

LG

SINGLE

H-Inverter Indoor unit

R32 Heat Pump (50 / 60Hz)

0CTI5-01O (Replaces 0CTI5-01N)

TOTAL HVAC

SOLUTION

PROVIDER

ENGINEERING PRODUCT DATA BOOK

SINGLE

Indoor unit

General information

Product data

SINGLE

Indoor unit

General information

- 1. Model Line Up**
- 2. External Appearance**
- 3. Nomenclature**






1. Model Line Up

Category		Chassis Name	Capacity Index [kW (kBtu/h)]								
			2.5 (9)	3.5 (12)	5.0 (18)	7.1 (24)	7.5 (30)	10.0 (36)	12.0 (42)	14.0 (48)	15.0 (60)
Ceiling Mounted Cassette	4-Way	TQ	◎	◎							
	Dual Vane 4-Way	TP-B			◎						
		TM-A				◎	◎	◎	◎	◎	◎
Ceiling Concealed Duct	Middle Static Pressure	M1		◎	◎						
		M2				◎	◎				
		M3						◎	◎	◎	
	Low Static Pressure	L5		◎							
		L3			◎						
Ceiling Suspended Unit		VM1			◎						
		VM2				◎	◎	◎	◎		

Note

- Refer the Combination Table of Product Data Book for Outdoor Units.
 - ◎ : Connectable with SINGLE model only.
- This product contains Fluorinated greenhouse gases.

2. External Appearance

<ul style="list-style-type: none"> • Ceiling Mounted Cassette (4-Way) <p>ZTNW09GQLH1 [UT09FH NQ0] ZTNW12GQLH1 [UT12FH NQ0]</p> 	<ul style="list-style-type: none"> • Ceiling Concealed Duct – Middle static pressure <p>ZBNW12GM1H1 [UM12FH N10] ZBNW18GM1H1 [UM18FH N10] ZBNW24GM2H1 [UM24FH N20] ZBNW30GM2H1 [UM30FH N20] ZBNW36GM3H1 [UM36FH N30] ZBNW42GM3H1 [UM42FH N30] ZBNW48GM3H1 [UM48FH N30]</p> 
<ul style="list-style-type: none"> • Ceiling Mounted Cassette (Dual Vane 4-Way) <p>ZTNW18GBLH1 [UT18FH NB0] ZTNW24GALH1 [UT24FH NA0] ZTNW30GALH1 [UT30FH NA0] ZTNW36GALH1 [UT36FH NA0] ZTNW42GALH1 [UT42FH NA0] ZTNW48GALH1 [UT48FH NA0] ZTNW60GALH1 [UT60FH NA0]</p> 	<ul style="list-style-type: none"> • Ceiling Concealed Duct – Low static pressure <p>ZBNW12GL5H1 [UL12FH N50] ZBNW18GL3H1 [UL18FH N30]</p> 
<ul style="list-style-type: none"> • Ceiling Suspended Unit <p>ZVNW18GM1H1 [UV18FH N10] ZVNW24GM2H1 [UV24FH N20] ZVNW30GM2H1 [UV30FH N20] ZVNW36GM2H1 [UV36FH N20] ZVNW42GM2H1 [UV42FH N20]</p> 	

3. Nomenclature

3.1 Factory Model Name

Model Name	ZTN	W	36	G	A	L	H	1
No.	1	2	3	4	5	6	7	8

No.	Signification
1	Z*N : Indoor units using R32 * Indicates Product type T : Ceiling Mounted Cassette B : Ceiling Concealed Duct V : Ceiling Suspended Unit
2	Model type W : DC Inverter Heat pump
3	Nominal Capacity Ex) 36,000 Btu/h Class → '36', 42,000 Btu/h Class → '42'
4	Electrical rating G: 1Ø, 220-240V, 50 Hz / 1Ø, 220V, 60 Hz
5	Indoor unit type for Z*N- series models Chassis name
6	Indoor unit type for ZTN- series models L : Basic 1 : Deluxe type 2 : Standard plus type 3 : Standard type R : ARTCOOL Mirror type Indoor unit type for Z*N- series models Chassis name
7	Product type (Z*N- series) A : Standard / Compact H: H-Inverter
8	Serial number

3. Nomenclature

3.2 Buyer Model Name

Model Name	U	T	36	FH
No.	1	2	3	4

No.	Signification
1	Connectable Outdoor unit type U : Indoor units only for Single CAC systems
2	Product type T : Ceiling Mounted Cassette M: Ceiling Concealed Duct - Middle static pressure L : Ceiling Concealed Duct - Low static pressure V : Ceiling Suspended Unit
3	Nominal Capacity Ex) 36,000 Btu/h Class → '36', 42,000 Btu/h Class → '42'
4	Detailed product type FH : Free Combination H-Inverter

SINGLE

Indoor unit

Product data

Ceiling Mounted cassette (4-Way)

Ceiling Mounted cassette (Dual Vane 4-Way)

Ceiling concealed duct - Middle static pressure

Ceiling concealed duct - Low static pressure

Ceiling Suspended Unit

SINGLE

Heat pump

Ceiling Mounted Cassette (4-Way)

- 1.List of Functions**
- 2.Specifications**
- 3.Dimensions**
- 4.Piping Diagrams**
- 5.Wiring Diagrams**
- 6.Air flow and temperature distribution**
- 7.Sound Levels**
- 8.Installation**

1. List of functions

◆ List of function

Category	Functions	ZTNW09GQLH1 [UT09FH NQ0] ZTNW12GQLH1 [UT12FH NQ0]
Air Flow	Air Supply Outlet	4
	Airflow Direction Control (left & right)	X
	Airflow Direction Control (up & down)	Auto
	Auto Swing (left & right)	X
	Auto Swing (up & down)	O
	Airflow Steps (fan/cool/heat)	4 / 5 / 5
	Fan Speed Auto*	X
	Power Cool/Heat	O / O
	Swirl Wind*	O
	Refresh Mode**	X
	Smart Mode**	X
	Indirect Wind*	O
	Direct Wind*	O
	Dry Operation	O
Air Purification	Air Purify	X
	Ionizer	X
	UV-C	X
	Pre-Filter	O
	PM1.0 Filter	X
Reliability	Hot Start	O
	Self Diagnosis	O
Convenience	Auto Mode	O
	Auto Dry Operation	O
	Auto Restart	O
	Child Lock*	O
	Forced Operation	O
	Group Control*	O
	Sleep Timer	O
	Turn On/Off Reservation	O
	Schedule*	O
	Two Thermistor Control*	O
Installation	External On/Off	O
	Drain Pump	Embedded
	E.S.P. Control*	X
Special Functions	High Ceiling Operation*	O
	Wi-Fi	Accessory
	Auto Elevation Grille	X
	Human Detection Function**	X
	Floor Detection Function**	X

Note

- O : Applied, X : Not Applied, - : Unconfirmed or irrelevant
Embedded : A kit is provided by default for using this function when the product is manufactured.
Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field. Accessory line-ups varies by region, so check your local catalogue or local sales material.
- Some functions can be limited by remote controller.
- In case of cassette type indoor units, Air Purification Kit and Auto Elevation Grille functions are not applicable at the same time.
- 'Auto Mode' varies depending on the outdoor unit type.
 - Auto Change Over(Single Heat Pump Outdoor Unit)
 - Auto Mode Select(Multi Heat Pump Outdoor Unit)
 - Auto Intensity Control(Cooling Only Outdoor Unit)
- * : These functions need to connect the wired remote controller.
- ** : This functions need to connect to the Standard III wired remote controller.

1. List of functions

◆ Accessory Compatibility List

Category		Product	Remark	ZTNW09GQLH1 [UT09FH NQ0] ZTNW12GQLH1 [UT12FH NQ0]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
		PWLSSB21H	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard II (White)	O
		PREMTBB01	Standard II (Black)	O
		PREMTB100	Standard III (White)	O
		PREMTBB10	Standard III (Black)	O
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	For 3rd Party Thermostat	O
		PDRYCB320	For 3rd Party Thermostat (Analog Input)	O
		PDRYCB500	For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Without case	X
		PSNFP14A0	With case	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	X
	CO ₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O
	Human detecting sensor	PTVSMA0	-	X
	Drain Pump	ABDPG	-	X

Note

1. O: Possible, X: Impossible, - : Not applicable, Embedded : Included with product.
2. * : Some advanced functions controlled by individual controller cannot be operated.
3. ** : It could not be operated some functions.
4. *** : Selecting a wireless remote controller in case of ducted type indoor units requires either a connection to the wired remote controller (Standard II) or an IR receiver accessory to be connected to the duct in order to receive the signal.
5. If you need more detail, please refer to the **BECON** PDB or the manual of product. (<http://partner.lge.com/global> : Home> Doc.Library> Product > Control(BECON))

2. Specifications

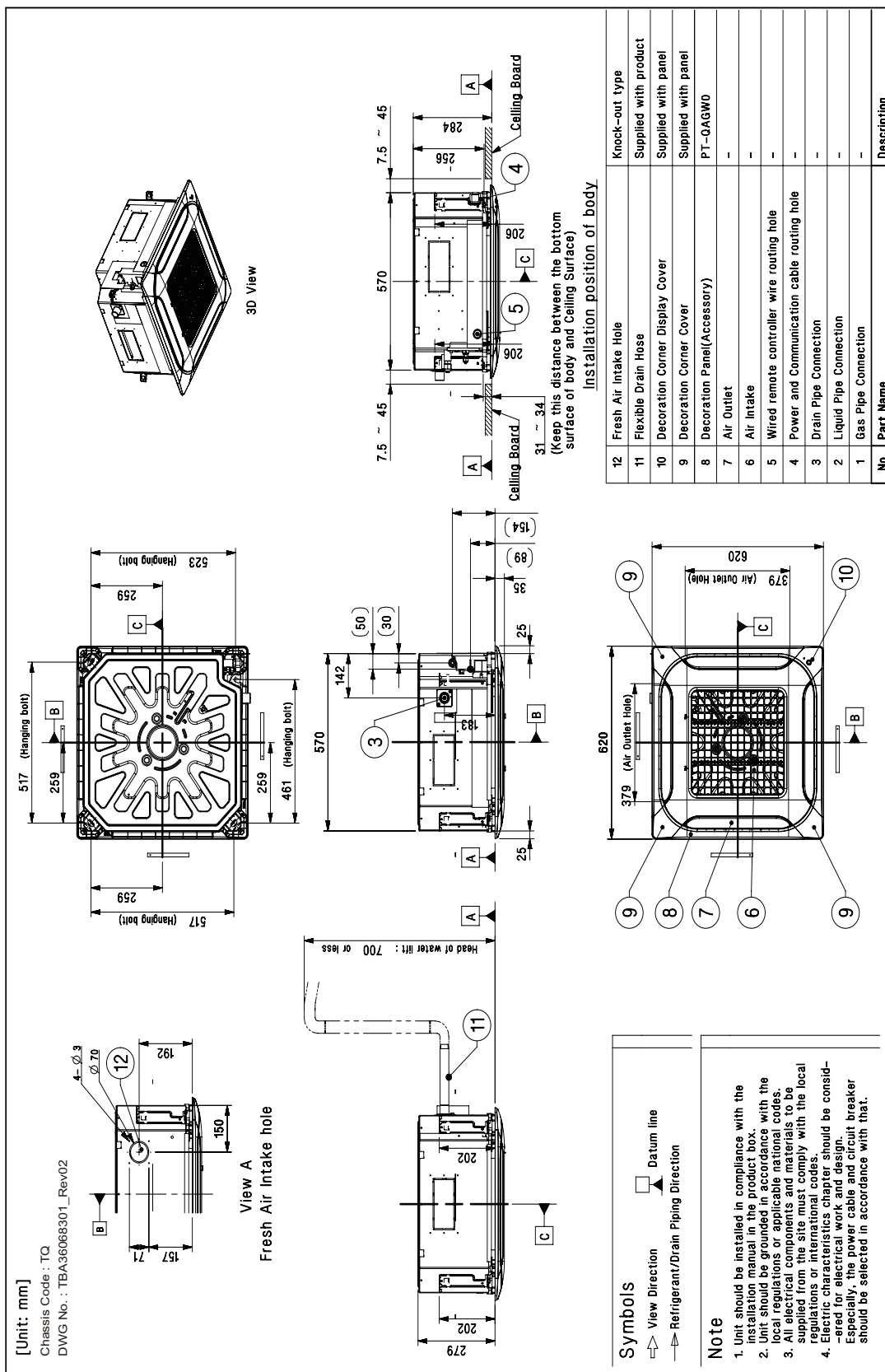
Model Name			Unit	ZTNW09GQLH1 [UT09FH NQ0]	ZTNW12GQLH1 [UT12FH NQ0]
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity(Nominal)	Cooling		kW	2.5	3.4
	Heating		kW	3.2	4.1
Power Input		H / M / L	W	30 / 26 / 22	30 / 26 / 22
Running Current		H / M / L	A	0.33 / 0.31 / 0.29	0.33 / 0.31 / 0.29
		Max.	A	0.40	0.40
Exterior	Color		-	Steel Gray	Steel Gray
Dimensions		W x H x D	mm	570 × 256 × 570	570 × 256 × 570
Weight	Net		kg	13.9	13.9
	Shipping		kg	16.9	16.9
Heat Exchanger	Rows x Columns x FPI			2 x 10 x 18	2 x 10 x 18
	Face Area		m ²	0.28	0.28
Fan Type				3D Turbo Fan	3D Turbo Fan
Air Flow Rate		H / M / L	m ³ /min	11.0 / 10.0 / 9.3	11.0 / 10.0 / 9.3
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	43 x 1	43 x 1
Safety Device			-	Fuse	Fuse
			-	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level	Cooling	H / M / L	dB(A)	41 / 39 / 37	41 / 39 / 37
	Heating	H / M / L	dB(A)	41 / 39 / 37	41 / 39 / 37
Sound Power Level	Cooling	Rated	dB(A)	54	54
	Heating	Rated	dB(A)	-	-
Power and Communication Cable (included Earth)			No. x mm ²	4C x 0.75	4C x 0.75
Decoration Panel	Model Name		-	PT-QAGW0	PT-QAGW0
	Color(RAL)		-	White(9003)	White(9003)
	Dimensions	W x H x D	mm	620 × 35 × 620	620 × 35 × 620
	Net Weight		kg	2.85	2.85
	Shipping Weight		kg	3.90	3.90

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741)).
4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity.
 - Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

