Contents

For safe and correct use, read this manual and the indoor unit installation manual thoroughly before installing the outdoor unit.
English is original. The other languages versions are translation of the original.

Note: This symbol mark is for EU countries only.
This symbol mark is according to the directive 2012/19/EU Article 14 Information for users and Annex IX.
Your MITSUBISHI ELECTRIC product is designed and manufactured with high quality materials and components which can be recycled and reused.
This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste.
Please, dispose of this equipment at your local community waste collection/recycling centre.
In the European Union there are separate collection systems for used electrical and electronic product.
Please, help us to conserve the environment we live in!

en

1. The following should always be observed for safety

- **Please provide an exclusive circuit for the air to water heat pump and do not connect other electrical appliances to it.**
- **Be sure to read "The following should always be observed for safety" before installing the air to water heat pump.**
- **Be sure to observe the cautions specified here as they include important items related to safety.**
- **The indications and meanings are as follows.**

⚠ **Warning:**
Could lead to death, serious injury, etc.

⚠ **Caution:**
Could lead to serious injury in particular environments when operated incorrectly.

- **After reading this manual, be sure to keep it together with the instruction manual in a handy place on the customer's site.**

⏚ : Indicates a part which must be grounded.

⚠ **Warning:**
Carefully read the labels affixed to the main unit.
◎ **: Indicates warnings and cautions when using R32 refrigerant.**

MEANINGS OF SYMBOLS DISPLAYED ON THE UNIT

	**WARNING** (Risk of fire)	This mark is for R32 refrigerant only. Refrigerant type is written on nameplate of outdoor unit. In case that refrigerant type is R32, this unit uses a flammable refrigerant. If refrigerant leaks and comes in contact with fire or heating part, it will create harmful gas and there is risk of fire.
	Read the OPERATION MANUAL carefully before operation.	
	Service personnel are required to carefully read the OPERATION MANUAL and INSTALLATION MANUAL before operation.	
	Further information is available in the OPERATION MANUAL, INSTALLATION MANUAL, and the like.	

⚠ **Warning:**
- **Do not install it by yourself (customer).**
  Incomplete installation could cause injury due to fire, electric shock, the unit falling or leakage of water. Consult the dealer from whom you purchased the unit or special installer.
- **Servicing shall be performed only as recommended by the manufacturer.**
- **For installation and relocation work, follow the instructions in the Installation Manual and use tools and pipe components specifically made for use with R32 refrigerant. If pipe components not designed for R32 refrigerant are used and the unit is not installed correctly, the pipes may burst and cause damage or injuries. In addition, water leakage, electric shock, or fire may result.**
- **Do not alter the unit. It may cause fire, electric shock, injury or water leakage.**
- **This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.**
- **Install the unit securely in a place which can bear the weight of the unit.**
  When installed in an insufficient strong place, the unit could fall causing injured.
- **Use the specified wires to connect the indoor and outdoor units securely and attach the wires firmly to the terminal board connecting sections so the stress of the wires is not applied to the sections.**
  Incomplete connecting and fixing could cause fire.
- **Do not use intermediate connection of the power cord or the extension cord and do not connect many devices to one AC outlet.**
  It could cause a fire or an electric shock due to defective contact, defective insulation, exceeding the permissible current, etc.
- **Check that the refrigerant gas does not leak after installation has completed.**
- **Perform the installation securely referring to the installation manual.**
  Incomplete installation could cause a personal injury due to fire, electric shock, the unit falling or leakage of water.
- **Use only specified cables for wiring. The wiring connections must be made securely with no tension applied on the terminal connections. Also, never splice the cables for wiring (unless otherwise indicated in this document).**
  Failure to observe these instructions may result in overheating or a fire.
- **If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid hazard.**
- **The appliance shall be installed in accordance with national wiring regulations.**
- **Perform electrical work according to the installation manual and be sure to use an exclusive circuit.**
  If the capacity of the power circuit is insufficient or there is incomplete electrical work, it could result in a fire or an electric shock.
- **Attach the electrical part cover to the indoor unit and the service panel to the outdoor unit securely.**
  If the electrical part cover in the indoor unit and/or the service panel in the outdoor unit are not attached securely, it could result in a fire or an electric shock due to dust, water, etc.
- **Be sure to use the part provided or specified parts for the installation work.**
  The use of defective parts could cause an injury or leakage of water due to a fire, an electric shock, the unit falling, etc.
- **Ventilate the room if refrigerant leaks during operation.**
  If the refrigerant comes in contact with a flame, poisonous gases will be released.
- **When pumping down the refrigerant, stop the compressor before disconnecting the refrigerant pipes. The compressor may burst if air etc. get into it.**
- **When installing or relocating, or servicing the air to water heat pump, use only the specified refrigerant (R32) to charge the refrigerant lines. Do not mix it with any other refrigerant and do not allow air to remain in the lines.**
  If air is mixed with the refrigerant, then it can be the cause of abnormal high pressure in the refrigerant line, and may result in an explosion and other hazards.
  The use of any refrigerant other than that specified for the system will cause mechanical failure or system malfunction or unit breakdown. In the worst case, this could lead to a serious impediment to securing product safety.
- **Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.**
- **The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).**
- **Do not pierce or burn.**
- **Be aware that refrigerants may not contain an odour.**
- ◎ **Pipe-work shall be protected from physical damage.**
- **The installation of pipe-work shall be kept to a minimum.**
- **Compliance with national gas regulations shall be observed.**
- **Keep any required ventilation openings clear of obstruction.**
- ◎ **Do not use low temperature solder alloy in case of brazing the refrigerant pipes.**
- ◎ **When performing brazing work, be sure to ventilate the room sufficiently.**
  Make sure that there are no hazardous or flammable materials nearby.
  When performing the work in a closed room, small room, or similar location, make sure that there are no refrigerant leaks before performing the work.
  If refrigerant leaks and accumulates, it may ignite or poisonous gases may be released.
- ◎ **Do not add the refrigerant more than maximum amount each outdoor units. If it exceeds the maximum amount of refrigerant, it could result in a fire when the refrigerant leaks.**
- ◎ **Keep gas-burning appliances, electric heaters, and other fire sources (ignition sources) away from the location where installation, repair, and other air to water heat pump work will be performed.**
  If refrigerant comes into contact with a flame, poisonous gases will be released.
- ◎ **Do not smoke during work and transportation.**

1. The following should always be observed for safety

⚠ **Caution:**

- **Perform grounding.**
  Do not connect the ground wire to a gas pipe, water pipe arrester or telephone ground wire. Defective grounding could cause an electric shock.
- **Do not install the unit in a place where an inflammable gas leaks.**
  If gas leaks and accumulates in the area surrounding the unit, it could cause an explosion.
- **Install a ground leakage breaker depending on the installation place (where it is humid).**
  If a ground leakage breaker is not installed, it could cause an electric shock.
- **Perform the drainage/piping work securely according to the installation manual.**
  If there is a defect in the drainage/piping work, water could drop from the unit and household goods could be wet and damaged.
- **Fasten a flare nut with a torque wrench as specified in this manual.**
  When fastened too tight, a flare nut may broken after a long period and cause a leakage of refrigerant.

