SAMSUNG

SINGLE Technical Data Book

SINGLE MSP Duct for SIL

(R410A, HP)



Model : AC***RNMPEH/IL (Indoor Unit) AC***RXAPGH/IL (Outdoor Unit)

Indoor Unit

Step 1 Checking and preparing accessories

The following accessories are supplied with the indoor unit. The type and quantity may differ, depending on the specifications.

User manual (1)	Installation manual (1)
	\square
Clamp hose (1)	Flexible hose (1)
A CONTRACTOR	

Step 2 Choosing the installation location

General requirements for installation location

Do not install the air conditioner in a location where it will come into contact with the following elements:

- Combustible gases
- Saline air
- Machine oil
- Sulphide gas
- Special environmental conditions

Avoid installing the air conditioner in a location with the following conditions:

- In areas where it is exposed to direct sunlight. Close to heat sources.
- In damp areas or locations where it could come into contact with water. (for example rooms used for laundry)
- In areas where curtains and furniture could affect the supply and discharge of air.
- Without leaving the required minimum space around the unit. (as shown in the drawing)
- In scarcely ventilated areas.
- On surfaces that are unable to support the weight of the unit without deforming, breaking or causing vibrations during the use of the air conditioner.
- In a position that does not enable the condensate drainage pipe to be correctly installed. (at the end of the installation. It is always essential to check the efficiency of the drainage system)



Space requirements for installation

Construction Standard for Inspection Hole

- 1 In case, the ceiling is tex tile, Inspection hole dose not need.
- 2 In case, the ceiling is plaster board, Inspection hole depends on Inside height of the ceiing.
 - **a** Height is more than 0.5m : Only "B" [Inspection for PBA] is applied.
 - **b** Height is less than 0.5m : Both "A"&"B" are applied.
 - **c** "A"&"B" are inspection holes .



Indoor Unit

- You must have 20 mm or more space between the ceiling and the bottom of indoor unit. Otherwise, the noise from the vibration of indoor unit may bother the user. When the ceiling is under construction, the hole for check-up must be made to take service, clean and repair the unit.
- It is possible to install the unit at an height of between 2.2~2.5 m from the ground, if the unit has a duct with a well defined lenght (300 mm or more), to avoid fan motor blower contact.
- If you install the cassette or duct type indoor unit on the ceiling with humidity over 80%, you must apply extra 10 mm of polyethylene foam or other insulation with similar material on the body of the indoor unit.

Step 3 Optional: Insulating the body of the indoor unit



Thickness: more than 10mm

Indoor Unit	AC100RNMPEH AC120RNMPEH AC140RNMPEH
	1200 X 650 X 360
А	1200 X 360
В	1200 X 360
С	650 X 360
D	650 X 360
Front/ Back	Insulate the front and back side in proper size at the same time when insulating the suction duct and discharge duct.

(Unit: mm)

NOTE

- Insulate the end of the pipe and some curved area by using separate insulator.
- Insulate the discharge and suction part at the same time when you insulate connection duct.

ene foam or other insulation with similar body of the indoor unit.

into account

• Since the diagram is made of paper, it may shrink or stretch slightly due to temperature or humidity. For this reason, before drilling the holes maintain the correct dimensions between the markings.

Step 4 Installing the indoor unit

When deciding on the location of the air conditioner

1 Place the pattern sheet on the ceiling at the spot

where you want to install the indoor unit.

with the owner, the following restrictions must be taken

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2 Insert bolt anchors. Use existing ceiling supports or construct a suitable support as shown in figure.



3 Install the suspension bolts depending on the ceiling type.



Indoor Unit

- Ensure that the ceiling is strong enough to support the weight of the indoor unit. Before hanging the unit, test the strength of each attached suspension bolt.
- If the length of suspension bolt is more than 1.5m, it is required to prevent vibration.
- If this is not possible, create an opening on the false ceiling in order to be able to use it to perform the required operations on the indoor unit.
- 4 Screw eight nuts to the suspension bolts making space for hanging the indoor unit.

NOTE

- You must install all the suspension rods.
- 5 Hang the indoor unit to the suspension bolts between two nuts.



- Piping must be laid and connected inside the ceiling when suspending the unit. If the ceiling is already constructed, lay the piping into position for connection to the unit before placing the unit inside the ceiling.
- 6 Screw the nuts to suspend the unit.
- **7** Adjust level of the unit by using measurement plate for all 4 sides.