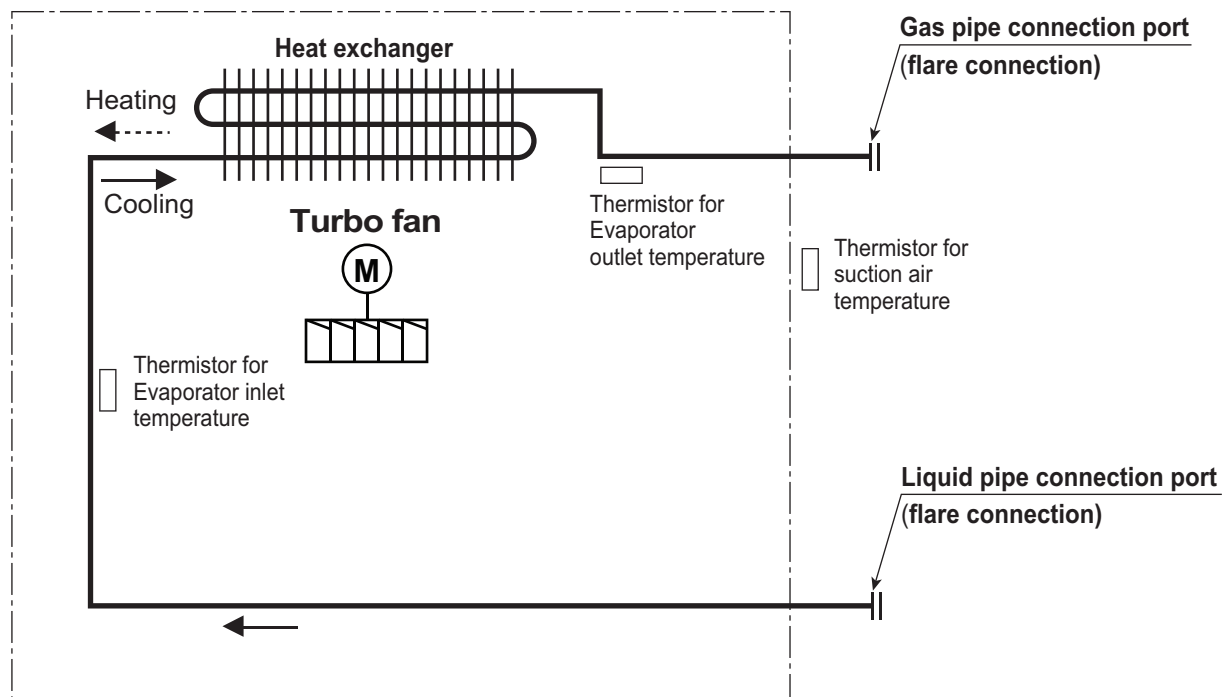
3. Dimensions

■ ZTNW09GQLH1 [UT09FH NQ0] / ZTNW12GQLH1 [UT12FH NQ0]



4. Piping Diagrams

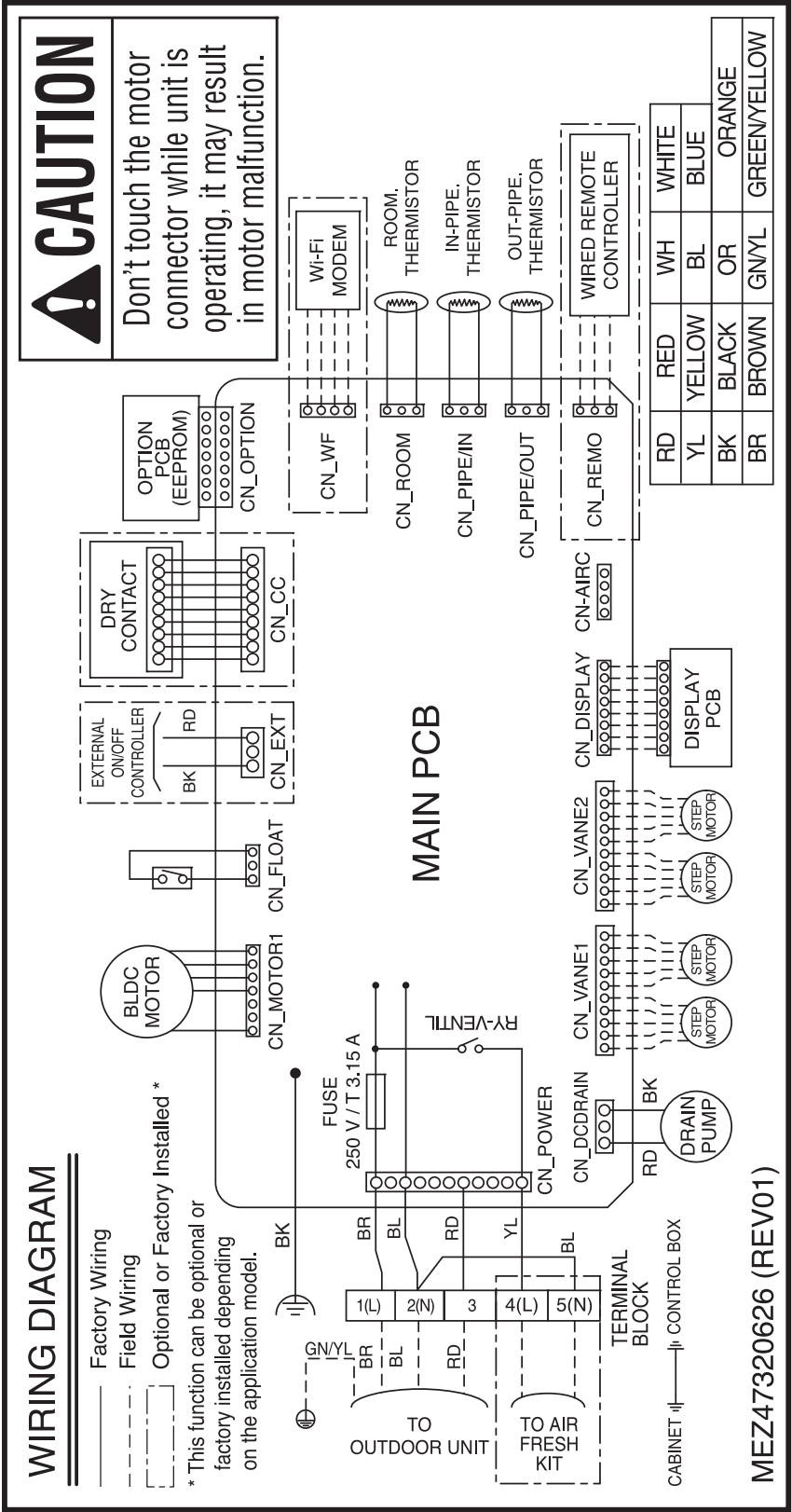
■ ZTNW09GQLH1 [UT09FH NQ0] / ZTNW12GQLH1 [UT12FH NQ0]



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

5. Wiring Diagrams

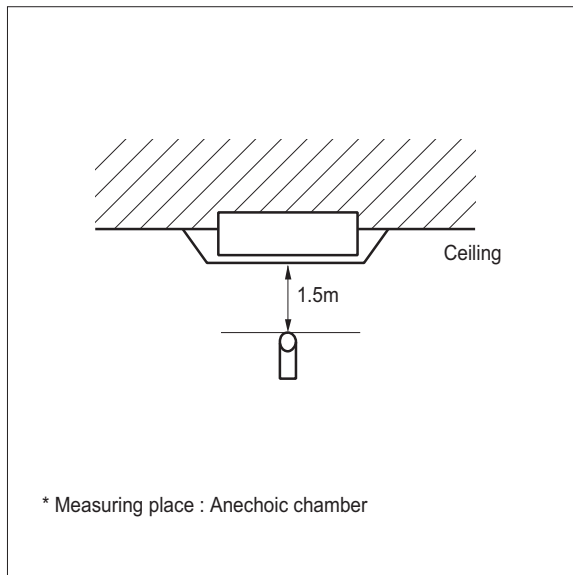
■ ZTNW09GQLH1 [UT09FH NQ0] / ZTNW12GQLH1 [UT12FH NQ0]



6. Sound Levels

6.1 Sound Pressure Level

Overall

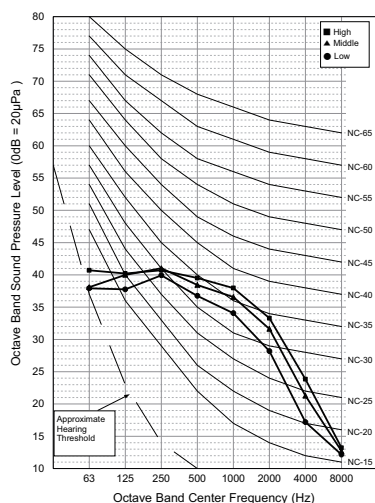


Note

1. Sound measured at some distance away from the center of the unit.
2. Data is valid at free field condition.
3. Reference acoustic pressure 0dB = 20μPa.
4. Data is valid at nominal operation condition.
Refer to the Model Specifications for nominal conditions (Power source and Ambient temperature, etc)
5. Sound levels can be increased in accordance with installation and operating conditions. (Static pressure mode, used air guide, Room target temperature setting, etc)
6. 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.
7. Sound pressure level is measured on the rated condition in the anechoic rooms. (LG Internal Standard)
Therefore, these values can be increased owing to ambient conditions during operation.

Model	50Hz, 220-240V		
	Sound Pressure Level [dB(A)]		
	H	M	L
ZTNW09GQLH1 [UT09FH NQ0] ZTNW12GQLH1 [UT12FH NQ0]	41	39	37

ZTNW09GQLH1 [UT09FH NQ0] ZTNW12GQLH1 [UT12FH NQ0]



6. Sound Levels

6.2 Sound Power Level

Note

1. Operating condition

- Power source : 220-240V 50 Hz / 220V 60 Hz
- 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 to the specifications.

2. Data is valid at diffuse field condition.

3. Data is valid at nominal operating condition

4. Sound level can be increased in static pressure mode or used air guide.

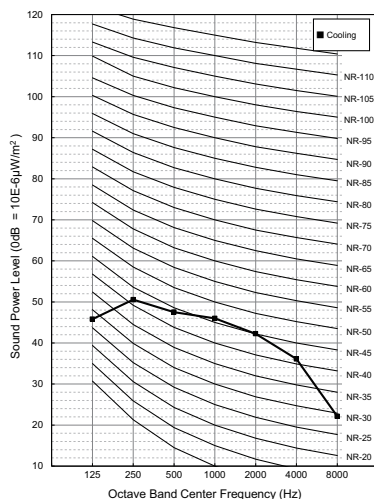
5. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient).

6. Reference acoustic intensity 0dB = $10E-6\mu W/m^2$

7. Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard. Therefore, these values can be increased owing to ambient conditions during operation.

Model	Sound Power Level [dB(A)]
	Cooling
ZTNW09GQLH1 [UT09FH NQ0] ZTNW12GQLH1 [UT12FH NQ0]	54

**ZTNW09GQLH1 [UT09FH NQ0]
ZTNW12GQLH1 [UT12FH NQ0]**

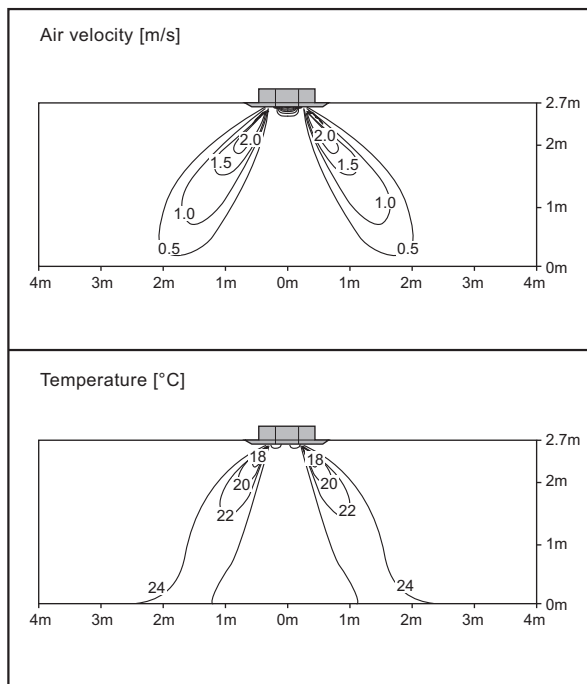


7. Air flow and temperature distributions (reference data)

■ ZTNW09GQLH1 [UT09FH NQ0] / ZTNW12GQLH1 [UT12FH NQ0]

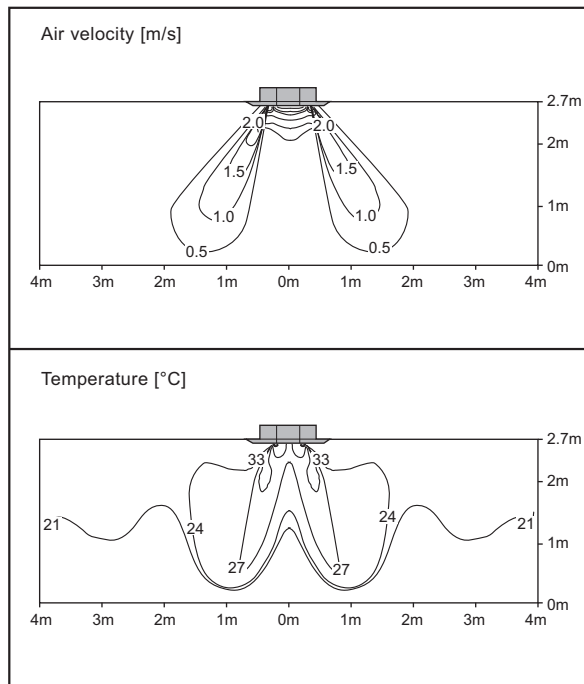
Cooling

Discharge angle: 40°



Heating

Discharge angle: 50°



Note

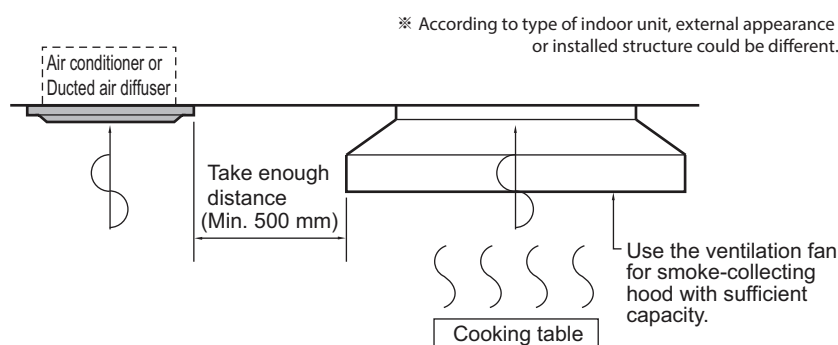
- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

8. 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.
- Teach the customer the operation and maintenance procedures, using the operation manual. (air filter cleaning, temperature control, etc.)

8.1 Selection of the best location

- The place where room air circulation is good.
- Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- The place where the unit is leveled.
- The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- The place where the unit is not affected by an electrical noise.
- The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
 1. Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated. These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function. In these cases, take the following actions;
 - Make sure that ventilation fan is enough to cover all noxious gases from this place.
 - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



2. Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
3. Avoid places where inflammable gas is generated.
4. Avoid place where noxious gas is generated.
5. Avoid places near high frequency generators.