2. Selecting the installation location

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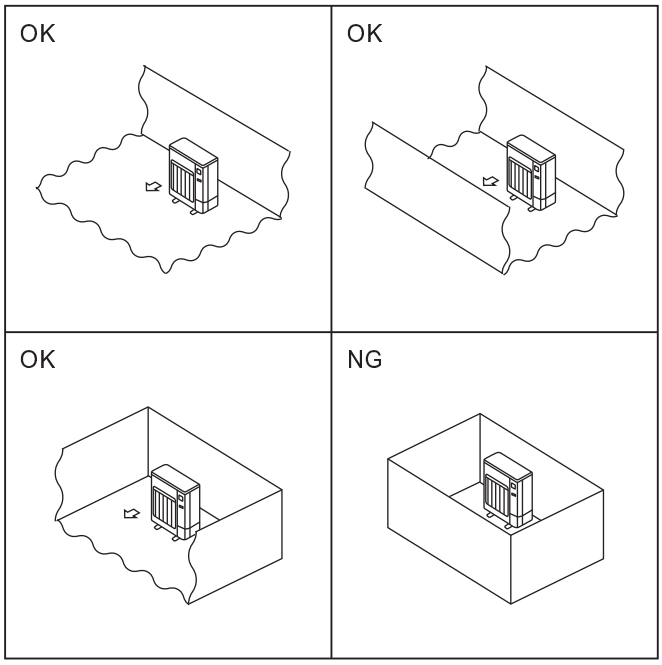


Fig. 2-1

2.1. Outdoor unit

- R32 is heavier than air—as well as other refrigerants—so tends to accumulate at the base (in the vicinity of the floor). If R32 accumulates around base, it may reach a flammable concentration in case room is small. To avoid ignition, maintaining a safe work environment is required by ensuring appropriate ventilation. If a refrigerant leak is confirmed in a room or an area where there is insufficient ventilation, refrain from using of flames until the work environment can be improved by ensuring appropriate ventilation.
- Where it is not exposed to strong wind.
- Where airflow is good and dustless.
- Where it is not exposed to rain and direct sunshine.
- Where neighbours are not annoyed by operation sound or hot air.
- Where rigid wall or support is available to prevent the increase of operation sound or vibration.
- Where there is no risk of combustible gas leakage.
- When installing the unit at a high level, be sure to fix the unit legs.
- Where it is at least 3 m away from the antenna of TV set or radio. (Otherwise, images would be disturbed or noise would be generated.)
- Please install it in an area not affected by snowfall or blowing snow. In areas with heavy snow, please install a canopy, a pedestal and/or some baffle boards.
- Install the unit horizontally.
- Refrigerant pipes connection shall be accessible for maintenance purposes.

◎ Install outdoor units in a place where at least one of the four sides is open, and in a sufficiently large space without depressions. (Fig. 2-1)

⚠ **Caution:**

Avoid the following places for installation where air to water heat pump trouble is liable to occur.

- **Where there is too much machine oil.**
- **Salty environment as seaside areas.**
- **Hot-spring areas.**
- **Where sulfide gas exists.**
- **Other special atmospheric areas.**

The outdoor unit produces condensate during the heating operation. Select the installation place to ensure to prevent the outdoor unit and/or the grounds from being wet by drain water or damaged by frozen drain water.

2. Selecting the installation location

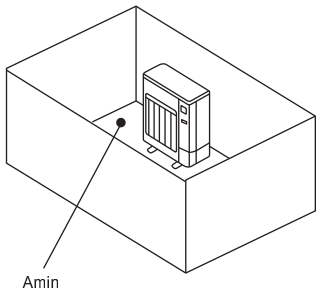
◎2.2. Minimum installation area

If you unavoidably install a unit in a space where all four sides are blocked or there are depressions, confirm that one of these situations (A, B or C) is satisfied.

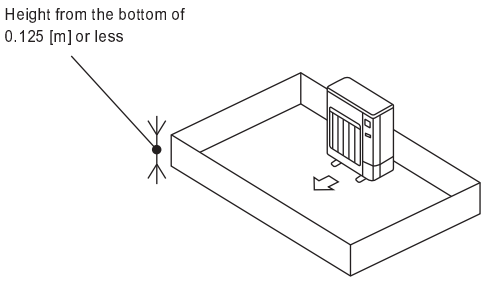
Note: These countermeasures are for keeping safety not for specification guarantee.

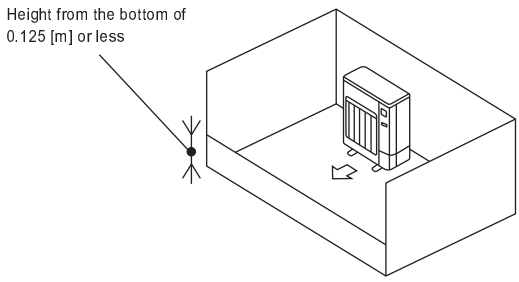
A) Secure sufficient installation space (minimum installation area Amin).
Install in a space with an installation area of Amin or more, corresponding to refrigerant quantity M (factory-charged refrigerant + locally added refrigerant).

