L)-R100P/Na-K; INV(L)-R112P/Na-K; INV(L)-R125P/Na-K; INV(L)-R140P/Na-K



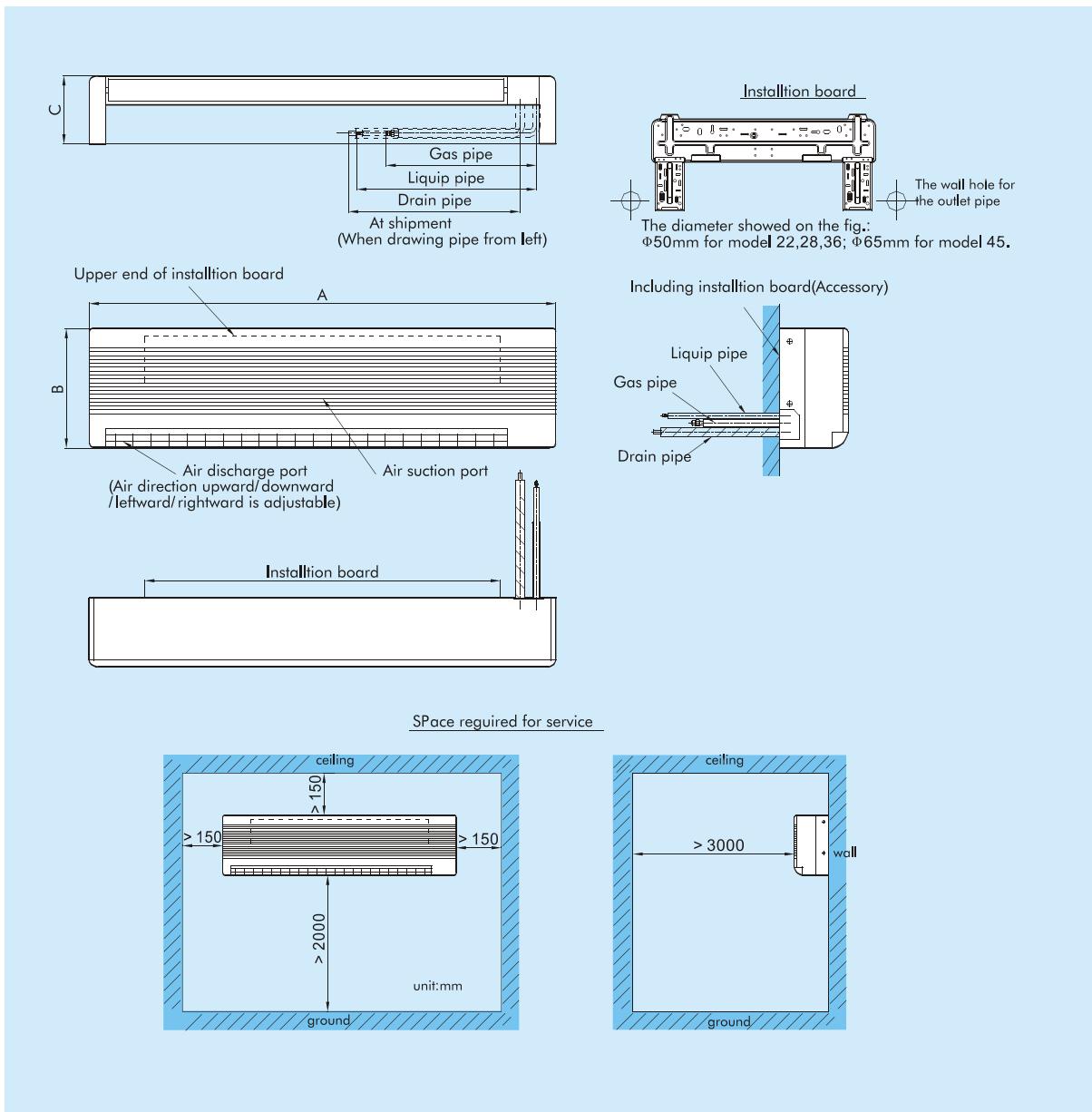
model	A	B	C	D	E	F	G	H	I	J
INV(L)-R40P/Na-K INV(L)-R45P/Na-K INV(L)-R50P/Na-K	932	430	738	892	980	736	738	125	203	266
INV(L)-R56P/Na-K INV(L)-R63P/Na-K INV(L)-R71P/Na-K INV(L)-R80P/Na-K	1114	420	918	1074	1159	736	918	207	207	260
INV(L)-R90P/Na-K INV(L)-R100P/Na-K INV(L)-R112P/Na-K	1350	430	1155	1310	1385	736	1155	207	207	260
INV(L)-R140P/Na-K	1382	420	1155	1340	1425	756	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.

