R410A

5CSB0-02B (Replaces 5CSB0-02A)

TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK





SINGLE A Compact Indoor unit Introduction

Preface

New era brings the more sophisticated and advanced buildings which in turn demands for specialized and optimized direct expansion air conditioning systems. Also energy efficiency, low noise and low maintenance are the features which are essential for these systems.

As a part of vertical integration LG makes all the key components in house, which gives us an edge to LG to make better and latest technology products with best quality in optimized time.

These systems are equipped with inverter technology and R410A refrigerant which is perfect solution to various installation locations.

This Engineering product data book incorporates information about the product itself, and installation, designing for these systems.

The comprehensive study of this book will improve your knowledge about the system and its application in detail.

LG Electronics Inc.

General information

- 1. Model line up
- 2. External Appearance
- 3. Nomenclature

1. Model line up

Catagory		Chassis	Capacity Index [kW (kBtu/h)]			
	Category		5.0(18)	7.1(24)	8.0(30)	10.0(36)
Ceiling	Middle Static Pressure	ВН	•	•		
Concealed	cealed				•	
Duct	wildule Static Pressure (2)	M2				•

2. External Appearance

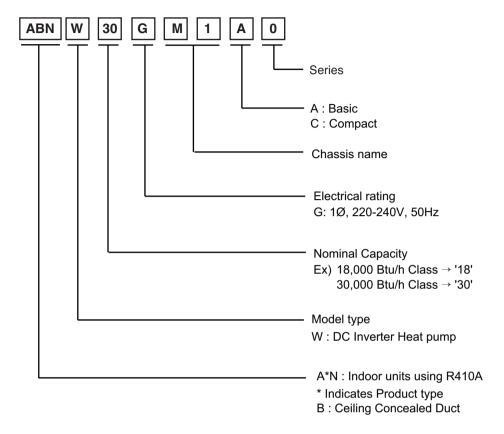
- · Ceiling Concealed Duct Middle static pressure ABNW18GBHC0 [UB18C NH0] ABNW24GBHC0 [UB24C NH0]
- Ceiling Concealed Duct Middle static pressure(2) ABNW30GM1A0 [UM30 N14] ABNW36GM2A0 [UM36 N24]



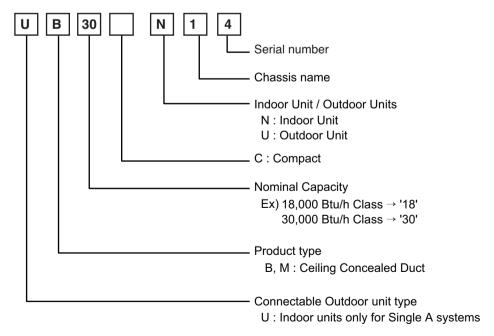
$\mathsf{SINGLE} \mathbf{A}_{\mathtt{m}} \mathsf{Compact} \; \mathsf{Indoor} \; \mathsf{unit}$

3. Nomenclature

3.1 Global Name



3.2 European Name



Ceiling concealed duct - Middle static pressure

- 1. List of functions
- 2. Specifications
- 3. Dimensions
- 4. Piping diagrams
- 5. Wiring Diagrams
- 6. External pressure setting for **Tuning**
- 7. Sound levels
- 8. Controller
- 9. Installation

$\mathsf{SINGLE} \, \pmb{A}_{\scriptscriptstyle{\mathsf{IM}}} \mathsf{Compact} \; \; \mathsf{Indoor} \; \mathsf{unit}$

1. List of functions

Category	Functions	ABNW18GBHC0 [UB18C NH0] ABNW24GBHC0 [UB24C NH0]
	Air supply outlet	2
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	X
	Auto swing (left & right)	X
Air flow	Auto swing (up & down)	X
	Airflow steps (fan/cool/heat)	3/3/3
	Chaos wind(auto wind)	X
	Jet cool/heat	X / X
	Swirl wind*	Χ
	Triple filter (Deodorizing)	Χ
A to a could do a	Plasma air purifier	X
Air purifying	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	0
	Drain pump	ABDPG
	E.S.P. control*	0
Installation	Electric heater	X
	High ceiling operation*	X
	Auto Elevation Grille	X
	Hot start	0
Reliability	Self diagnosis	0
	Auto changeover	0
	Auto cleaning	X
	Auto operation(artificial intelligence)	X
	Auto Restart	0
	Child lock*	0
Convenience	Forced operation	X
CONVENIENCE	Group control*	0
	Sleep mode	0
	Timer(on/off)	0
	Timer(weekly)*	0
	Two thermistor control*	0
	Wired remote controller	PQRCVSL0/PQRCVSL0QW/PREMTB001/PREMTBB01
	Premium wired remote controller	X
Individual	Simple wired remote controller	PQRCVCL0Q / PQRCVCL0QW**
control	Simple Wired remote controller(for hotel use)	X
	Wireless remote controller*	PQWRHQ0FDB
	General central controller (Non LGAP)	X
Motwork	Network Solution(LGAP)	
Network	Simple Dry contact (outside AC 220V power source)	PQDSA / PDRYCB000
Solution	2 Points Dry Contact (For setback)	PDRYCB000
	Dry contact for Thermostat	PDRYCB300
	PI 485(for Indoor Unit)	X
	Zone controller	ABZCA
0	CTI(Communication transfer interface)	X
Special	Electronic thermostat	X
function kit	Telecom shelter controller	X
	Independent Power Module	X
	CO ₂ Sensor	X
Others	Remote temperature sensor	PQRSTA0
J 1010	Group control wire	PZCWRCG3

- 1. *: These functions need to connect the wired remote controller.
- 2. ** : It is included by default when the product is manufactured.
- 3. For synchro operation, some functions and accessories are not available. Check the outdoor unit's PDB.

O : Applied X : Not applied

Accessory model name: Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package

2. Specifications

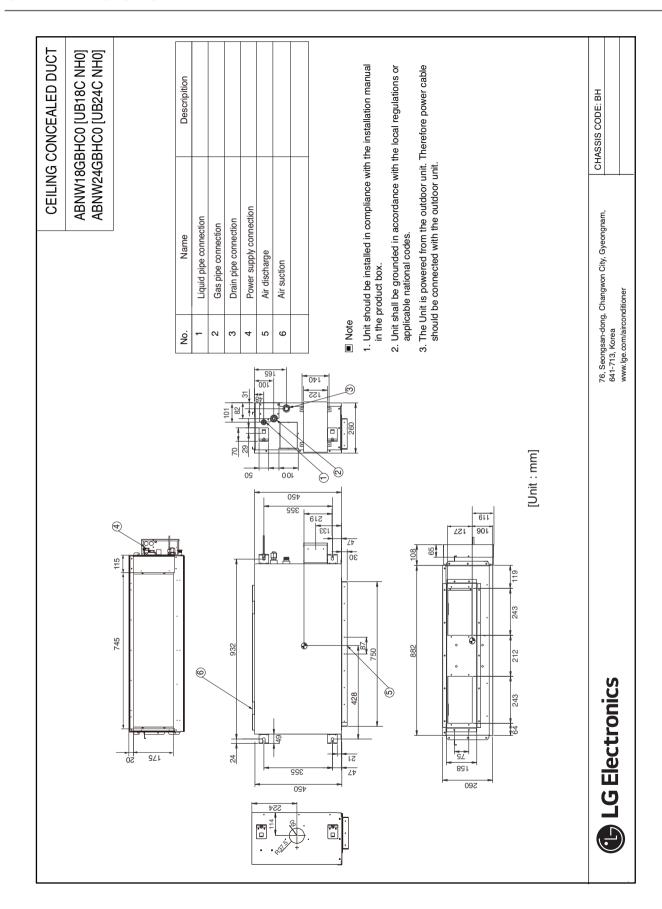
Model Name					ABNW18GBHC0 [UB18C NH0]	ABNW24GBHC0 [UB24C NH0]
Power Supply				V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
D:		WxHxD		mm	882 × 260 × 450	882 × 260 × 450
Dimensions	Body		WxHxD	inch	34-23/32 x 10-1/4 x 17-23/32	34-23/32 x 10-1/4 x 17-23/32
Net Weight	Body		•	kg (lbs)	25.3 (55.7)	26.1 (57.5)
Heat	(Row x	Column x Fin:	s per inch) x No.	-	(2 x 20x 18) x 1	(3 x 20x 18) x 1
Exchanger	Face /	Area		m² (ft²)	0.58 (6.28)	0.58 (6.28)
	Туре			-	Sirocco Fan	Sirocco Fan
Fan	Air High-static		H/M/L	m³/min	13.5 / 12.0 / 10.5	18.0 / 16.5 / 14.5
ran	Flow	w Mode	H/M/L	ft³/min	476 / 423 / 370	635 / 582 / 512
	Rate (Factory S	(Factory Set)	External Static Pressure	Pa (mmAq)	58.8 (6)	58.8 (6)
Fan Motor	Туре			-	BLDC	BLDC
ran wotor	Output			W x No.	154 x 1	154 x 1
Dehumidification Rat	Dehumidification Rate			l / h (pts/h)	1.1 (2.5)	2.12 (4.9)
Sound Pressure Lev	el		H/M/L	dB(A)	36 / 34 / 32	38 / 36 / 34
Sound Power Level			Max.	dB(A)	59	63
Dining	Liquid			mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
Piping Connections	Gas			mm(inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)
Connections	Drain (O.D. / I.D.)		mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0	
Safety Devices				-	Fuse	Fuse
Power and Commun	ication (Cable (includ	ed Earth)	No. x mm² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Notes:

- 1. Wiring cable size must comply with the applicable local and national code.
- 2. Due to our policy of innovation some specifications may be changed without notification.
- 3. Sound Level Values are measured at Anechoic chamber.