M [kg]	Amin [m²]
1.0	12
1.5	17
2.0	23
2.5	28
3.0	34
3.5	39
4.0	45
4.5	50
5.0	56
5.5	62
6.0	67
6.5	73
7.0	78
7.5	84

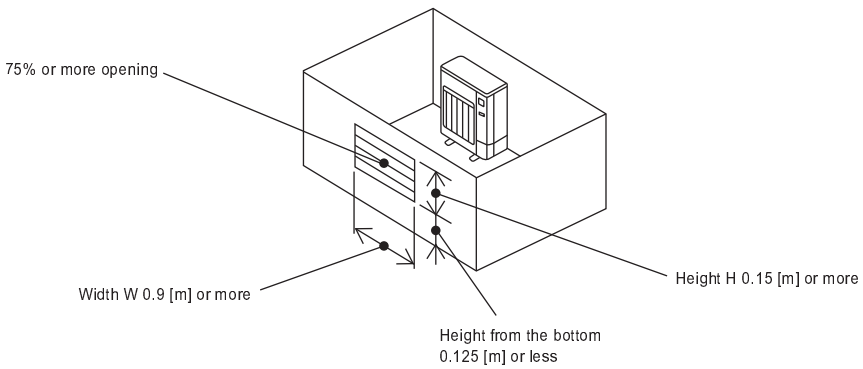


B) Install in a space with a depression height of ≦ 0.125 [m].





C) Create an appropriate ventilation open area.
Make sure that the width of the open area is 0.9 [m] or more and the height of the open area is 0.15 [m] or more.
However, the height from the bottom of the installation space to the bottom edge of the open area should be 0.125 [m] or less.
Open area should be 75% or more opening.



3. Installation diagram

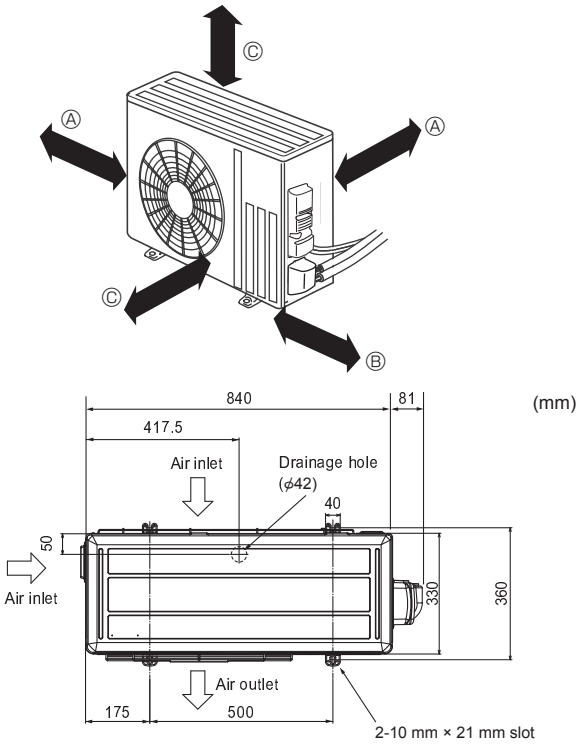


Fig. 3-1

3.1. Outdoor unit (Fig. 3-1)

Ventilation and service space

Ⓐ 100 mm or more
Ⓑ 350 mm or more
Ⓒ 500 mm or more

When the piping is to be attached to a wall containing metals (tin plated) or metal netting, use a chemically treated wooden piece 20 mm or thicker between the wall and the piping or wrap 7 to 8 turns of insulation vinyl tape around the piping.

Units should be installed by licensed contractor accordingly to local code requirement.

Note:
When operating the air to water heat pump in low outside temperature, be sure to follow the instructions described below.

- Never install the outdoor unit in a place where its air inlet/outlet side may be exposed directly to wind.
- To prevent exposure to wind, install the outdoor unit with its air inlet side facing the wall.
- To prevent exposure to wind, it is recommended to install a baffle board on the air outlet side of the outdoor unit.

4. Drain piping for outdoor unit (Fig. 4-1)

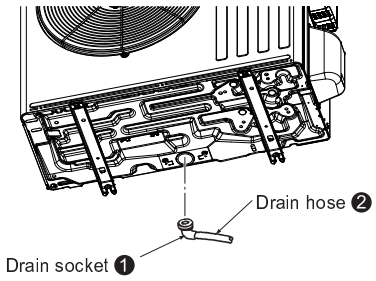


Fig. 4-1

4.1. Accessories

Check the following parts before installation.
<Outdoor unit>

❶	Drain socket	1

- Provide drain piping before indoor and outdoor piping connection. (It will be hard to install drain socket ❶ if indoor and outdoor piping connection is conducted prior to drain piping as outdoor unit becomes immovable.)
- Connect the drain hose ❷ (obtainable at a store, inside diameter: 15 mm) as shown in the figure for drainage.
- Make sure to provide drain piping with a downhill grade for easy drain flow.

Note:
Do not use the drain socket ❶ in the cold region. Drain may freeze and it makes the fan stop.

5. Refrigerant piping work

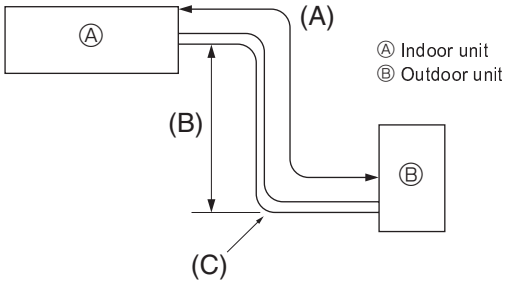


Fig. 5-1

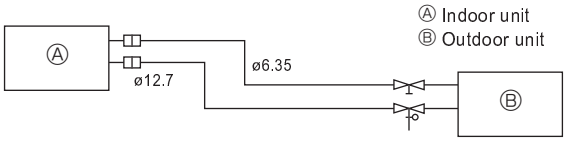


Fig. 5-2

5.1. Refrigerant pipe (Fig. 5-1)

► **Check that the difference between the heights of the indoor and outdoor units, the length of refrigerant pipe, and the number of bends in the pipe are within the limits shown below.**

Models	(A) Pipe length (one way)	(B) Height difference	(C) Number of bends (one way)
SWM40/SWM60/SWM80	5 m - 30 m	Max. 30 m	Max. of 10

- Height difference limitations are binding regardless of which unit, indoor or outdoor, is positioned higher.
- Refrigerant adjustment ... If pipe length exceeds 10 m, additional refrigerant (R32) charge is required.
  (The outdoor unit is charged with refrigerant for pipe length up to 10 m.)