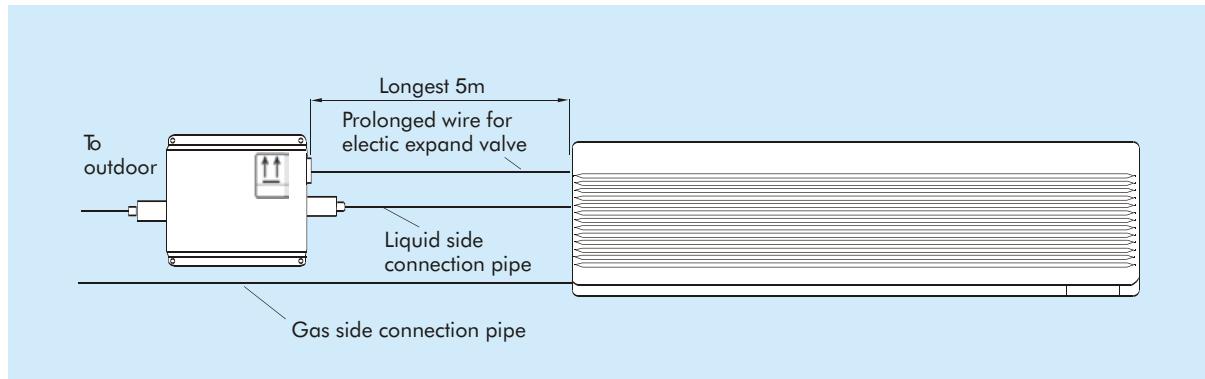


◆ Wall-mounted Type

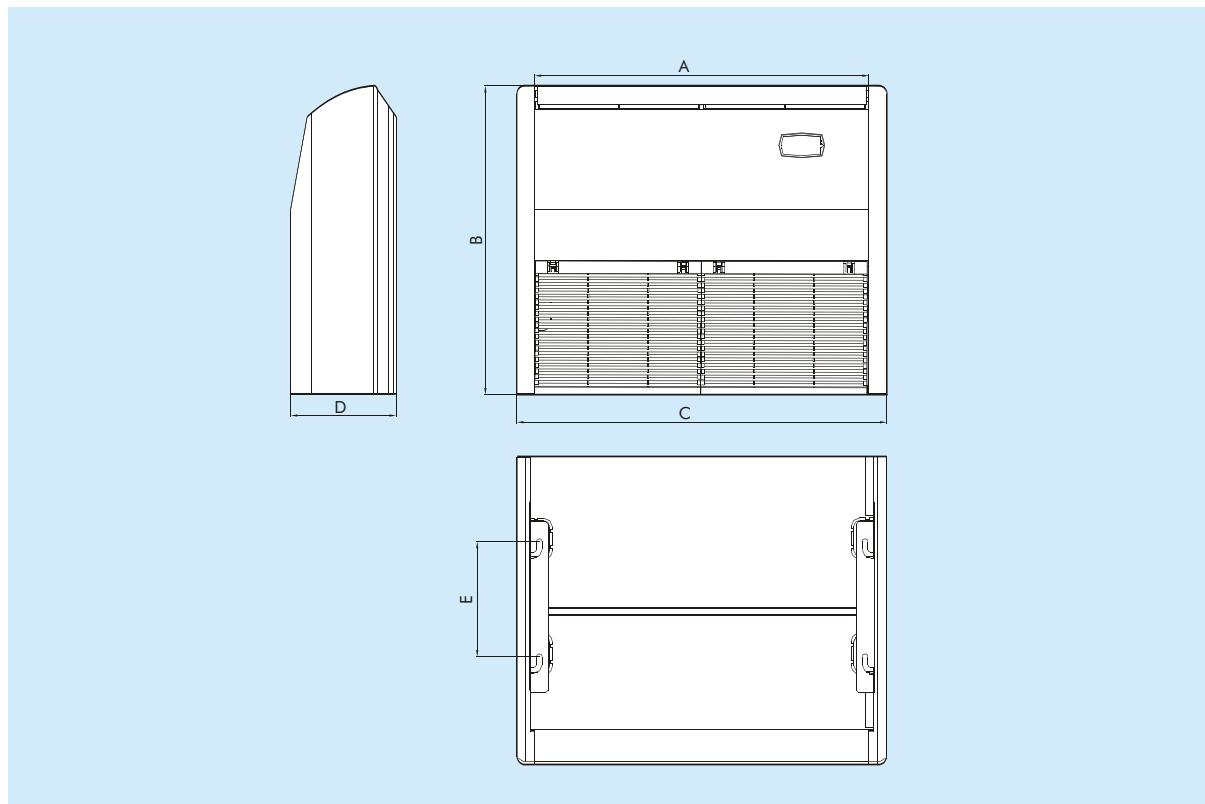


Model	Dimension			Model	Dimension		
	A	B	C		A	B	C
INV(L)-R22G/NaB-K INV(L)-R28G/NaB-K	770	250	190	INV(L)-R36G/NaB-K INV(L)-R45G/NaB-K	830	285	189
INV(L)-R50G/NaB-K INV(L)-R56G/NaB-K	1020	310	228	INV(L)-R71G/Na-K INV(L)-R80G/Na-K	1178	326	227

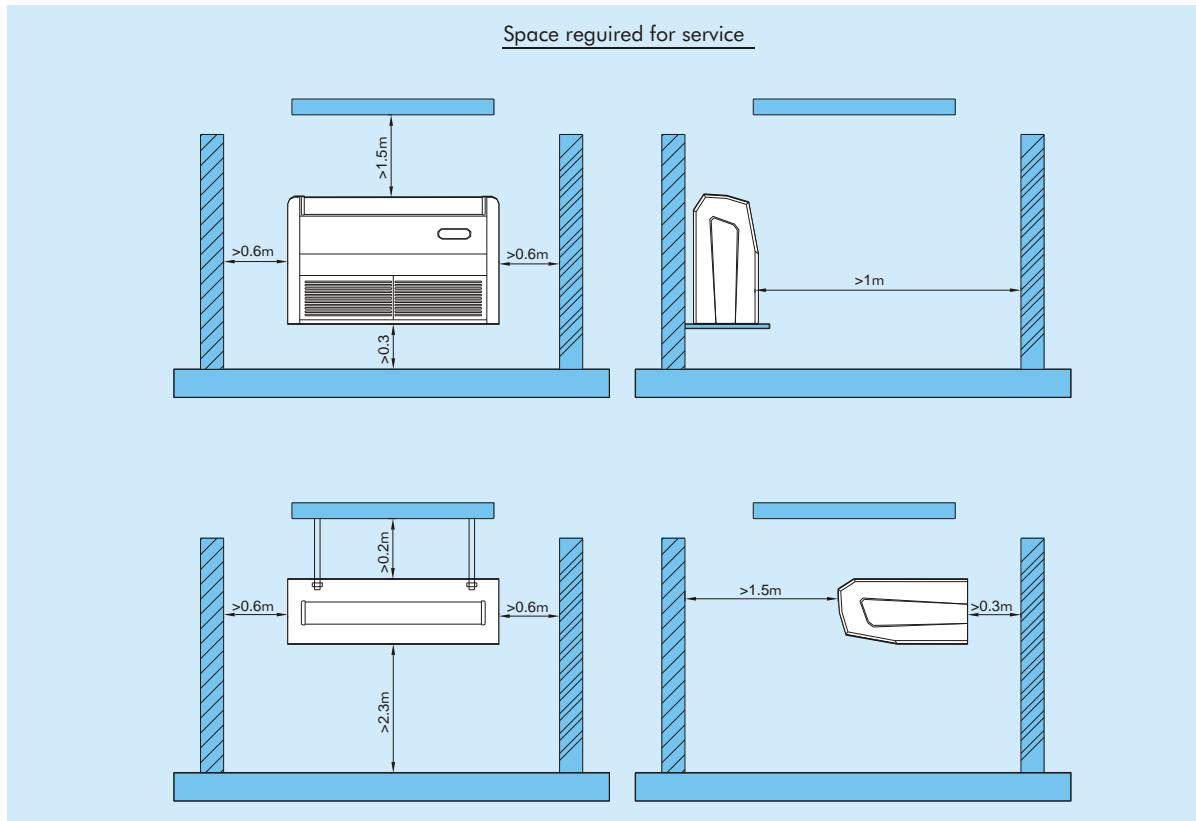
Connect silencing box with liquid side pipe of indoor unit by connection pipe, and also connect it with liquid side pipe of outdoor unit, tighten the connection pipe with joint nut.



