



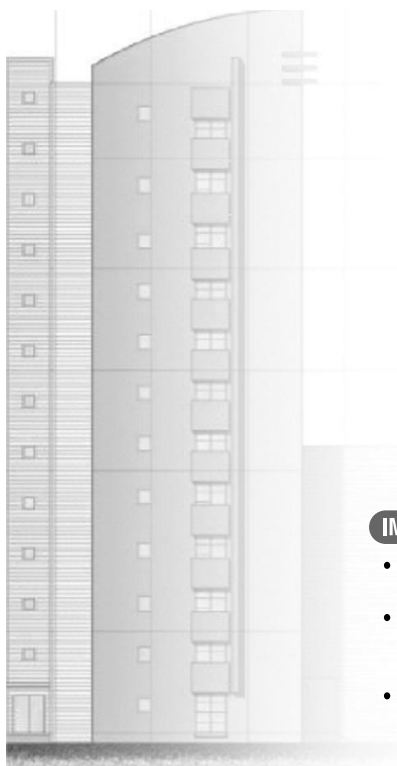
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LG

ENGLISH

MULTI V™ System Indoor Unit (2 Series) **INSTALLATION MANUAL**

Type: Ceiling Concealed Duct - High Static



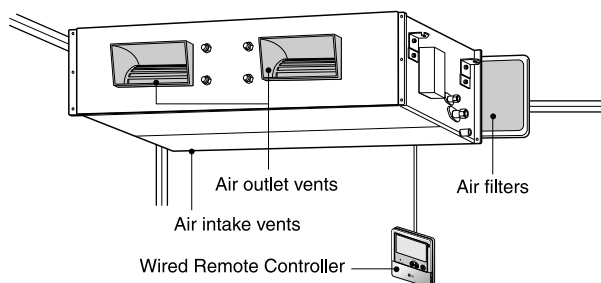
IMPORTANT

- Please read this installation manual completely before installing the product.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.
- Please retain this installation manual for future reference after reading it thoroughly.

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Features



Safety Precautions

To prevent injury to the user or other people and property damage, the following instructions must be followed.

- Be sure to read before installing the air conditioner.
- Be sure to observe the cautions specified here as they include important items related to safety.
- Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

⚠ WARNING This symbol indicates the possibility of death or serious injury.

⚠ CAUTION This symbol indicates the possibility of injury or damage to properties only.

Meanings of symbols used in this manual are as shown below.

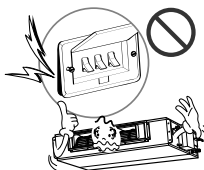
	Be sure not to do.
	Be sure to follow the instruction.

⚠ WARNING

■ Installation

Do not use a defective or under-rated circuit breaker. Use this appliance on a dedicated circuit.

- There is risk of fire or electric shock.



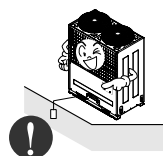
For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center.

- Do not disassemble or repair the product. There is risk of fire or electric shock.



Always ground the product.

- There is risk of fire or electric shock.



Install the panel and the cover of control box securely.

- There is risk of fire or electric shock.



Always install a dedicated circuit and breaker.

- Improper wiring or installation may cause fire or electric shock.



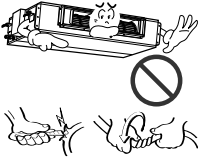
Use the correctly rated breaker or fuse.

- There is risk of fire or electric shock.



Do not modify or extend the power cable.

- There is risk of fire or electric shock.



Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open.

- Moisture may condense and wet or damage furniture.



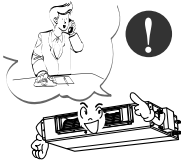
Be cautious when unpacking and installing the product.

- Sharp edges could cause injury. Be especially careful of the case edges and the fins on the condenser and evaporator.



For installation, always contact the dealer or an Authorized Service Center.

- There is risk of fire, electric shock, explosion, or injury.



Do not install the product on a defective installation stand.

- It may cause injury, accident, or damage to the product.



Be sure the installation area does not deteriorate with age.

- If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.



■ Operation

Do not store or use flammable gas or combustibles near the product.

- There is risk of fire or failure of product.