Pipe length	Up to 10 m	No additional charge is required.	Maximum amount of refrigerant
	Exceeding 10 m	Additional charge is required. (Refer to the table below.)	
Refrigerant to be added	SWM40	20 g × (refrigerant piping length (m) -10)	1.6 kg
	SWM60	20 g × (refrigerant piping length (m) -10)	1.6 kg
	SWM80	20 g × (refrigerant piping length (m) -10)	1.6 kg

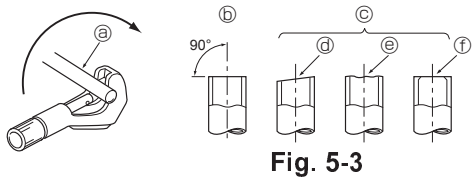
(1) Table below shows the specifications of pipes commercially available. (Fig. 5-2)

Model	Pipe	Outside diameter		Min. wall thickness	Insulation thickness	Insulation material
		mm	inch			
SWM40	For liquid	6.35	1/4	0.8 mm	8 mm	Heat resisting foam plastic 0.045 specific gravity
	For gas	12.7	1/2	0.8 mm	8 mm	
SWM60	For liquid	6.35	1/4	0.8 mm	8 mm	
	For gas	12.7	1/2	0.8 mm	8 mm	
SWM80	For liquid	6.35	1/4	0.8 mm	8 mm	
	For gas	12.7	1/2	0.8 mm	8 mm	

(2) Ensure that the 2 refrigerant pipes are well insulated to prevent condensation.
(3) Refrigerant pipe bending radius must be 100 mm or more.

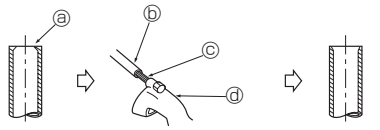
⚠ **Caution:**
Using careful insulation of specified thickness. Excessive thickness prevents storage behind the indoor unit and smaller thickness causes dew drippage.

- Be sure to have appropriate ventilation in order to prevent ignition. Furthermore, be sure to carry out fire prevention measures that there are no dangerous or flammable objects in the surrounding area.
- R32 maintenance refilling: Before servicing refilling the equipment with R32 to ensure that there is no risk of explosion from electrical sparks it must be ensured that the equipment machine is 100% disconnected from the mains supply.



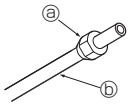
ⓐ Copper tubes
ⓑ Good
ⓒ No good
ⓓ Tilted
ⓔ Uneven
ⓕ Burred

Fig. 5-3



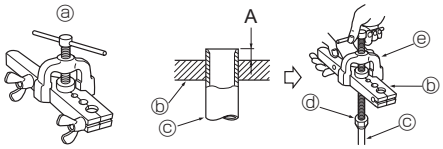
ⓐ Burr
ⓑ Copper tube/pipe
ⓒ Spare reamer
ⓓ Pipe cutter

Fig. 5-4



ⓐ Flare nut
ⓑ Copper tube

Fig. 5-5



ⓐ Flaring tool
ⓑ Die
ⓒ Copper tube
ⓓ Flare nut
ⓔ Yoke

Fig. 5-6

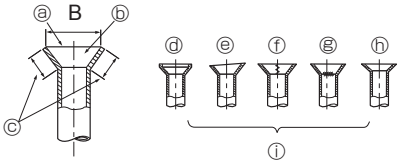


Fig. 5-7

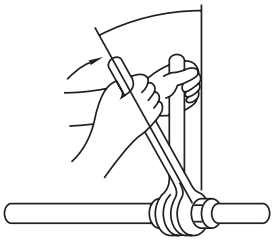


Fig. 5-8

5.2. Flaring work

- Main cause of gas leakage is defect in flaring work.
  Carry out correct flaring work in the following procedure.

5.2.1. Pipe cutting (Fig. 5-3)

- Using a pipe cutter cut the copper tube correctly.

5.2.2. Burrs removal (Fig. 5-4)

- Completely remove all burrs from the cut cross section of pipe/tube.
- Put the end of the copper tube/pipe to downward direction as you remove burrs in order to avoid burrs drop in the tubing.

5.2.3. Putting nut on (Fig. 5-5)

- Remove flare nuts attached to indoor and outdoor unit, then put them on pipe/tube having completed burr removal.
  (not possible to put them on after flaring work)

5.2.4. Flaring work (Fig. 5-6)

- Carry out flaring work using flaring tool as shown at the right.

Pipe diameter (mm)	Dimension		
	A (mm)		$B^{+0}_{-0.4}$ (mm)
	When the tool for R32 is used		
	Clutch type		
6.35	0 - 0.5		9.1
9.52	0 - 0.5		13.2
12.7	0 - 0.5		16.6
15.88	0 - 0.5		19.7

Firmly hold copper tube in a die in the dimension shown in the table at above.

5.2.5. Check (Fig. 5-7)

- Compare the flared work with a figure in right side hand.
- If flare is noted to be defective, cut off the flared section and do flaring work again.

ⓐ Smooth all around
ⓑ Inside is shining without any scratches
ⓒ Even length all around
ⓓ Too much
ⓔ Tilted
ⓕ Scratch on flared plane
ⓖ Cracked
ⓗ Uneven
ⓘ Bad examples

- Apply a thin coat of refrigeration oil on the seat surface of pipe. (Fig. 5-8)
- For connection first align the center, then tighten the first 3 to 4 turns of flare nut.
- Use tightening torque table below as a guideline for indoor unit side union joint section, and tighten using two wrenches. Excessive tightening damages the flare section.

Copper pipe O.D. (mm)	Flare nut O.D. (mm)	Tightening torque (N·m)
ø6.35	17	14 - 18
ø9.52	22	34 - 42
ø12.7	26	49 - 61
ø15.88	29	68 - 82

⚠ **Warning:**
When installing the unit, securely connect the refrigerant pipes before starting the compressor.

⚠ **Warning:**
Be careful of flying flare nut! (Internally pressurized)
Remove the flare nut as follows:
1. Loosen the nut until you hear a hissing noise.
2. Do not remove the nut until the gas has been completely released (i.e., hissing noise stops).
3. Check that the gas has been completely released, and then remove the nut.