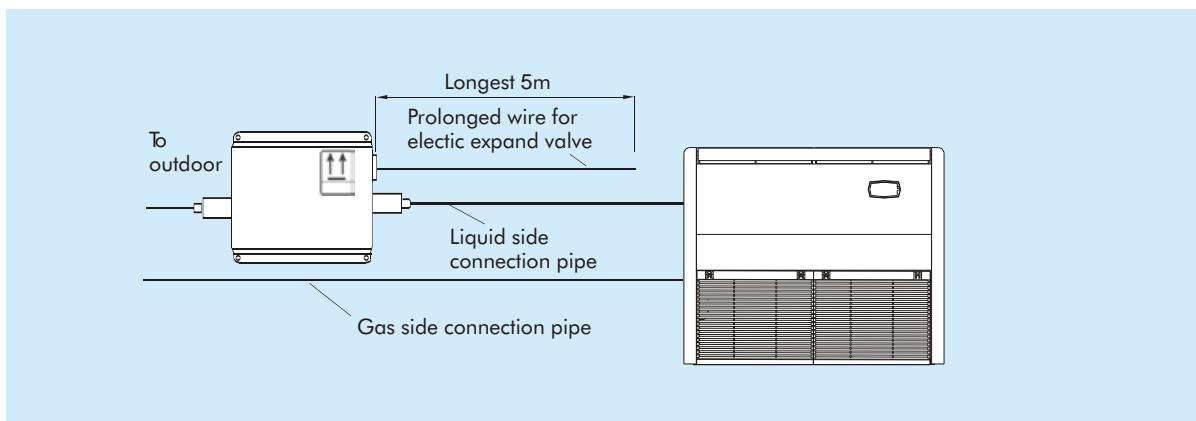
◆ Ceiling Type



Model	A	B	C	D	E
INV(L)-R28Zd/Na-K	745	695	840	238	260
INV(L)-R36Zd/Na-K	745	695	840	238	260
INV(L)-R50Zd/Na-K	745	695	840	238	260
INV(L)-R71Zd/Na-K	1220	600	1300	188	260
INV(L)-R90Zd/Na-K	1500	695	1590	238	260
INV(L)-R112Zd/Na-K	1500	695	1590	238	260
INV(L)-R125Zd/Na-K	1500	695	1590	238	260



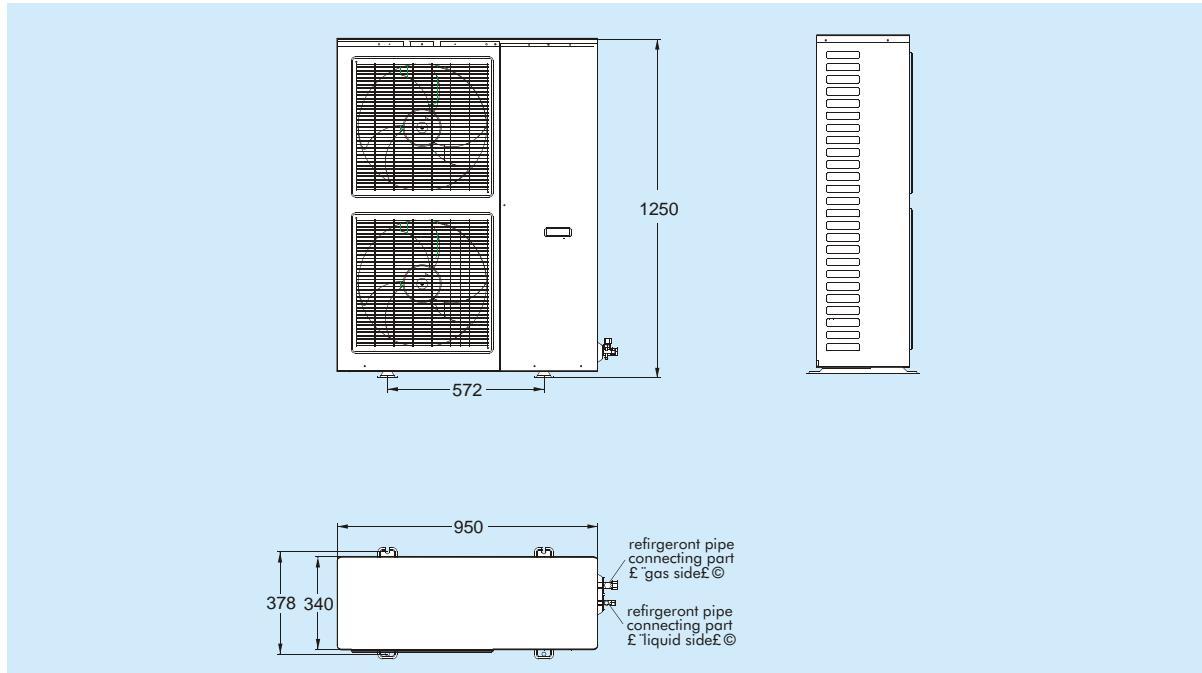
Connect silencing box with liquid side pipe of indoor unit by connection pipe, and also connect it with liquid side pipe of outdoor unit, tighten the connection pipe with joint nut.