• For proper drainage of condensate, give a 3mm slant to the left or right side of the unit which will be connected with the drain hose, as shown in the figure. Make a tilt when you wish to install the drain pump, too.



• When installing the indoor unit, make sure it is not tilted toward front or back side.

Step 5 Installing the drain hose and drain pipe

- 1 Push the supplied drain hose as far as possible over the drain socket.
- 2 Tighten the metal clamp as shown in the picture.



- **3** Wrap the supplied large sealing pad over the metal clamp and drain hose to insulate and fix it with clamps.
- 4 Insulate the complete drain piping inside the building (field supply).

If the drain hose cannot be sufficiently set on a slope, fit the hose with drain raising piping (field supply).

5 Push the drain hose up to insulation when connecting the drain hose to drain socket.

Indoor Unit



Without the drain pump

- 1 Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 1.0~1.5m.
- 2 Install U-trap at the end of the drainpipe to prevent a nasty smell to reach the indoor unit.
- **3** Do not install the drainpipe to upward position. It may cause water flow back to the unit.



With the drain pump

- 1 The drain pipe should be installed within 300mm to 550mm from the flexible hose and then lift down 20mm or more.
- 2 Install horizontal drainpipe with a slope of 1/100 or more and fix it by hanger space of 1.0~1.5m.
- **3** Install the air vent in the horizontal drainpipe to prevent water flow back to the indoor unit.

NOTE

- You may not need to install it if there were proper slope in the horizontal drainpipe.
- **4** The flexible hose should not be installed upward position, it may cause water flow back to the indoor unit.



Step 6 Connecting the power and communication cables

A CAUTION

• Always remember to connect the refrigerant pipes before performing the electric connections. When disconnecting the system, always disconnect the electric cables before disconnecting the refrigerant pipes.

A CAUTION

• Always remember to connect the air conditioner to the grounding system before performing the electric connections. Use a crimp ring terminal at the end of each wire.

The indoor unit is powered through the outdoor unit by means of a H07 RN-F connection cable (or a more power model), with insulation in synthetic rubber and a jacket in polychloroprene (neoprene), in accordance with the requirements specified in the standard EN 60335-2-40.

- 1 Remove the screw on the electrical component box and remove the cover plate.
- **2** Route the connection cord through the side of the indoor unit and connect the cable to the terminals refer to the figure below.
- **3** Route the other end of the cable to the outdoor unit through the ceiling & the hole on the wall.
- 4 Reassemble the electrical component box cover, carefully tightening the screw.
- * In case you want more information about the controllers and accessories, please refer to the Controller and Accessory TDB on pvi.Samsung.com site or Global Partner Portal site.

Indoor Unit



Indoor power supply						
Power supply Max/Min(V) Indoor power cabl						
1Ф, 220-240V, 50 Hz	±10%	0.75 to 1.5 mm ² ↑, 3 wires				
Communication cable						
0.75 to 1.5 mm ² ↑, 2 wires						



Tightening torque (kgf • cm)				
M3.5	8.0 to 12.0			
M4	12.0 to 18.0			

• 1 N·m = 10 kgf·cm

- Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord. (Code designation IEC:60245 IEC 57 / CENELEC: H05RN-F or IEC:60245 IEC 66 / CENELEC: H07RN-F)
- Since it has the external power supply, refer to the outdoor unit installation manual for MAIN POWER.



• When installing the indoor unit in a computer room or a server room, use the double shielded communication cable (tape aluminum / polyester braid + copper) of FROHH2R type.

Outdoor Unit

Step1 Choosing the installation location

Installation location requirements

- Do not place the outdoor unit on its side or upside down. Failing to do so may cause the compressor lubrication oil to run into the cooling circuit and lead to a serious damage to the unit.
- Install the unit in a well-ventilated location away from direct sunlight or strong winds.
- Install the unit in a location that would not obstruct any passageways or thoroughfares.
- Install the unit in a location that would not inconvenience or disturb your neighbors, as they could be affected by the noise or the airflow coming from the unit.
- Install the unit in a location where the pipes and the cables can be easily connected to the indoor unit.
- Install the unit on a flat, stable surface that can withstand the weight of the unit. Otherwise, the unit can generate noise and vibration during operation.
- Install the unit so that the air flow is directed towards the open area.
- Maintain sufficient clearance around the outdoor unit, especially from a radio, computer, stereo system, etc.