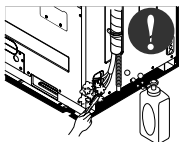


⚠ CAUTION

■ Installation

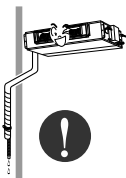
Always check for gas (refrigerant) leakage after installation or repair of product.

- Low refrigerant levels may cause failure of product.



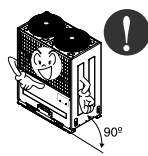
Install the drain hose to ensure that water is drained away properly.

- A bad connection may cause water leakage.



Keep level even when installing the product.

- To avoid vibration or water leakage.



Do not install the product where the noise or hot air from the outdoor unit could damage the neighborhoods.

- It may cause a problem for your neighbors.



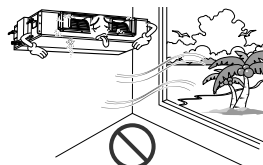
Use two or more people to lift and transport the product.

- Avoid personal injury.



Do not install the product where it will be exposed to sea wind (salt spray) directly.

- It may cause corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient operation.



If you eat the liquid from the batteries, brush your teeth and see doctor. Do not use the remote if the batteries have leaked.

- The chemicals in batteries could cause burns or other health hazards.



Specifications

Type			Ceiling Concealed Duct(High Static)		
Model		Unit	JRNU28GBGA2	JRNU36GBGA2	JRNU42GBGA2
Cooling Capacity		kW	8.2	10.6	12.3
		kcal/h	7,100	9,100	10,600
		Btu/h	28,000	36,200	42,000
Heating Capacity		kW	9.2	11.9	13.8
		kcal/h	8,000	10,200	11,000
		Btu/h	31,500	40,600	43,800
Casing			Galvanized Steel Plate	Galvanized Steel Plate	Galvanized Steel Plate
Dimensions(WxDxH)	Body	mm	1,182x450x298	1,182x450x298	1,182x450x298
		inch	46.5x17.7x10.2	46.5x17.7x10.2	46.5x17.7x10.2
Coil	Rows x Columns x FPI		3x12x21	3x12x21	3x12x21
	Face Area	m²	0.26	0.26	0.26
Fan	Type		Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor Output x Number	W	390	390	390
	Running Current	A	2.30	2.30	2.30
	Air Flow Rate(H/M/L)	CMM	25.9/24.1/21.8	32.3/29/25.3	34.5/32.3/30.7
	(High Mode-factory set)	cfm	915/851/770	1,141/1,024/893	1,218/1,141/1,084
	External Static Pressure	mmAq(Pa)	10(100)	10(100)	10(100)
	Air Flow Rate(H/M/L)	CMM	25.3/21.8/17.6	28.4/25.3/21.8	32/28.4/27.2
	(Standard Mode)	cfm	893/770/622	1,003/893/770	1,130/1,003/961
	External Static Pressure	mmAq(Pa)	8(80)	8(80)	8(80)
	Drive		Direct	Direct	Direct
	Motor type		BLDC	BLDC	BLDC
Temperature Control			Microprocessor, Thermostat for cooling and heating	Microprocessor, Thermostat for cooling and heating	Microprocessor, Thermostat for cooling and heating
Sound Absorbing Thermal Insulation Material			Foamed polystyrene	Foamed polystyrene	Foamed polystyrene
Air Filter			-	-	-
Safety Device			Fuse	Fuse	Fuse
Pipe Connections	Liquid Side	mm(inch)	Ø9.52(3/8)	Ø9.52(3/8)	Ø9.52(3/8)
	Gas Side	mm(inch)	Ø15.88(5/8)	Ø15.88(5/8)	Ø15.88(5/8)
	Drain Pipe(Internal Dia.)	mm	25.0	25.0	25.0
Net Weight		kg(lbs)	38(83.8)	38(83.8)	38(83.8)
Noise Level(Sound Press, 1.5m, H/M/L)		dB(A)	44/42/40	46/44/42	48/46/45
Power Supply		Ø, V, Hz	1, 220 ~ 240, 50 1, 220, 60	1, 220 ~ 240, 50 1, 220, 60	1, 220 ~ 240, 50 1, 220, 60
Refrigerant Control			EEV	EEV	EEV
Power cable		mm²	CV1.5 x 3C	CV1.5 x 3C	CV1.5 x 3C
Transmission cable		mm²	CVV-SB 1.25 x 2C	CVV-SB 1.25 x 2C	CVV-SB 1.25 x 2C