10.2 Outdoor Unit



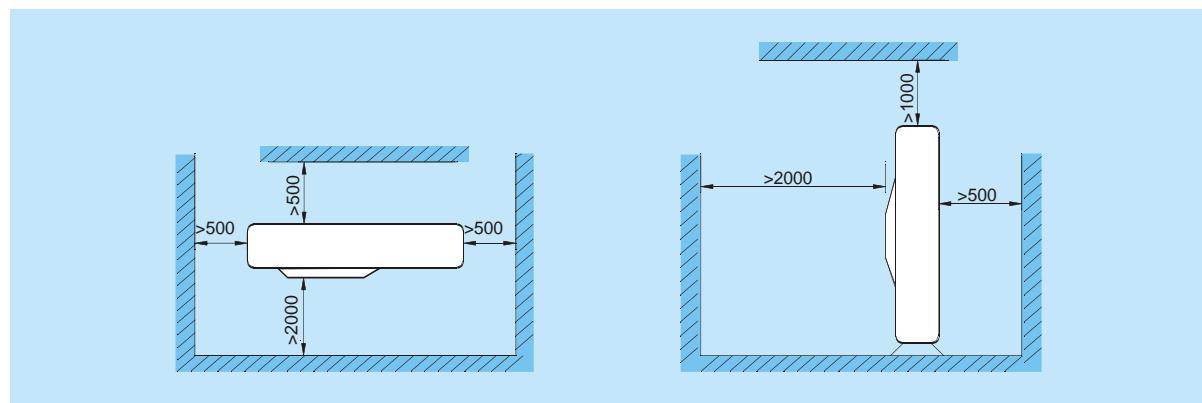
INV(L)-Pd100W/NaB-K;INV(L)-Pd120W/NaB-K;INV(L)-Pd140W/NaB-K;INV(L)-Pd160W/NaB-K;



During installation, tighten the support and base of the unit by using M12 screws.

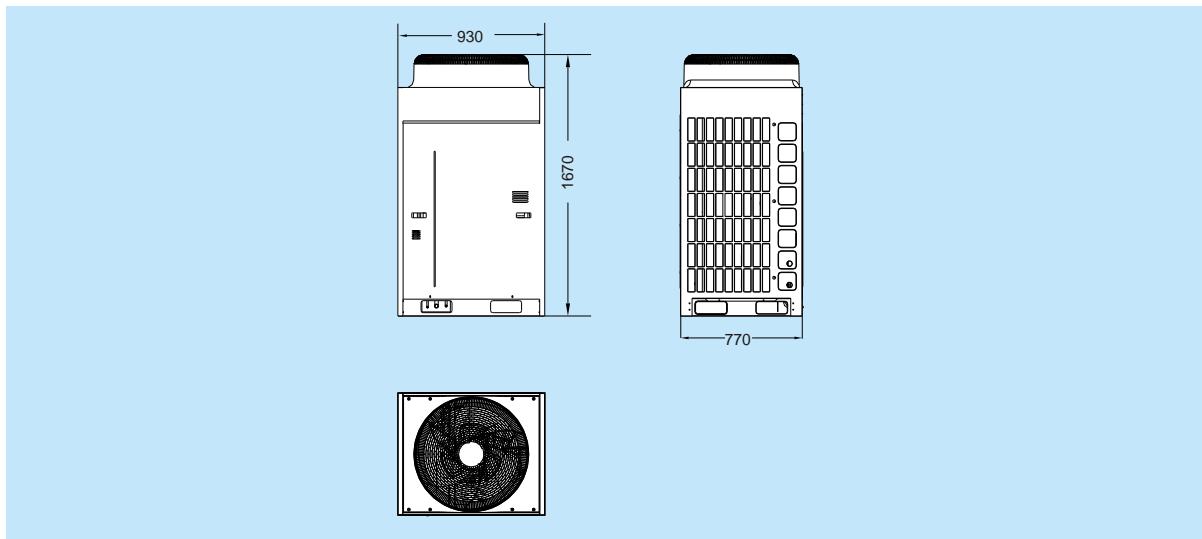
Outdoor unit shall be installed on a concrete base 10cm high.

Space dimension for installation of the unit is shown below.