- Install the unit at a height where its base can be firmly fixed in place.
- Make sure that the water dripping from the drain hose runs away correctly and safely.

- You have just purchased a system air conditioner and it has been installed by your installation specialist.
- This device must be installed according to the national electrical rules.
- If your outdoor unit exceeds a net weight of 60 kg, do not install it on a suspended wall, but stand it on a floor.
- When installing the outdoor unit at the seaside, make sure that it is not directly exposed to sea breeze. If you cannot find an adequate place free from direct sea breeze, construct a protection wall or a protective fence.
- Install the outdoor unit in a place (such as near buildings etc.) where it can be prevented from sea breeze. Failure to do so may cause a damage to the outdoor unit.



- If you cannot avoid installing the outdoor unit at the seaside, construct a protection wall around to block the sea breeze.
- Construct a protection wall with a solid material such as concrete to block the sea breeze. Make sure that the height and the width of the wall are 1.5 times larger than the size of the outdoor unit. Also, secure a space larger than 700 mm between the protection wall and the outdoor unit for exhausted air to ventilate.



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- Depending on the condition of power supply, unstable power or voltage may cause malfunction of the parts or control system. (At the ship or places using power supply from electric generator...etc)
- Install the unit in a place where water can drain smoothly.
- If you have any difficulty finding installation location as prescribed above, contact your manufacturer for details.
- Be sure to clean the sea water and the dust on the heat exchanger of the outdoor unit and apply a corrosion inhibitor on it. (At least once in a year.)
- * In case you want more information about the controllers and accessories, please refer to the Controller and Accessory TDB on pvi.Samsung.com site or Global Partner Portal site.

Outdoor Unit

Outdoor unit dimensions



When installing more than 1 outdoor unit

Outdoor Unit

The outdoor unit must be installed according to the specified distances in order to permit accessibility from each side, to guarantee correct operation, maintenance, and repair of the unit.
The components of the outdoor unit must be reachable and removable under safe conditions for people and the unit.

A WARNING

• Should adopt bar type louver. Don't use a type of rain resistance louver.



- Louver specifications.
 - Angle criteria : less than 20°
 - Opening ratio criteria : greater than 80%

Moving the outdoor unit with wire rope

- 1 Before carrying the outdoor unit, fasten two wire ropes of 8 m or longer, as shown in the figure.
- 2 To prevent damages or scratches effectively, insert a piece of cloth between the outdoor unit and the ropes.
- **3** Move the outdoor unit.



Step 2 Fixing the outdoor unit in place

Install the outdoor unit on a rigid and stable base to prevent disturbance from any noise caused by vibration. When installing the unit at a height or in a location exposed to strong winds, fix the unit securely to a support (i.e., a wall or a ground).

Fix the outdoor unit with anchor bolts. Make sure that the anchor bolts are 20 mm or higher from the base surface.



- Install a drain outlet at the lowest end around the base for outdoor unit drainage
- When installing the outdoor unit on the roof, waterproof the unit and check the ceiling strength.



- Make sure that the wall can support the weights of the rack and the outdoor unit.
- Install the rack close to the column as much as possible.

Outdoor Unit

Optional: Fixing the outdoor unit to a wall with a rack



• Install a proper grommet in order to reduce noise and residual vibration transferred by the outdoor unit towards the wall.

- When installing an air guide duct, be sure to check the following:
- The screws do not damage the copper pipe.
- The air guide duct is fixed firmly on the guard fan.

Step 3 Connecting the power cables, communication cable, and controllers

You must connect the following three electrical cables to the outdoor unit:

- The main power cable between the auxiliary circuit breaker and the outdoor unit.
- The outdoor-to-indoor power cable between the outdoor unit and the indoor unit.
- The communication cable between the outdoor unit and the indoor unit.

- During installation, make first the refrigerant connections and then the electrical connections. If the unit is uninstalled, first disconnect the electrical cables and then the refrigerant connections.
- Connect the air conditioner to the earthing system before making the electrical connections.

NOTE

• Especially, if your outdoor unit is the one designed for Russian and European markets, consult the supply authority, if necessary, to estimate and reduce the supply system impedance before installation.