Therefore, these values can be increased owing to ambient conditions during operation.

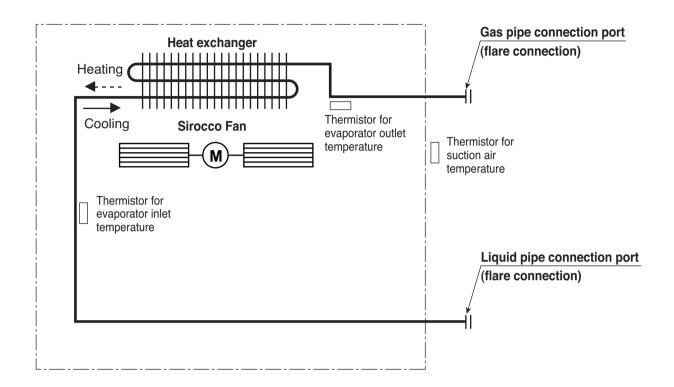
SINGLE A Compact Indoor unit 3. Dimensions



$\mathsf{SINGLE} \, \pmb{A}_{\scriptscriptstyle{\mathsf{IN}}} \mathsf{Compact} \; \; \mathsf{Indoor} \; \mathsf{unit}$

4. Piping diagrams

Models: ABNW18GBHC0 [UB18C NH0] / ABNW24GBHC0 [UB24C NH0]



Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE / IN
Thermistor for evaporator outlet temperature	CN-PIPE / OUT

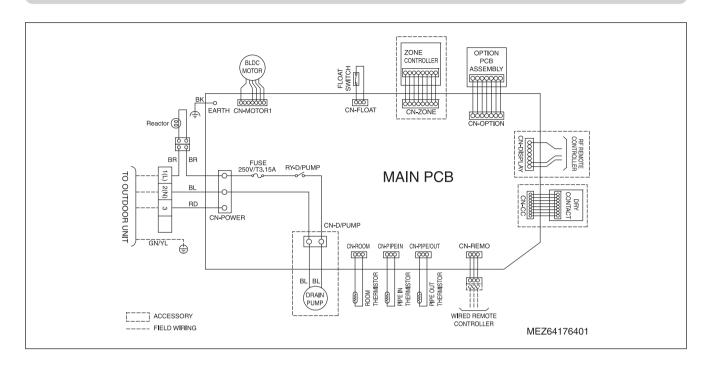
■ Refrigerant pipe connection port diameters

[Unit:mm]

Model	Gas	Liquid
ABNW18GBHC0 [UB18C NH0]	Ø12.7	Ø6.35
ABNW24GBHC0 [UB24C NH0]	Ø15.88	Ø9.52

SINGLE A Compact Indoor unit 5. Wiring diagrams

Models: ABNW18GBHC0 [UB18C NH0] / ABNW24GBHC0 [UB24C NH0]



6. External pressure setting for Pruning



Tuning (E.S.P. Control) provide required constant air volume irrespective of E.S.P. charge.

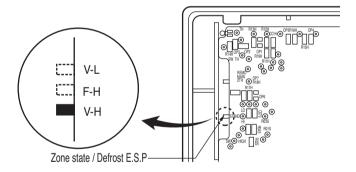
- (1) Open the rear cover of the wired remote-controller to set the mode.
- (2) Select one of three selectable modes as follows.

■ Without zone system

- 1. Position V-H, F-H:
 - This position sets the maximum E.S.P. as a default set.
- 2. Position V-L:
 - This position sets the minimum E.S.P. as a default set.

■ With zone system

- 1. Position V-H:
 - · Maximum E.S.P. setting & Fan speed is varied according to the state of dampers by micom.
- 2. Position F-H:
 - · Maximum E.S.P. setting & Fan speed doesn't vary according to the opening & closing of dampers.
- 3. Position V-L:
 - · Minimum E.S.P. setting & Fan speed is varied according to the state of dampers by micom.
- (3) Move the slide switch to set position.



(4) Close the rear cover and check if it works normally.

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- Select the position after checking duct work and E.S.P. of the unit.
- · Maunfactured in the position F-H.

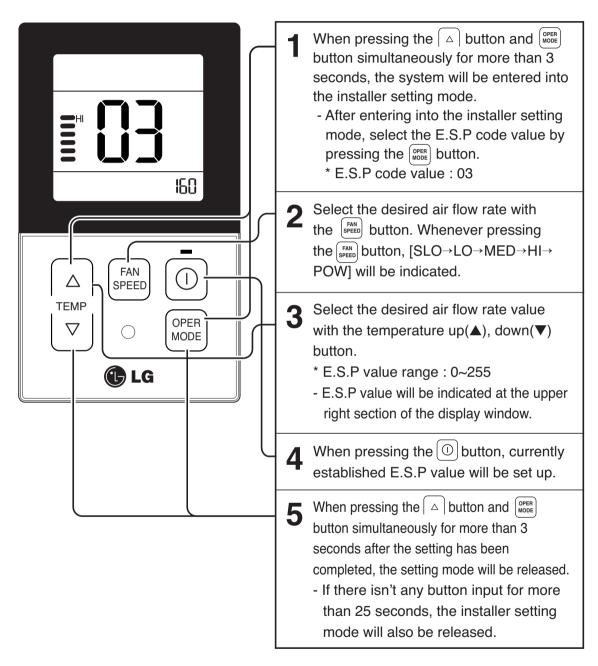
6. External pressure setting for **Equation**



How to Set E.S.P. on the remote controller?

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.

- If you set ESP incorrectly, the air conditioner may malfunction.
- This setting must be carried out by a certificated-technician.



- Precaution shall be taken not to alter the E.S.P value corresponded to each air flow section.
- E.S.P value can be varied according to the products.
- In the case of going to the next air flow rate stage by pressing the fan-speed button during the setup of the E.S.P value, the E.S.P value of previous air flow rate will be maintained by remembering the E.S.P value prior to the shift.

$\mathsf{SINGLE} \, \pmb{A}_{\mathtt{m}} \mathsf{Compact} \, \, \mathsf{Indoor} \, \mathsf{unit}$

6. External pressure setting for **Equality**



Table 1

Models: ABNW18GBHC0 [UB18C NH0]

(Unit: CMM)

Catting Value	Static Pressure[mmAq(Pa)]					
Setting Value	2.5(25)	4(39)	6(59)	8(78)		
100	12.8	-	-	-		
105	13.9	-	-	-		
110	15.2	12.7	-	-		
115	16.5	14.0	-	-		
120	17.8	15.3	12.7	-		
125	-	16.5	14.0	-		
130	-	17.8	15.3	12.6		
135	-	-	16.5	13.5		
140	-	-	17.5	14.5		
145	-	-	-	16.5		

Models: ABNW24GBHC0 [UB24C NH0]

(Unit: CMM)

Cotting Value	Static Pressure[mmAq(Pa)]					
Setting Value	2.5(25)	4(39)	6(59)	8(78)		
105	13.9	-	-	-		
110	15.2	12.7	-	-		
115	16.5	14.0	-	-		
120	17.8	15.3	12.7	-		
125	-	16.5	14.0	-		
130	-	17.8	15.3	12.6		
135	-	-	16.5	13.5		
140	-	-	17.6	14.5		
145	-	-	-	16.5		
150	-	-	-	18.0		

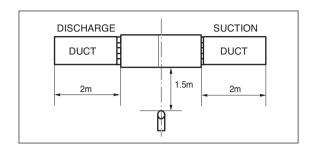
Table 2

Model	Mode)	Set value	External Static Pressure (mmAq(Pa))	СММ	Lower Limit of External Static Pressure (mmAq(Pa))	Upper Limit of External Static Pressure (mmAq(Pa))
A DNIM 10 C DLI CO	High-static	HI	125		13.5		
ABNW18GBHC0 [UB18C NH0]	Mode	Mid	119	6(59)	12.0	2.5(25)	8(78)
[0510014110]	(Factory Set)	Low	114		10.5		
A DAIMO A C DI I CO	High-static	HI	142		18.0		
ABNW24GBHC0 [UB24C NH0]	Mode	Mid	135	6(59)	16.5	2.5(25)	8(78)
[052101410]	(Factory Set)	Low	125		14.5		

7. Sound levels

7.1 Sound pressure level

Overall



Notes:

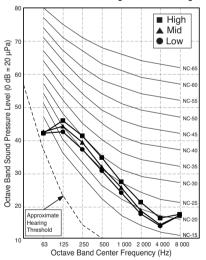
- Data is valid at nominal operation condition
- Reference accoustic pressure $0dB = 20\mu Pa$.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be standard.

