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## TECHNICAL BULLETIN


## Launching of new RPK Wall Type Indoor Units

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### Summary

1. This Technical Bulletin informs the launching of new RPK Wall Type Indoor Units.
2. The details are indicated in the description.
3. This document SG201223AE\_r1 dated Dec'12 updates the previous one issued SG201223AE\_r0.

Revised items are in pages 5, 7, 13, 14, 15 ,16, 17 and 18 identified by using 

### Description

#### 1. Applicable Models

##### New models

Type	Model Code	Model Name	Date of Sales
Wall	60278146	RPK-0.8FSN3M	November 2012
	60278147	RPK-1.0FSN3M	
	60278148	RPK-1.5FSN3M	
	60278149	RPK-2.0FSN3M	
	60278150	RPK-2.5FSN3M	
	60278151	RPK-3.0FSN3M	
	60278152	RPK-4.0FSN3M	
Wall (without Expansion Valve)	60278154	RPK-0.8FSNH3M	December 2012
	60278155	RPK-1.0FSNH3M	
	60278156	RPK-1.5FSNH3M	
Expansion valve kit for RPK-(0.8-1.5)FSNH3M	60921791	EV-1.5N1	

##### Discontinued models

Type	Model Code	Model Name	Date of Sales
Wall	60278134	RPK-0.8FSN2M	October 2012
	60277941	RPK-1.0FSN2M	
	60277942	RPK-1.5FSN2M	
	60277943	RPK-2.0FSN2M	
	60277944	RPK-2.5FSN2M	
	60277945	RPK-3.0FSN2M	
	60277946	RPK-4.0FSN2M	
Wall (without Expansion Valve)	60277961	RPK-1.0FSNH2M	November 2012
	60277962	RPK-1.5FSNH2M	
Expansion valve kit for RPK-(1.0/1.5)FSNH2M	60291612	EV-1.5N	

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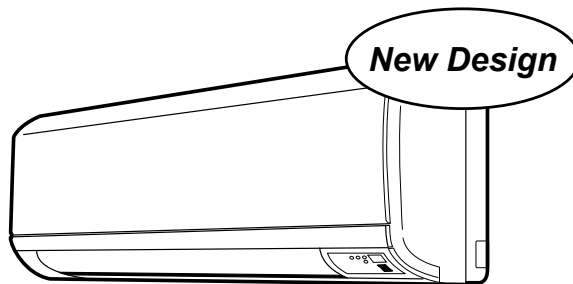
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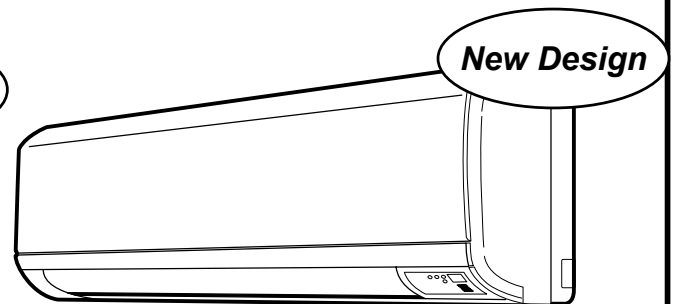
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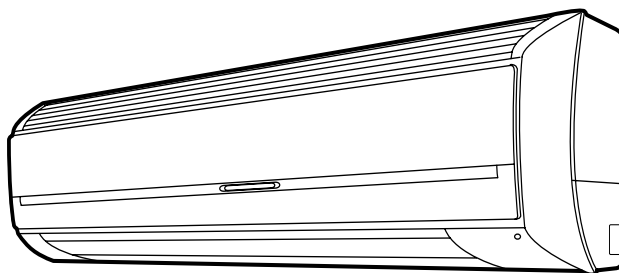
#### 2. Appearance



RPK-(0.8/1.0)FSN(H)3M



RPK-1.5FSN(H)3M



RPK-(2.0-4.0)FSN3M

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### 3. Features

#### ● Improvement of Workability

The installation workability is improved. The wiring work and dip switch setting can be performed without removing the front panel.

### NOTICE

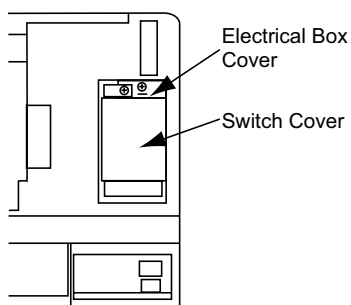
Turn OFF all the power supply to the indoor and the outdoor units before dip switch setting.  
If not, the setting is invalid.

#### (1) Access to Terminal Board

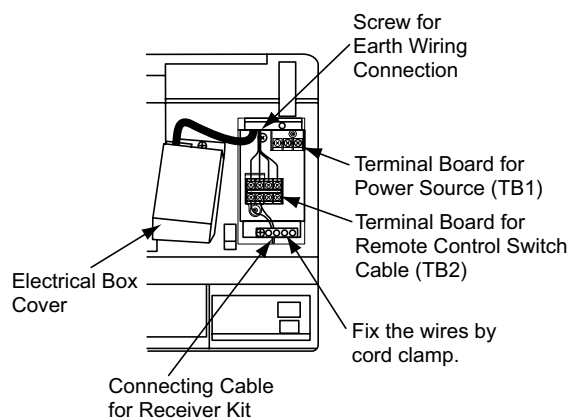
##### ■ RPK-0.8 to 1.5

##### (a) Position of Electrical Box Cover

The figure below shows that the front panel is removed. The electrical box cover can be opened without removing the front panel.



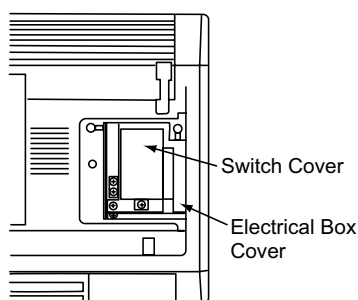
##### (b) Open the electrical box cover and perform the field electrical wiring work. Close the electrical box cover after the electrical wiring work is completed.