Air conditioning system examples

When using earth leakage circuit breaker (ELCB) for a single phase



• If the outdoor unit is installed in a location vulnerable to an electric leak or submergence, make sure to install an ELCB.

Outdoor Unit

Connecting the main power cable

When using ELB for 3 phase



- You should connect the power cable into the power cable terminal and fasten it with a clamp.
- The unbalanced power must be maintained within 2% of supply rating.
- If the power is unbalanced greatly, it may shorten the life of the condenser. If the unbalanced power is exceeded over 4% of supply rating, the indoor unit is protected, stopped and the error mode indicates.
- To protect the product from water and possible shock, you should keep the power cable and the connection cord of the indoor and outdoor units within ducts. (with appropriate IP rating and material selection for your application)
- Ensure that main supply connection is made through a switch that disconnects all poles, with contact gap of a least 3 mm.
- Devices disconnected from the power supply should be completely disconnected in the condition of overvoltage category.
- Keep distances of 50 mm or more between power cable and communication cable.

Outdoor Unit

Main power terminal block specifications

• 3-phase terminal block specifications



Main power cable specifications

The power cable is not supplied with air conditioner.

- Select the power supply cable in accordance with relevant local and national regulations.
- Wire size must comply with the applicable local and national code.
- Specifications for local wiring power cord and branch wiring are in compliance with local cord.

3-phase

Indoor unit	Outdoor unit	Hz	Volts	Min.	Max.	Cooling	Heating	Indoor unit	Total	MCA	MFA
AC100RNMPEH	AC100RXAPGH	50	380-415	342	456.5	16.1	16.1	2.5	18.6	18.6	18.6
AC120RNMPEH	AC120RXAPGH	50	380-415	342	456.5	16.1	16.1	2.5	18.6	18.6	18.6
AC140RNMPEH	AC140RXAPGH	50	380-415	342	456.5	16.1	16.1	2.5	18.6	18.6	18.6

- 1 Voltage range
 - Units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits
- **2** Maximum allowable voltage variation between phases is 2%.
- **3** Wire size & type must comply with the applicable local and national code.
 - Wire size: Based on the value of MCA.
 - Wire type: 60245 IEC57(IEC) or H05RN-F(CENELEC) grade or more.

- **4** MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker).
- 5 MCA represents maximum input current.
 - MFA represents capacity which may accept MCA
 - Abbreviations MCA: Min. Circuit Amps. (A) MFA: Max. Fuse Amps. (A)

Outdoor Unit

Silence mode controller wiring diagram



R1,R2 are used for connecting solution product (Centralized control systems, Interface modules etc.)

Connecting the outdoor-to-indoor power cable and the communication cable

3-phase



NOTE

- Lay the electrical wiring so that the front cover does not rise up when doing wiring work and attach the front cover securely.
- Ground wire for the indoor unit and outdoor unit connection cable must be clamped to a soft copper tin-plated eyelet terminal with M4 screw hole(NOT SUPPLIED WITH UNIT ACCESSORIES).

Outdoor Unit

Outdoor-to-indoor power terminal specifications

- Connect the cables to the terminal board using the compressed ring terminal.
- Cover a solderless ring terminal and a connector part of the power cable and then connect it.



Nominal	Nominal		В	D		d1		Е	F	L	d	2	t																									
dimensions for cable (mm²)	dimensions for screw (mm)	Standard dimension (mm)	Allowance (mm)	Standard dimension (mm)	Allowance (mm)	Standard dimension (mm)	Allowance (mm)	Min. (mm)	Min. (mm)	Max. (mm)	Standard dimension (mm)	Allowance (mm)	Min. (mm)																									
A / 4	4	9.5	+0.2	E 4	+0.3	7.4	+0.2	4	5	20	4.3	+0.2 0	0.0																									
4/0	8	15	±0.2	5.6	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	5.4	±0.2	0	9	28.5	8.4	+0.4 0	0.9
10	8	15	±0.2	7.1	+0.3 -0.2	4.5	±0.2	7.9	9	30	8.4	+0.4 0	1.15																									
16	8	16	±0.2	9	+0.3 -0.2	5.8	±0.2	9.5	13	33	8.4	+0.4 0	1.45																									
25	8	12 +0.3	+0.7	11 5	+0.5	77	+0.2	11	15	71	8.4	+0.4	17																									
23	8	16.5	-0.5	C.F	11.J	11.J	11.J	C.F	C.11	C.11	н.э	0.1	11.D	11.D	U.3	11.5	11.5	-0.2	7.7	±0.2	11	13	54	8.4	0	1.7												
75	8	16		17 7	+0.5	0.4	10.2	10 5	13	38	8.4	+0.4	1.0																									
55	8	22	±0.5	15.5	13.3	13.3	13.3	13.3 +0.5 -0.2	+0.5	-0.2	9.4	±0.2	12.5	13	43	8.4	0	1.8																				
50	8	22	±0.3	13.5	+0.5 -0.2	11.4	±0.3	17.5	14	50	8.4	+ 0.4	1.8																									
70	8	24	±0.4	17.5	+0.5 -0.4	13.3	±0.4	18.5	20	51	8.4	+ 0.4 0	2.0																									