	Sound Pressure Levels (dB(A),H-M-L)					
Model	External Static Pressure [mmAq(Pa)]					
	2.5(25)	4(39)	6(59)	8(78)		
ABNW18GBHC0[UB18C NH0]	36-34-32	38-35-33	39-36-34	40-37-35		
ABNW24GBHC0[UB24C NH0]	38-36-34	39-37-35	40-38-36	41-39-37		

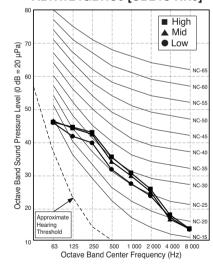
^{*} indicates values at 'Standard Mode'.

External Static Pressure 2.5(25) [mmAq(Pa)]

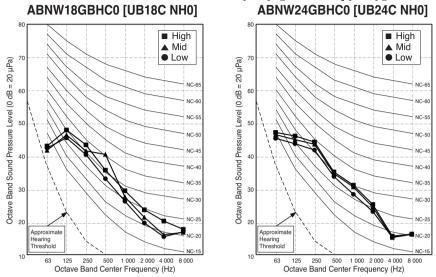




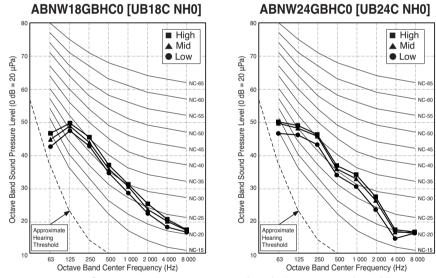
ABNW24GBHC0 [UB24C NH0]



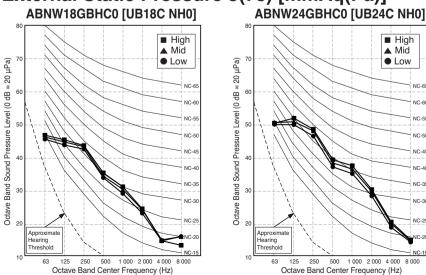
External Static Pressure 4(39) [mmAq(Pa)]



External Static Pressure 6(59) [mmAq(Pa)]



External Static Pressure 8(78) [mmAq(Pa)]



7. Sound levels

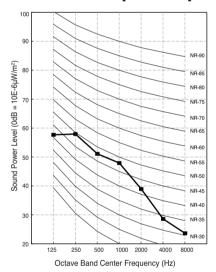
7.2 Sound power level

Notes:

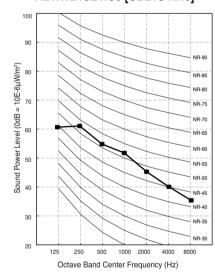
- 1. Operating condition
- Power source : 220-240V 50Hz / 220V 60Hz
- Cooling : Indoor temperature (27°C DB, 19°C WB), Outdoor temperature (35°C DB, 24°C WB)
- Heating : Indoor temperature (20°C DB, 15°C WB), Outdoor temperature (7°C DB, 6°C WB)
- External static pressure is according to "Standard mode" value. Refer the specifications.
- 2. Reference acoustic intensity $0dB = 10E-6\mu W/m^2$
- 3. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.

Model	Sound power level [dB(A)]
iviodei	Н
ABNW18GBHC0 [UB18C NH0]	59
ABNW24GBHC0 [UB24C NH0]	63

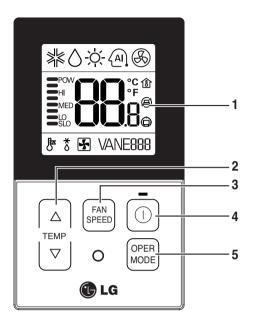
ABNW18GBHC0 [UB18C NH0]



ABNW24GBHC0 [UB24C NH0]



Simple Wired Remote Controller



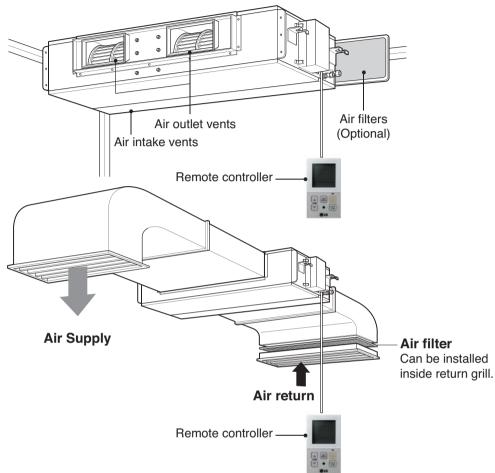
- 1. Operation Display Panel
- 2. Temperature Control Button
- 3. Fan Speed Button
- 4. On/Off Button
- 5. Operation Mode select Button
- * Some functions may not be operated and displayed depending on the product type.

Note

- Display temperature can be different from actual room temperature if the remote controller is installed at the place where sun-rays are falling directly or the place nearby heat source.
- The actual product can be different from above contents depending upon model type.
- When using simultaneous operation system, whenever press remote controller button, system will approximately operate after 1~2 minutes.
- Each function will be shown on the display panel for three seconds or so when the power is applied at first.

SINGLE A Compact Indoor unit 9. Installation

- Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.



9.1 Accessories

Check whether the following accessories are included with your unit.

1) Standard accessories

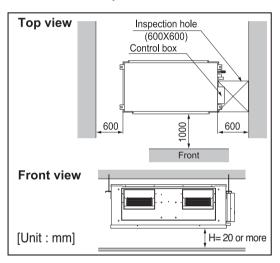
Name	Clamp metal	Drain hose	Insulation for fitting	Clamp	Screws for duct flanges	(Other)
Quantity	1 EA	1 EA	1 set	6 EA	1 set	
Shape			for gas pipe for liquid pipe			Owner's manual Installation manual Washers(8 pcs.)

9. Installation

9.2 Selection of the best location

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

- The place shall easily bear a load of the indoor unit.
- The place should have enough area for inspection as shown in 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.



9.3 Ceiling dimension, also hanging bolt location and service space

- Select an installation site where the following conditions are fulfilled and also that meets with your customer's approval.
 - If supporting structural members are not strong enough to take the units weight, the unit could fall out of place and cause serious injury.
 - Where sufficient clearance of maintenance and service can be ensured.
 - · Where optimum air distribution can be ensured.
 - Where nothing blocks the air passage.
 - · Where condensate can be properly drained.
 - Where piping between indoor and outdoor units is possible within the allowable limit (Refer to the installation manual of the outdoor unit.)
 - Keep the indoor and outdoor units, power cable and transmission wiring, at least 1 m from TVs and radios, to prevent distorted pictures and static.(Depending on the type and source of the electrical waves, static may be heard even when more than 1 m away.)

NOTE

If the service panel is at the top of the unit, then provide sufficient service clearance as per convenience.

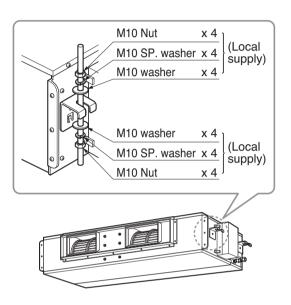
2) Relative positions of indoor unit, suspension bolt and inspection hatch size

[BH Chassis] [Unit:mm] 932 Inspection hatch 600 x 600

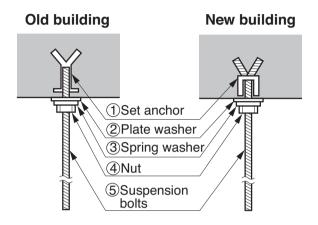
9. Installation

9.4 Position of suspension bolt

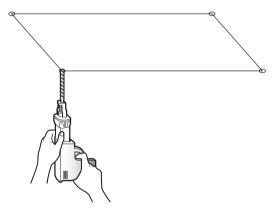
- (1) Install the unit leaning to a drainage hole side as given in the figure above for easy water drainage.
- ② A place where the unit will be leveled and that can support the weight of the unit.
- ③ A place where the unit can withstand its vibration.
- (4) A place where service can be easily performed.



- ① Insert the set anchor and washer on the suspension bolts for locking the suspension bolts on the ceiling.
- (8) Mount the suspension bolts to the set anchor firmly.
- Secure the installation plates on the suspension bolts (adjust level roughly) using nuts, washers and spring washers.



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



(ACAUTION)

· Tighten the nut and bolt to prevent unit from falling.

9. Installation

9.5 Connection pipes to the indoor unit

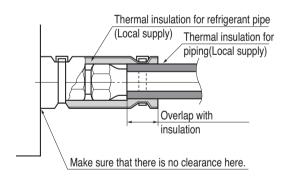
1) Refrigerant piping work

please refer "REFRIGERANT PIPING WORK".

2) Piping insulation

- 1) Perform heat insulation work completely on both gas and the liquid pipe. Because improper insulation will result due condensate formation over pipe.
- 2 Use the heat insulation material for the refrigerant piping which has an excellent heat resistance (over 120°C).
- 3 Precautions in high humidity circumstance.
- (4) Refer to the insulation works.