Notes:-

1. Capacities are based on the following conditions:

- Cooling
 - Indoor temp. 27°C[80.6°F]DB/ 19°C[66.2°F]WB
 - Outdoor temp. 35°C[95°F]DB/ 24°C[75.2°F]WB
 - Interconnecting Piping Length 7.5m
 - Level Difference of Zero
- Heating
 - Indoor temp. 20°C[68°F]DB/ 15°C[59°F]WB
 - Outdoor temp. 7°C[44.6°F]DB/ 6°C[42.8°F]WB
 - Interconnecting Piping Length 7.5m
 - Level Difference of Zero

2. Capacities are net capacities

3. Due to our policy of innovation some specifications may be changed without prior notification

4. To be added for more available Models

5. EEV : Electronic Expansion Valve

6. Noise Level is Standard Mode

(for actual High Mode(factory set) condition, Noise Level may exceed the standard level by 1.5dBA)

Conversion Formula

kcal/h = kW x 860
 Btu/h = kW x 3412
 cfm = m³/min x 35.3
 l/s = CMM x 1000/60

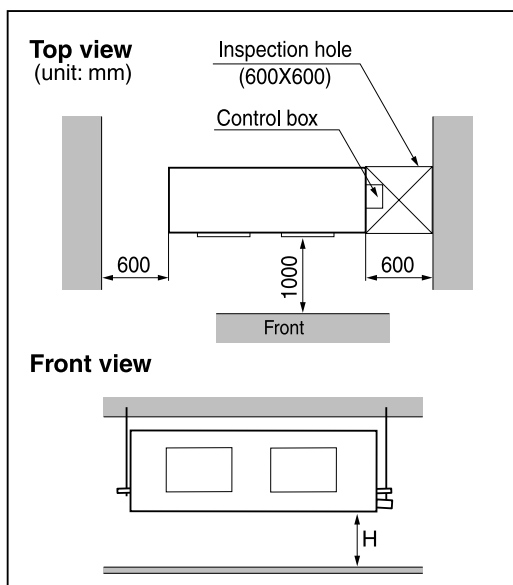
Installation

Read completely, then follow step by step.

Selection of the best location

Install the air conditioner in the location that satisfies the following conditions.

- The place shall easily bear a load exceeding four times the indoor unit's weight.
- The place shall be able to inspect the unit as the figure.
- The place where the unit shall be leveled.
- The place shall allow easy water drainage.(Suitable dimension "H" is necessary to get a slope to drain as figure.)
- The place shall easily connect with the outdoor unit.
- The place where the unit is not affected by an electrical noise.
- The place where air circulation in the room will be good .
- There should not be any heat source or steam near the unit.



CAUTION : In case that the unit is installed near the sea, the installation parts may be corroded by salt, The installation parts (and the unit) should be taken appropriate anti-corrosion measures.

Ceiling dimension and hanging bolt location

Installation of Unit

Install the unit above the ceiling correctly.

CASE 1

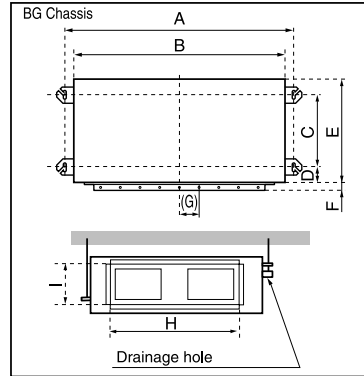
POSITION OF SUSPENSION BOLT

- Apply a joint-canvas between the unit and duct to absorb unnecessary vibration.

(Unit:mm)

Dimension	A	B	C	D	E	F	(G)	H	I
Capacity(Btu/h)									
28/36/42k	1232	1182	355	47	450	30	87	830	186

(Unit:mm)

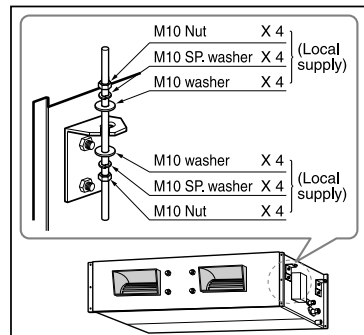


CASE 2

- Install the unit leaning to a drainage hole side as a figure for easy water drainage.