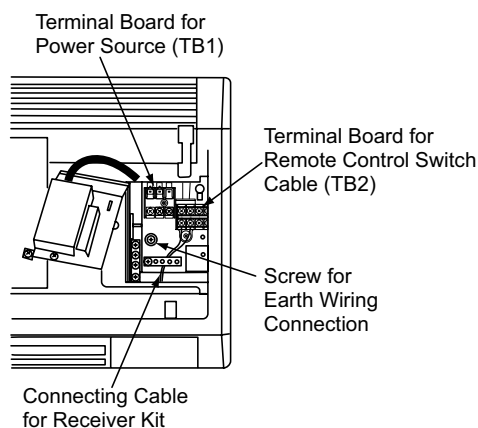
##### ■ RPK-2.0 to 4.0

##### (a) Position of Electrical Box Cover

The figure below shows that the front panel is removed. The electrical box cover can be opened without removing the front panel.



##### (b) Open the electrical box cover and perform the field electrical wiring work. Close the electrical box cover after the electrical wiring work is completed.

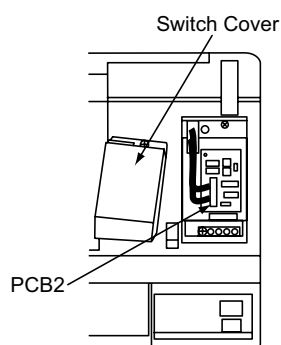


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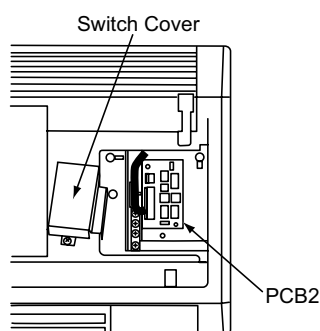
## (2) Access to Dip Switches

The positions of dip switches on PCB are shown in the figure below. Open the switch cover. After the dip switches are set, attach the switch cover again.

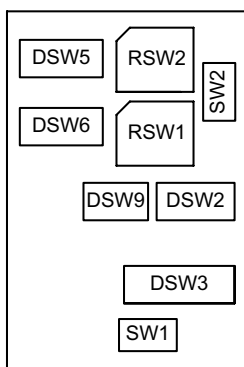
### ■ RPK-0.8 to 1.5



### ■ RPK-2.0 to 4.0



### ■ Dip Switch PCB (PCB2)



### ● Low Noise Performance at Fan Speed "Low"

The operation sound is decreased at the fan speed "Low" by improving the fan system.

< Example of 1.0HP >

<b>Current Model</b>	→	<b>New Model</b>
34dB (at "LOW")		30dB (at "LOW")

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### ● Adoption of Air Flow Volume "HIGH H"

The air flow volume setting function "HIGH H" is adopted to existing air flow volumes of "HIGH", "MED" and "LOW". As a result, high speed mode setting by the remote control switch is not required in the case of high ceiling.

[ Current Model ]		[ New Model ]
	Added	HIGH H
HIGH	→	HIGH
MED		MED
LOW		LOW



### NOTES:

1. If the high speed 2 setting (02) is selected from the remote control switch, the air flow volume of "HIGH H" and "HIGH" will be equaled as shown in the table.

Because the air flow volume, "HIGH H", and "HIGH" are used as "HH2" in high speed 2 setting.

High Speed Mode (C5) *(1)	Air Flow Volume Mode (Remote Control Switch LCD Indication)			
	HIGH H	HIGH	MED	LOW
Standard (00)	Internal Air Flow Volume *(2)			
	HH2	Hi	Me	Lo
High Speed 1 (01)	HH2	HH1	Hi	Me
High Speed 2 (02)	HH2	HH2	HH1	Hi



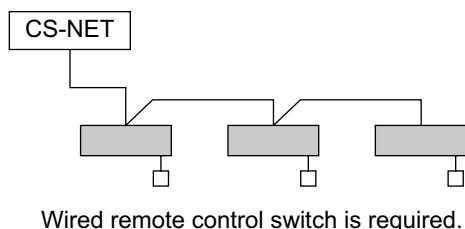
\*(1): Optional setting item No. for Function Selection of Remote Control Switch.

\*(2): Five (5) internal modes, HH2, HH1, Hi, Me and Lo, are used as shown above according to selected air flow volume.

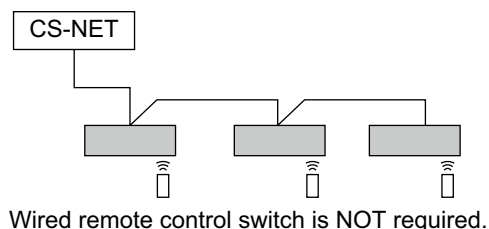
### ● Improvement for Centralized Control

The wired remote control switch is NOT required at the centralized control when each indoor unit is controlled by each wireless remote control switch.

#### Current Model



#### New Model



### 4. Series Composition

⊙: New Model

Model (HP)	0.8	1.0	1.5	2.0	2.5	3.0	4.0
Wall	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Wall (without Expansion Valve)	⊙	⊙	⊙	-	-	-	-

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### 5. Comparison between New Model and Current Model