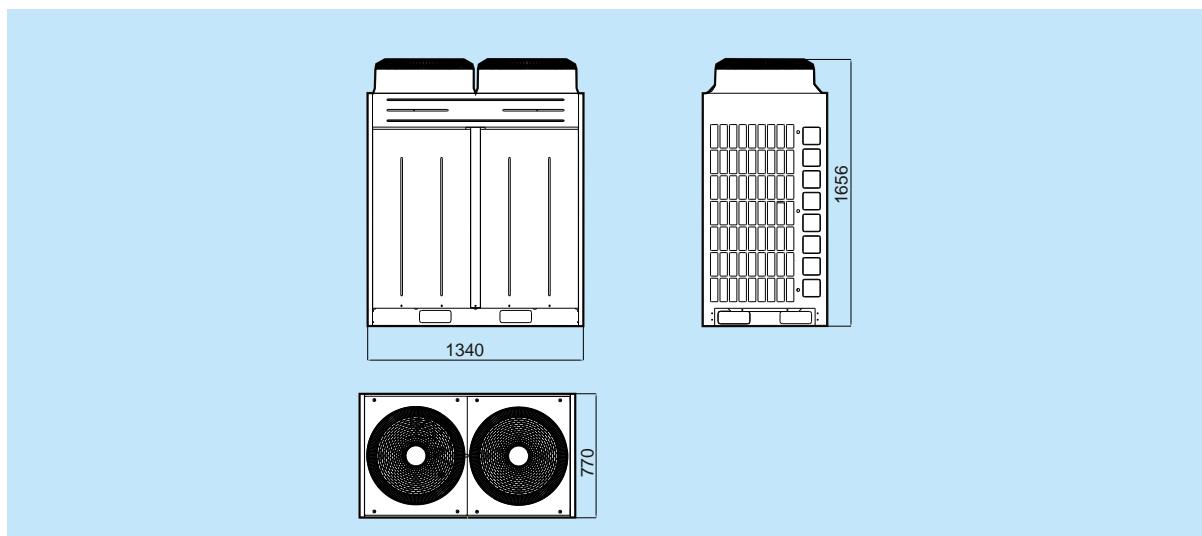


DC Inverter Multi VRF Technical Sales Guide

Outline dimension drawing of INV-Pdm224W/NaB-M , INV-Pdm280W/NaB-M

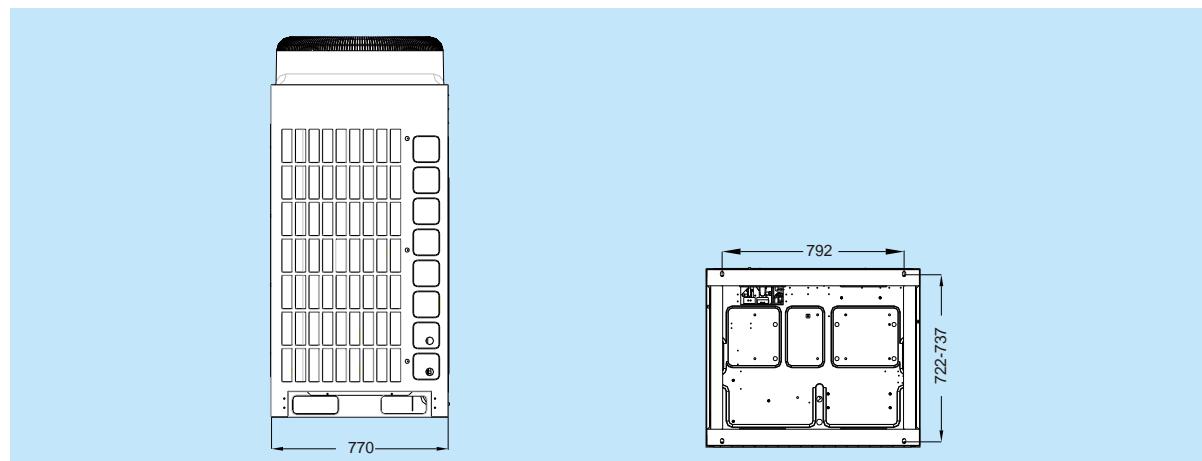


Outline of INV-Pdm335W/NaB-M INV-Pdm400W/NaB-M INV-Pdm450W/NaB-M

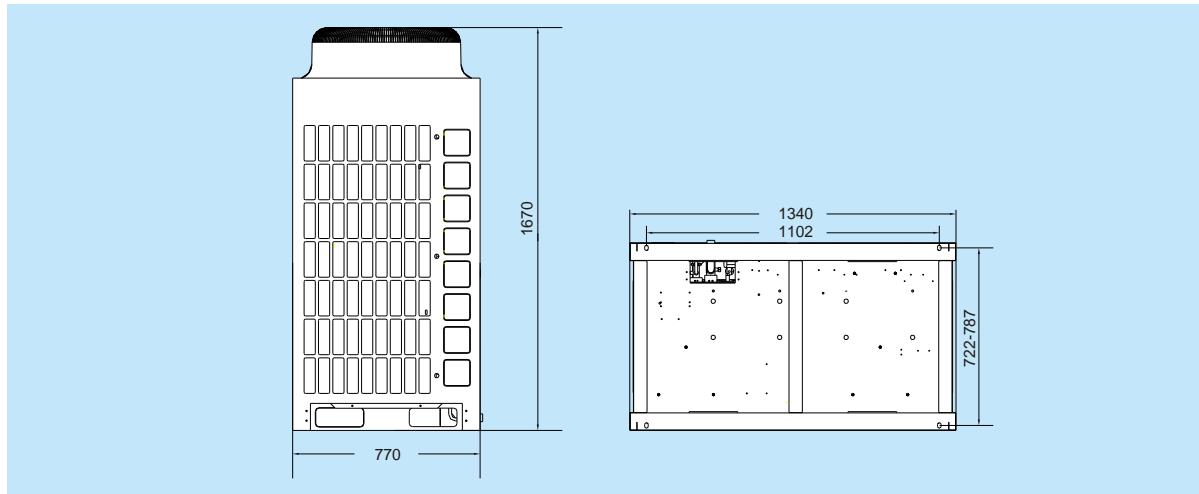


Outdoor Unit Installation Holes

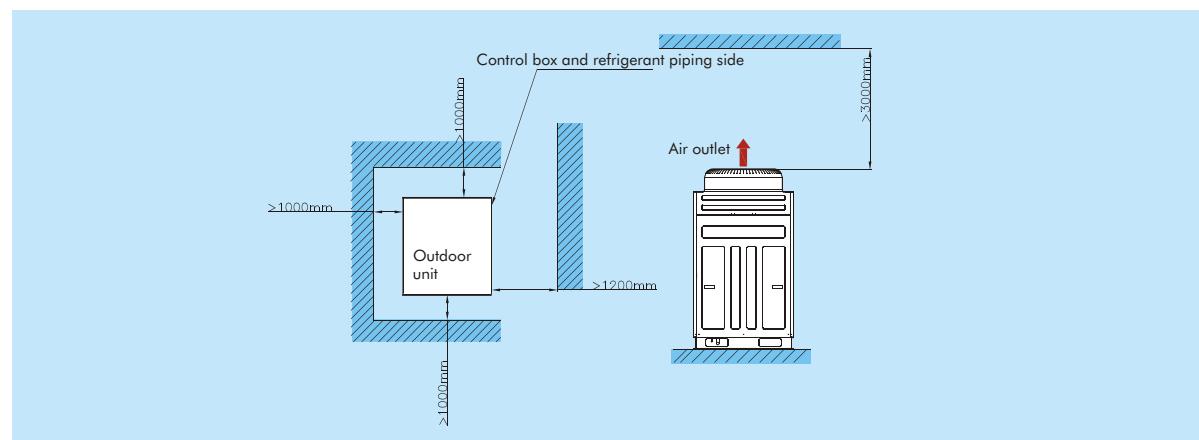