POSITION OF CONSOLE BOLT

- A place where the unit will be leveled and that can support the weight of the unit.
- A place where the unit can withstand its vibration.
- A place where service can be easily performed.

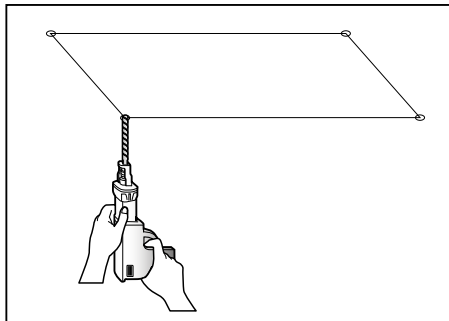


NOTICE

- Thoroughly study the following installation locations:
 1. In such places as restaurants and kitchens, considerable amount of oil steam and flour adhere to the fan, the fin of the heat exchanger, resulting in heat exchange reduction, spraying, dispersing of water drops, etc.
In these cases, take the following actions:
 - Make sure that the ventilation fan for smoke-collecting hood on a cooking table has sufficient capacity so that it draws oily steam which should not flow into the suction of the air conditioner.
 - Make enough distance from a cooking room to install the air conditioner in such a place where it may not suck in oil steam.
 2. Avoid installing air conditioner in such circumstances where cutting oil mist or iron powder is in suspension in factories, etc.
 3. Avoid places where inflammable gas is generated, flows in, is stored or vented.
 4. Avoid places where sulfurous acid gas or corrosive gas is generated.
 5. Avoid places near high frequency generators.

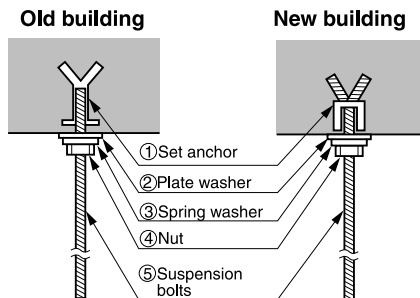
Indoor Unit Installation

- Select and mark the position for fixing bolts.
- Drill the hole for set anchor on the face of ceiling.



CAUTION : Tighten the nut and bolt to prevent unit falling.

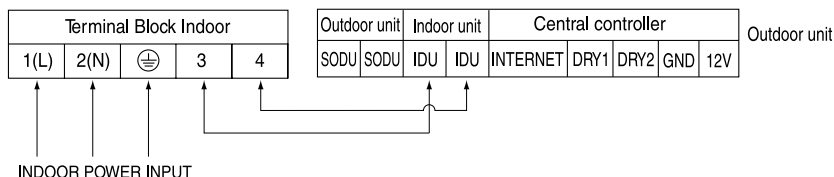
- Insert the set anchor and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- Mount the suspension bolts to the set anchor firmly.
- Secure the installation plates onto the suspension bolts (adjust level roughly) using nuts, washers and spring washers.



Wiring Connection

Connect the wires to the terminals on the control board individually according to the outdoor unit connection.

- Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively.



WARNING : Make sure that the screws of the terminal are free from looseness.

Clamping of cables

- 1) Arrange 2 power cables on the control panel.
- 2) First, fasten the steel clamp with a screw to the inner boss of control panel.
- 3) For the cooling model, fix the other side of the clamp with a screw strongly. For the heat pump model, put the 0.75mm² cable(thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel.

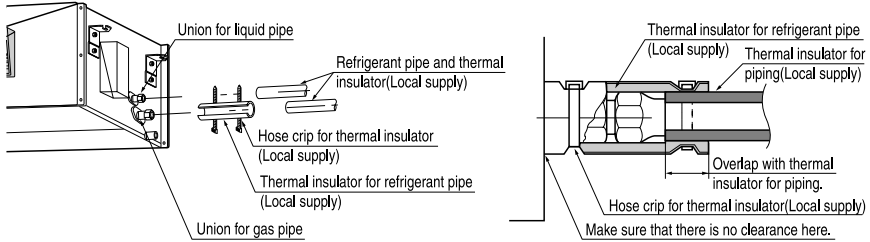
INSULATION, OTHERS

Insulate the joint and tubes completely.