Liquid pipe Refrigerant pipe and thermal insulation(Local supply) Clamp for insulation (Local supply) Insulation (Local supply) Union for gas pipe



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· Make sure to insulate any field piping all the way to the piping connection inside the unit. Any exposed piping may cause condensation or burns if touched.

3) Indoor unit drain piping

- 1 During drain piping connection, be careful not to exert extra force on the drain port on the indoor unit.
- (2) The outside diameter of the drain connection on the indoor unit is 32mm.

Piping material: Polyvinyl chloride pipe inner diameter Ø 25mm and pipe fitting

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- 1. Decline Installation of indoor unit is very important for the drain of the duct type air conditioner.
- 2. Minimum thickness of the insulation for the connecting pipe should be 5mm.

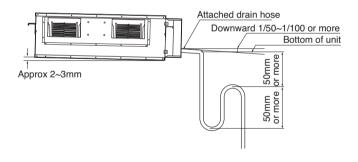
4) Caution for gradient of unit and drain piping

- Without drain pump

(1) Always lay the drain with downward inclination (1/50 to 1/100).

Prevent any upward flow or reverse flow in any part.

2 10mm or thicker formed thermal insulation shall always be provided for the drain pipe.

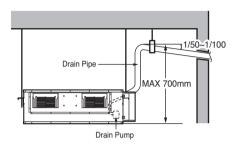


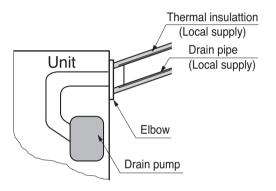
* U-trap is not required for low static model in which the external static pressure is below 50 pa(5mm Aq)

9. Installation

- With drain pump

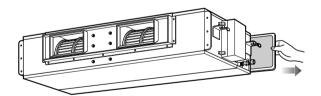
- 1) Possible drain head is upto 700mm.
- ② Keep the drain pipe downward stope upto 1/50~1/100. Prevent any upward flow or reverse flow in any part.
- 3 10mm or thicker insulation should be provided for the drain pipe.



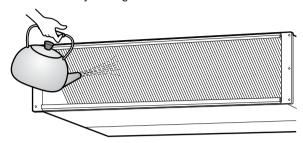


5) Checking the drain

1 Remove the air filter.



- 2 Check the drain.
- · Poor eough water on the drain pan.
- Ensure that water flows through the drain pipe from indoor unit without any leakage.



9.6 Electric wiring work

1) General instructions

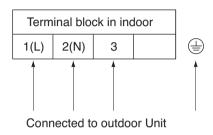
- (1) All field supplied parts and materials, electric works must conform to local codes. Use copper wire only.
- 2) Follow the "WIRING DIAGRAM" attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- 3 All wiring must be performed by an authorized electri-
- 4) This system consists of multiple indoor units. Mark each indoor unit as unit A, unit B..., and be sure the terminal board wiring to the outdoor unit and indoor unit are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.
- (5) A circuit breaker capable of shutting down the power supply to the entire system must be installed.

9. Installation

2) Wiring connection

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

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



② If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.

WARNING

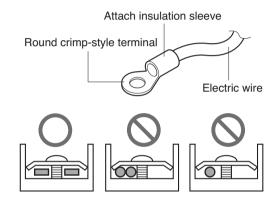
· Make sure that the screws of the terminal are fixed

(ACAUTION)

- · Make sure to attach the sealing material or (field supplied) to hole of wiring to prevent the infiltration of foreign particle from outside. Otherwise a short-circuit may occur inside the electric parts box
- · When clamping the wires, be sure no pressure is applied to the wire connections by using the included clamping material to make appropriate clamps. Also, when wiring, make sure the cover on the electric parts box fits snugly by arranging the wires neatly and attaching the electric parts box cover firmly. When attaching the electric parts box cover, make sure no wires get caught in the edges. Pass wiring through the holes to prevent damage to
- Make sure the remote controller wiring, the wiring between the units, and other electrical wiring do not pass through the same locations outside of the unit, separating them properly, otherwise electrical noise (external static) could cause product malfunction.

NOTE

- 1. Use round crimp-style terminals for connecting wires to the power supply terminal block. If unavailable, observe the following points when wiring.
- 1) Do not connect wires of different gauge to the same power supply terminal.
- 2 Use the specified electric wire. Connect the wire securely to the terminal. Lock the wire down without applying excessive force to the terminal.



Connect wires of the same gauge to both sides

- 2. Tightening torque for the terminal screws.
- 1) Use the correct screwdriver for tightening the terminal screws. If the blade of screwdriver is too small, the head of the screw might be damaged, and the screw will not be properly tightened.
- 2) If the terminal screws are tightened too hard, screws might be damaged.
- 3. Do not connect wires of different gauge to the same grounding terminal. Loose connection may deteriorate protection.
- 4. Outside of the unit, keep proper separation between transmission and power supply wiring. The equipment may malfunction if subjected to electrical (external) noise.
- 5. Never connect power supply wiring to the terminal block for remote controller wiring. A mistake of the sort could damage the entire system.
- 6. Use only specified wire and tightly connect wires to terminals. Be careful wires do not place external stress on terminals. Keep wiring in neat order and so as not to obstruct other equipment such as popping open the electric parts box cover. Make sure the cover closes tight. Incomplete connections could result in overheating, and in worse case, electric shock or fire.

Ceiling concealed duct - Middle static pressure(2)

- 1. List of functions
- 2. Specifications
- 3. Dimensions
- 4. Piping diagrams
- 5. Wiring Diagrams
- 6. External pressure setting for **Tuning**
- 7. Sound levels
- 8. Controller
- 9. Installation

SINGLE A Compact Indoor unit 1. List of functions

Air flow Air flow A C J S Air purifying A L	Air supply outlet Airflow direction control (left & right) Airflow direction control (up & down) Auto swing (left & right) Auto swing (up & down) Airflow steps (fan/cool/heat) Chaos wind(auto wind) Jet cool/heat Swirl wind Triple filter (Deodorizing) Plasma air purifier Allergy Safe filter	1 X X X X X X X X X X X/X X/X X X
Air flow A Air flow A C J S S Air purifying A	Airflow direction control (up & down) Auto swing (left & right) Auto swing (up & down) Airflow steps (fan/cool/heat) Chaos wind(auto wind) Jet cool/heat Swirl wind Triple filter (Deodorizing) Plasma air purifier	X X X 3/3/3 X X/X X/X
Air flow A C J S Air purifying A L	Auto swing (left & right) Auto swing (up & down) Airflow steps (fan/cool/heat) Chaos wind(auto wind) Jet cool/heat Swirl wind Triple filter (Deodorizing) Plasma air purifier	X X 3/3/3 X X/X X/X
Air flow A C J S S Air purifying F A	Auto swing (up & down) Airflow steps (fan/cool/heat) Chaos wind(auto wind) Jet cool/heat Swirl wind Triple filter (Deodorizing) Plasma air purifier	X 3/3/3 X X/X X/X
Air purifying Air L	Airflow steps (fan/cool/heat) Chaos wind(auto wind) Jet cool/heat Swirl wind Triple filter (Deodorizing) Plasma air purifier	3/3/3 X X/X X
Air purifying Air L	Airflow steps (fan/cool/heat) Chaos wind(auto wind) Jet cool/heat Swirl wind Triple filter (Deodorizing) Plasma air purifier	X X / X X
Air purifying J S F A L	Jet cool/heat Swirl wind Triple filter (Deodorizing) Plasma air purifier	X / X X
Air purifying F A	Swirl wind Triple filter (Deodorizing) Plasma air purifier	Х
Air purifying A	Friple filter (Deodorizing) Plasma air purifier	
Air purifying A	Plasma air purifier	Χ
Air purifying A		
Air purifying A		X
L		X
	ong-life prefilter (washable / anti-fungus)	0
	Orain pump	ABDPG
	E.S.P. control*	0
	Electric heater	X
	High ceiling operation*	X
	Auto Elevation Grille*	X
L	Hot start	0
	Self diagnosis	0
	Auto changeover	0
	Auto cleaning	X
	Auto operation(artificial intelligence)	X
	Auto Restart	0
	Child lock*	0
	Forced operation	X
	Group control*	0
	Sleep mode	0
	Fimer(on/off)	0
	Γimer(weekly)*	0
	Two thermistor control*	0
	Wired remote controller	PQRCVSL0 / PQRCVSL0QW** / PREMTB001 / PREMTBB01
	Premium Wired remote controller	PREMTA000 / PREMTA000A / PREMTA000B
	Simple wired remote controller	PQRCVCL0Q / PQRCVCL0QW
	Simple Wired remote controller(for hotel use)	PQRCHCA0Q / PQRCHCA0QW
	Wireless remote controller*	PQWRHQ0FDB
	General central controller (Non LGAP)	X
	Network Solution(LGAP)	0
0	Simple Dry contact (outside AC 220V power source)	PQDSA / PDRYCB000
INELWOIK	2 Points Dry Contact (For setback)	PDRYCB400
	Ory contact for Thermostat	PDRYCB300
	PI 485(for Indoor Unit)	X
	Zone controller	ABZCA
	CTI(Communication transfer interface)	X
	Electronic thermostat	X
Special T	Telecom shelter controller	PQCSA001T0
	ndependent Power Module	X
	CO ₂ Sensor	X
	Remote temperature sensor	PQRSTA0
	Group control wire	PZCWRCG3