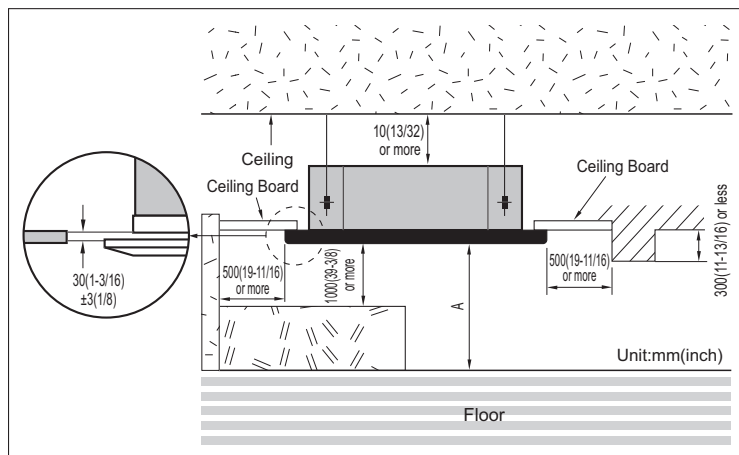
8. Installation

⚠ CAUTION

- If the temperature rise above 30°C or the humidity rise above RH 80%, the dew-protective kit should be equipped or use additional insulation to the indoor unit body.
 - "Dew Protective kit" is sold separately.
 - Use the glass wool material or polyethylene foam and it make sure to be thick of 10mm at least.

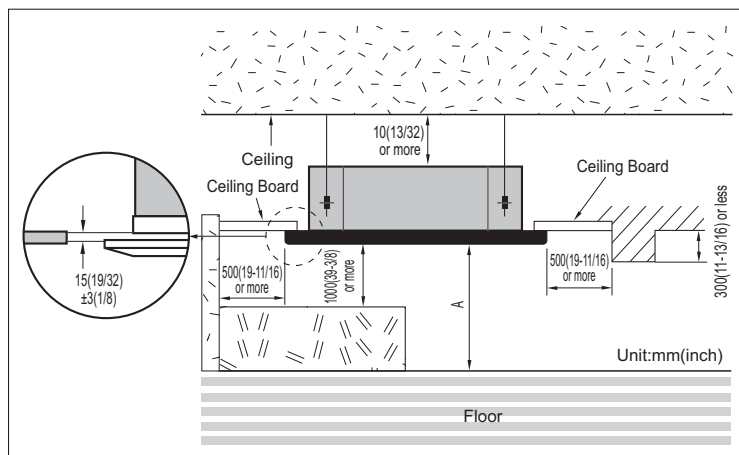
TQ/TR Chassis

* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



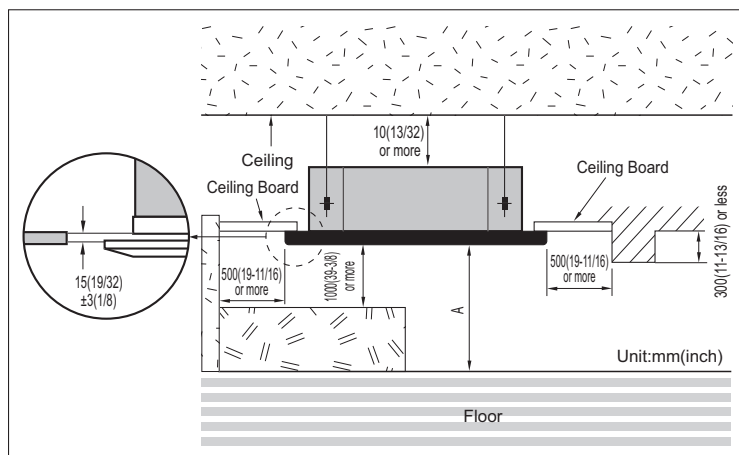
TP/TP-B Chassis

* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



TM/TM-A/TN Chassis

* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



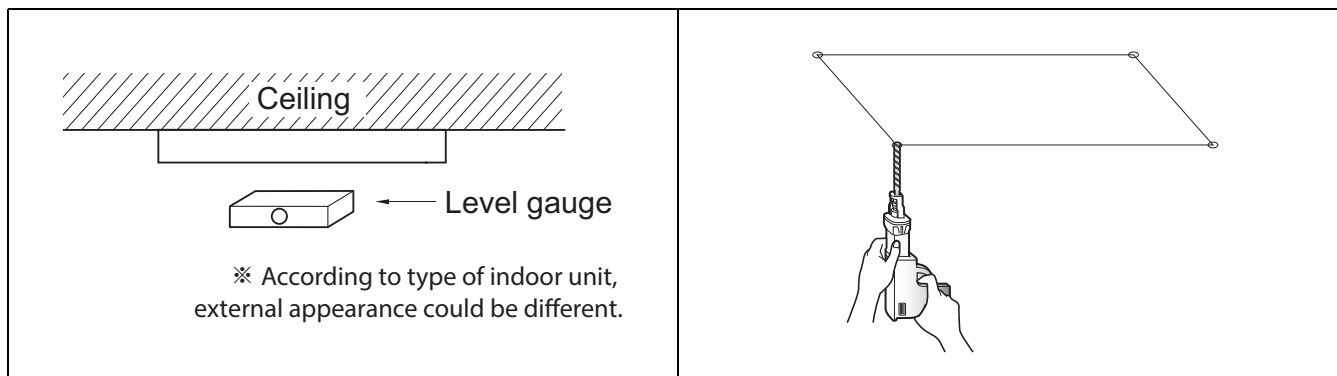
Model		A
4 Way	1.6~10.0 kW	2 000 < A ≤ 3 600
	10.0~14.5 kW	2 500 < A ≤ 4 200

8. Installation

8.2 Ceiling opening dimensions and hanging bolt location

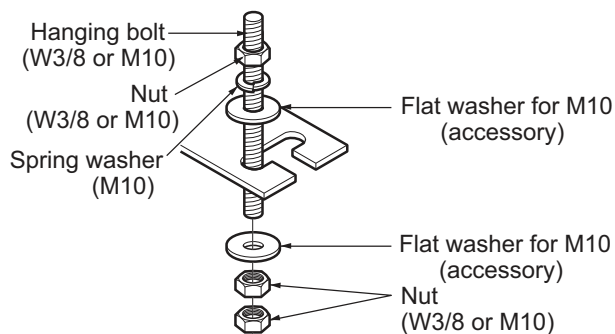
⚠ CAUTION

- During the installation, care should be taken not to damage electric wires.
- In case of using a drain pump, install the unit horizontally using a level gauge.



1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
2. Select and mark the position for fixing bolts and piping hole.
3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
4. Drill the hole for anchor bolt on the wall or ceiling.
 - 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.
5. In case of ducted type unit, apply a joint-canvas between the unit and duct to absorb unnecessary vibration.

8. Installation



- The following parts are local purchasing.

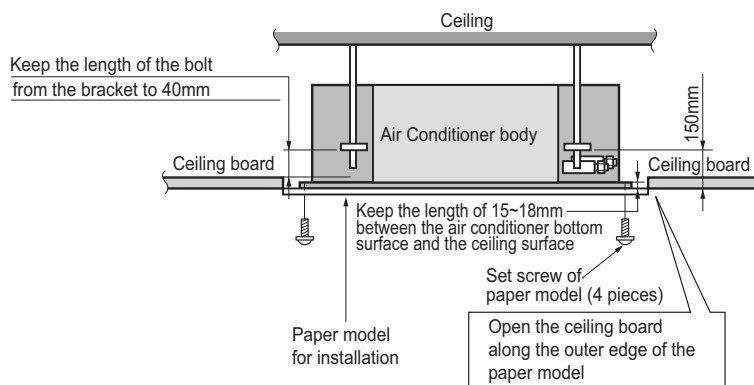
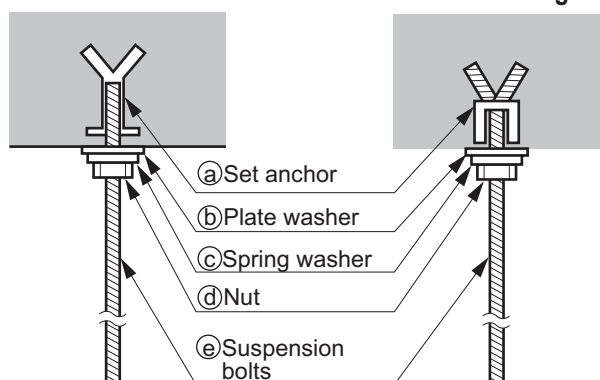
1. Hanging bolt - W 3/8 or M10
2. Nut - W 3/8 or M10
3. Spring washer - M10
4. Plate washer - M10

CAUTION

- Tighten the nut and bolt to prevent the unit from falling.
- When mechanical connectors are reused indoors, sealing parts shall be renewed. (for R32)
- When flared joints are reused indoors, the flare part shall be re-fabricated. (for R32)

Old building

New building



TQ/TR Chassis		TM/TM-A/TN/TP/TP-B Chassis
Panel Dimensions [Unit : mm]		
700 x 700	620 x 620	950 x 950

8. Installation

8.3 Connecting Cables between Indoor Unit and Outdoor Unit

8.3.1 General instructions

- All field supplied parts and materials, electric works must conform to local codes. Use copper wire only.
- Follow the **"WIRING DIAGRAM"** attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- All wiring must be performed by an authorized electrician.
- A circuit breaker capable of shutting down the power supply to the entire system must be installed.

CAUTION

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

- Never fail to have separate power specially for the air conditioner.
- Provide a circuit breaker switch between power source and the unit.
- Confirm the Specification of power source.
- Confirm that electrical capacity is sufficient.
- Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
- Confirm that the cable thickness is as specified in the power sources specification.
(Particularly note the relation between cable length and thickness.)
- Do not install the leakage breaker in a place which is wet or moist.
Water or moist may cause short circuit.
- The following troubles would be caused by voltage drop-down.
 - » Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
 - » Proper starting power is not given to the compressor.

8.3.2 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.
- In case of the system with multiple indoor units, mark each indoor unit as unit A, unit B, etc and be sure the terminal board wiring to the outdoor unit and indoor units are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.

8.3.3 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 connecting of communication (transmission) cable, put the cable(or thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel. In case that communication (transmission) cable is not needed to connect, fix the other side of the clamp with a screw strongly.

8. Installation

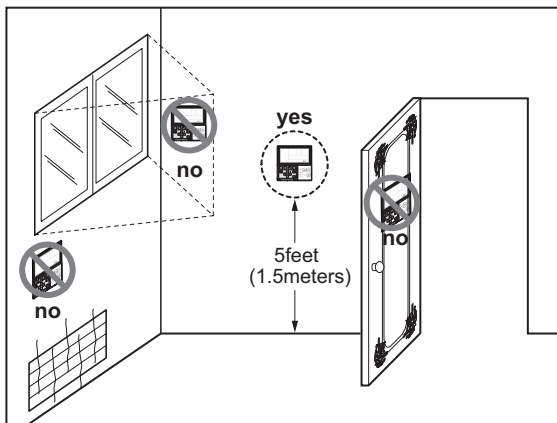
⚠ WARNING

- Make sure that the screws of the terminal are fixed tightly.
- The screw 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.)
- 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 wiring through holes to prevent damage to them.
- 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.

8.3.4 Wired Remote Controller Installation (Optional)

Since the room temperature sensor is in the remote controller, the remote controller box should be installed in a place away from direct sunlight, high humidity and direct supply of cold air to maintain proper space temperature.

Install the remote controller about 5ft(1.5m) above the floor in an area with good air circulation at an average temperature.



• Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

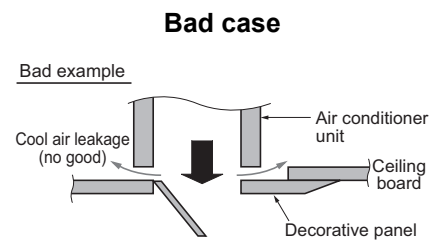
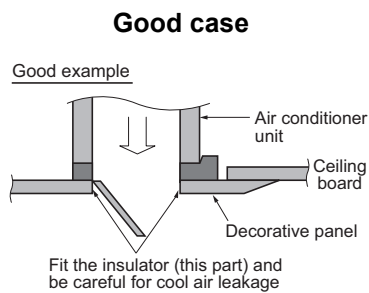
8. Installation

8.4 Installation of Decoration Panel

- The decoration panel has its installation direction.
- Before installing the decoration panel, always remove the paper template.

⚠ CAUTION

- Install certainly the decoration panel. Cool air leakage causes sweating or falling of water-drops.



8. Installation

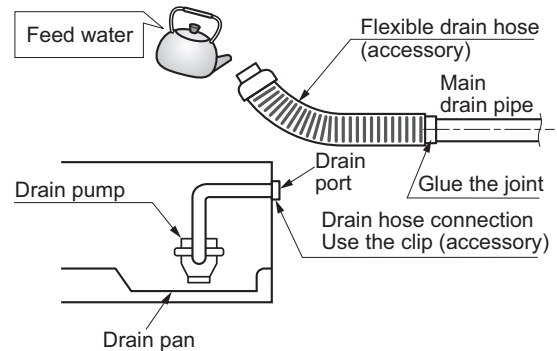
8.5 Indoor Unit Drain Piping

8.5.1 Method of Drainage test

◆ Drainage test of indoor unit with drain pump

Use the following procedure to test the drain pump operation.

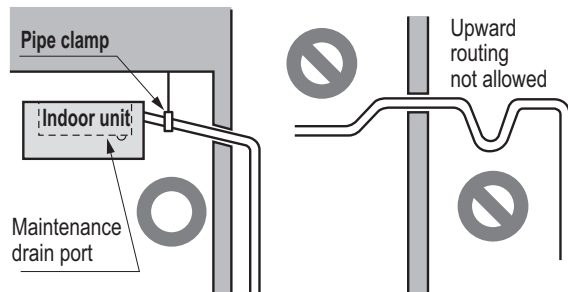
1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
2. Feed water to the flexible drain hose and check the piping for leakage.
3. Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
4. When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.



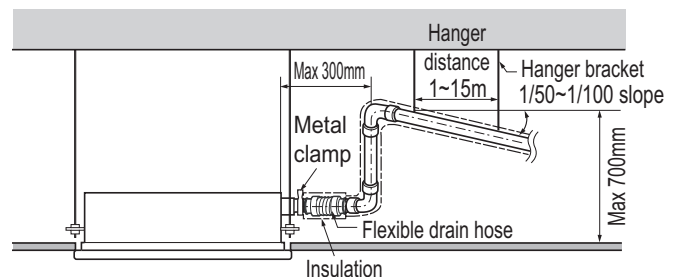
※ According to type of indoor unit, external appearance could be different.