Item		New Model							Current Model						
Model		RPK-FSN(H)3M							RPK-FSN(H)2M						
HP		0.8	1.0	1.5	2.0	2.5	3.0	4.0	0.8	1.0	1.5	2.0	2.5	3.0	4.0
(1) Series Horsepower		FSN3M: 0.8 to 4.0HP FSNH3M: 0.8 and 1.5HP							0.8 to 4.0HP						
(2) Refrigerant		R410A													
(3) Pressure	High	4.15 MPa													
	Low	2.21 MPa													
(4) Power Supply		1~ 230V 50Hz													
(5) Spec. of Standard Operation															
Sound Pressure Level															
	Hi2 (dB)	39	39	46	42	49	49	51	-	-	-	-	-	-	-
	Hi (dB)	35	35	40	40	43	43	49	38	38	40	41	43	43	49
	Me (dB)	32	32	36	38	40	40	46	36	36	38	39	40	40	46
	Lo (dB)	30	30	33	33	36	36	41	34	34	36	37	37	37	43
(6) Indoor Fan															
Air Flow Rate															
	Hi2 (m³/min.)	10	10	14	15	19	19	22	-	-	-	-	-	-	-
	Hi (m³/min.)	8	8	11	14	17	17	19	10	10	11	14	17	17	22
	Me (m³/min.)	7	7	9	13	14	14	17	8	8	10	12	16	16	20
	Lo (m³/min.)	6.5	6.5	7.5	10	12	12	15	7	7	9	10	14	14	17
Motor Output (W)		40	40	40	40	40	40	40	20	20	20	30	30	30	30
(7) Refrigerant Piping															
Liquid Line (φmm)		6.35	6.35	6.35	6.35	9.52	9.52	9.52	6.35	6.35	6.35	6.35	9.52	9.52	9.52
Gas Line (φmm)		12.7	12.7	12.7	15.88	15.88	15.88	15.88	12.7	12.7	12.7	12.7 or 15.88	15.88	15.88	15.88
Condensate Drain		VP16													
(8) Heat Exchanger		φ7													
(9) Adopted Control System		H-LINK II System													
(10) Dimensions															
Height (mm)		300	300	300	333	333	333	333	280	280	280	295	333	333	333
Width (mm)		790	790	900	1150	1150	1150	1150	780	780	780	1030	1150	1150	1150
Depth (mm)		230	230	230	245	245	245	245	210	210	210	208	245	245	245
(11) Weight (kg)		10	10	11	17	18	18	18	10	10	10	12	18	18	18
(12) Remote Control Switch		PC-ARF / PC-LH3B (PC-ART)							PC-ART/ PC-LH3A						
(13) Receiver Kit		PC-ALHZF							PC-ALHZ						

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#### 6. Combinability

UTOPIA Series	RAS-(3-6)H(V)RNM2E RAS-(8-12)HRNM RAS-(4-10)H(V)RNS(2)E RASC-(3-10)H(V)RN(M)(1)E RAS-(2-3)HVRN(S)(2) RAS-(3-12)H(V)NC(E) RAS-(2-12)H(V)NP(E)
SET-FREE Series	RAS-(8-54)FSXN RAS-(5-36)FSXNH RAS-(5-42)FSN(1)(E) RAS-(8-32)FXN(E) RAS-(8-48)FSN2 RAS-(8-12)FSNM RAS-(3-5)FSVNE RAS-(4-6)FS(V)N(Y)2E

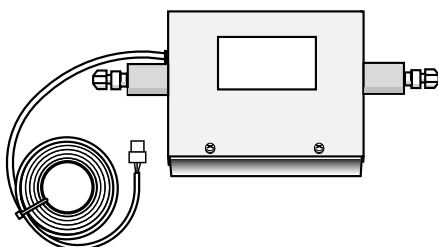
#### 7. Optional Parts

##### 7.1 Expansion Valve kit EV-1.5N1 (for Wall Type Indoor Unit without Expansion Valve)

The operation sound may increase due to reflection.

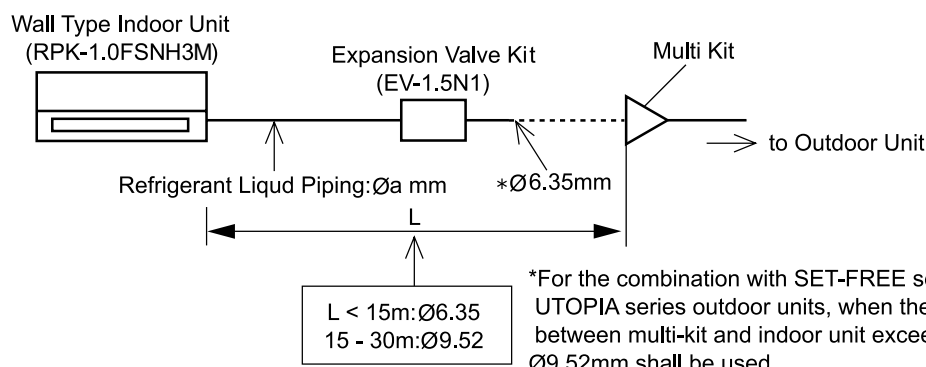


This wall type indoor unit without expansion valve (RPK-FSNH3M) is recommended for use in a hotel where background noise is low. RPK-**\*\***FSNH3M should be used with expansion valve kit EV-1.5N1 (Optional).



#### NOTE

The liquid piping size Øa between the expansion valve kit and the indoor unit differs depending on connected outdoor unit models. Refer to page 13 for details.



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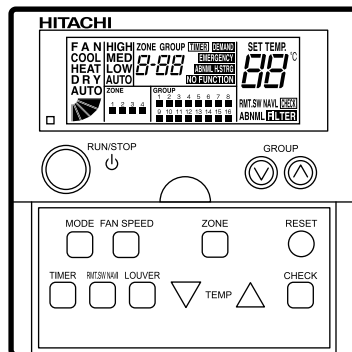
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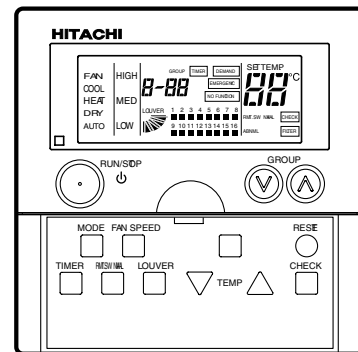
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- Central Station: PSC-A64S, CSC-5S, PSC-A16RS, PSC-A64GT (EZ)

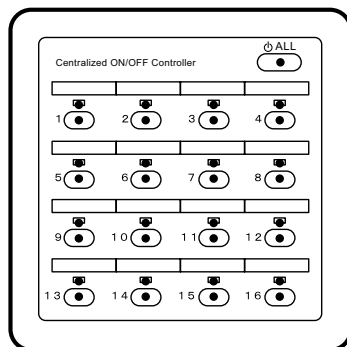
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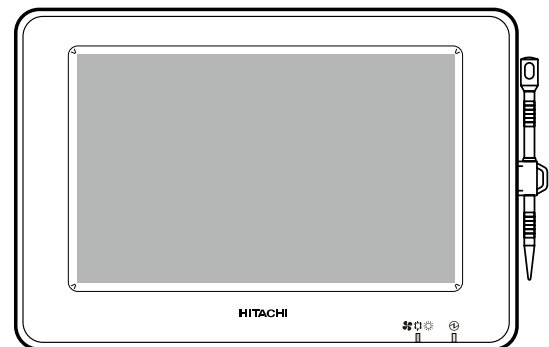
< CSC-5S >