5.3. Purging procedures leak test

PURGING PROCEDURES

Connect the refrigerant pipes (both the liquid and gas pipes) between the indoor and the outdoor units.

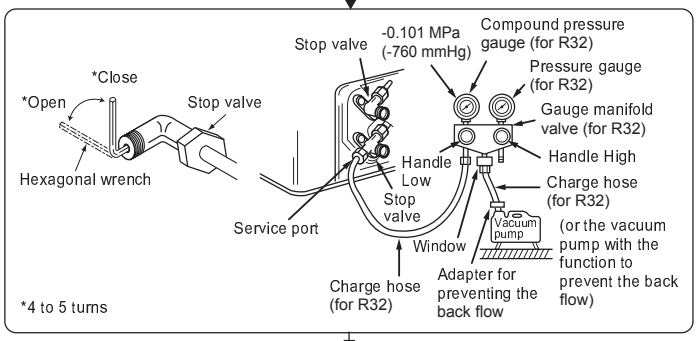
Remove the service port cap of the stop valve on the side of the outdoor unit gas pipe. (The stop valve will not work in its initial state fresh out of the factory (totally closed with cap on).)

Connect the gage manifold valve and the vacuum pump to the service port of the stop valve on the gas pipe side of the outdoor unit.

Run the vacuum pump. (Vacuumize for more than 15 minutes.)

Check the vacuum with the gage manifold valve, then close the gage manifold valve, and stop the vacuum pump.

Leave it as is for one or two minutes. Make sure the pointer of the gage manifold valve remains in the same position. Confirm that the pressure gage show -0.101 MPa (-760 mmHg).



Remove the gage manifold valve quickly from the service port of the stop valve.

After refrigerant pipes are connected and evacuated, fully open all stop valves on gas and liquid pipe sides.
Operating without fully opening lowers the performance and causes trouble.

Pipe length : 10 m maximum No gas charge is needed.	Pipe length exceeding 10 m Charge the prescribed amount of gas.

Tighten the cap to the service port to obtain the initial status.

Retighten the cap.

Leak test

6. Electrical work

6.1. Outdoor unit (Fig. 6-1, Fig. 6-2, Fig. 6-3)

① Remove the service panel.
② Wire the cables referring to the Fig. 6-1, Fig. 6-2 and the Fig. 6-3.

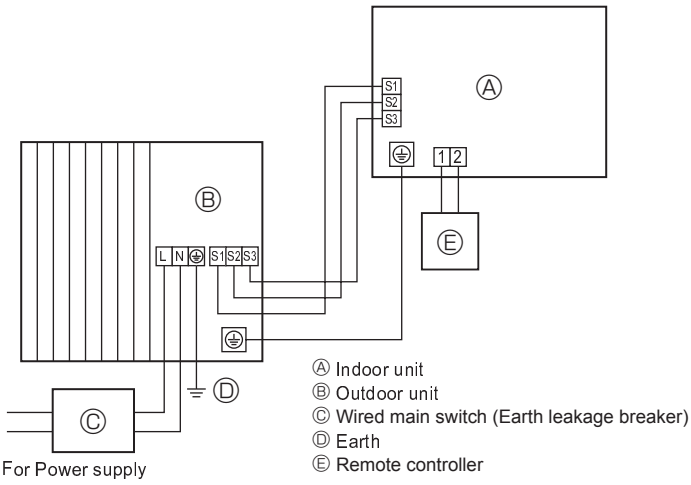


Fig. 6-1

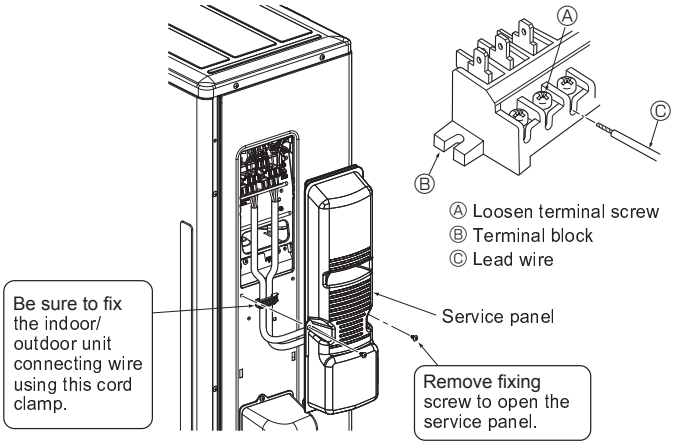
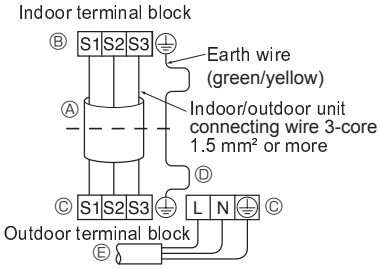


Fig. 6-3



Power supply cord 2.5 mm² or more

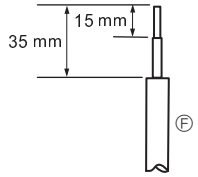


Fig. 6-2

- Perform wiring as shown in the diagram to the lower left. (Procure the cable locally) (Fig. 6-2)
  Make sure to use cables of the correct polarity only.
  Ⓐ Connecting cable
  Ⓑ Indoor terminal block
  Ⓒ Outdoor terminal block
  Ⓓ Always install an earth wire longer than other cables.
  Ⓔ Power supply cord
  Ⓕ Lead wire

- Make earth wire a little longer than others. (More than 100 mm)
- For future servicing, give extra length to the connecting wires.
- Be sure to attach each screw to its correspondent terminal when securing the cord and/or the wire to the terminal block.

- Connect cable from the indoor unit correctly on the terminal-block.
- Use the same terminal block and polarity as is used with the indoor unit.
- For aftercare maintenance, give extra length to connecting cable.

- Both end of connecting cable (extension wire) are peeled off. When too long, or connected by cutting off the middle, peel off power supply cable to the size given in the figure.
- Be careful not to contact connecting cable with piping.