8.5.2 Drain piping of indoor unit with drain pump

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
 - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.

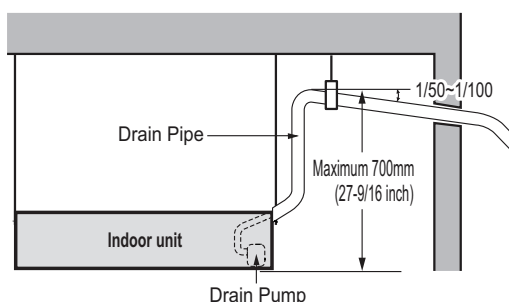


※ According to type of indoor unit, external appearance could be different.

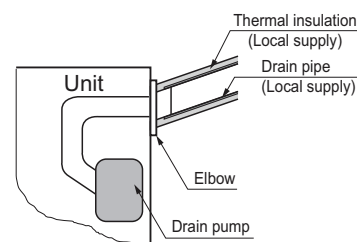


※ According to type of indoor unit, external appearance could be different.

- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- Be sure to install heat insulation on the drain piping.
 - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



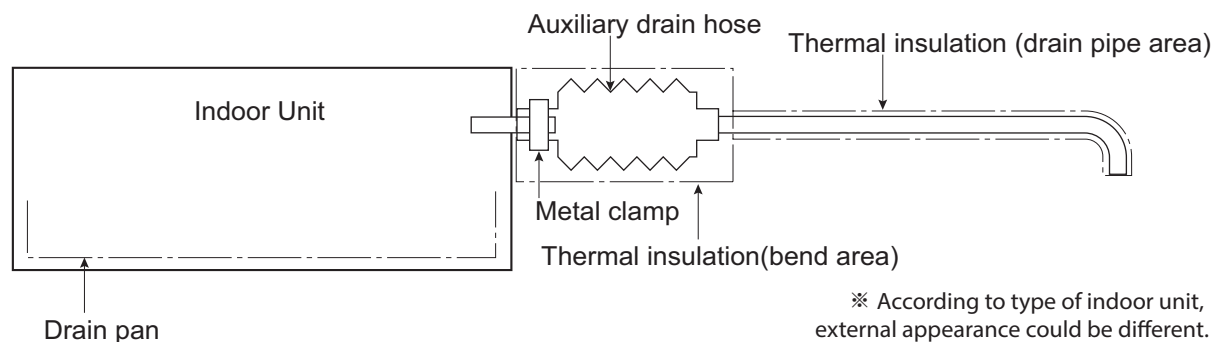
※ According to type of indoor unit, external appearance could be different.



8. Installation

8.5.3 Connection of an auxiliary(flexible) drain hose

- To connect drain pipe to the drain socket on the indoor unit, an auxiliary flexible drain hose should be used. auxiliary flexible drain hose allows that the drain pipe can be connected to the socket without breaking by excessive strain.

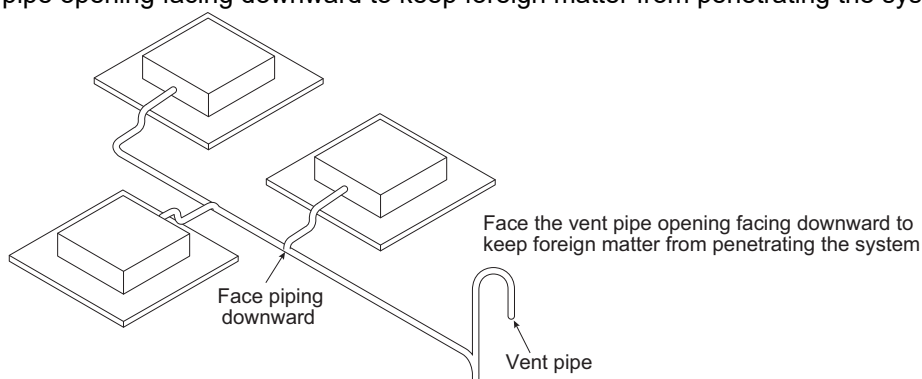


⚠ CAUTION

- The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.
- It is need to insulate the auxiliary drain hose with thermal insulation material.

8.5.4 Ground drain piping

- It is standard work practice to make connections to the main pipe from above. The pipe down from the combination should be as large as possible.
- The pipe work should be kept as short as possible and the number of indoor units per group kept to a minimum.
- Face the vent pipe opening facing downward to keep foreign matter from penetrating the system.



SINGLE

Heat pump

Ceiling Mounted Cassette (Dual Vane 4-Way)

- 1.List of Functions**
- 2.Specifications**
- 3.Dimensions**
- 4.Piping Diagrams**
- 5.Wiring Diagrams**
- 6.Air flow and temperature distribution**
- 7.Sound Levels**
- 8.Installation**

1. List of functions

◆ List of function

Category	Functions	ZTNW18GBLH1 [UT18FH NB0] ZTNW24GALH1 [UT24FH NA0] ZTNW30GALH1 [UT30FH NA0] ZTNW36GALH1 [UT36FH NA0] ZTNW42GALH1 [UT42FH NA0] ZTNW48GALH1 [UT48FH NA0] ZTNW60GALH1 [UT60FH NA0]
Air Flow	Air Supply Outlet	4
	Airflow Direction Control (left & right)	X
	Airflow Direction Control (up & down)	Auto
	Auto Swing (left & right)	X
	Auto Swing (up & down)	O
	Airflow Steps (fan/cool/heat)	4 / 5 / 5
	Fan Speed Auto*	X
	Power Cool/Heat	O / O
	Swirl Wind*	O
	Refresh Mode**	O
	Smart Mode**	O
	Indirect Wind*	O
	Direct Wind*	O
	Dry Operation	O
Air Purification	Air Purify	Accessory
	Ionizer	X
	UV-C	X
	Pre-Filter	O
	PM1.0 Filter	X
Reliability	Hot Start	O
	Self Diagnosis	O
Convenience	Auto Mode	O
	Auto Dry Operation	O
	Auto Restart	O
	Child Lock*	O
	Forced Operation	O
	Group Control*	O
	Sleep Timer	O
	Turn On/Off Reservation	O
	Schedule*	O
	Two Thermistor Control*	O
	External On/Off	O
Installation	Drain Pump	Embedded
	E.S.P. Control*	X
	High Ceiling Operation*	O
Special Functions	Wi-Fi	Accessory
	Auto Elevation Grille	X
	Human Detection Function**	Accessory
	Floor Detection Function**	Accessory

Note

1. O : Applied, X : Not Applied, - : Unconfirmed or irrelevant

Embedded : A kit is provided by default for using this function when the product is manufactured.

Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field. Accessory line-ups varies by region, so check your local catalogue or local sales material.

2. Some functions can be limited by remote controller.

3. In case of cassette type indoor units, Air Purification Kit and Auto Elevation Grille functions are not applicable at the same time.

4. 'Auto Mode' varies depending on the outdoor unit type.

- Auto Change Over(Single Heat Pump Outdoor Unit)

- Auto Mode Select(Multi Heat Pump Outdoor Unit)

- Auto Intensity Control(Cooling Only Outdoor Unit)

5. * : These functions need to connect the wired remote controller.

6. ** : This functions need to connect to the Standard III wired remote controller.

1. List of functions

◆ Accessory Compatibility List

Category		Product	Remark	ZTNW18GBLH1 [UT18FH NB0] ZTNW24GALH1 [UT24FH NA0] ZTNW30GALH1 [UT30FH NA0] ZTNW36GALH1 [UT36FH NA0] ZTNW42GALH1 [UT42FH NA0] ZTNW48GALH1 [UT48FH NA0] ZTNW60GALH1 [UT60FH NA0]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
		PWLSSB21H	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard II (White)	O
		PREMTBB01	Standard II (Black)	O
		PREMTB100	Standard III (White)	O
		PREMTBB10	Standard III (Black)	O
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	For 3rd Party Thermostat	O
		PDRYCB320	For 3rd Party Thermostat (Analog Input)	O
		PDRYCB500	For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Without case	X
		PSNFP14A0	With case	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	X
	CO ₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O
	Drain Pump	ABDPG	-	X

Note

1. O: Possible, X: Impossible, -: Not applicable, Embedded: Included with product.
2. *: Some advanced functions controlled by individual controller cannot be operated.
3. **: It could not be operated some functions.
4. ***: Selecting a wireless remote controller in case of ducted type indoor units requires either a connection to the wired remote controller (Standard II) or an IR receiver accessory to be connected to the duct in order to receive the signal.
5. If you need more detail, please refer to the **BECON** PDB or the manual of product. (<http://partner.lge.com/global> : Home> Doc.Library> Product > Control(BECON))

◆ Panel(Accessory)

Model Name			PT-AAGW0	PT-AFGW0
Description	-		Standard Panel	Premium Panel
Exterior Color	-		White	White
RAL (Classic)	-		RAL 9003	RAL 9003
Dual Vane	-		O	O
Dimensions (W x H x D)	Net	mm	950 x 35 x 950	950 x 35 x 950
	Shipping	mm	1,006 x 102 x 1,006	1,006 x 117 x 1,006
Weight	Net	kg	7.1	7.5
	Shipping	kg	9.3	9.4
Function	PM1.0 Sensor	-	X	O
Accessory	Air Purification Kit	-	X	PTAHMP0
	Floor Detection Sensor*	-	PTFSMA0**	PTFSMA0**
	Human Detection Sensor*	-	PTVSAA0	PTVSAA0

Note

- *: This functions need to connect to the RS3 wired remote controller(Standard III).
- ** : This function will be launched on Oct, 2020.
- Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.

2. Specifications

Model Name			Unit	ZTNW18GBLH1 [UT18FH NB0]
Power Supply			V , Ø , Hz	220-240 , 1 , 50
				220 , 1 , 60
Capacity(Nominal)	Cooling		kW	5.0
	Heating		kW	5.8
Power Input		H / M / L	W	33 / 26 / 22
Running Current		H / M / L	A	0.49 / 0.46 / 0.44
		Max.	A	0.60
Exterior	Color		-	Steel Gray
Dimensions		W x H x D	mm	840 × 204 × 840
Weight	Net		kg	21.1
	Shipping		kg	26.5
Heat Exchanger	Rows x Columns x FPI			3 x 8 x 21
	Face Area		m ²	0.33
Fan Type				3D Turbo Fan
Air Flow Rate		H / M / L	m ³ /min	17.0 / 15.5 / 14.0
Fan Motor	Type			BLDC
	Drive			Internal
	Output		W x No.	50.25 x 1
Safety Device			-	Fuse
			-	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)
	Gas Side		mm (inch)	Ø 12.7 (1/2)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25
Sound Pressure Level	Cooling	H / M / L	dB(A)	37 / 36 / 34
	Heating	H / M / L	dB(A)	37 / 36 / 34
Sound Power Level	Cooling	Rated	dB(A)	52
	Heating	Rated	dB(A)	-
Power and Communication Cable (included Earth)			No. x mm ²	4C x 0.75

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741).
4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity.
 - Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

2. Specifications

Model Name			Unit	ZTNW24GALH1 [UT24FH NA0]	ZTNW30GALH1 [UT30FH NA0]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Capacity(Nominal)	Cooling		kW	6.8	8.0
	Heating		kW	7.5	9.0
Power Input		H / M / L	W	43 / 35 / 28	43 / 35 / 28
Running Current		H / M / L	A	0.53 / 0.51 / 0.48	0.53 / 0.51 / 0.48
		Max.	A	1.0	1.0
Exterior	Color		-	Steel Gray	Steel Gray
Dimensions		W x H x D	mm	840 × 288 × 840	840 × 288 × 840
Weight	Net		kg	25.3	25.3
	Shipping		kg	30.7	30.7
Heat Exchanger	Rows x Columns x FPI			3 x 12 x 21	3 x 12 x 21
	Face Area		m²	0.49	0.49
Fan Type				3D Turbo Fan	3D Turbo Fan
Air Flow Rate		H / M / L	m³/min	23.8 / 21.4 / 19.0	23.8 / 21.4 / 19.0
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	136 x 1	136 x 1
Safety Device			-	Fuse	Fuse
			-	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level	Cooling	H / M / L	dB(A)	42 / 41 / 40	42 / 41 / 40
	Heating	H / M / L	dB(A)	42 / 41 / 40	42 / 41 / 40
Sound Power Level	Cooling	Rated	dB(A)	56	56
	Heating	Rated	dB(A)	-	-
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
Note 1. Due to our policy of innovation some specifications may be changed without notification. 2. Wiring cable size must comply with the applicable local and national code. And “Electric characteristics” chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that. 3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741). 4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity. • Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB • Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB • Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.					