< PSC-A16RS >



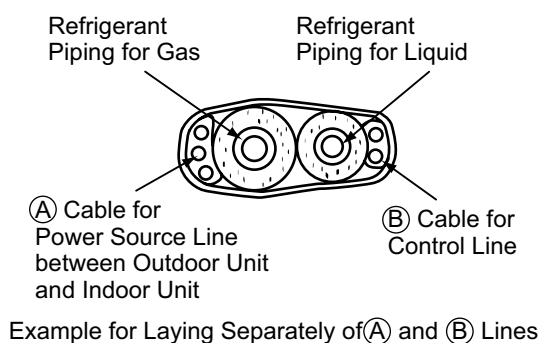
< PSC-A64GT (EZ) >



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7. Attention for Designing Facility and Installation Work

- Consider the air distribution from the indoor unit to the space of the room, and select a suitable location so that uniform air temperature in the room can be obtained.
- Avoid obstacles which may hamper the air intake or the air discharge flow.
- Do not install the indoor unit in a machinery shop or kitchen where vapor from oil or its mist flows to the indoor unit. An oil will deposit on the heat exchanger, thereby reducing the indoor unit performance and the plastic parts may deform, and in the worst case, break due to splash oil at operation.
- Do not install the unit in a place where oil, vapor, organic solvent and corrosive gas (ammonia, sulfur compound and acid) may be present in quantities. It may cause refrigerant leakage due to corrosion, electrical shock, deteriorated performance and breakage.
- Avoid the installation place for remote control switch where the air flow directly from the indoor unit blows during the cooling operation. If not, dew may occur so that may cause malfunction of electrical parts.
- Pay attention to the following points when the indoor unit is installed in a hospital or other facilities where there are electronic waves from medical equipment, etc.
  - \* Do not install the indoor unit where the electromagnetic wave is directly radiated to the electrical box, remote control cable or remote control switch.
  - \* Install the indoor unit and components as far as practical or at least 3 meters from the electromagnetic wave radiator.
  - \* Prepare a steel box and install the remote control switch in it. Prepare a steel conduit tube and wire the remote control cable in it. Then, connect the ground wire with the box and the tube.
  - \* Install a noise filter when the power supply emits harmful noises.
- Separate the cables for the power source line (or other 230V wire) from the cables for the control lines between the indoor unit and the outdoor unit (0.75mm<sup>2</sup>, 2 lines). Take the distance more than 5 to 6cm between the cable for control line of the outdoor unit and the indoor unit and the power source line if installing them in parallel. If enough distance is not taken between them, separate the power source line by running it through the metal conduit (earth the one side).



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### ● Materials for Refrigerant Piping

Perform the refrigerant piping work using the specified pipe as shown in the table.

#### Thickness of Copper Pipe for Refrigerant

(mm)

Outer Diameter	R410A
φ6.35	0.80
φ9.52	0.80
φ12.7	0.80
φ15.88	1.00

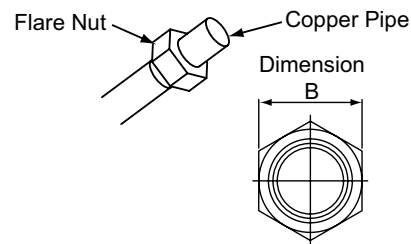
#### NOTE:

Do not use a thin pipe other than shown in the table above.

#### Flare Nut Dimension B

(mm)

Diameter	Flare Nut Dimension B
	R410A
φ6.35	17
φ9.52	22
φ12.7	26
φ15.88	29



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### ● Measuring Instruments and Tools for R410A

Pay attention that measuring instruments and tools may differ from R22 due to the differences of the durability and the refrigerant oil.

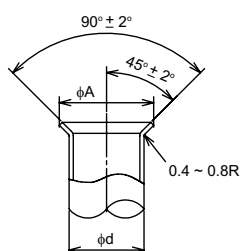
◇: Interchangeability is available with current R22

●: only for Refrigerant R410A (No Interchangeability with R22)

×: Prohibited

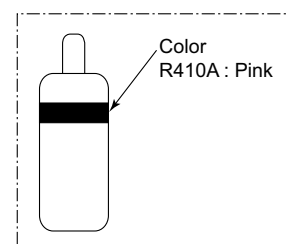
Measuring Instrument and Tool		Interchangeability with R22	Reason of Non-Interchangeability and Attention (★: Strictly Required)	Use
		R410A		
Refrigerant Pipe	Pipe Cutter	◇	-	Cutting Pipe
	Chamfering Reamer	◇	-	Removing Burrs
	Flaring Tool	◇ ●	* If using flaring tube, make dimension of tube larger for R410A. * In case of material 1/2H, flaring is not available.	Flaring for Tubes
	Extrusion Adjustment Gauge	●		Dimensional Control for Extruded Portion of Tube after Flaring
	Pipe Bender	◇	* In case of material 1/2H, bending is not available. Use elbow for bend and braze.	Bending
	Expanding Tool	◇	* In case of material 1/2H, expanding of tube is not available. Use socket for connecting tube.	Expanding Tubes
	Torque Wrench	●	* For φ12.7, φ15.88, spanner size is up 2mm.	Connection of Flare Nut
		◇	* For φ6.35, φ9.52, φ19.05, spanner size is the same.	
	Brazing Tool	◇	* Perform correct brazing work.	Brazing for Tubes
Vacuum Drying • Refrigerant Charge	Nitrogen Gas	◇	* Strict Control against Contamination (Blow nitrogen during brazing.)	Prevention from Oxidation during Brazing
	Lubrication Oil (for Flare Surface)	●	* Use a synthetic oil which is equivalent to the oil used in the refrigeration cycle. * Synthetic oil absorbs moisture quickly.	Applying Oil to the Flared Surface
	Refrigerant Cylinder	●	* Check refrigerant cylinder color. ★ Liquid refrigerant charging is required regarding zeotropic refrigerant.	Refrigerant Charging
	Vacuum Pump	◇	★ The current ones are applicable. However, it is required to mount a vacuum pump adapter which can prevent from reverse flow when a vacuum pump stops, resulting in no reverse oil flow.	Vacuum Pumping
	Adapter for Vacuum Pump	●		
	Manifold Valve	●	* No interchangeability is available due to higher pressures when compared with R22. ★ Do not use current ones to the different refrigerant. If used, mineral oil will flow into the cycle and cause sludges, resulting in clogging or compressor failure. Connection diameter is different; R410A: UNF1/2.	Vacuum Pumping, Vacuum Holding, Refrigerant Charging and Check of Pressures
	Charging Hose	●		
	Charging Cylinder	×	* Use the weight scale.	-
	Weight Scale	◇	-	Measuring Instrument for Refrigerant Charging
	Refrigerant Gas Leakage Detector	●	* The current gas leakage detector (R22) is not applicable due to different detecting method.	Gas Leakage Check