THERMAL INSULATION

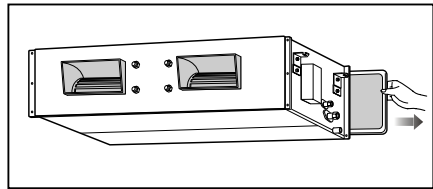
All thermal insulation must comply with local requirement.

INDOOR UNIT



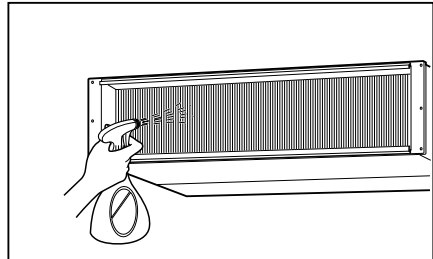
Checking the Drainage

1. Remove the Air Filter.



2. Check the drainage.

- Spray one or two glasses of water upon the evaporator.
- Ensure that water flows drain hose of indoor unit without any leakage.

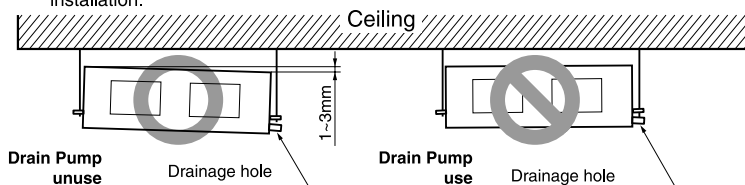


CAUTION

1. **Install declination** of the indoor unit is very **important for the drain** of the duct type air conditioner.
2. Minimum thickness of the insulation for the connecting pipe shall be 5mm.

Front of view

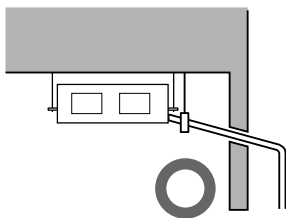
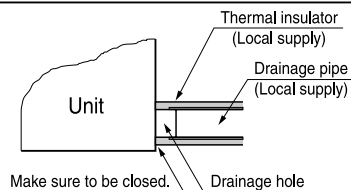
- The unit must be horizontal or declined to the drain hose connected when finished installation.



CAUTION FOR GRADIENT OF UNIT AND DRAIN PIPING

Lay the drain hose with a downware inclination so water will drain out.

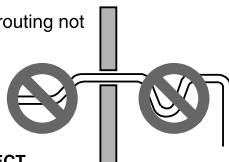
- Always lay the drain with downward inclination (1/50 to 1/100). Prevent any upward flow or reverse flow in any part.
- 5mm or thicker formed thermal insulator shall always be provided for the drain pipe.



CORRECT

- Install the P-Trap (or U-Trap) to prevent a water leakage caused by the blocking of intake air filter.

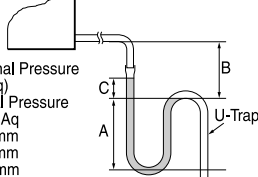
- Upward routing not allowed



INCORRECT

Applied U-Trap Dimension

- A $\geq$ 70mm
- B $\geq$ 2C
- C $\geq$ 2 x SP
- SP = External Pressure (mmAq)
- Ex) External Pressure = 10mmAq
- A $\geq$ 70mm
- B $\geq$ 40mm
- C $\geq$ 20mm



**CAUTION:**

After the confirmation of the above conditions, prepare the wiring as follows:

- 1) **Never fail to have an individual power specialized for the air conditioner. As for the method of wiring, be guided by the circuit diagram posted on the inside of control box cover.**
- 2) **Provide a circuit breaker switch between power source and the unit.**
- 3) **The screws which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)**
- 4) **Specification of power source**
- 5) **Confirm that electrical capacity is sufficient.**
- 6) **Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.**
- 7) **Confirm that the cable thickness is as specified in the power sources specification. (Particularly note the relation between cable length and thickness.)**
- 8) **Never fail to equip a leakage breaker where it is wet or moist.**
- 9) **The following troubles would be caused by voltage drop-down.**
 - Vibration of a magnetic switch, damage on the contact point, fuse breaking, disturbance by the normal function of an overload protection device.
 - Proper starting power is not given to the compressor.

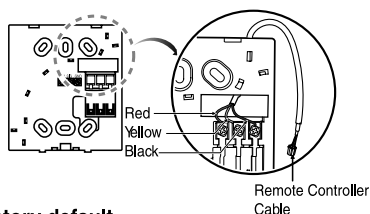
HAND OVER

Teach the customer the operation and maintenance procedures, using the operation manual. (air filter cleaning, temperature control, etc.)