2. Specifications

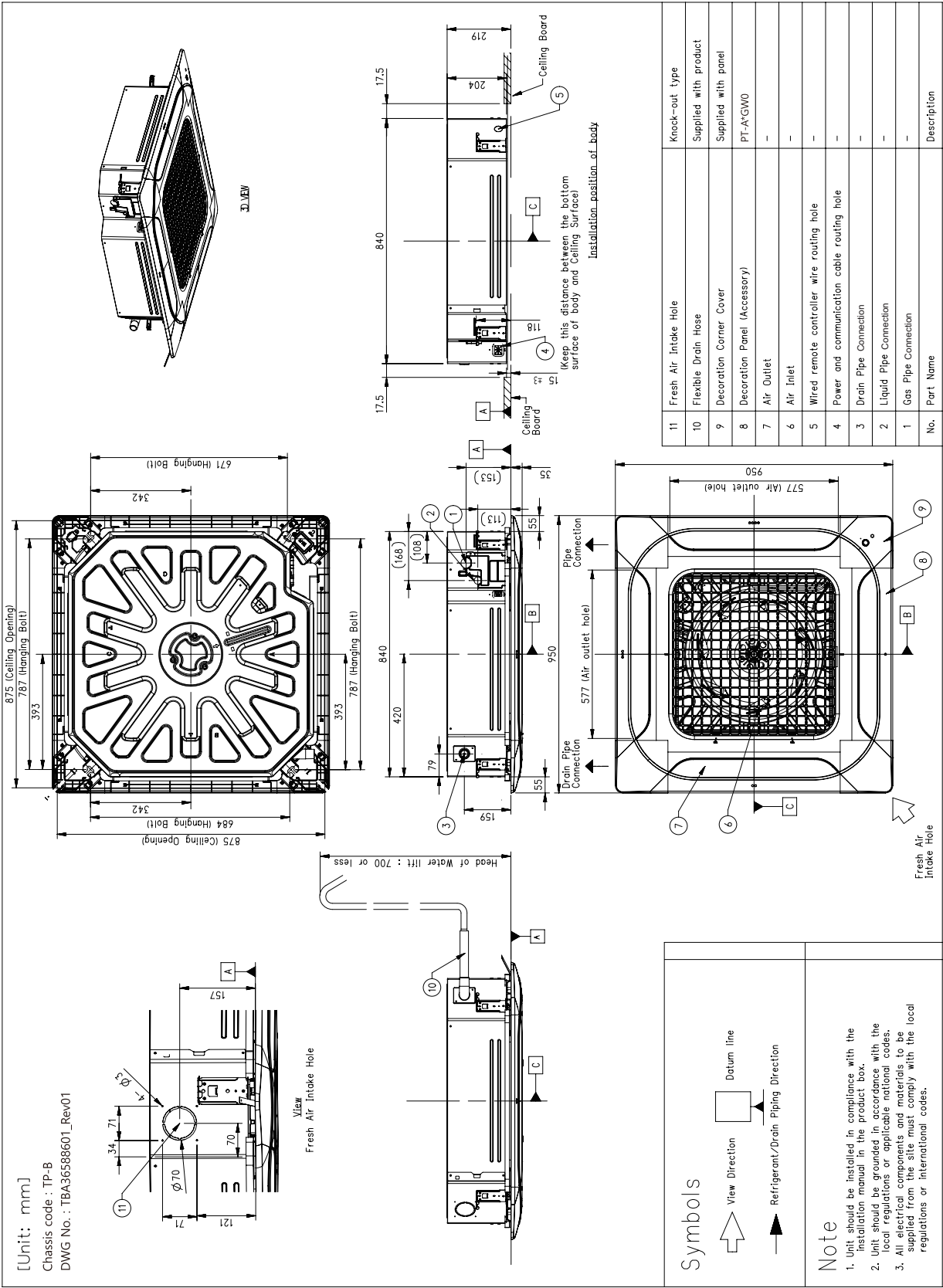
Model Name			Unit	ZTNW36GALH1 [UT36FH NA0]	ZTNW42GALH1 [UT42FH NA0]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Capacity(Nominal)	Cooling		kW	9.5	12.1
	Heating		kW	10.8	13.5
Power Input		H / M / L	W	70 / 59 / 50	70 / 59 / 50
Running Current		H / M / L	A	0.67 / 0.61 / 0.58	0.67 / 0.61 / 0.58
		Max.	A	1.0	1.0
Exterior	Color		-	Steel Gray	Steel Gray
Dimensions		W x H x D	mm	840 × 288 × 840	840 × 288 × 840
Weight	Net		kg	27.2	27.2
	Shipping		kg	32.6	32.6
Heat Exchanger	Rows x Columns x FPI			3 x 18 x 22	3 x 18 x 22
	Face Area		m²	0.53	0.53
Fan Type				3D Turbo Fan	3D Turbo Fan
Air Flow Rate		H / M / L	m³/min	28 / 25 / 23	28 / 25 / 23
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	136 x 1	136 x 1
Safety Device			-	Fuse	Fuse
			-	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level	Cooling	H / M / L	dB(A)	44 / 42 / 41	44 / 42 / 41
	Heating	H / M / L	dB(A)	44 / 42 / 41	44 / 42 / 41
Sound Power Level	Cooling	Rated	dB(A)	59	59
	Heating	Rated	dB(A)	-	60
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
Note 1. Due to our policy of innovation some specifications may be changed without notification. 2. Wiring cable size must comply with the applicable local and national code. And “Electric characteristics” chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that. 3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741). 4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity. • Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB • Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB • Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.					

2. Specifications

Model Name			Unit	ZTNW48GALH1 [UT48FH NA0]	ZTNW60GALH1 [UT60FH NA0]
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Capacity(Nominal)	Cooling		kW	13.4	15.0
	Heating		kW	15.5	17.5
Power Input		H / M / L	W	81 / 60 / 50	81 / 60 / 50
Running Current		H / M / L	A	0.72 / 0.62 / 0.58	0.72 / 0.62 / 0.58
		Max.	A	1.0	1.0
Exterior	Color		-	Steel Gray	Steel Gray
Dimensions		W x H x D	mm	840 × 288 × 840	840 × 288 × 840
Weight	Net		kg	27.2	27.2
	Shipping		kg	32.6	32.6
Heat Exchanger	Rows x Columns x FPI			3 x 18 x 22	3 x 18 x 22
	Face Area		m ²	0.53	0.53
Fan Type				3D Turbo Fan	3D Turbo Fan
Air Flow Rate		H / M / L	m ³ /min	30 / 27 / 24	30 / 27 / 24
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	136 x 1	136 x 1
Safety Device			-	Fuse	Fuse
			-	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level	Cooling	H / M / L	dB(A)	45 / 43 / 41	45 / 43 / 41
	Heating	H / M / L	dB(A)	45 / 43 / 41	45 / 43 / 41
Sound Power Level	Cooling	Rated	dB(A)	61	61
	Heating	Rated	dB(A)	61	61
Power and Communication Cable (included Earth)			No. x mm ²	4C x 0.75	4C x 0.75
Note 1. Due to our policy of innovation some specifications may be changed without notification. 2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that. 3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741). 4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity. <ul style="list-style-type: none"> Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m. 					

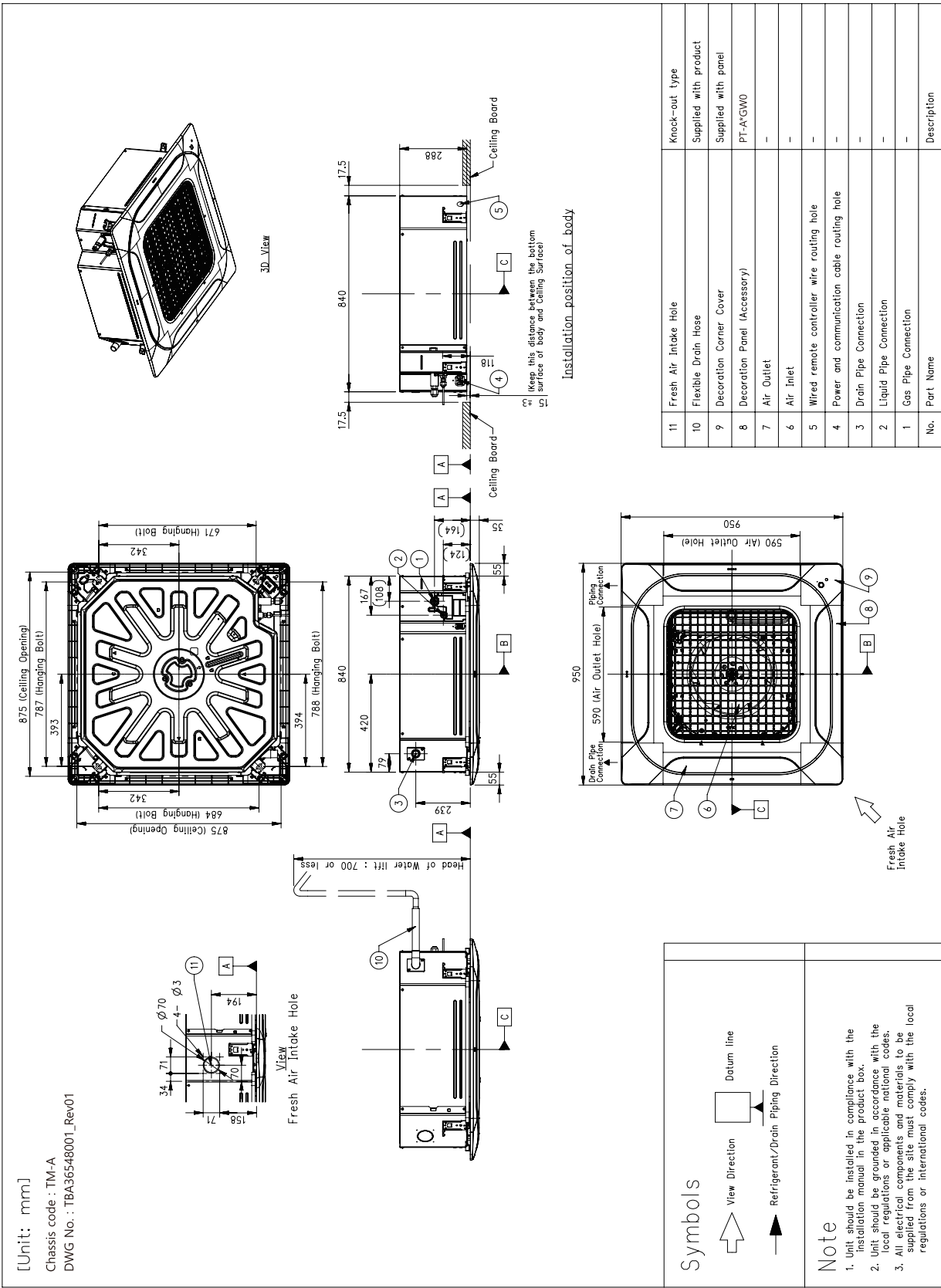
3. Dimensions

ZTNW18GBLH1 [UT18FH NB0]



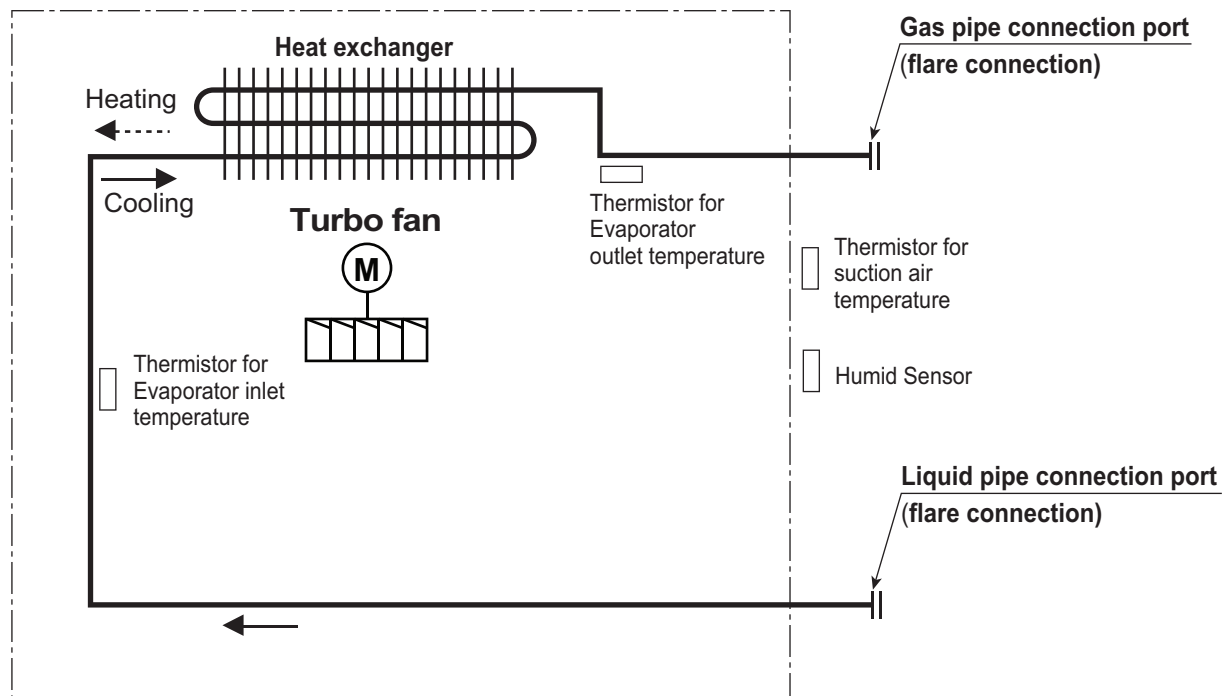
3. Dimensions

■ ZTNW24GALH1 [UT24FH NA0] / ZTNW30GALH1 [UT30FH NA0]
ZTNW36GALH1 [UT36FH NA0] / ZTNW42GALH1 [UT42FH NA0]
ZTNW48GALH1 [UT48FH NA0] / ZTNW60GALH1 [UT60FH NA0]



4. Piping Diagrams

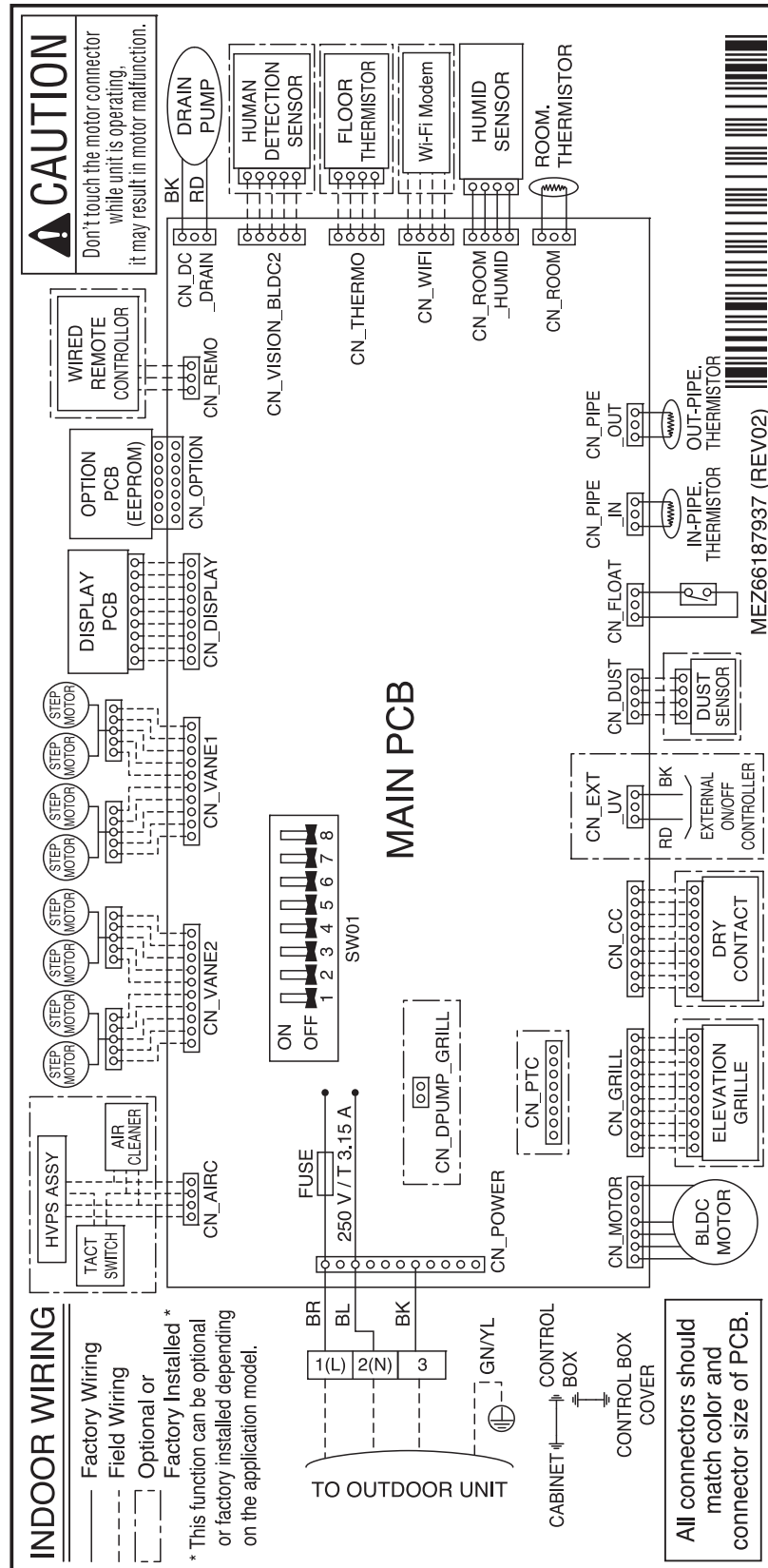
- ZTNW18GBLH1 [UT18FH NB0] / ZTNW24GALH1 [UT24FH NA0]
 ZTNW30GALH1 [UT30FH NA0] / ZTNW36GALH1 [UT36FH NA0]
 ZTNW42GALH1 [UT42FH NA0] / ZTNW48GALH1 [UT48FH NA0]
 ZTNW60GALH1 [UT60FH NA0]