Note

- 1. *: These functions need to connect the wired remote controller.
- 2. ** : It is included by default when the product is manufactured.
- 3. For synchro operation, some functions and accessories are not available. Check the outdoor unit's PDB.
- O : Applied X : Not applied

Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package

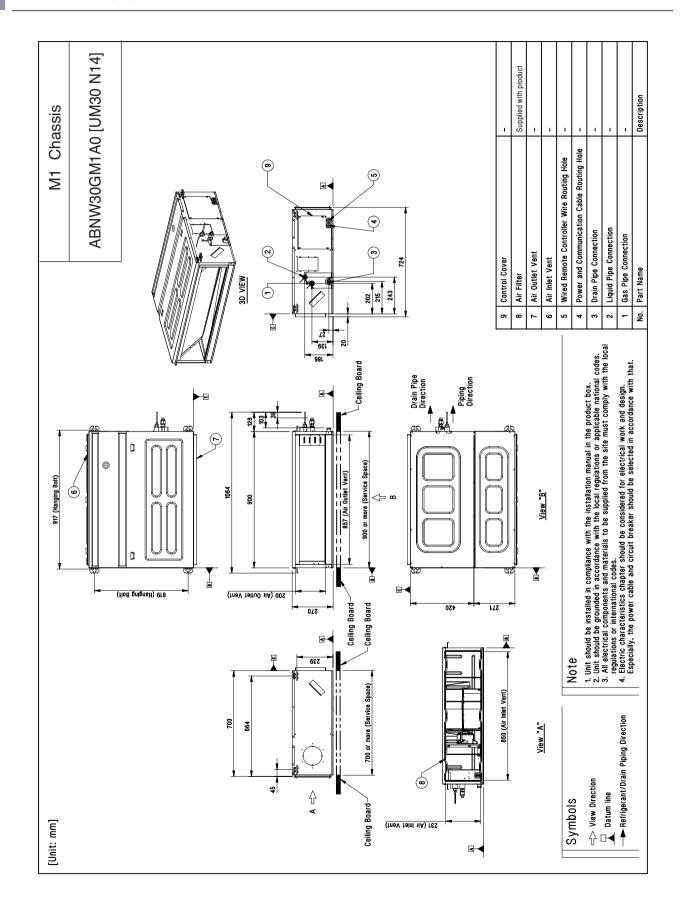
SINGLE A Compact Indoor unit 2. Specifications

Model Name					ABNW30GM1A0 [UM30 N14]	ABNW36GM2A0 [UM36 N24]
Power Supply				V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
Dimensions	Body		WxHxD	mm	900 × 270 × 700	1,250 × 270 × 700
			WxHxD	inch	35-7/16 x 10-5/8 x 27-9/16	49-7/32 x 10-5/8 x 27-9/16
Net Weight	t Body		kg (lbs)	25.3 (55.8)	36.0 (79.4)	
Heat Exchanger	(Row x Column x Fins per inch) x No.			-	(3 x 13 x 18) x 1	(2 x 13 x 18) x 1
	Face Area			m² (ft²)	0.21 (2.25)	0.30 (3.27)
Fan	Туре			-	Sirocco Fan	Sirocco Fan
		High-static	H/M/L	m³/min	22.0 / 20.0 / 18.0	32.0 / 28.0 / 24.0
	Air	Mode (Factory Set)	H/M/L	ft³/min	777 / 706 / 635	1,130 / 988 / 847
	Flow Rate		External Static Pressure	Pa (mmAq)	58.8 (6)	58.8 (6)
Fan Motor	Туре			-	BLDC	BLDC
	Output			W x No.	136.5 x 1	350 x 1
Dehumidification Rate				ℓ/h (pts/h)	2.3(4.9)	2.5(5.3)
Sound Pressure Level H / M / L			H/M/L	dB(A)	37 / 35 / 34	36 / 34 / 33
Sound Power Level Max.			Max.	dB(A)	62	60
Piping Connections	Liquid			mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas			mm(inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain (O.D. / I.D.)			mm(inch)	Ø 32.0(1-1/4) / 25.0(31/32)	Ø 32.0(1-1/4) / 25.0(31/32)
Safety Devices				-	Fuse	Fuse
Power and Communication Cable (included Earth)			cluded Earth)	No. x mm² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

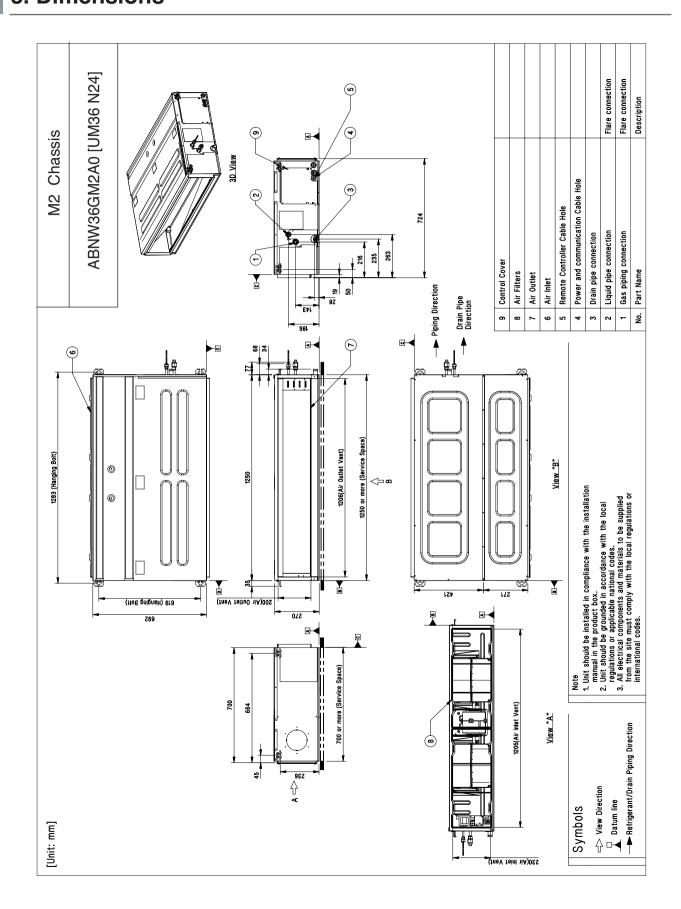
Notes:

- 1. Wiring cable size must comply with the applicable local and national code.
- 2. Due to our policy of innovation some specifications may be changed without notification.
- Sound Level Values are measured at Anechoic chamber.
 Therefore, these values can be increased owing to ambient conditions during operation.

SINGLE A Compact Indoor unit 3. Dimensions

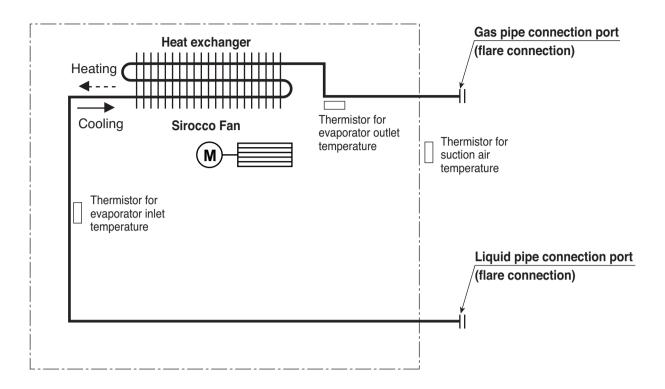


SINGLE A Compact Indoor unit 3. Dimensions



SINGLE A Compact Indoor unit 4. Piping diagrams

Model: ABNW30GM1A0 [UM30 N14]



Description	PCB Connector	
Thermistor for suction air temperature	CN-ROOM	
Thermistor for evaporator inlet temperature	CN-PIPE / IN	
Thermistor for evaporator outlet temperature	CN-PIPE / OUT	

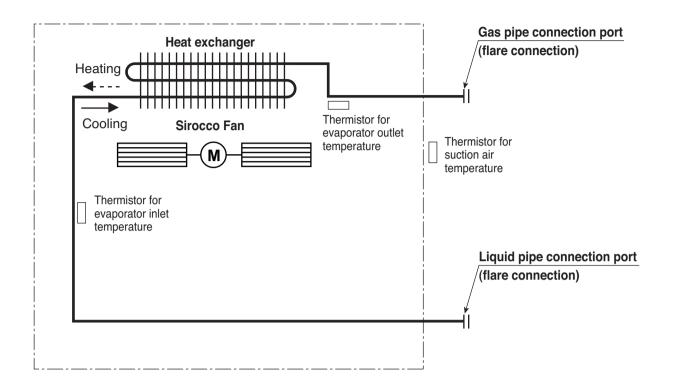
■ Refrigerant pipe connection port diameters

[Unit:mm]

Model	Gas	Liquid
ABNW30GM1A0 [UM30 N14]	Ø15.88	Ø9.52

4. Piping diagrams

Models: ABNW36GM2A0 [UM36 N24]



Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE / IN
Thermistor for evaporator outlet temperature	CN-PIPE / OUT