- Connect the rated cables only.
- Connect using a driver which is able to apply the rated torque to the screws.
- If the terminal is loose, fire may occur caused by arc. If the terminal is connected too firmly, the terminal may be damaged.

Tightening torque (kgf · cm)				
M4	12.0 to 18.0			
M5	20.0 to 30.0			

• 1 N · m = 10 kgf · cm

Outdoor Unit

- When connecting cables, you can connect the cables to the electrical part or connect them through the holes below depending on the spot.
- Connect the communication cable between the indoor and outdoor units through a conduit to protect against external forces, and feed the conduit through the wall together with refrigerant piping.
- Remove all burrs at the edge of the knock-out hole and secure the cable to the outdoor knock-out using lining and bushing with an electrical insulation such as rubber and so on.
- Must keep the cable in a protection tube.
- Keep distances of 50mm or more between power cable and communication cable.
- When the cables are connected through the hole, remove the Plate bottom.
- Connecting the AC unit to power supply must be using a safety switch for all phase.

Outdoor-to-indoor power and communication cables specifications

Indoor power supply				
Power supply Max/Min (V) Indoor power cable				
1ø, 220-240V, 50 Hz	±10%	Check a indoor install manual (1.5 mm2 ~ 2.5 mm2 ↑, 3 wires)		
Communication cable				
0.75 mm2 ↑, 2 wires				

- Power supply cords of parts of appliances for outdoor use shall not be lighter than polychloroprene sheathed flexible cord. (Code designation IEC:60245 IEC 57 / CENELEC: H05RN-F or IEC:60245 IEC 66 / CENELEC: H07RN-F)
- When installing the indoor unit in a computer room or net work room, use the double shielded (tape aluminium / polyester braid + copper) cable of FROHH2R type.



Step 4 Connecting the refrigerant pipe

Itoms	Maximum allowable length
items	Single Installation
Applicable outdoor	AC100RXAPGH
	AC120RXAPGH
unit models	AC140RXAPGH
Main pipe (L)	75
Max. height difference between outdoor and indoor units (h)	30



• Temper grade and minimum thickness of the refrigerant

Outer diameter		Minimum thickness	Temper grade
mm	-	mm	
ø6.35	1/4"	0.7	
ø9.52	3/8"	0.7	C1220T 0
ø12.70	1/2"	0.8	C12201-0
ø15.88	5/8"	1.0	
ø15.88	5/8"	0.8	
ø19.05	3/4"	0.9	C1220T-1/2H OR C1220T-H
ø22.23	7/8"	0.9	0.220111

^{*} In case you want more information about the controllers and accessories, please refer to the Controller and Accessory TDB on pvi.Samsung.com site or Global Partner Portal site.

Outdoor Unit

• Be sure to use C1220T-1/2H (Semi-hard) pipe for more than Ø19.05 mm. If you use C1220T-O (Soft) pipe for Ø19.05 mm, the pipe may be broken, which can result in an injury.



• The appearance of the unit may be different from the diagram depending on the model.

- After connecting the pipes with knock-out treatment, plug the space around the pipes.
- After connecting the pipes, proceed exactly as directed in the guide to prevent interference with the internal parts.
- Tighten the nuts to the specified torques. If overtightened, the nuts could be broken so refrigerant may leak.
- Protect or enclose refrigerant tubing to avoid mechanical damage.
- After installing pipes, block the unused knock hole to prevent small animal from entering. However, the radiant heat hole(A) should be able to intake air.

Step 5 Installing oil traps

Check the following list and install an oil trap.