< Fig. A > Flaring Dimension



Diameter (φd)	A
	<sup>+0</sup> <sub>-0.4</sub>
	R410A
6.35	9.1
9.52	13.2
12.7	16.6
15.88	19.7

< Fig. B > Refrigerant Cylinder



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- For using RPK-FSNH3M (Wall Type indoor units without expansion valve) and expansion valve kit, the installation work shall be performed with followings.
  - (1) For RPK-FSNH3M (Wall Type indoor units without expansion valve), the total piping length between expansion valve kit and indoor unit is restricted as shown in the table below.
  - (2) For SET-FREE series outdoor units, the appropriate refrigerant quantity is required to be additionally charged depending on the piping length and the piping size.
- When the additional refrigerant charge quantity at connected liquid pipe is calculated, calculate the following additional refrigerant quantity each.

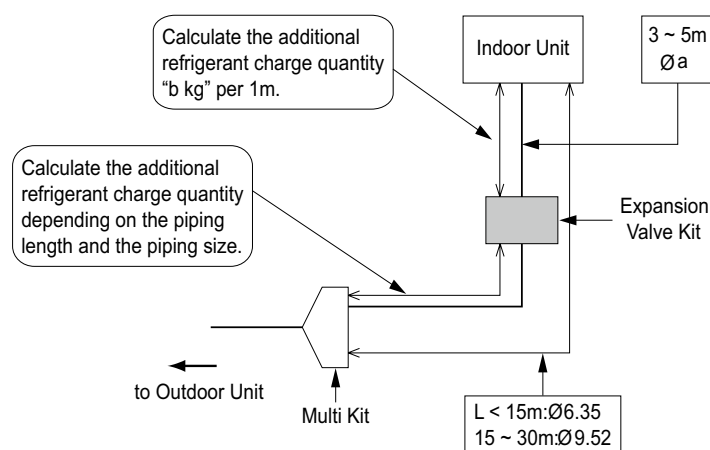
\* Quantity for Liquid Pipe between Multi-kit and Expansion Valve Kit

\* Quantity between Indoor Unit and Expansion Valve Kit

Total Additional Refrigerant Charge Quantity =

Additional Refrigerant Charge Quantity between Multi-kit and Expansion Valve Kit +

Additional Refrigerant Charge Quantity between Indoor Unit and Expansion Valve Kit



Series	Model	a	b	Restriction number of connectable indoor unit
		Expansion valve kit ~ indoor unit liquid pipe size (Ømm)	Expansion valve kit ~ indoor unit additional refrigerant charge quantity (kg/m)	
FS(V)N(Y)2E	RAS-(4-6)FS(V)N(Y)2E	6.35	0.011	(f)
H(V)N(P/C)(E)	RAS-(2-12)H(V)N(P/C)(E)	6.35	0.011	P: (g) / C: (h)
FSXNH	RAS-(5-36)FSXNH	6.35	0.011	(a)
FSN	RAS-5FSN RAS-(34-42)FSN	9.52 (*)	0.05	(b)
FSN1	RAS-(8-32)FSN1	9.52 (*)	0.05	
FSN2	RAS-(8-48)FSN2	9.52 (*)	0.05	(c)
FSXN	RAS-(8-54)FSXN	9.52 (*)	0.05	(d)
FSNM	RAS-(8-12)FSNM	9.52 (*)	0.05	(e)

(\*): When connecting the liquid piping between the expansion valve kit and the indoor unit, reduce the piping size of the expansion valve kit connection and the indoor unit connection to Ø 6.35 with reducers (Field-Supplied).

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(a) SET-FREE FSXNH Series (Heat recovery system/heat pump system)



Model	Restrictions			
	Max. number of connectable indoor unit (Recommended number) *1)	Max. number of connectable expansion valve kit *2)	Total piping length between each expansion valve kit and indoor unit (m) *3)	Max. additional refrigerant charge quantity (kg) *4)
RAS-5FSXNH	8 (5) Units	No restriction	30	28.0
RAS-6FSXNH	9 (5) Units		40	
RAS-8FSXNH	13 (8) Units			
RAS-10FSXNH	16 (10) Units		60	36.0
RAS-12FSXNH	19 (10) Units		70	40.0
RAS-14FSXNH	23 (16) Units		80	
RAS-16FSXNH	26 (16) Units		120	51.0
RAS-18FSXNH				
RAS-20FSXNH	33 (18) Units			
RAS-22FSXNH	36 (20) Units		150	63.0
RAS-24FSXNH	40 (26) Units			
RAS-26FSXNH	43 (26) Units			
RAS-28FSXNH	47 (32) Units		180	
RAS-30FSXNH	50 (32) Units			
RAS-32FSXNH	53 (32) Units			
RAS-34FSXNH	56 (32) Units			
RAS-36FSXNH	59 (32) Units			

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(b) SET-FREE FSN(1)(E) Series