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
Humid Sensor	CN_ROOM_HUMID

5. Wiring Diagrams

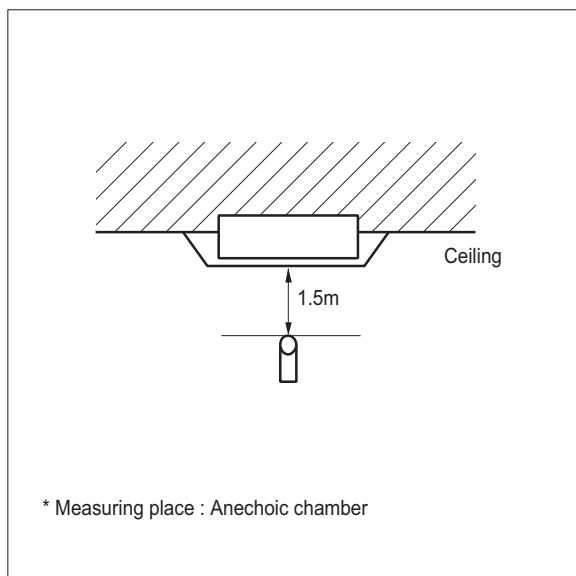
- ZTNW18GBLH1 [UT18FH NB0] / ZTNW24GALH1 [UT24FH NA0]
 ZTNW30GALH1 [UT30FH NA0] / ZTNW36GALH1 [UT36FH NA0]
 ZTNW42GALH1 [UT42FH NA0] / ZTNW48GALH1 [UT48FH NA0]
 ZTNW60GALH1 [UT60FH NA0]



6. Sound Levels

6.1 Sound Pressure Level

Overall

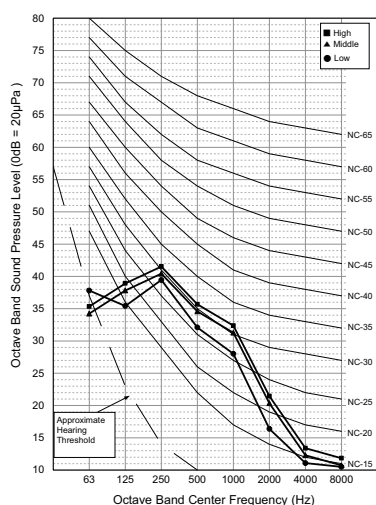


Note

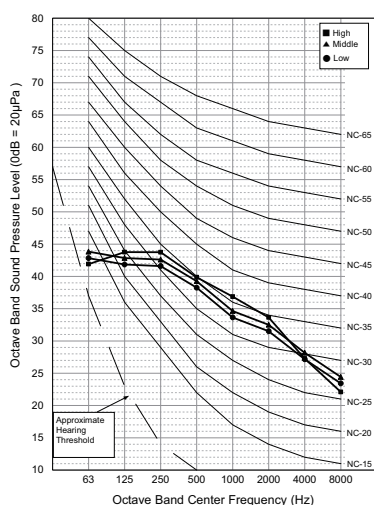
1. Sound measured at some distance away from the center of the unit.
2. Data is valid at free field condition.
3. Reference acoustic pressure $0\text{dB} = 20\mu\text{Pa}$.
4. Data is valid at nominal operation condition.
Refer to the Model Specifications for nominal conditions (Power source and Ambient temperature, etc)
5. Sound levels can be increased in accordance with installation and operating conditions. (Static pressure mode, used air guide, Room target temperature setting, etc)
6. 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.
7. Sound pressure level is measured on the rated condition in the anechoic rooms. (LG Internal Standard)
Therefore, these values can be increased owing to ambient conditions during operation.

Model	50Hz, 220-240V		
	Sound Pressure Level [dB(A)]		
	H	M	L
ZTNW18GBLH1 [UT18FH NB0]	37	36	34
ZTNW24GALH1 [UT24FH NA0] ZTNW30GALH1 [UT30FH NA0]	42	41	40
ZTNW36GALH1 [UT36FH NA0] ZTNW42GALH1 [UT42FH NA0]	44	42	41
ZTNW48GALH1 [UT48FH NA0] ZTNW60GALH1 [UT60FH NA0]	45	43	41

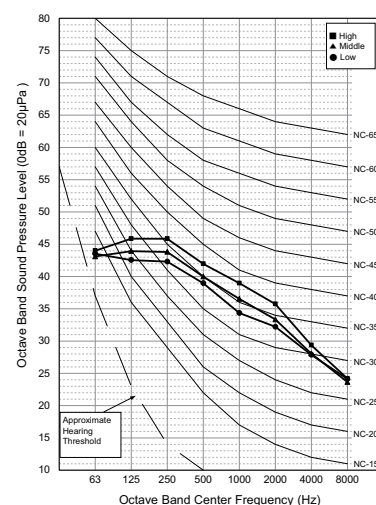
ZTNW18GBLH1 [UT18FH NB0]



ZTNW24GALH1 [UT24FH NA0]
ZTNW30GALH1 [UT30FH NA0]

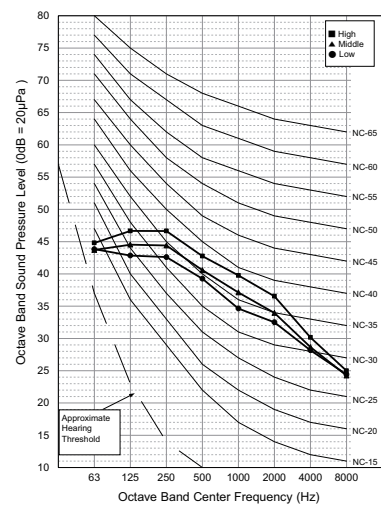


ZTNW36GALH1 [UT36FH NA0]
ZTNW42GALH1 [UT42FH NA0]



6. Sound Levels

ZTNW48GALH1 [UT48FH NA0]
ZTNW60GALH1 [UT60FH NA0]



6. Sound Levels

6.2 Sound Power Level

Note

1. Operating condition

- Power source : 220-240V 50 Hz / 220V 60 Hz
- 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 to the specifications.

2. Data is valid at diffuse field condition.

3. Data is valid at nominal operating condition

4. Sound level can be increased in static pressure mode or used air guide.

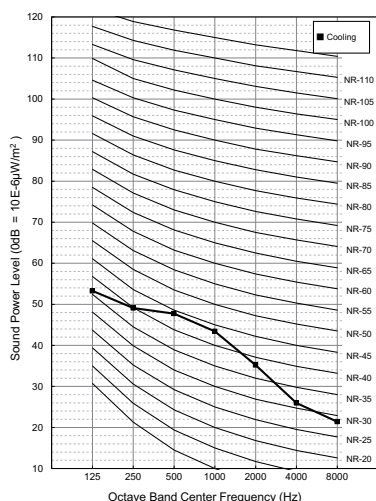
5. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient).

6. Reference acoustic intensity 0dB = 10E-6μW/m²

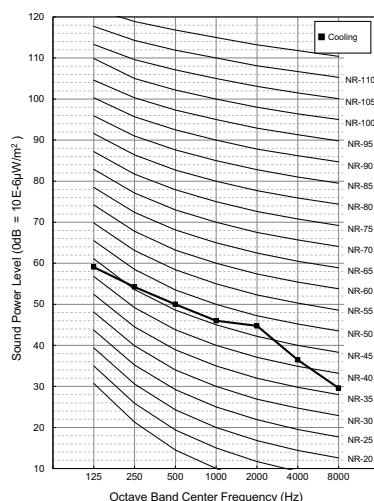
7. Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard. Therefore, these values can be increased owing to ambient conditions during operation.

Model	Sound Power Level [dB(A)]
	Cooling
ZTNW18GBLH1 [UT18FH NB0]	52
ZTNW24GALH1 [UT24FH NA0] ZTNW30GALH1 [UT30FH NA0]	56
ZTNW36GALH1 [UT36FH NA0] ZTNW42GALH1 [UT42FH NA0]	59
ZTNW48GALH1 [UT48FH NA0] ZTNW60GALH1 [UT60FH NA0]	61

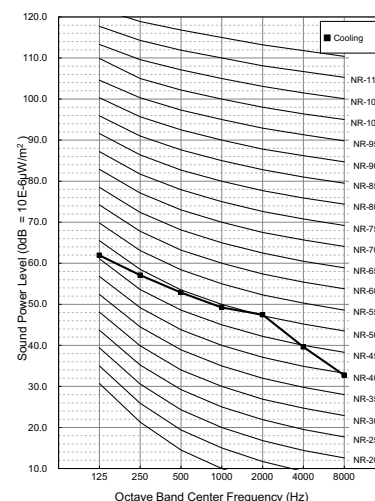
ZTNW18GBLH1 [UT18FH NB0]



ZTNW24GALH1 [UT24FH NA0]
ZTNW30GALH1 [UT30FH NA0]

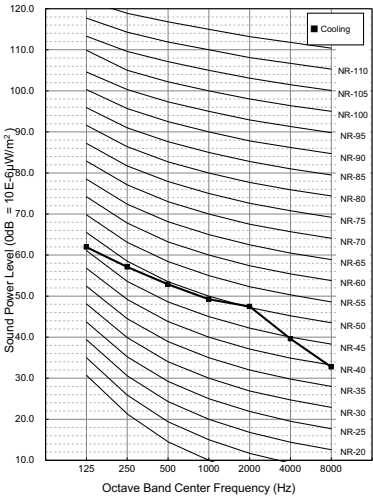


ZTNW36GALH1 [UT36FH NA0]
ZTNW42GALH1 [UT42FH NA0]



6. Sound Levels

ZTNW48GALH1 [UT48FH NA0]
ZTNW60GALH1 [UT60FH NA0]

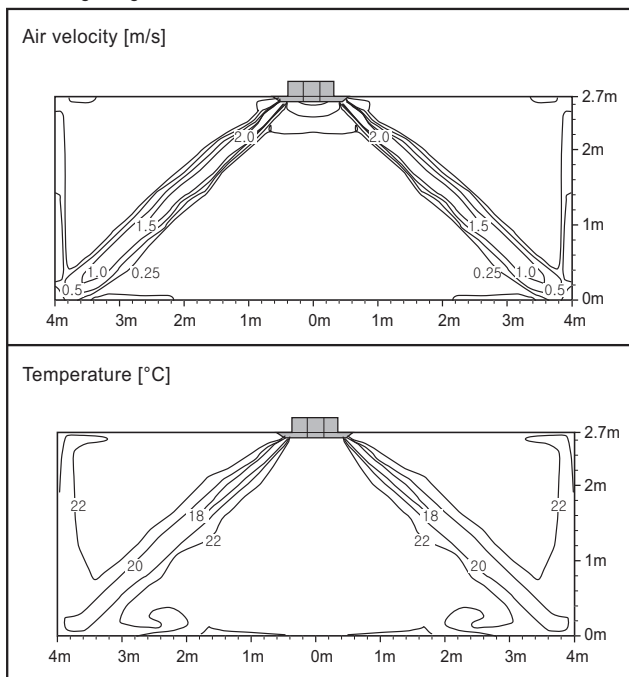


7. Air flow and temperature distributions (reference data)

■ ZTNW18GBLH1 [UT18FH NB0]

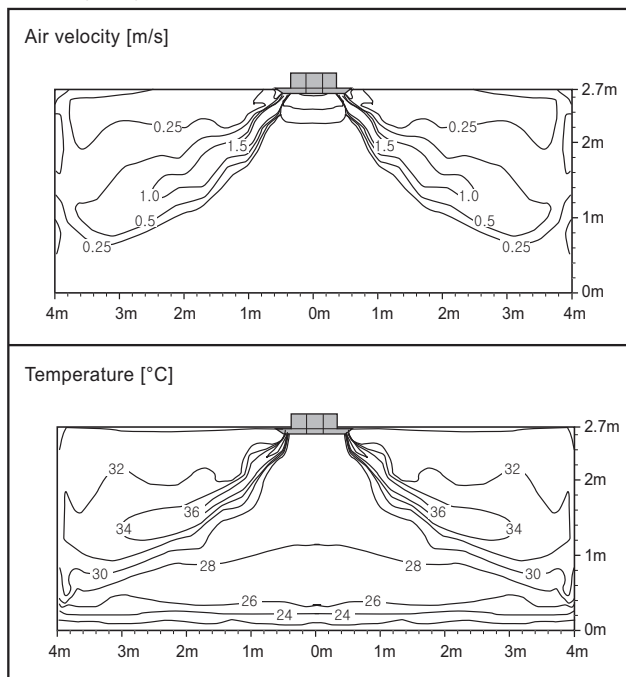
Cooling

Discharge angle: Outer - 30°, Inner - 67°



Heating

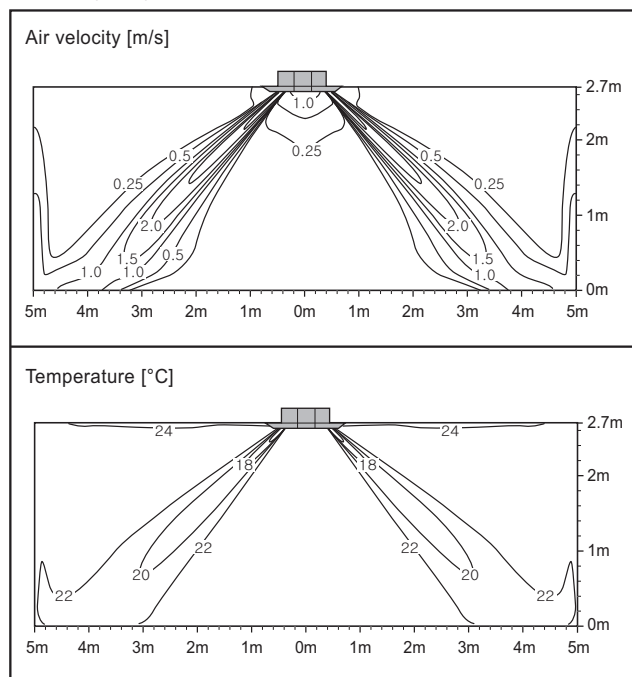
Discharge angle: Outer - 36°, Inner - 70°