- Based on cooling operation, install it on the gas side pipe only.
- Install the oil trap only in between the outdoor unit and the first branch joint and it should be installed at every 10 m.
- Radius of curvature (R) on the oil trap are as follows;

Pipe diameter (D)	12.70	15.88	19.05	22.23	25.40	28.60	31.75
Radius of	25 and	32 and	38 and	41 and	51 and	57 and	60 and
curvature (R)	over						

- Height of the oil trap (H): $4R \le H \le 6R$
- When the indoor unit is installed at a higher place than the outdoor unit



Outdoor Unit

Step 6 Connecting up and removing air in the circuit

• When installing, make sure there is no leakage. When recovering the refrigerant, ground the compressor first before removing the connection pipe. If the refrigerant pipe is not properly connected and the compressor works with the service valve open, the pipe inhales the air and it makes the pressure inside of the refrigerant cycle abnormally high. It may cause explosion and injury.

The air in the indoor unit and in the pipe must be evacuated. If air remains in the refrigerant pipes, it will affect the compressor either reduce cooling/heating capacity or lead to a malfunction. Refrigerant for air purging is not charged in the outdoor unit. Use Vacuum Pump as shown at the right figure.

- 1 Connect each assembly pipe to the appropriate valve on the outdoor unit and tighten the flare nut.
- 2 Referring to the illustration below, tighten the flare nut on section D first manually and then with a torque wrench, applying the following torque.



3 Connect the charging hose of low pressure side of manifold gauge to the packed valve having a service port as shown at the figure.

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- The designs and shape are subject to change according to the model.
- 4 Open the valve of the low pressure side(A) of manifold gauge anticlockwise.



- 5 Purge the air from the system using vacuum pump for about 10 minutes.
 - Close the valve of the low pressure side of manifold gauge clockwise.
 - Make sure that pressure gauge shows -0.1 MPa (-76 cmHg) after about 10 minutes. This procedure is very important to avoid a gas leak.
 - Turn off the vacuum pump.
 - Remove the hose of the low pressure side of manifold gauge.
- 6 Open the stop valve of both liquid and gas sides.
- 7 Mount the valve stem nuts and the service port cap to the valve, and tighten them at the torque of 183 kgf·cm with a torque wrench.
- 8 Check for gas leakage.
 - At this time, especially check for gas leakage from the 3-way valve's stem nuts(A port), and from the service port cap.
- * In case you want more information about the controllers and accessories, please refer to the Controller and Accessory TDB on pvi.Samsung.com site or Global Partner Portal site.

Outdoor Unit

- Connect the indoor and outdoor units using pipes with flared connections (not supplied). For the lines, use insulated, unwelded, degreased and deoxidized copper pipe, (Cu DHP type to ISO 1337 or UNI EN 12735-1), suitable for operating pressures of at least 4200 kPa and for a burst pressure of at least 20700 kPa. Copper pipe for hydro-sanitary applications is completely unsuitable.
- For sizing and limits (height difference, line length, max. bends, refrigerant charge, etc.) see "Connecting refrigerant pipe section".

Step 7 Adding refrigerant (R-410A)

- The outdoor unit is loaded with sufficient refrigerant for the standard piping. Thus, refrigerant must be added if the piping is lengthened. This operation can only be performed by a qualified refrigeration specialist. To determine the quantity of refrigerant charge, see
- 1 Check if the stop valve is closed completely.
- 2 Charge the refrigerant through the service port of the liquid stop valve.

NOTE

- Do not charge the refrigerant through the service port of the gas stop valve.
- **3** If you have any difficulty charging the refrigerant as described in the steps above, take the following steps:
 - **a** Open the liquid stop valve and gas stop valve.
 - **b** Operate the air conditioner by pressing the K2 key on the outdoor unit PCB.
 - **c** After about 30 minutes, charge the refrigerant through the service port of the gas stop valve.



Calculating the quantity of refrigerant to add

The quantity of additional refrigerant is variable according to the installation situation. Thus, make sure the outdoor unit situation before adding refrigerant. This operation can only be performed by a qualified refrigeration specialist.

Single installation outdoor unit

Madal	Interconnection pipe length (m)				
Model	0~7.5	7.5~75			
AC100RXAPGH					
AC120RXAPGH	0	+30 g/m over 7.5 m			
AC140RXAPGH					

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