⚠ **Caution:**
- **Use care not to make miswiring.**
- **Firmly tighten the terminal screws to prevent them from loosening.**
- **After tightening, pull the wires lightly to confirm that they do not move.**

⚠ **Warning:**
- **Be sure to attach the service panel of the outdoor unit securely. If it is not attached correctly, it could result in a fire or an electric shock due to dust, water, etc.**
- **Tighten terminal screws securely.**
- **Wiring should be done so that the power lines are not subject to tension. Otherwise, heat may be generated or fire may occur.**

6. Electrical work

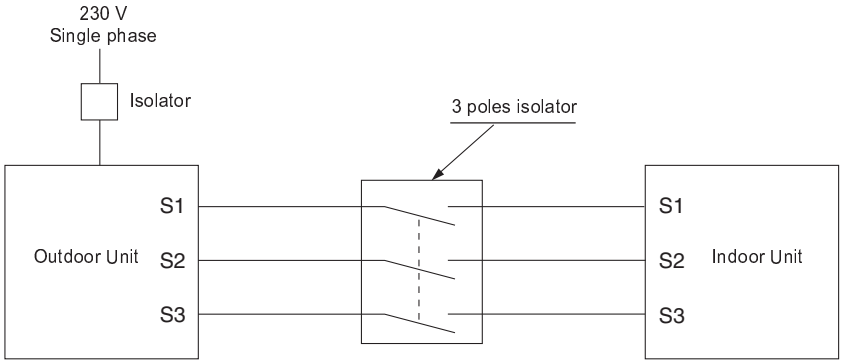
6.2. Field electrical wiring

Outdoor unit model		SWM40/SWM60/SWM80
Outdoor unit power supply		~/N (single), 50 Hz, 230 V
Outdoor unit input capacity Main switch (Breaker)	*1	16 A
Wiring Wire No. × size (mm^2)	Outdoor unit power supply	2 × Min. 2.5
	Outdoor unit power supply earth	1 × Min. 2.5
	Indoor unit-Outdoor unit	3 × 1.5 (Polar)
	Indoor unit-Outdoor unit earth	1 × Min. 1.5
Circuit rating	Outdoor unit L-N *2	230 VAC
	Indoor unit-Outdoor unit S1-S2 *2	230 VAC
	Indoor unit-Outdoor unit S2-S3 *2	12 VDC – 24 VDC

*1. A breaker with at least 3 mm contact separation in each poles shall be provided. Use earth leakage breaker (NV).
Make sure that the current leakage breaker is one compatible with higher harmonics.
Always use a current leakage breaker that is compatible with higher harmonics as this unit is equipped with an inverter.
The use of an inadequate breaker can cause the incorrect operation of inverter.

*2. The figures are NOT always against the ground.
S3 terminal has 24 VDC against S2 terminal. However between S3 and S1, these terminals are NOT electrically insulated by the transformer or other device.

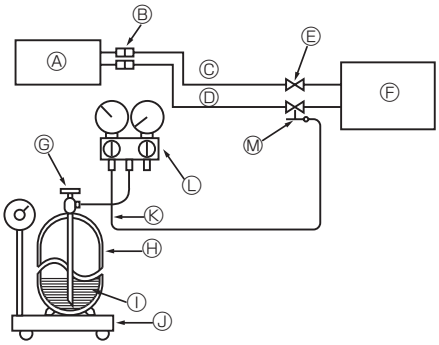
Notes: 1. Wiring size must comply with the applicable local and national code.
2. Power supply cords and Indoor/Outdoor unit connecting cords shall not be lighter than polychloroprene sheathed flexible cord. (Design 60245 IEC 57)
3. Install an earth longer than other cables.
4. Use self-extinguishing distribution cables for power supply wiring.
5. Properly route wiring so as not to contact the sheet metal edge or a screw tip.



⚠ **Warning:**
There is high voltage potential on the S3 terminal caused by electrical circuit design that has no electrical insulation between power line and communication signal line. Therefore, please turn off the main power supply when servicing. And do not touch the S1, S2, S3 terminals when the power is energized. If isolator should be used between indoor unit and outdoor unit, please use 3-poles type.

Never splice the power cable or the indoor-outdoor connection cable, otherwise it may result in a smoke, a fire or communication failure.

Be sure to connect the indoor-outdoor connecting cables directly to the units (no intermediate connections).
Intermediate connections can lead to communication error if water enters the cables and causes insufficient insulation to ground or a poor electrical contact at the intermediate connection point.



Ⓐ Indoor unit
Ⓑ Union
Ⓒ Liquid pipe
Ⓓ Gas pipe
Ⓔ Stop valve
Ⓕ Outdoor unit
Ⓖ Refrigerant gas cylinder operating valve
Ⓗ Refrigerant gas cylinder for R32 with siphon
Ⓘ Refrigerant (liquid)
Ⓙ Electronic scale for refrigerant charging
Ⓚ Charge hose (for R32)
Ⓛ Gauge manifold valve (for R32)
Ⓜ Service port

Fig. 7-1

7.1. Gas charge (Fig. 7-1)

1. **Connect gas cylinder to the service port of stop valve (3-way).**
2. **Execute air purge of the pipe (or hose) coming from refrigerant gas cylinder.**
3. **Replenish specified amount of refrigerant, while running the air to water heat pump for cooling.**

Note:
In case of adding refrigerant, comply with the quantity specified for the refrigerating cycle.

⚠ **Caution:**
- **Do not discharge the refrigerant into the atmosphere.**
  Take care not to discharge refrigerant into the atmosphere during installation, reinstallation, or repairs to the refrigerant circuit.
- **For additional charging, charge the refrigerant from liquid phase of the gas cylinder.**
  If the refrigerant is charged from the gas phase, composition change may occur in the refrigerant inside the cylinder and the outdoor unit. In this case, ability of the refrigerating cycle decreases or normal operation can be impossible. However, charging the liquid refrigerant all at once may cause the compressor to be locked. Thus, charge the refrigerant slowly.

To maintain the high pressure of the gas cylinder, warm the gas cylinder with warm water (under 40°C) during cold season. But never use naked fire or steam.

8. Pumping down

When relocating or disposing of the outdoor unit, pump down the system following the procedure below so that no refrigerant is released into the atmosphere.