Installation of Wired Remote Controller

1. Connect the wired remote controller cable to the wired remote controller installation board as shown in the right picture.

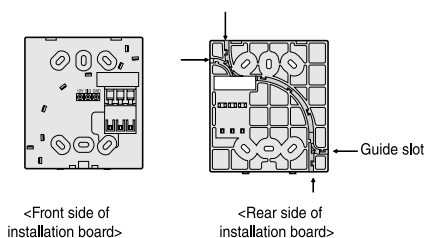
12V	Red wire
SIG	Yellow wire
GND	Black wire



※ The wired remote controller cable is connected as factory default.

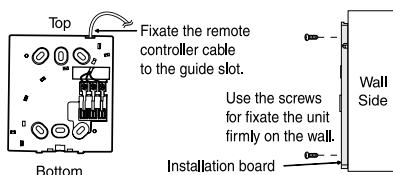
2. After fixing the cable to the guide slot, attach the wired remote controller installation board at the desired location.

- Before fixing the wired remote controller cable to the guide slot, remove any clogged part of the case in the direction to install before the installation.

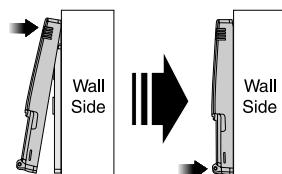


3. After locating the wired remote controller installation board at the desired location, screw the unit firmly. (When there is a buried box, install the wired remote controller board to fit the buried box.)

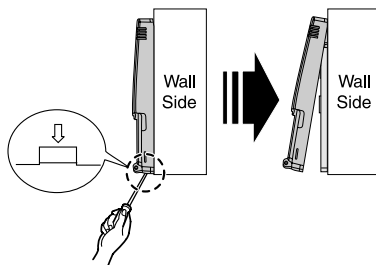
- Use the screw provided.



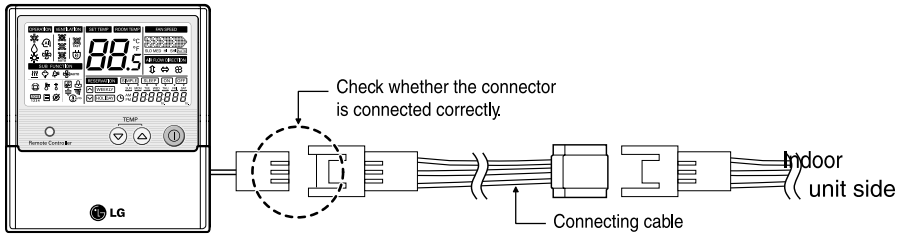
4. After fixing the top part of the wired remote controller to the installation board as shown in beside picture, press the bottom part to assemble the controller to it's board.



When disassemble the wired remote controller from the installation board, use the driver as shown in the right picture and insert it into the hole with the arrow. And when you pull the driver in the front direction, the wired remote controller will be separated.



5. Use the connecting cable to connect the indoor unit and the wired remote controller.



6. When the distance between the wired remote controller and the indoor unit is 10m and above, use the extension cable.

⚠ CAUTION

**When installing the wired remote controller, do not bury it in the wall.
(It can cause damage in the temperature sensor.)**

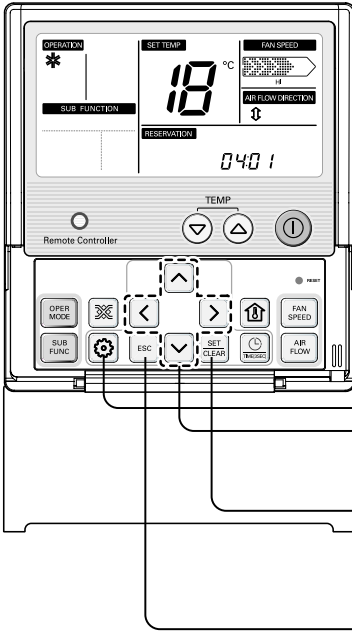
Do not install the cable to be 50m or above.

(It can cause communication error.)