INV-Pdm224W/NaB-M , INV-Pdm280W/NaB-M Outdoor Unit Installation Holes



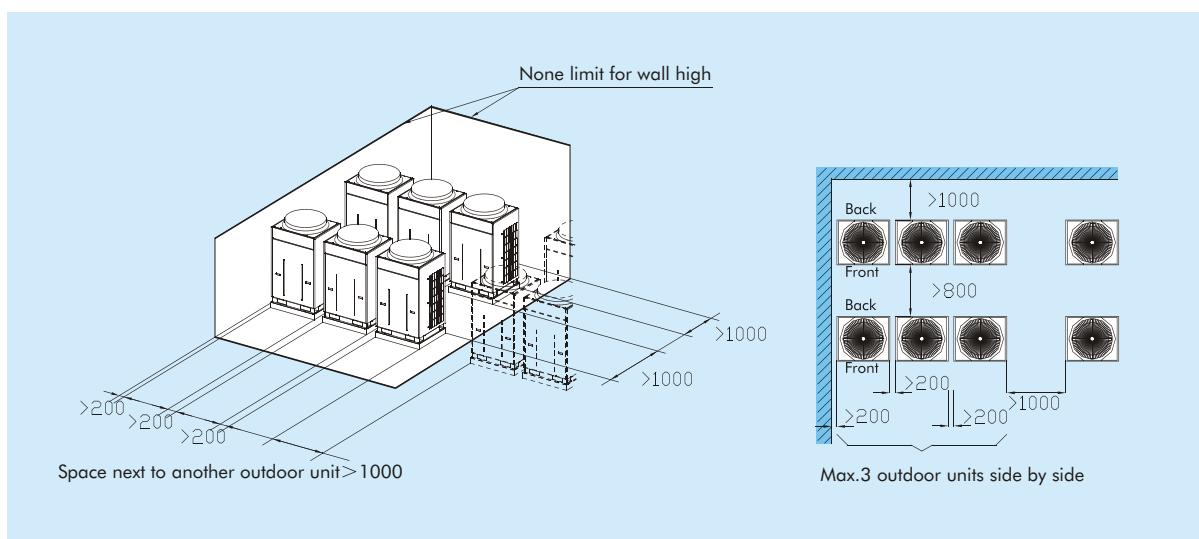
INV-Pdm335W/NaB-M , INV-Pdm400W/NaB-M , INV-Pdm450W/NaB-M
Outdoor Unit Installation Holes



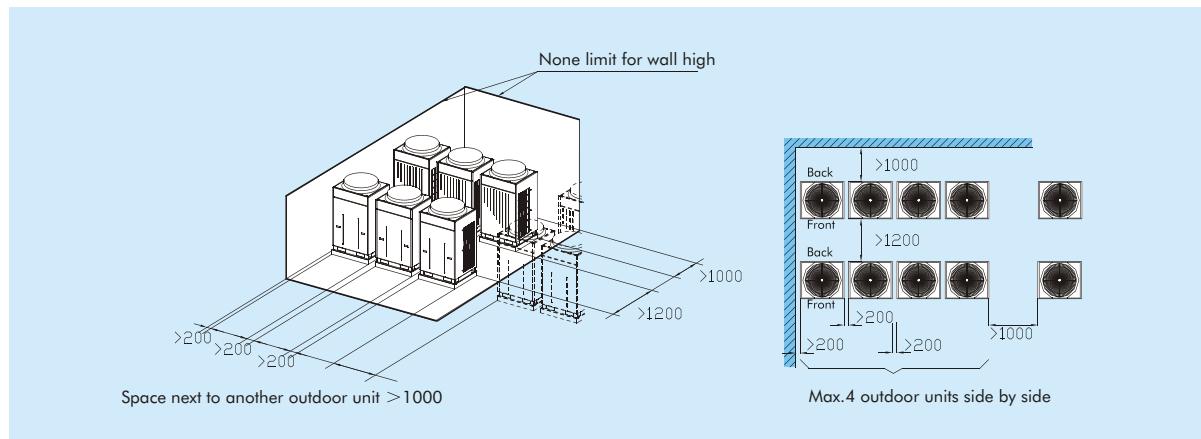
Installation space dimension for stand-alone:



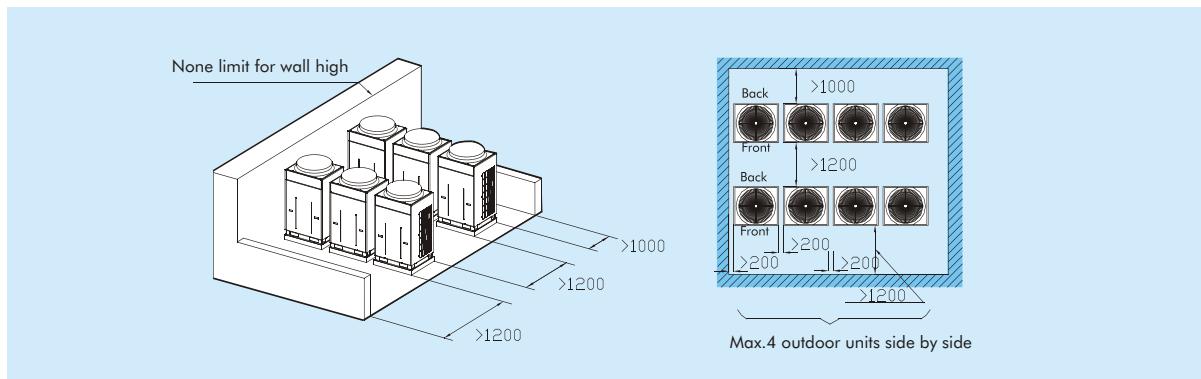
Installation space dimension for several units:



Installation space dimension for several units back to back:

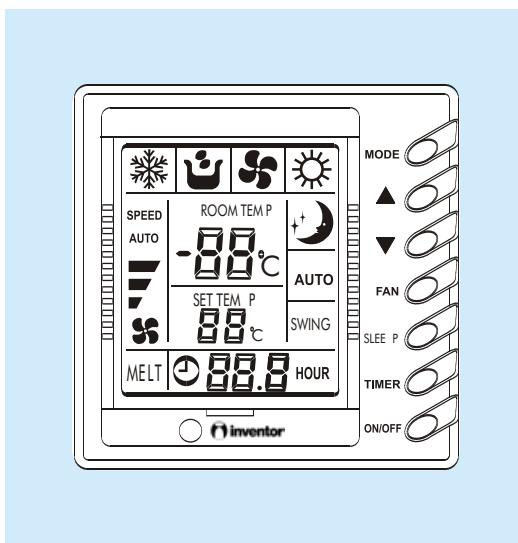


Under the circumstance that the units are surrounded by walls, the installation facing to the same direction is suggested



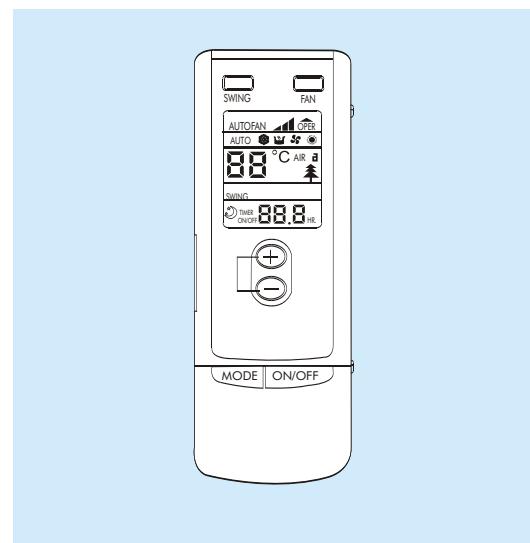
10.3 Controller

◆ Wired Remote Controller



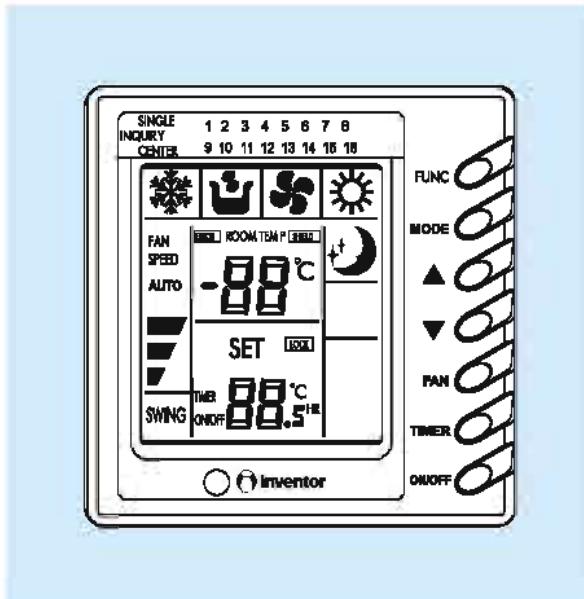
Outline size: 85mm × 85mm × 21mm

◆ Wireless Remote Controller



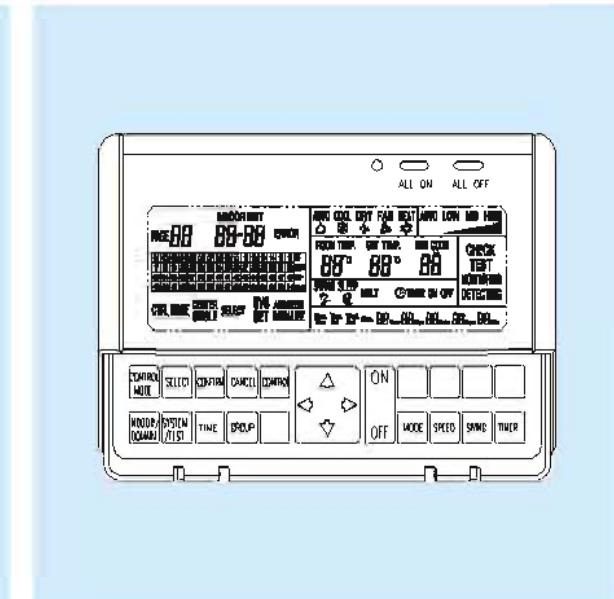