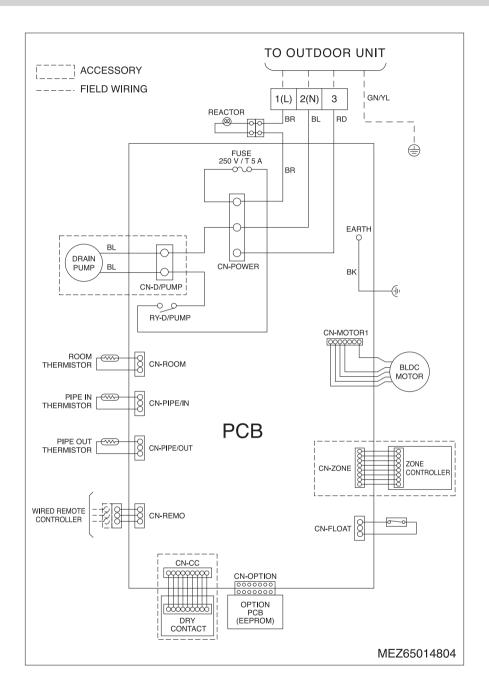
■ Refrigerant pipe connection port diameters

[Unit:mm]

Model	Gas	Liquid
ABNW36GM2A0 [UM36 N24]	Ø15.88	Ø9.52

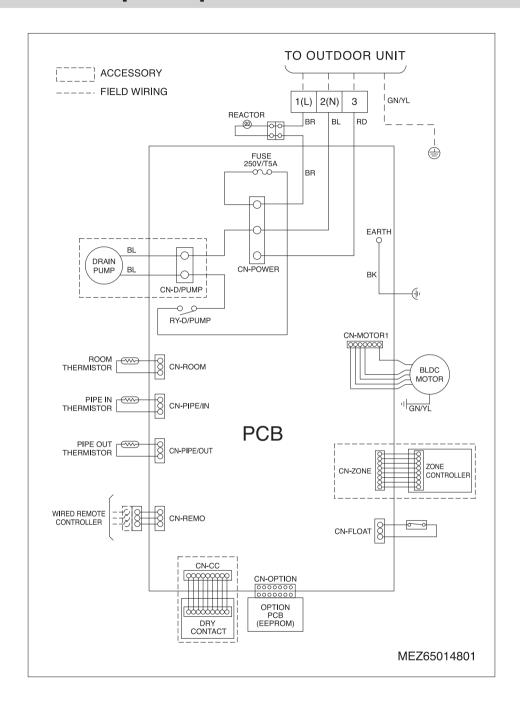
SINGLE A Compact Indoor unit 5. Wiring diagrams

Model: ABNW30GM1A0 [UM30 N14]



SINGLE A Compact Indoor unit 5. Wiring diagrams

Model: ABNW36GM2A0 [UM36 N24]



SINGLE A Compact Indoor unit 6. External pressure setting for Tuning

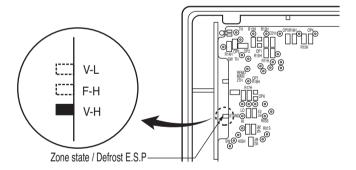
- (E.S.P. Control) provide required constant air volume irrespective of E.S.P. charge.
- (1) Open the rear cover of the wired remote-controller to set the mode.
- (2) Select one of three selectable modes as follows.

■ Without zone system

- 1. Position V-H, F-H:
 - This position sets the maximum E.S.P. as a default set.
- 2. Position V-L:
 - This position sets the minimum E.S.P. as a default set.

■ With zone system

- 1. Position V-H:
 - Maximum E.S.P. setting & Fan speed is varied according to the state of dampers by micom.
- 2. Position F-H:
 - Maximum E.S.P. setting & Fan speed doesn't vary according to the opening & closing of dampers.
- 3. Position V-L:
 - Minimum E.S.P. setting & Fan speed is varied according to the state of dampers by micom.
- (3) Move the slide switch to set position.



(4) Close the rear cover and check if it works normally.

ACAUTION

- Select the position after checking duct work and E.S.P. of the unit.
- · Maunfactured in the position F-H.

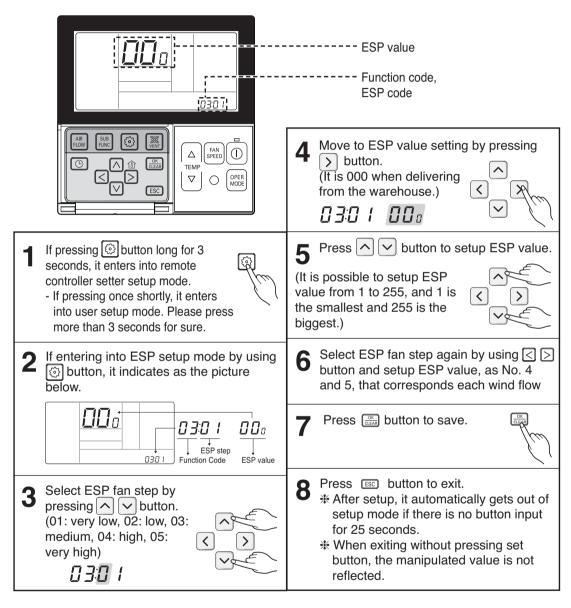
SINGLE $oldsymbol{\mathsf{A}}_{\scriptscriptstyle{\mathbb{R}}}$ Compact Indoor unit

6. External pressure setting for Tuning



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.

- If you set ESP incorrectly, the air conditioner may malfunction.
- This setting must be carried out by a certificated-technician.



- · When setting ESP value on the product without very weak wind or power wind function, it may not work.
- Please be careful not to change the ESP value for each fan step.
- It does not work to setup ESP value for very low/power step for some products.
- ESP value is available for specific range belongs to the product.

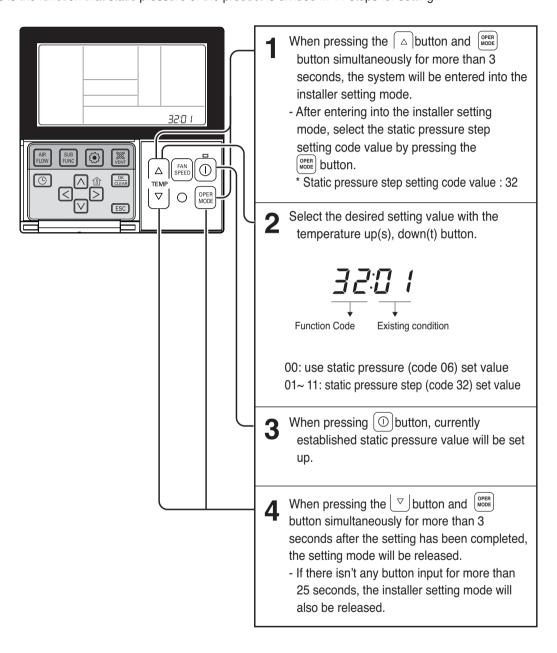
SINGLE A Compact Indoor unit 6. External pressure setting for Tuning

Installer Setting - Static Pressure Step Setting

This function is applied to only duct type. Setting this in other cases will cause malfunction.

This function is only available on some products.

This is the function that static pressure of the product is divided in 11 steps for setting.



- Static Pressure (Code 06) setting will not be used if Static Pressure Step (Code 32) setting is being used.
- For the static pressure value for each step, refer to the next page Table. 1

SINGLE A Compact Indoor unit 6. External pressure setting for Tuning

Table 1 ABNW30GM1A0 [UM30 N14]

(Unit : CMM)

Sotting value			5	Static Pressur	re (mmAq(Pa)))		
Setting value	2.5(25)	4(39)	6(59)	8(78)	10(98)	12(118)	14(137)	15(147)
85	16.8	14.6	-	-	-	-	-	-
90	18.1	15.9	-	-	-	-	-	-
95	19.4	17.2	15.0	-	-	-	-	-
100	20.7	18.5	16.3	13.9	-	-	-	-
105	22.0	19.8	17.7	15.3	13.0	-	-	-
110	23.3	21.1	19.1	16.8	14.6	-	-	-
115	24.6	22.4	20.5	18.3	16.3	14.2	-	-
120	25.9	23.7	21.8	19.7	17.9	15.9	13.3	-
125	-	25.1	23.2	21.2	19.6	17.5	15.2	14.6
130	-	-	24.6	22.7	21.2	19.2	17.1	16.3
135	-	-	-	24.2	22.9	20.9	19.0	18.1
140	-	-	-	-	24.5	22.6	20.9	19.9

ABNW36GM2A0 [UM36 N24]

(Unit: CMM)

Cotting value			Static	Pressure (mmA	q(Pa))		
Setting value	4(39)	6(59)	8(78)	10(98)	12(118)	14(137)	15(147)
85	24.9	-	-	-	-	-	-
90	27.6	22.7	-	-	-	-	-
95	30.4	25.7	20.7	-	-	-	-
100	33.1	28.7	24.0	-	-	-	-
105	35.9	31.7	27.3	20.8	-	-	-
110	38.6	34.7	30.5	24.3	20.6	-	-
115	-	37.8	33.8	27.9	23.8	-	-
120	-	-	37.1	31.4	27.0	22.4	20.5
125	-	-	-	35.0	30.1	25.7	23.7
128	-	-	-	37.1	32.0	27.6	25.7