Model	Restrictions			
	Max. number of connectable indoor unit *1)	Max. number of connectable expansion valve kit *2)	Total piping length between each expansion valve Kit and indoor unit (m) *3)	Max. additional refrigerant charge quantity (kg) *4)
RAS-5FSN	8 Units	8 Kits	No Restriction	15.0
RAS-8FSN1E	13 Units			22.0
RAS-10FSN1E	16 Units			
RAS-12FSN1E				
RAS-14FSN1	20 Units	20 Kits		34.0
RAS-16FSN1				
RAS-18FSN1				
RAS-20FSN1				
RAS-22FSN1				
RAS-24FSN1	27 Units	27 Kits		52.0
RAS-26FSN1	29 Units	29 Kits		
RAS-28FSN1	31 Units	31 Kits		
RAS-30FSN1	32 Units	32 Kits		
RAS-32FSN1				
RAS-34FSN				
RAS-36FSN				
RAS-38FSN				
RAS-40FSN				
RAS-42FSN				

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(c) SET-FREE FSN2 Series



Model	Restrictions			
	Max. number of connectable indoor unit *1)	Max. number of connectable expansion valve kit *2)	Total piping length between each expansion valve kit and indoor unit (m) *3)	Max. additional refrigerant charge quantity (kg) *4)
RAS-8FSN2	13 Units	8 Kits	No restriction	28.0
RAS-10FSN2	16 Units			36.0
RAS-12FSN2				40.0
RAS-14FSN2	20 Units	20 Kits		51.0
RAS-16FSN2				
RAS-18FSN2				
RAS-20FSN2				
RAS-22FSN2				
RAS-24FSN2	27 Units	27 Kits		63.0
RAS-26FSN2	29 Units	29 Kits		
RAS-28FSN2	31 Units	31 Kits		
RAS-30FSN2	32 Units	32 Kits		
RAS-32FSN2				
RAS-34FSN2	34 Units	34 Kits		
RAS-36FSN2				
RAS-38FSN2	38 Units	38 Kits		
RAS-40FSN2				
RAS-42FSN2	42 Units	42 Kits		
RAS-44FSN2				
RAS-46FSN2	46 Units	46 Kits		
RAS-48FSN2				



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(d) SET-FREE FSXN Series (Heat recovery system/heat pump system)



Model	Restrictions			
	Max. number of connectable indoor unit *1)	Max. number of connectable expansion valve kit *2)	Total piping length between each expansion valve kit and indoor unit (m) *3)	Max. additional refrigerant charge quantity (kg) *4)
RAS-8FSXN	13 Units	No restriction	20	28.0
RAS-10FSXN	16 Units			36.0
RAS-12FSXN	19 Units			40.0
RAS-14FSXN	23 Units			51.0
RAS-16FSXN	26 Units		30	
RAS-18FSXN			40	
RAS-20FSXN				
RAS-22FSXN			33 Units	63.0
RAS-22FSXN	36 Units			
RAS-24FSXN	40 Units			
RAS-26FSXN	43 Units			
RAS-28FSXN	47 Units			
RAS-30FSXN	50 Units			
RAS-32FSXN	53 Units			
RAS-34FSXN	56 Units			
RAS-36FSXN	59 Units			
RAS-38FSXN	64 Units			
RAS-40FSXN				
RAS-42FSXN				
RAS-44FSXN				
RAS-46FSXN				
RAS-48FSXN				
RAS-50FSXN				
RAS-52FSXN				
RAS-54FSXN				

(e) SET-FREE FSNM Series

Model	Restrictions			
	Max. number of connectable indoor unit *1)	Max. number of connectable expansion valve kit *2)	Total piping length between each expansion valve kit and indoor unit (m) *3)	Max. additional refrigerant charge quantity (kg) *4)
RAS-8FSNM	10 Units	8 Kits	No Restriction	13.5
RAS-10FSNM				
RAS-12FSNM				

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### (f) SET-FREE MINI FS(V)N(Y)2E Series



Model	Restrictions			
	Max. number of connectable indoor unit *1)	Max. number of connectable expansion valve kit *2)	Total piping length between each expansion valve kit and indoor unit (m) *3)	Max. additional refrigerant charge quantity (kg) *4)
RAS-4FS(V)N(Y)2E	6 Units	6 Kits	No restriction	No restriction
RAS-5FS(V)N(Y)2E	7 Units	7 Kits		
RAS-6FS(V)N(Y)2E	7 Units	7 Kits		

### (g) UTOPIA IVX PREMIUM H(V)NP(E) Series

Model	Restrictions			
	Max. number of connectable indoor unit (Recommended number) *1)	Max. number of connectable expansion valve kit *2)	Total piping length between each expansion valve kit and indoor unit (m) *3)	Max. additional refrigerant charge quantity (kg) *4)
RAS-2HVNP	2 (1) Units	2 Kits	No restriction	1.5
RAS-2.5HVNP	2 (1) Units	2 Kits		1.2
RAS-3HVNPE	3 (2) Units	3 Kits		1.2
RAS-4H(V)NPE	5 (4) Units	5 Kits		3.9
RAS-5H(V)NPE	6 (4) Units	6 Kits		3.9
RAS-6H(V)NPE	6 (4) Units	6 Kits		3.9
RAS-8HNPE	8 (4) Units	8 Kits		10.3
RAS-10HNPE	8 (4) Units	8 Kits		12.1
RAS-12HNP	8 (4) Units	8 Kits		12.1

### (h) UTOPIA IVX STANDARD H(V)NC(E) Series

Model	Restrictions			
	Max. number of connectable indoor unit (Recommended number) *1)	Max. number of connectable expansion valve kit *2)	Total piping length between each expansion valve kit and indoor unit (m) *3)	Max. additional refrigerant charge quantity (kg) *4)
RAS-3HVNC	2 (1) Units	2 Kits	No restriction	1.2
RAS-4H(V)NCE	4 (2) Units	4 Kits		1.6
RAS-5H(V)NCE	4 (2) Units	4 Kits		2.7
RAS-6H(V)NCE	4 (2) Units	4 Kits		2.7
RAS-8HNCE	4 Units	4 Kits		10.3
RAS-10HNCE	4 Units	4 Kits		12.1
RAS-12HNC	4 Units	4 Kits		12.1

\*1) There are some notices for the connectable number of indoor units depending on the connected indoor unit model, the indoor unit capacity, environment and installation place. Refer to the Technical Catalog of outdoor unit for the selection.