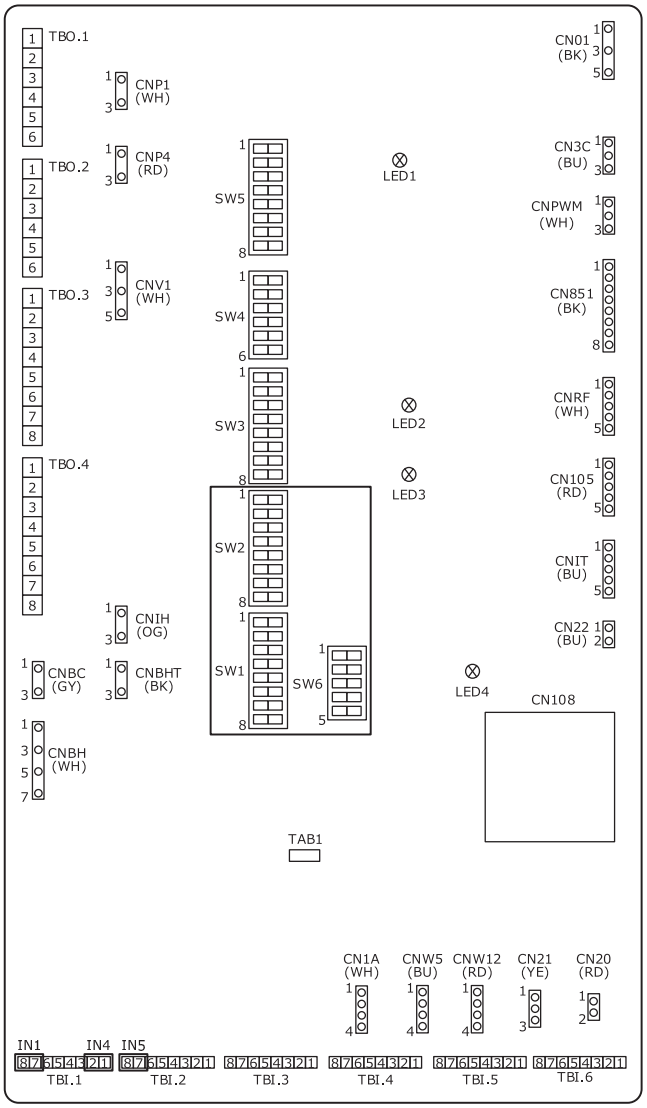
① Turn OFF all the supply circuit (including Indoor unit, Heater, Outdoor unit etc.)

② Connect the gauge manifold valve to the service port of the stop valve on the gas pipe side of the outdoor unit.

③ Fully close the stop valve on the liquid pipe side of the outdoor unit.

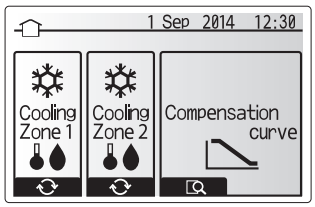
④ Change the settings on the indoor unit.

- Set DIP switch SW1-3 to OFF, SW2-1 to OFF, SW2-4 to ON and SW6-3 to OFF on the indoor control board.
- Disconnect the signal inputs IN1 (room thermostat 1 input), IN4 (Demand control input) and IN5 (Outdoor thermostat input).

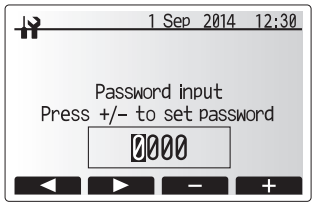


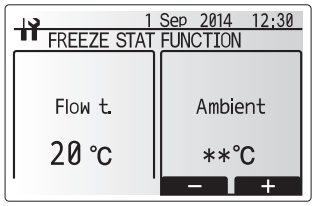
⑤ Turn ON all the supply circuit.

⑥ From the main menu on the main controller of the indoor unit, select "Heating/cooling mode" → "Cooling flow temp.".



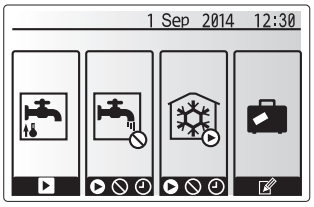
⑦ From the main menu, select "Service" → "Operation settings" → "Freeze stat function", and then set the minimum outdoor ambient temperature to *(asterisk). You will be prompted to enter a password. THE FACTORY DEFAULT PASSWORD is "0000".

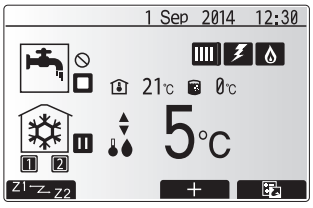




⑧ Perform the refrigerant collecting operation.

- Push "ON/OFF" button on the main controller.
- From the option menu, set "Cooling ON".
- Set the target flow temperature to 5 °C. If the system is controlled by a room temperature thermostat, set the target room temperature to 10 °C.
  Refrigerant collecting operation starts after 60 seconds.
- For details or for other information about the main controller settings, refer to the installation manual or operation manual for indoor unit.





⑨ Fully close the stop valve on the gas pipe side of the outdoor unit when the pressure gauge shows 0.05 to 0 MPa [Gauge] (approx. 0.5 to 0 kgf/cm²) and quickly stop the outdoor unit.

- Push the "ON/OFF" button on the remote controller to stop the outdoor unit.

* Note that when the extension piping is very long with a large refrigerant amount, it may not be possible to perform a pump down operation. In this case, use refrigerant recovery equipment to collect all of the refrigerant in the system.

⑩ Set back the main controller setting changed at the procedure ⑧ above.

⑪ Push the "ON/OFF" button for about 3 seconds on the main controller of the indoor unit to stop the unit.

⑫ Set back the main controller settings changed at any other procedure except ⑧.

⑬ Turn OFF all the supply circuit and set back the DIP switch settings on the indoor circuit board as it were.

⑭ Remove the gauge manifold valve, and then disconnect the refrigerant pipes.

⚠ Warning:

When pumping down the refrigerant, stop the compressor before disconnecting the refrigerant pipes.

- **If the refrigerant pipes are disconnected while the compressor is operating and the stop valve (ball valve) is open, the pressure in the refrigeration cycle could become extremely high if air is drawn in, causing the pipes to burst, personal injury, etc.**

⚠ Caution:

Do NOT use this COOLING mode at any other cases except pumping down.
If it is used as normal operation, the heat pump may not provide enough performance.