■ ZTNW24GALH1 [UT24FH NA0] / ZTNW30GALH1 [UT30FH NA0]

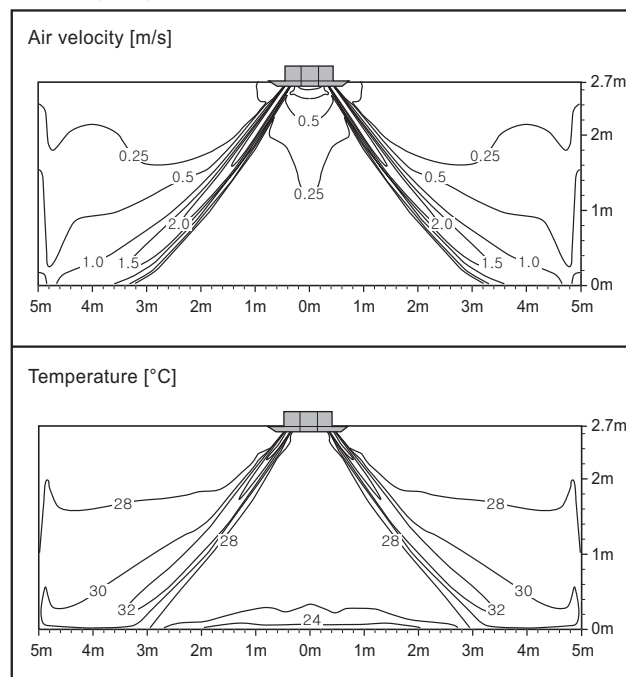
Cooling

Discharge angle: Outer - 30°, Inner - 67°



Heating

Discharge angle: Outer - 36°, Inner - 70°



Note

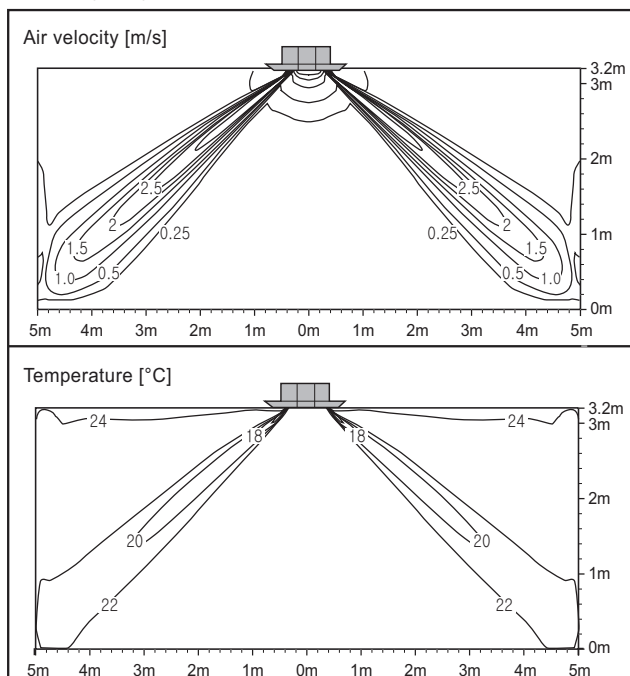
- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

7. Air flow and temperature distributions (reference data)

■ ZTNW36GALH1 [UT36FH NA0]

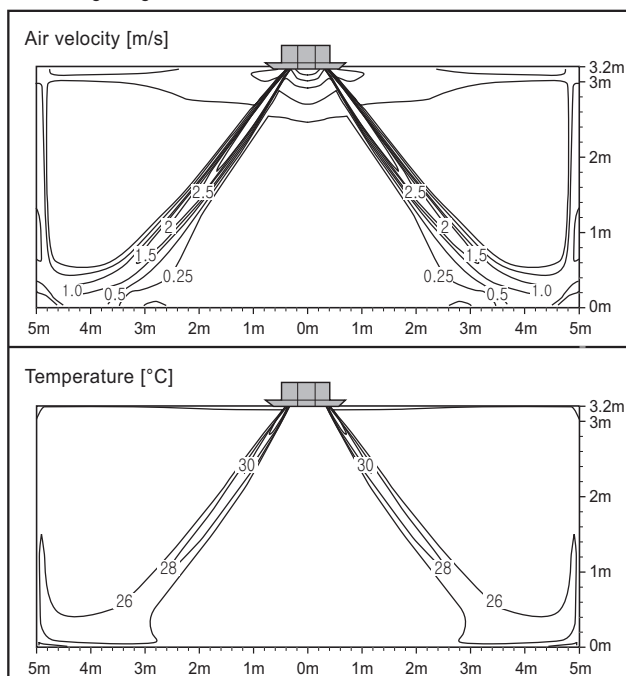
Cooling

Discharge angle: Outer - 30°, Inner - 67°



Heating

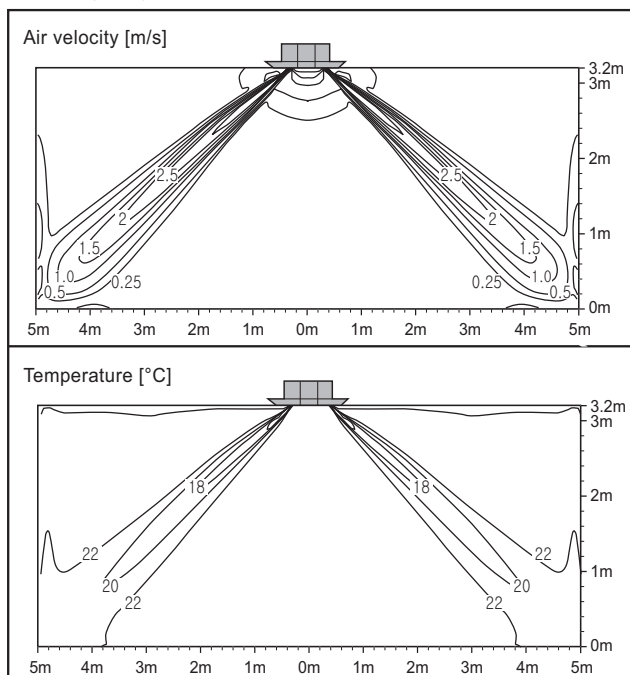
Discharge angle: Outer - 36°, Inner - 70°



■ ZTNW42GALH1 [UT42FH NA0]

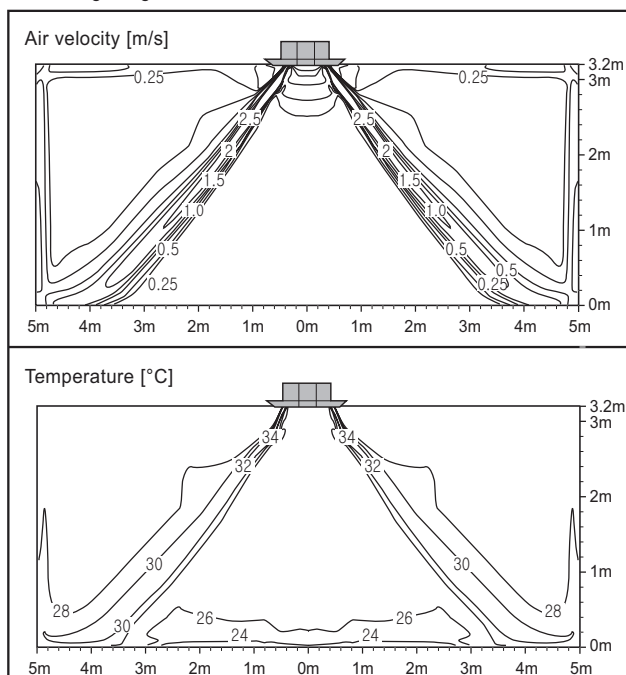
Cooling

Discharge angle: Outer - 30°, Inner - 67°



Heating

Discharge angle: Outer - 36°, Inner - 70°



Note

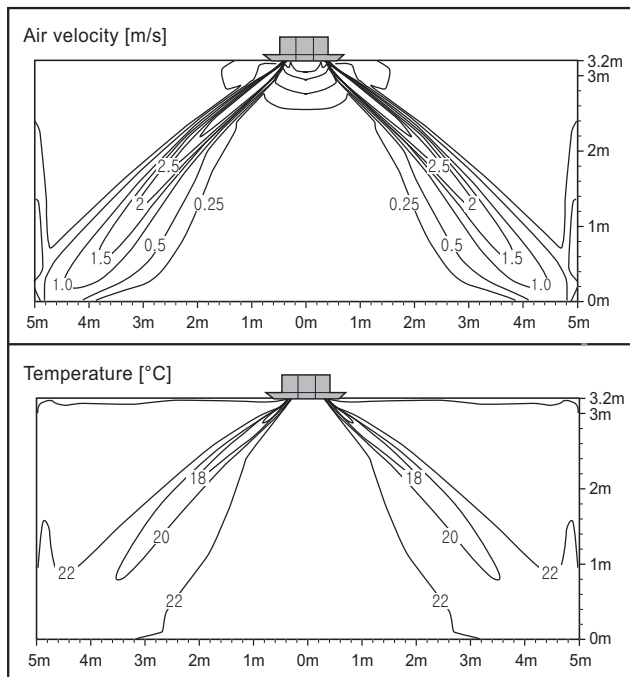
- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

7. Air flow and temperature distributions (reference data)

■ ZTNW48GALH1 [UT48FH NA0]

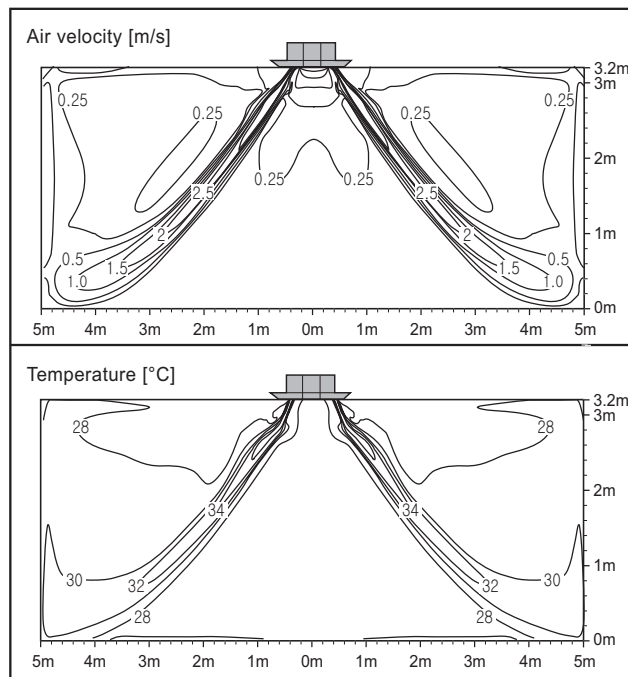
Cooling

Discharge angle: Outer - 30°, Inner - 67°



Heating

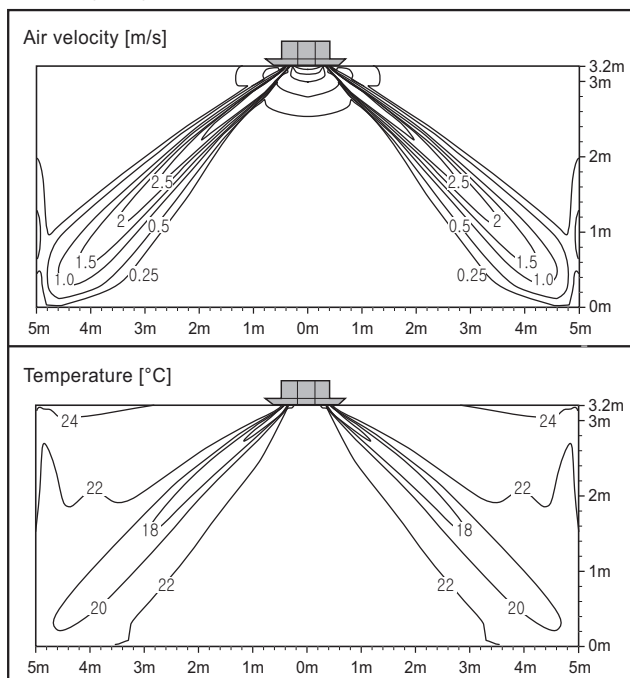
Discharge angle: Outer - 36°, Inner - 70°



■ ZTNW60GALH1 [UT60FH NA0]

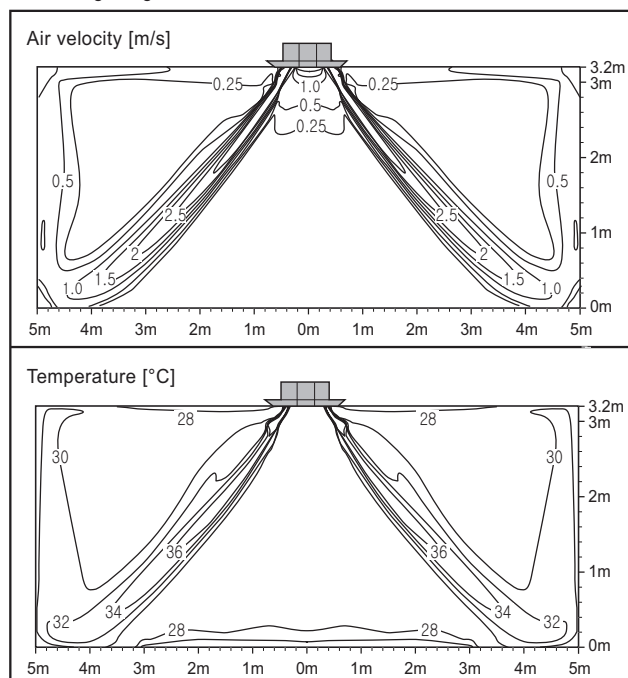
Cooling

Discharge angle: Outer - 30°, Inner - 67°



Heating

Discharge angle: Outer - 36°, Inner - 70°



Note

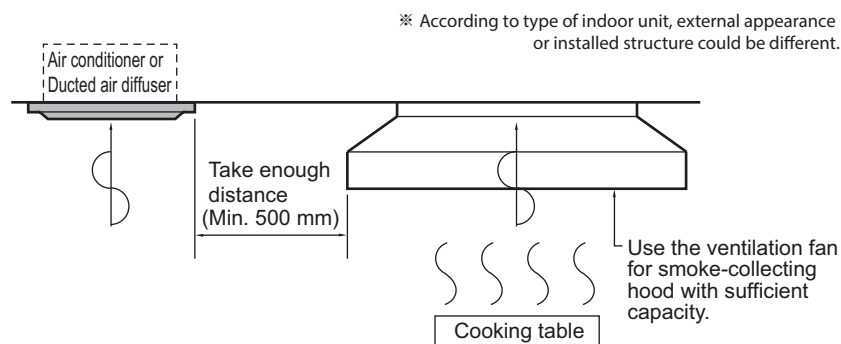
- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

8. 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.
- Teach the customer the operation and maintenance procedures, using the operation manual. (air filter cleaning, temperature control, etc.)