\*2) It is within the connected number of indoor units.

\*3) It is the total piping length between each expansion valve kit and the indoor unit.

\*4) Refer to the Technical Catalog of outdoor unit for the calculation of additional refrigerant charge quantity.

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### ● About Operation Sound

When the indoor unit is installed in quiet rooms such as a bed room, reception room, etc., the following operation sound may be heard.

- \* Noise by stretching the resin parts due to the temperature changes
- \* Noise by flowing the refrigerant in the piping such as boiling sound
- \* Roaring noise from motor
- \* Sound at starting and during operation

Therefore, the unit model and the installation place shall be considered with care.

### ● About Odor

The air flow from the indoor unit may smell depending on the environment because odor particles to the indoor unit attach to the air filter and inside the indoor unit. These change into odor and are discharged from the air outlet. It is recommended to clean inside the indoor unit such as air filter, heat exchanger, etc.

### ● This indoor unit is exclusive for the refrigerant R410A.

### ● In the twin, triple, and quad combination of indoor units, the transition wiring for the remote control switch is not required. However, when connecting indoor units without transition wiring for remote control switch, the followings are limited.

(1) The following functions are available to set only to the main unit with the remote control switch PC-ARF or PC-LH3B with PC-ALHZF.

- \* "Remote ON/OFF function, 1 and 2"
- \* "Power supply ON/OFF function, 1 and 2"
- \* "Prohibiting operation by remote control switch"

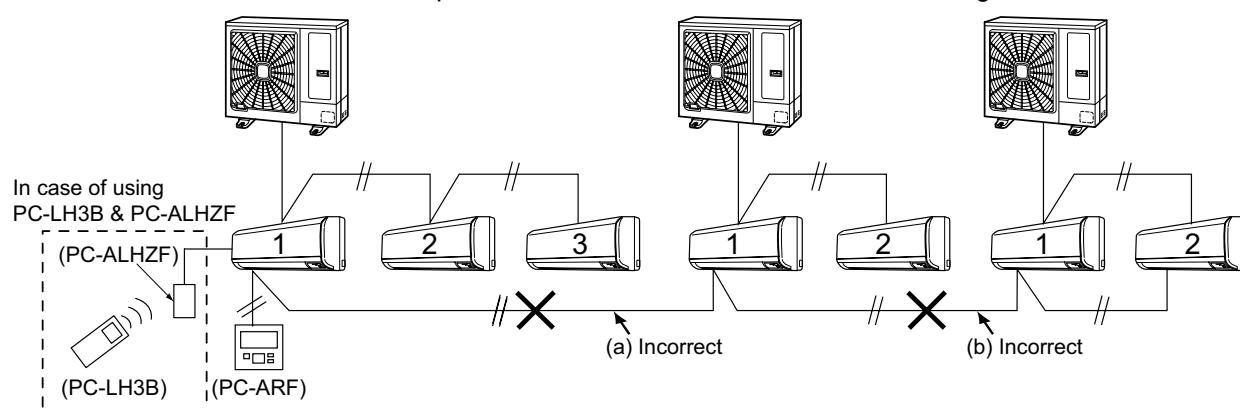
(2) The following connections are NOT available.

(a) Connection between Main Units without Transition Wiring

When the indoor units in multiple refrigerant cycles are controlled by one remote control switch, all the indoor units are required to be connected with the transition wirings.

(b) Connection between Main Unit without Transition Wiring and Unit with Transition Wiring

When the indoor units in multiple refrigerant cycles are controlled by one remote control switch, all the indoor units are required to be connected with the transition wirings.



(3) When the group setting is set from centralized controller, the indoor unit connected to remote control switch shall be set as a main unit.

(4) The address of indoor unit can not be changed from the remote control switch.

(5) This indoor unit is adopted four (4) steps of fan speed (HIGH H, HIGH, MED and LOW). When it is installed with three (3) steps of fan speed type, connect the remote control switch to four (4) steps of fan speed type. If not, "HIGH H" will not be indicated and can not be selected.

HITACHI recommends PC-ARF or PC-LH3B with PC-ALHZF remote control switch in order to obtain the maximum performance.

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#### ● Attention for Connecting to Centralized Controller

The followings support the fan speed "HIGH H".

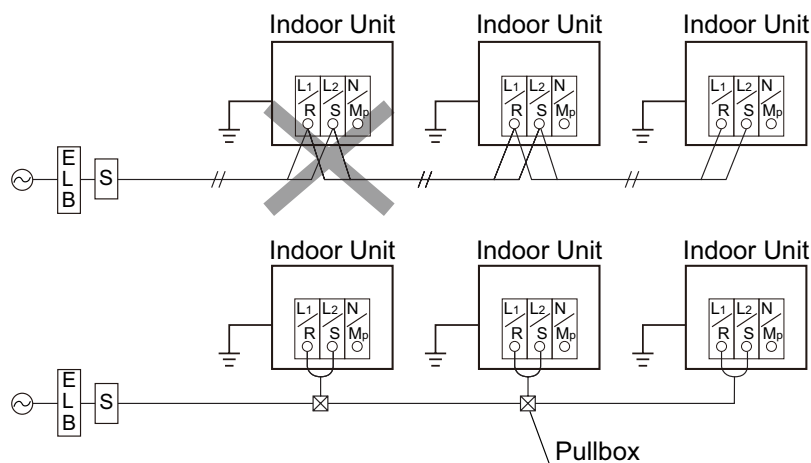
\* Centralized Station (EZ) PSC-A64GT

Other centralized controllers do not support the fan speed "HIGH H". These indicate the fan speed "HIGH" even if "HIGH H" is set and operated.

#### ● Attention for Electrical Wiring

Do not fix the power source wire and the control wire to one terminal together.

The pullbox is required when the transition wiring is required.