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9. Specifications

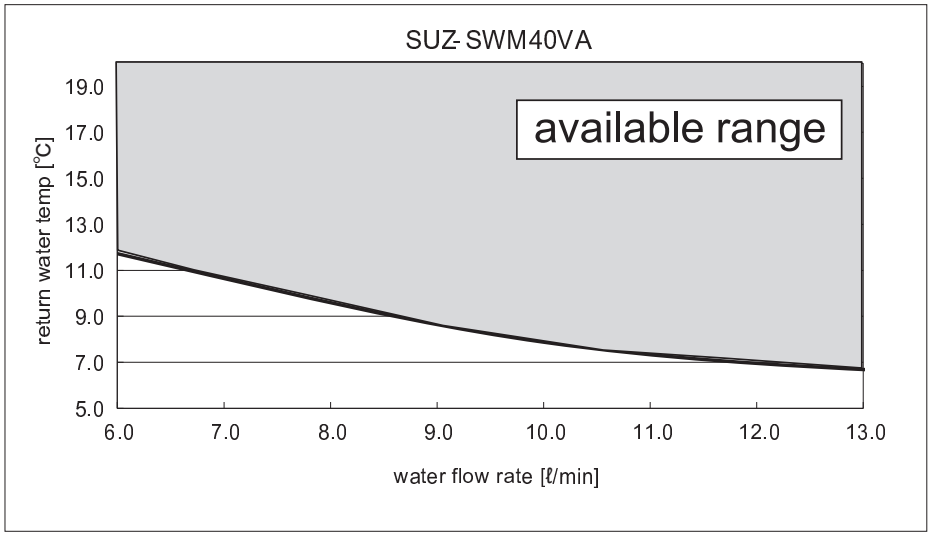
9.1. Outdoor unit specifications

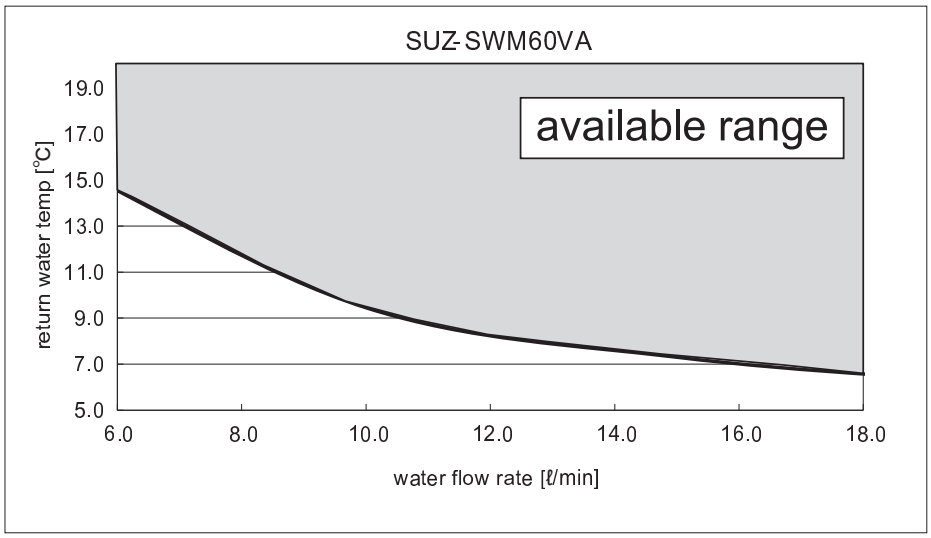
Outdoor model		SUZ-SWM40	SUZ-SWM60	SUZ-SWM80
Power supply	V / Phase / Hz	230 / Single / 50		
Dimensions (W × H × D)	mm	840 × 880 × 330		
Sound Power Level *1 (Heating)	dB(A)	57	59	61

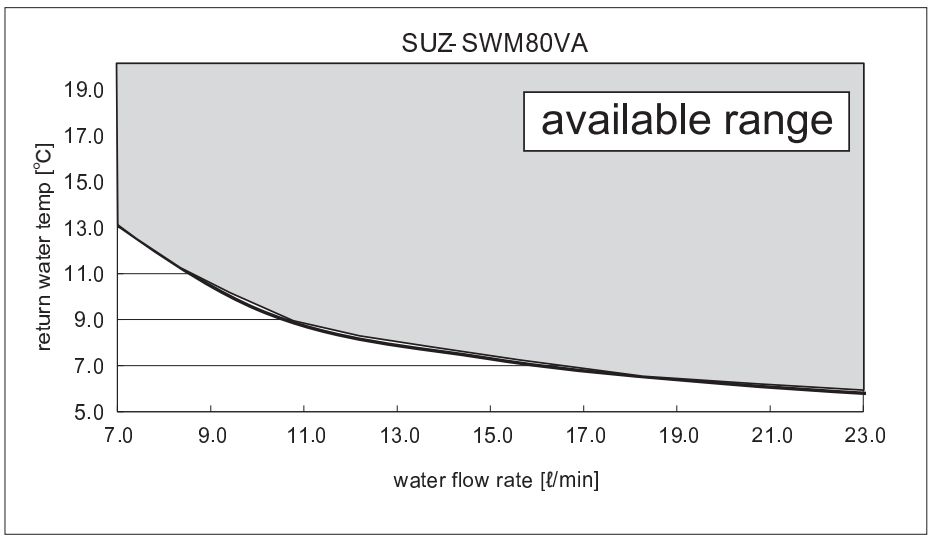
*1. Measured under rated operation frequency.

9.2. Available range (Water flow rate, return water temp.)

Following water flow rate and return temperature range is required in the water circuit.



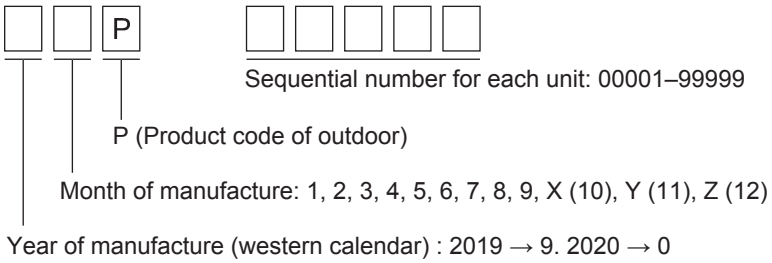




Make sure to perform freeze protection measure such as applying anti-freeze solution when operating the unit on cooling mode under low ambient temperature (under 0 °C).

10. Serial number

■ **The serial number is indicated on the SPEC NAME PLATE.**



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