Outline size: 160 mm × 57mm × 22mm

◆ Region Controller



Outline size: 85mm × 85mm × 21mm

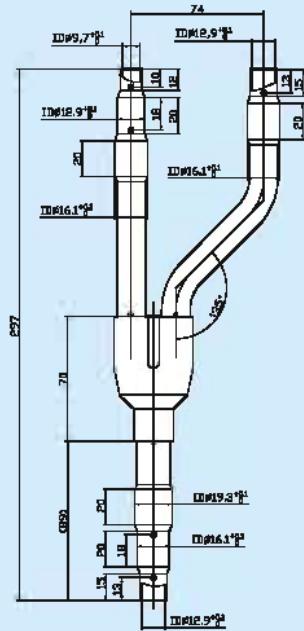
◆ Central Remote Controller



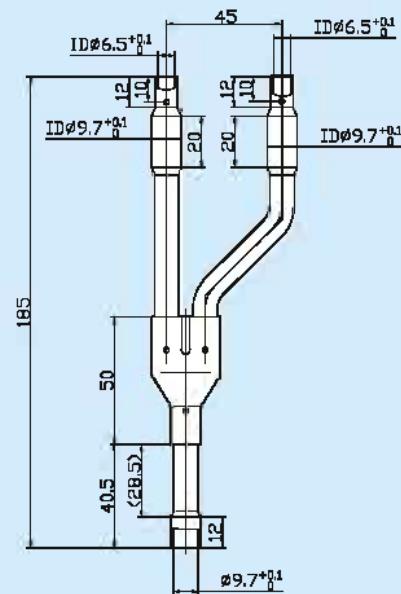
Outline size: 185 mm × 135mm × 70mm

 **FQ01A/A**

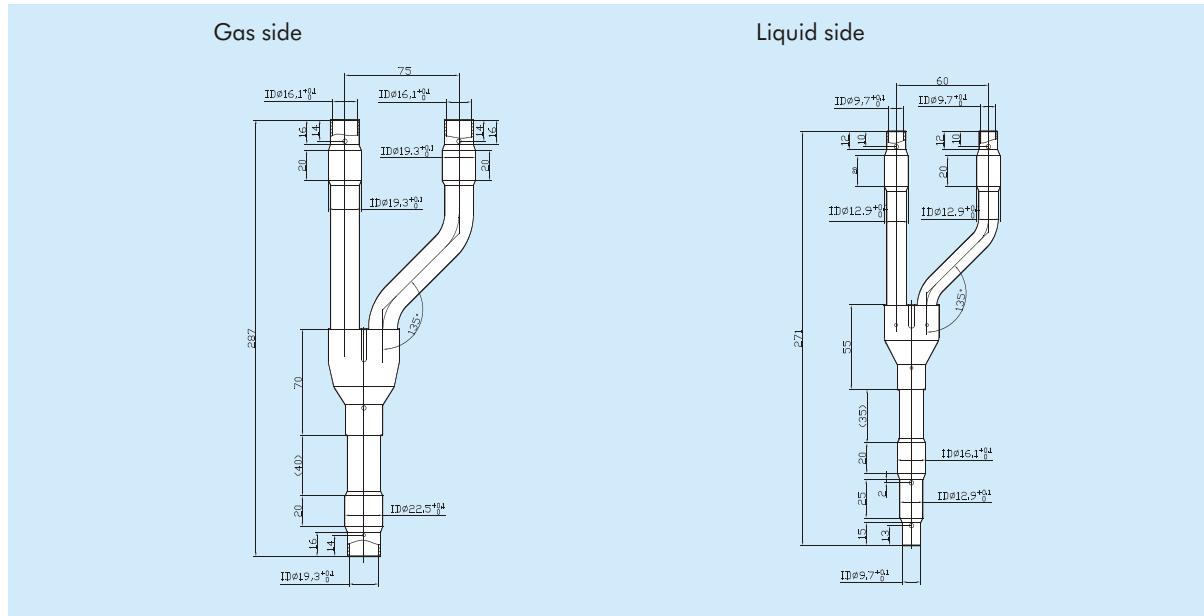
Gas side



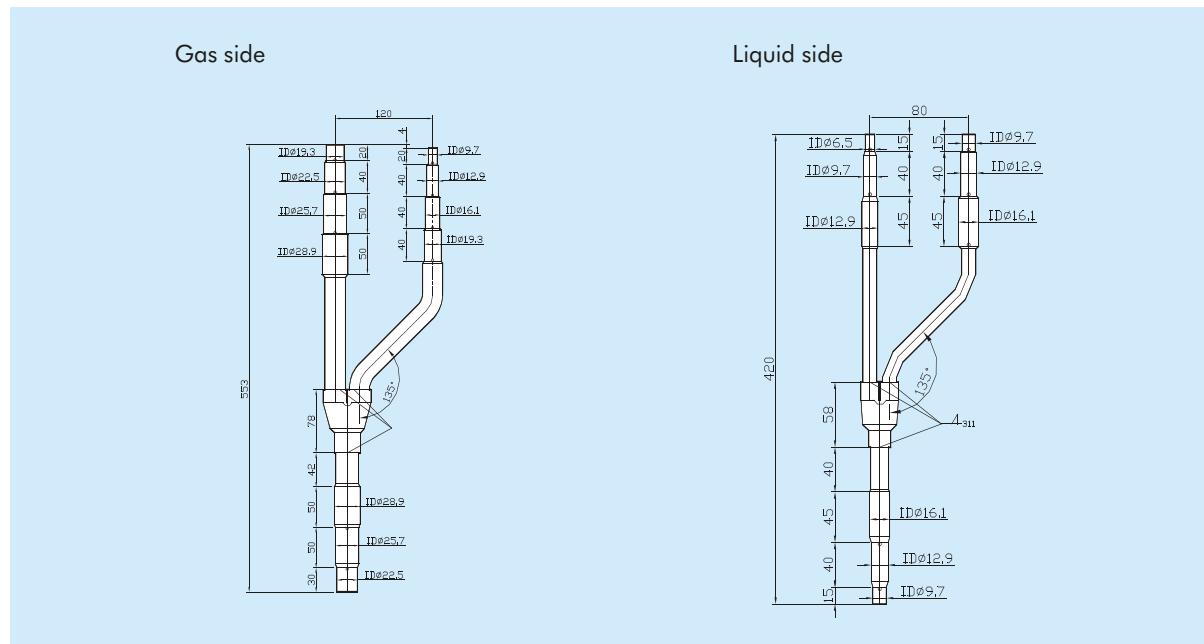
Liquid side



FQ01B/A



FQ02/A



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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