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

SINGLE A Compact Indoor unit 6. External pressure setting for Tuning

Table 2

Model			Static Pressure[mmAq(Pa)]										
	Step CMI	CMM	2.5(25)	4(39)	5(49)	6(59)	7(69)	8(78)	9(88)	10(98)	11(108)	13(127)	15(147)
		Civilvi		Setting Value									
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
17111100011110	LOW	18.0	96	102	107	104	114	118	122	125	127	132	134
ABNW30GM1A0 [UM30 N14]	MID	20.0	102	110	114	110	121	125	127	130	133	135	137
	HIGH	22.0	110	117	121	118	127	130	133	136	137	138	140

Model			Static Pressure[mmAq(Pa)]										
	Step	ONANA	4(39)	5(49)	6(59)	7(69)	8(78)	9(88)	10(98)	11(108)	12(118)	13(127)	15(147)
		CMM		Setting Value									
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
4 DN 114/00 ON 40 A O	LOW	24.0	88	91	95	100	101	108	113	115	118	118	118
ABNW36GM2A0 [UM36 N24]	MID	28.0	93	97	101	105	108	115	118	120	124	124	124
	HIGH	32.0	101	105	109	112	115	119	123	126	128	128	128

NOTE

- 1. Be sure to set the value refering table 1. Unexpected set value will cause mal-function.
- 2. Table 1 is based at 230V. According to the fluctuation of voltage, air flow rate varies.
- 3. Factory Set(External Static Pressure) each Model

Model	Factory set (E.S.P.) mmAq(Pa)			
ABNW30GM1A0 [UM30 N14]	6(59)			
ABNW36GM2A0 [UM36 N24]	0(39)			

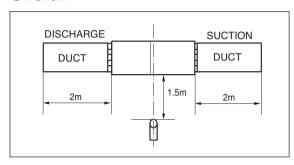
* If it is zero static pressure, please set value below Maximum value.

Model	Maximum value
ABNW30GM1A0 [UM30 N14]	120
ABNW36GM2A0 [UM36 N24]	120

7. Sound level

7.1 Sound Pressure level

Overall



Notes:

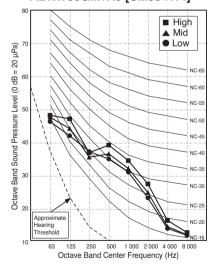
- 1. Sound measured at 1.5m away from the center of the unit.
- 2. Operating condition
 - Power source : 220-240V 50Hz / 220V 60Hz
 - Cooling: Indoor temperature (27°C DB, 19°C WB),
 Outdoor temperature (35°C DB, 24°C WB)
 - Heating : Indoor temperature (20°C DB, 15°C WB), Outdoor temperature (7°C DB, 6°C WB)
- 3. Reference acoustic intensity $0dB = 20\mu Pa$.
- 4. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.

	Sound Pressure Levels (dB(A),H-M-L)								
Model	External Static Pressure [mmAq(Pa)]								
	2.5(25)	4(39)	5(49)	7(69)	10(98)	15(147)			
ABNW30GM1A0 [UM30 N14]	37-35-34	39-37-35	40-38-36	41-39-38	42-41-39	43-42-41			
ABNW36GM2A0 [UM36 N24]	-	36-34-33	37-36-34	38-37-35	39-38-37	42-40-39			

^{*} indicates values at 'Standard Mode'.

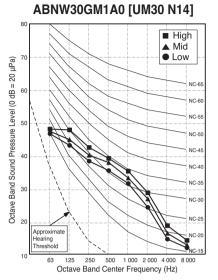
External Static Pressure 2.5(25) [mmAq(Pa)]

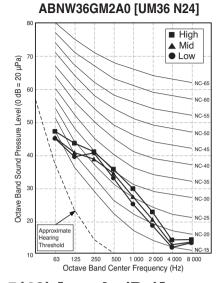
ABNW30GM1A0 [UM30 N14]



7. Sound level

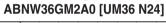
External Static Pressure 4(39) [mmAq(Pa)]

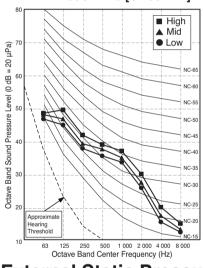


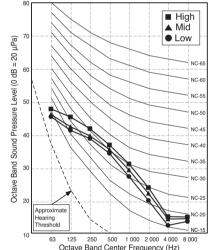


External Static Pressure 5(49) [mmAq(Pa)]

ABNW30GM1A0 [UM30 N14]



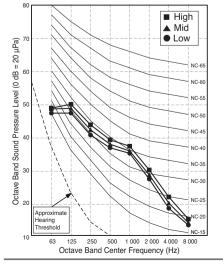


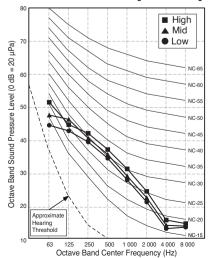


External Static Pressure 7(69) [mmAq(Pa)]

ABNW30GM1A0 [UM30 N14]

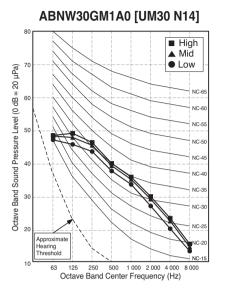
ABNW36GM2A0 [UM36 N24]

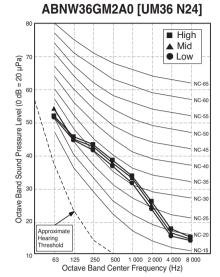




7. Sound level

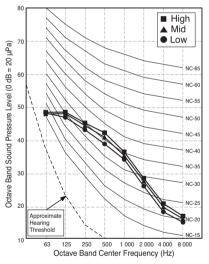
External Static Pressure 10(98) [mmAq(Pa)]



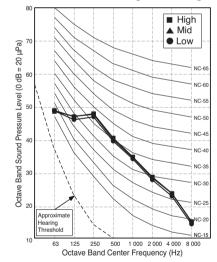


External Static Pressure 15(147) [mmAq(Pa)]





ABNW36GM2A0 [UM36 N24]



SINGLE $A_{\mathbb{R}}$ Compact Indoor unit

7. Sound level

7.2 Sound power level

Notes

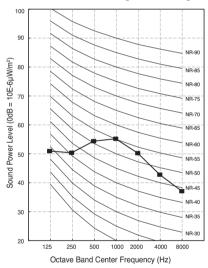
- 1. Operating condition
- Power source : 220-240V 50Hz / 220V 60Hz
- Cooling: Indoor temperature (27°C DB, 19°C WB),
 Outdoor temperature (35°C DB, 24°C WB)
- Heating : Indoor temperature (20°C DB, 15°C WB),
 Outdoor temperature (7°C DB, 6°C WB)
- External static pressure is according to "Standard mode" value. Refer the specifications.
- 2. Reference acoustic intensity 0dB = 10E-6μW/m²
- Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.

	Sound Pressure Levels (dB(A),H-M-L)
Model	External Static Pressure [mmAq(Pa)]
	2.5(25)
ABNW30GM1A0 [UM30 N14]	62

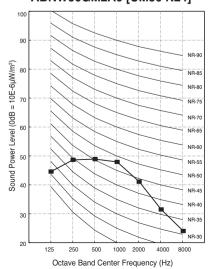
	Sound Pressure Levels (dB(A),H-M-L)
Model	External Static Pressure [mmAq(Pa)]
	4(39)
ABNW36GM2A0 [UM36 N24]	60

External Static Pressure 2.5(25) [mmAq(Pa)]

ABNW30GM1A0 [UM30 N14]

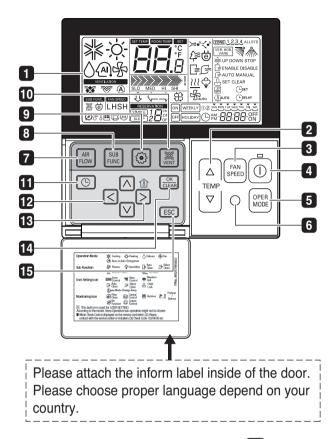


External Static Pressure 4(39) [mmAq(Pa)] ABNW36GM2A0 [UM36 N24]



SINGLE A Compact Indoor unit 8. Controller

Wired remote controller



- 1 OPERATION INDICATION SCREEN
- 2 SET TEMPERATURE Button
- 3 FAN SPEED Button
- 4 ON/OFF Button
- 5 OPRATION MODE SELECTION Button
- 6 WIRELESS REMOTE CONTROLLER RECEIVER
 - Some products don't receive the wireless signals.
- 7 AIR FLOW Button
- 8 SUBFUNCTION Button

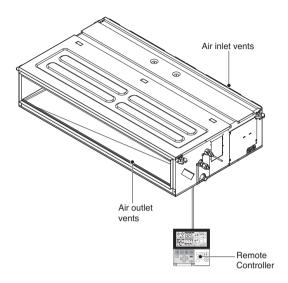
- 9 FUNCTION SETTING Button
- 10 VENTILATION Button
- 11 RESERVATION
- UP,DOWN,LEFT,RIGHT Button
 - To check the indoor temperature, press button.
- 13 ROOM TEMPERATURE Button
- 14 SETTING/CANCEL Button
- 15 EXIT Button

* Some functions may not be operated and displayed depending on the product type.