- When installing the extension cable, check the connecting direction of the connector of the remote controller side and the product side for correct installation.
- If you install the extension cable in the opposite direction, the connector will not be connected.
- Specification of extension cable: 2547 1007 22# 2 core 3 shield 5 or above.

Optional Operation of Wired Remote Controller

Two Thermistor System



1. Press  button for 4 seconds to enter the installer setting mode until timer segment display "01:01".

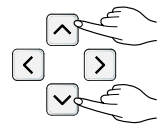


2. Repeat pressing  button to select Function code 04.

04:01

Function Code Thermistor setting

3. Set Thermistor mode by pressing   button
(01: Remote Controller,
02: Indoor, 03: 2TH)



4. Press  button to save or release



5. Press  button to exit or system will automatically exit after 25 seconds without any input.



※ Therefore system will use value that sensed from indoor unit or remote controller

Temperature sensor location		Function
01	Remote controller	Operation in remote controller Temperature sensor
02	Indoor unit	Operation in indoor unit temperature sensor
03	2-Thermistor	Operation in lower temperature after comparing the temperature between the indoor unit and remote controller

※ If you want to know more Optional Operation, please refer to Wired Remote Controller Manual.

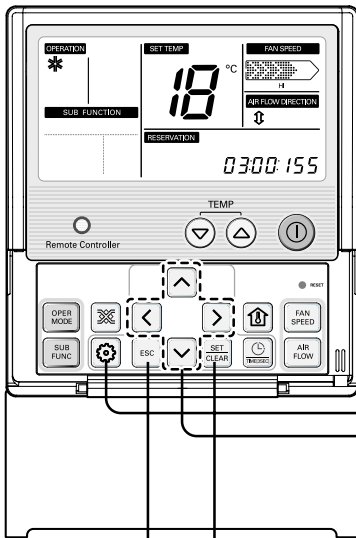
How to Set E.S.P?

What is an E.S.P function?

This is the function that decides the strength of the wind for each wind level and because this function is to make the installation easier, please do not use this function when using the remote controller.

⚠ CAUTION

**If you set ESP incorrectly, the air conditioner may malfunction.
This setting must be carried out by a certificated-technician.
This function is using for only Duct product**



1. Press button for 4 seconds to enter the installer setting mode until timer segment display "01:01".

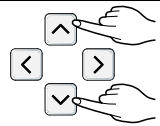


2. Repeat pressing Function Setting key to select Function code 03.

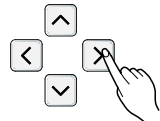
03:00:155

Function Code ESP step ESP value

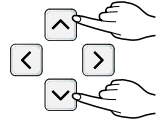
3. Set ESP step by pressing button (01: very low, 02: low, 03: medium, 04: high, 05: power).



4. Move to ESP setting by pressing button.



5. Press button to select ESP value(0~255).



6. Press button to save or release



7. Press button to exit or the system will automatically exit after 25 seconds without any input



* Weak and Power setting is not available for some products.

* Because the ESP value is already appropriately set when manufactured from the factory, it is recommended that you do not change the ESP value.

JRNU28GBGA2, JRNU36GBGA2, JRNU42GBGA2

(Unit: CMM)

Setting Value	Static Pressure(mmAq(Pa))								
	5(50)	6(60)	7(70)	8(80)	9(90)	10(100)	12(120)	14(140)	16(160)
70	-	-	-	-	-	-	-	-	-
80	4.0	-	-	-	-	-	-	-	-
90	12.1	6.9	4.13	-	-	-	-	-	-
100	17.0	15.5	11.01	6.2	4.2	-	-	-	-
110	21.4	19.6	17.53	14.0	11.6	6.6	-	-	-
120	25.8	24.0	21.8	19.8	17.9	14.6	12.1	-	-
130	30.0	28.5	26.93	25.3	23.4	21.8	18.1	14.6	11.3
140	36.0	32.1	30.41	29.0	27.4	25.9	21.6	17.8	14.5
143	37.5	33.9	32.1	30.7	28.8	27.2	23.0	20.1	16.8
150	41.0	38.0	36.0	34.5	32.1	30.1	26.3	22.4	18.2
160	42.4	41.6	38.2	36.1	35	34.6	31.1	26.8	23.3

Note: 1. The above table shows the correlation between the air rates and E.S.P.



P/No.: MFL40857302

After reading this manual, keep it in a place easily accessible to the user for future reference.