#### ● Indoor Unit Dimensions

New wall type indoor unit changes the dimension from the current model. For example, the dimension for 1.5 horse power indoor unit changes from 780mm to 900mm. When the indoor unit is replaced to new model, pay attention to the dimension.

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### 9. General Specifications

Indoor Unit Type		Wall Type			
Model		RPK-0.8FSN3M	RPK-1.0FSN3M	RPK-1.5FSN3M	RPK-2.0FSN3M
Indoor Unit Power Supply		1~ 230V 50Hz			
Nominal Cooling Capacity *1)	kW	2.2	2.8	4	5.6
Nominal Heating Capacity	kW	2.5	3.2	4.8	6.3
Sound Pressure Level (Overall A Scale) (Hi2/Hi/Me/Lo)	dB (A)	39/35/32/30	39/35/32/30	46/40/36/33	42/40/38/33
Cabinet Color		White			
Outer Dimensions					
Height	mm	300	300	300	333
Width	mm	790	790	900	1150
Depth	mm	230	230	230	245
Net Weight	kg	10	10	11	17
Refrigerant		R410A			
Indoor Fan					
Air Flow Rate (Hi2/Hi/Me/Lo)	m³/min.	10/8/7/6.5	10/8/7/6.5	14/11/9/7.5	15/14/13/10
Motor	W	40	40	40	40
Connections		Flare-Nut Connection (with Flare Nuts)			
Refrigerant Piping					
Liquid Line	mm	Ø6.35	Ø6.35	Ø6.35	Ø6.35
	(in.)	(1/4)	(1/4)	(1/4)	(1/4)
Gas Line	mm	Ø12.7	Ø12.7	Ø12.7	Ø15.88
	(in.)	(1/2)	(1/2)	(1/2)	(5/8)
Condensate Drain		VP16	VP16	VP16	VP16
Approximate Packing Measurement	m³	0.09	0.09	0.11	0.14

#### NOTES:

1. The above cooling and heating capacities show the maximum capacities when the outdoor and indoor temperature are below condition.

#### Cooling Operation Conditions

Indoor Air Inlet Temperature: -27°C DB

\*1) 19.0°C WB

Outdoor Air Inlet Temperature: 35°C DB

#### Heating Operation Conditions-

Indoor Air Inlet Temperature: 20°C DB

Outdoor Air Inlet Temperature: 7°C DB 6°C WB

Piping Length: 7.5 Meters Piping Lift: 0 Meter

2. The sound pressure level is based on following conditions.

1 Meter Beneath the Unit and 1 Meter from Air Inlet Grille

The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

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Indoor Unit Type		Wall Type		
Model		RPK-2.5FSN3M	RPK-3.0FSN3M	RPK-4.0FSN3M
Indoor Unit Power Supply		1~ 230V 50Hz		
Nominal Cooling Capacity *1)	kW	7.1	8.0	11.2
Nominal Heating Capacity	kW	8.5	9.0	12.5
Sound Pressure Level (Overall A Scale) (Hi2/Hi/Me/Lo)	dB (A)	49/43/40/36	49/43/40/36	51/49/46/41
Cabinet Color		White		
Outer Dimensions				
Height	mm	333	333	333
Width	mm	1150	1150	1150
Depth	mm	245	245	245
Net Weight	kg	18	18	18
Refrigerant		R410A		
Indoor Fan				
Air Flow Rate ( (Hi2/Hi/Me/Lo)	m <sup>3</sup> /min.	19/17/14/12	19/17/14/12	22/19/17/15
Motor	W	40	40	40
Connections		Flare-Nut Connection (with Flare Nuts)		
Refrigerant Piping				
Liquid Line	mm	Ø9.52	Ø9.52	Ø9.52
	(in.)	(3/8)	(3/8)	(3/8)
Gas Line	mm	Ø15.88	Ø15.88	Ø15.88
	(in.)	(5/8)	(5/8)	(5/8)
Condensate Drain		VP16	VP16	VP16
Approximate Packing Measurement	m <sup>3</sup>	0.14	0.14	0.14

### NOTES:

1. The above cooling and heating capacities show the maximum capacities when the outdoor and indoor temperature are below condition.

#### Cooling Operation Conditions

Indoor Air Inlet Temperature: -27°C DB

\*1) 19.0°C WB

Outdoor Air Inlet Temperature: 35°C DB

#### Heating Operation Conditions-

Indoor Air Inlet Temperature: 20°C DB

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Indoor Unit Type		Wall Type		
Model		RPK-0.8FSNH3M	RPK-1.0FSNH3M	RPK-1.5FSNH3M
Indoor Unit Power Supply		1~ 230V 50Hz		
Nominal Cooling Capacity *1)	kW	2.2	2.8	4
Nominal Heating Capacity	kW	2.5	3.2	4.8
Sound Pressure Level	dB (A)	39/35/32/30	39/35/32/30	46/40/36/33
(Overall A Scale) (Hi2/Hi/Me/Lo)				
Cabinet Color		White		
Outer Dimensions				
Height	mm	300	300	300
Width	mm	790	790	900
Depth	mm	230	230	230
Net Weight	kg	10	10	11
Refrigerant		R410A		
Indoor Fan				
Air Flow Rate	m³/min.	10/8/7/6.5	10/8/7/6.5	14/11/9/7.5
( Hi2/Hi/Me/Lo)				
Motor	W	40	40	40
Connections		Flare-Nut Connection (with Flare Nuts)		
Refrigerant Piping				
Liquid Line	mm	Ø6.35	Ø6.35	Ø6.35
	(in.)	(1/4)	(1/4)	(1/4)
Gas Line	mm	Ø12.7	Ø12.7	Ø12.7
	(in.)	(1/2)	(1/2)	(1/2)
Condensate Drain		VP16	VP16	VP16
Approximate Packing Measurement	m³	0.09	0.09	0.11

### NOTES:

1. The above cooling and heating capacities show the maximum capacities when the outdoor and indoor temperature are below condition.

#### Cooling Operation Conditions

Indoor Air Inlet Temperature: -27°C DB

\*1) 19.0°C WB

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Outdoor Air Inlet Temperature: 7°C DB 6°C WB

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