Note:

- * Display temperature can be different from actual room temperature if the remote controller is installed at the place where sun-rays are falling directly or the place nearby heat source.
- ★ The actual product can be different from above contents depending upon model type.
- * When using simultaneous operation system, whenever press remote controller button, system will approximately operate after 1~2 minutes.

- Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards.



9.1 Accessories

Check the following accessories are included with your unit.

1) Standard accessories

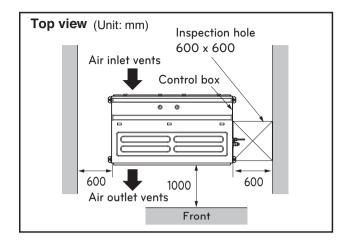
Name	Drain hose Clamp metal hangi		Washer for Clamp hanging bracket (Tie Wrap)		Insulation for fitting	Other
Quantity	antity 1 EA 2 EA 8 EA		4 EA	1 set		
Shape					for gas pipe for liquid pipe	Owner's manual Installation manual

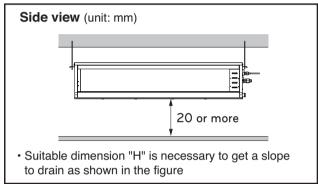
• Screws for fixing panels are attached to decoration panel.

9.2 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 given in 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.
- The servicing inspection hole in the ceiling should be as large as the product.
- The selection of the servicing hole should be approved by the customer.





9. Installation

9.3 Ceiling dimension and hanging bolt location and service space

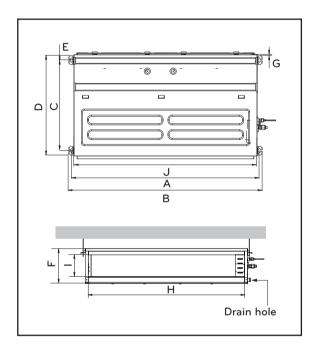
■ Installation of Unit

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



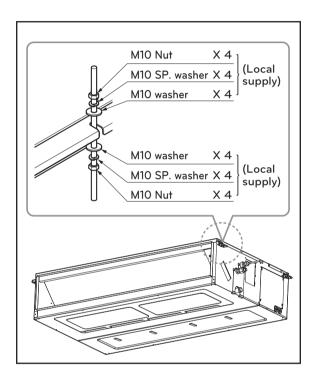
(Unit:mm)

Dimension Chassis name	Α	В	С	D	Е	F	G	Н	I	J
M1	933.4	971.6	619.2	700	30	270	15.2	858	201.4	900
M2	1283.4	1321.6	619.2	689.6	30	270	15.2	1208	201.4	1250

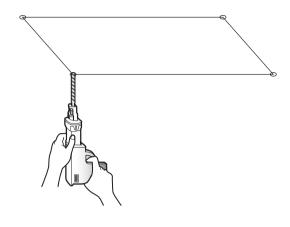
CASE 2

Position of console Bolt

- (1) A place where the unit will be leveled and that can support the weight of the unit.
- ② A place where the unit can withstand its vibration.
- (3) A place where service can be easily performed.

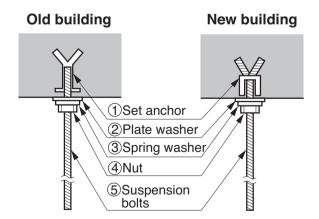


- 4 Select and mark the position for fixing bolts.
- ⑤ Drill the hole for set anchor on the face of ceiling.



(ACAUTION)

- Tighten the nut and bolt to prevent the unit falling.
- 6 Insert the set anchor and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- 7) Mount the suspension bolts to the set anchor firmly.
- 8 Secure the installation plates onto the suspension bolts (adjust level roughly) using nuts, washers and spring washers.



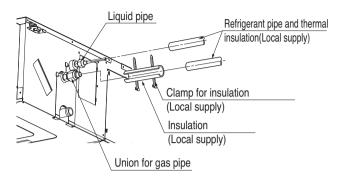
9.4 Connecting pipes to the indoor unit

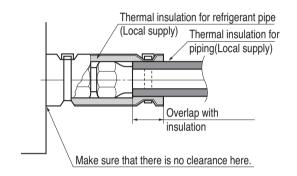
1) Refrigerant piping work

please refer "REFRIGERANT PIPING WORK".

2) Piping insulation

- 1 Perform heat insulation work completely on both gas and the liquid pipe. Because improper insulation will result condensate formation over pipe. Use the heat insulation material for the refrigerant piping which has an excellent heat resistance 120°C(248°F)).
- 2) Precautions in high humidity circumstance: This air conditioner has been tested according to the "KS Conditions" and confirmed that there is not any default. However, if it is operated for a long time in high humid atmosphere (dew point temperature: more than 23°C(73°F)), water drops are liable to fall. In this case, add heat
 - insulation material according to the following procedure:
- 3 Heat insulation material: Adiabatic glass wool with thickness 10mm(13/32inch) to 20mm(25/32inch).
- 4) Stick glass wool on all air conditioners that are located in ceiling atmosphere.





▲CAUTION

· Make sure to insulate any field piping all the way to the piping connection inside the unit. Any exposed piping may cause condensation or burns if touched.

3) Indoor unit drain piping

- (1) Drain piping must have down-slope (1/50 to 1/100); be sure not to provide up-and-down slope to prevent reversal flow.
- 2 During drain piping connection, be careful not to exert extra force on the drain port on the indoor unit.
- ③ The outside diameter of the drain connection on the indoor unit is 32mm (1-1/4inch).

Piping material: Polyvinyl chloride pipe inner diameter Ø 25.4mm (1inch) and pipe fittings

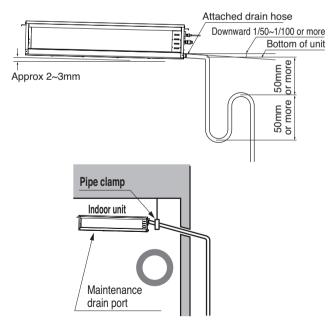
ACAUTION

- 1. Decline Installation of indoor unit is very important for the drain of the duct type air conditioner.
- 2. Minimum thickness of the insulation for the connecting pipe should be 5mm(3/16inch).

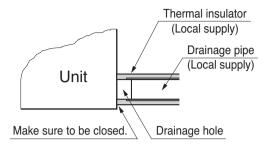
4) Caution for gradient of unit and drain piping

- Without drain pump:
- · Always lay the drain with downward inclination (1/50 to 1/100). Prevent any upward flow or reverse flow in any part.
- 5mm(3/16inch) or thicker formed thermal insulation shall always be provided for the drain pipe.

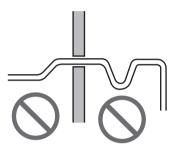
Correct method



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

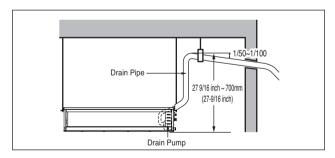


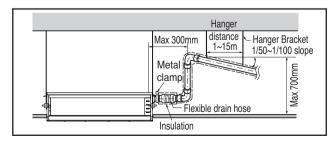
Wrong method

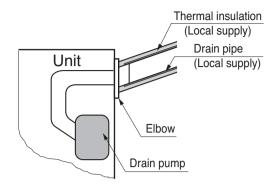


- With drain pump

- ① Possible drain head height is upto 700mm (27-9/16inch). So the drain head should be below 700mm (27-9/16inch).
- ② Keep the drain hose downward upto 1/50~1/100 inclination. Prevent any upward flow or reverse flow in any part.
- 3 5mm(3/16inch) or thicker insulation should be provided for the drain pipe.

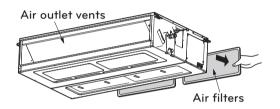






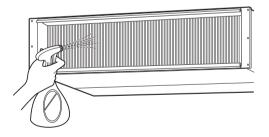
5) Checking the drainage

1 Remove the air filter.



(2) Check the drainage

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



9.5 Electric wiring work

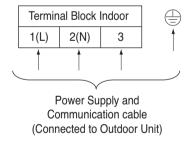
1) General instructions

- (1) All field supplied parts and materials, electric works must conform to local codes. Use copper wire only.
- 2) Follow the "WIRING DIAGRAM" attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- 3 All wiring must be performed by an authorized electri-
- 4 This system consists of multiple indoor units. Mark each indoor unit as unit A, unit B..., and be sure the terminal board wiring to the outdoor unit and ID unit are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.
- (5) A circuit breaker capable of shutting down the power supply to the entire system must be installed.

2) 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





P/No.: MFL67502506



Air Conditioner

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Printed in Korea March / 2016 The specifications, designs, and information in this brochure are subject to change without notice. The air conditioners manufactured by LG have received ISO9001 certificate for quality assurance and ISO14001 certificate for environmental management system.