8.1 Selection of the best location

- The place where room air circulation is good.
- Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- The place where the unit is leveled.
- The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- The place where the unit is not affected by an electrical noise.
- The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
 1. Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated. These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function. In these cases, take the following actions;
 - Make sure that ventilation fan is enough to cover all noxious gases from this place.
 - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



2. Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
3. Avoid places where inflammable gas is generated.
4. Avoid place where noxious gas is generated.
5. Avoid places near high frequency generators.

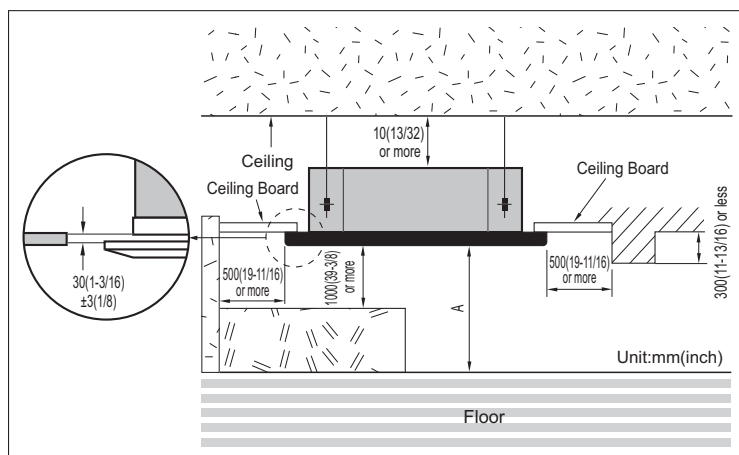
8. Installation

CAUTION

- If the temperature rise above 30°C or the humidity rise above RH 80%, the dew-protective kit should be equipped or use additional insulation to the indoor unit body.
 - "Dew Protective kit" is sold separately.
 - Use the glass wool material or polyethylene foam and it make sure to be thick of 10mm at least.

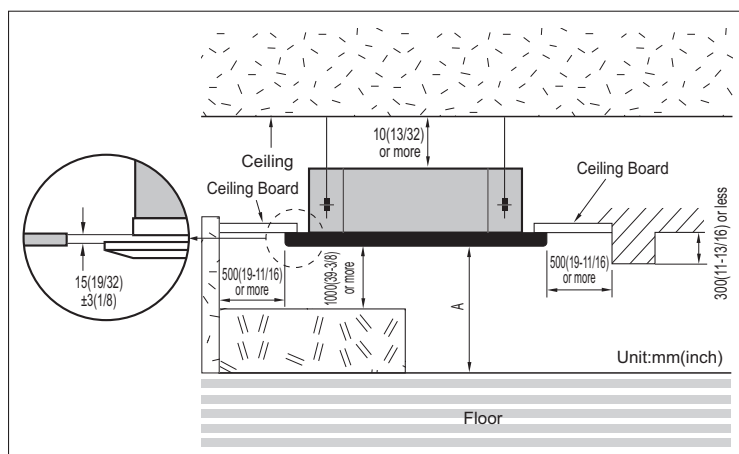
TQ/TR Chassis

* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



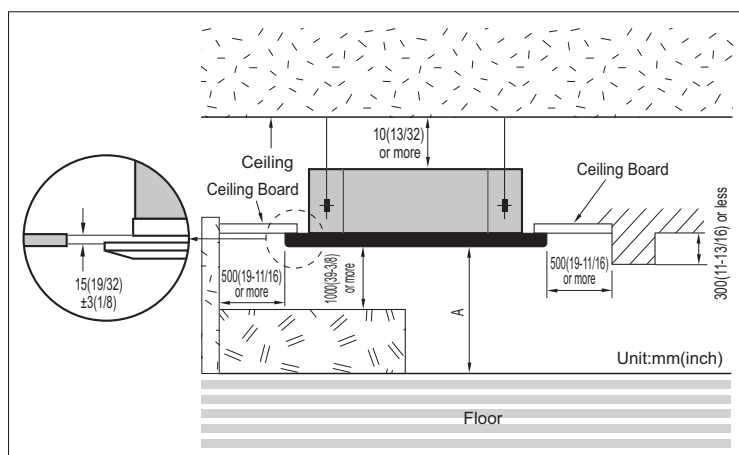
TP/TP-B Chassis

* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



TM/TM-A/TN Chassis

* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



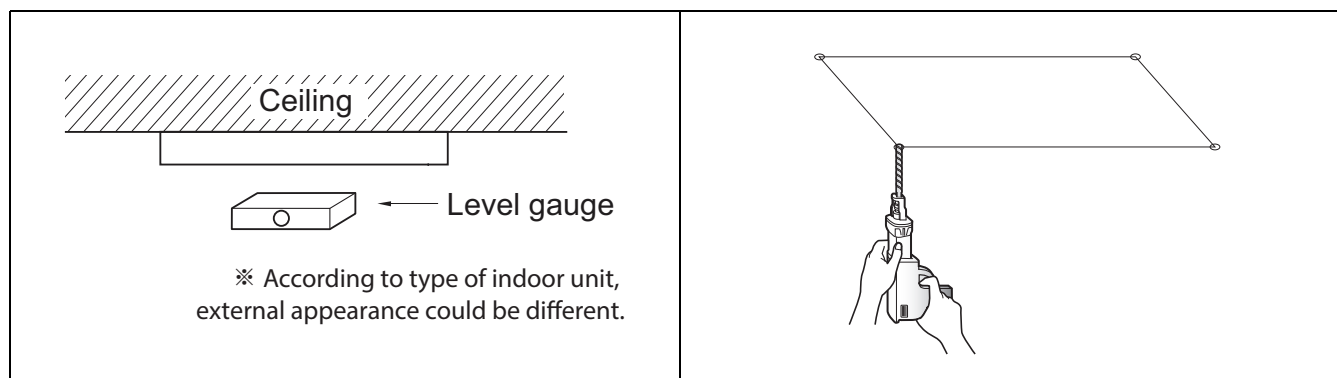
Model		A
4 Way	1.6~10.0 kW	2 000 < A ≤ 3 600
	10.0~14.5 kW	2 500 < A ≤ 4 200

8. Installation

8.2 Ceiling opening dimensions and hanging bolt location

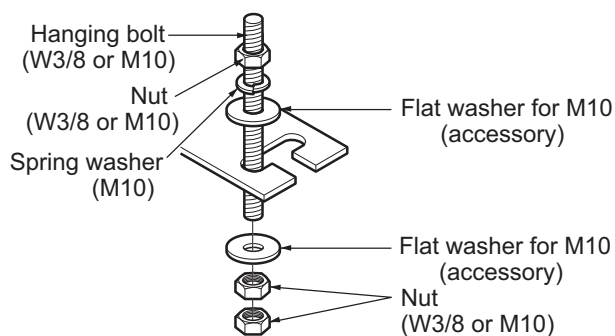
⚠ CAUTION

- During the installation, care should be taken not to damage electric wires.
- In case of using a drain pump, install the unit horizontally using a level gauge.



1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
2. Select and mark the position for fixing bolts and piping hole.
3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
4. Drill the hole for anchor bolt on the wall or ceiling.
 - 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.
5. In case of ducted type unit, apply a joint-canvas between the unit and duct to absorb unnecessary vibration.

8. Installation

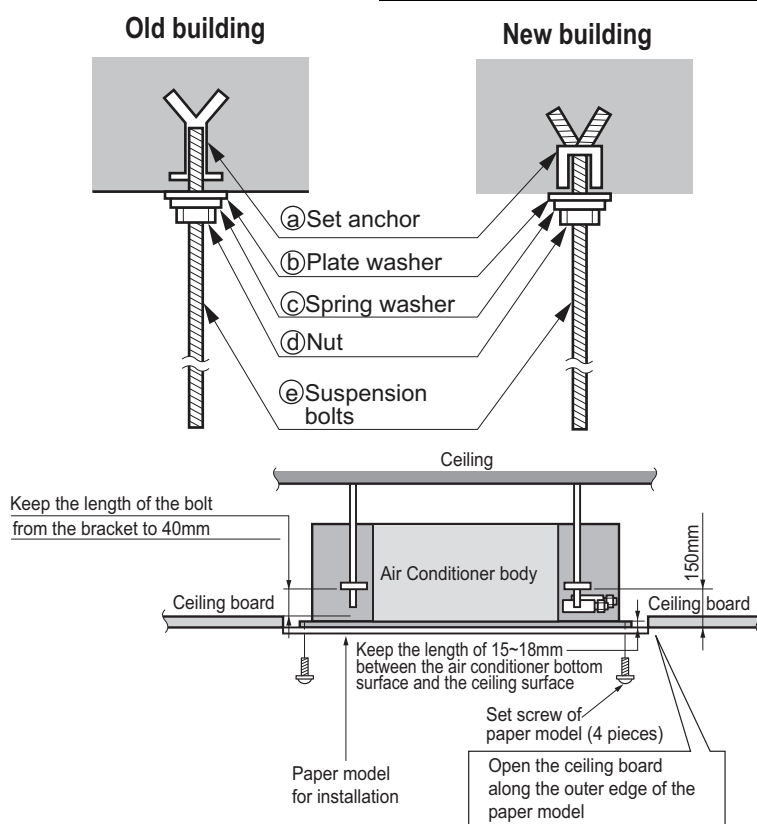


- The following parts are local purchasing.

1. Hanging bolt - W 3/8 or M10
2. Nut - W 3/8 or M10
3. Spring washer - M10
4. Plate washer - M10

CAUTION

- Tighten the nut and bolt to prevent the unit from falling.
- When mechanical connectors are reused indoors, sealing parts shall be renewed. (for R32)
- When flared joints are reused indoors, the flare part shall be re-fabricated. (for R32)



TQ/TR Chassis		TM/TM-A/TN/TP/TP-B Chassis
Panel Dimensions [Unit : mm]		
700 x 700	620 x 620	950 x 950

8. Installation

8.3 Connecting Cables between Indoor Unit and Outdoor Unit

8.3.1 General instructions

- All field supplied parts and materials, electric works must conform to local codes. Use copper wire only.
- Follow the **"WIRING DIAGRAM"** attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- All wiring must be performed by an authorized electrician.
- A circuit breaker capable of shutting down the power supply to the entire system must be installed.

CAUTION

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

- Never fail to have separate power specially for the air conditioner.
- Provide a circuit breaker switch between power source and the unit.
- Confirm the Specification of power source.
- Confirm that electrical capacity is sufficient.
- Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
- Confirm that the cable thickness is as specified in the power sources specification.
(Particularly note the relation between cable length and thickness.)
- Do not install the leakage breaker in a place which is wet or moist.
Water or moist may cause short circuit.
- The following troubles would be caused by voltage drop-down.
 - » Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
 - » Proper starting power is not given to the compressor.

8.3.2 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.
- In case of the system with multiple indoor units, mark each indoor unit as unit A, unit B, etc and be sure the terminal board wiring to the outdoor unit and indoor units are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.

8.3.3 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 connecting of communication (transmission) cable, put the cable(or thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel. In case that communication (transmission) cable is not needed to connect, fix the other side of the clamp with a screw strongly.

8. Installation

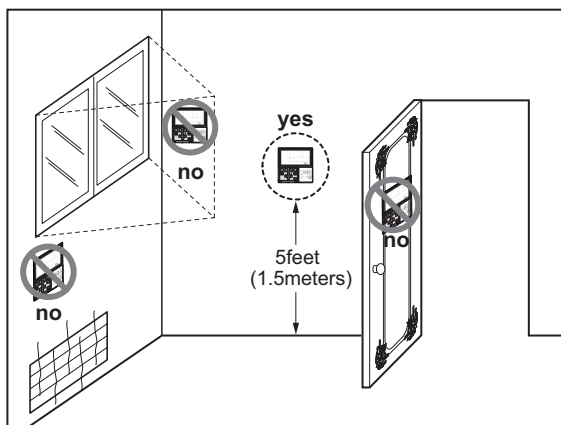
! WARNING

- Make sure that the screws of the terminal are fixed tightly.
- The screw 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.)
- 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 wiring through holes to prevent damage to them.
- 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.

8.3.4 Wired Remote Controller Installation (Optional)

Since the room temperature sensor is in the remote controller, the remote controller box should be installed in a place away from direct sunlight, high humidity and direct supply of cold air to maintain proper space temperature.

Install the remote controller about 5ft(1.5m) above the floor in an area with good air circulation at an average temperature.



• Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

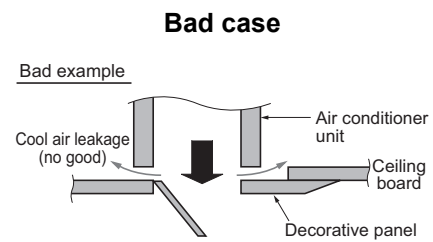
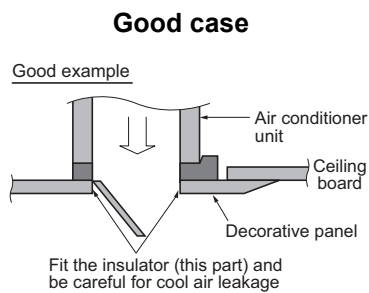
8. Installation

8.4 Installation of Decoration Panel

- The decoration panel has its installation direction.
- Before installing the decoration panel, always remove the paper template.

! CAUTION

- Install certainly the decoration panel. Cool air leakage causes sweating or falling of water-drops.



8. Installation

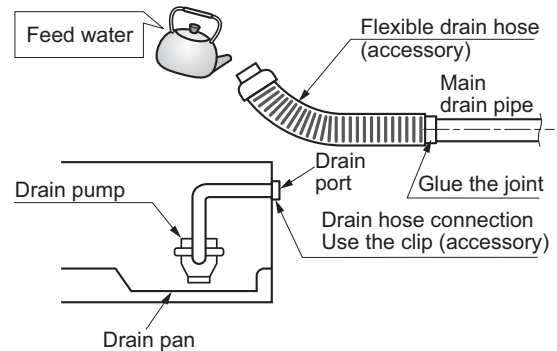
8.5 Indoor Unit Drain Piping

8.5.1 Method of Drainage test

◆ Drainage test of indoor unit with drain pump

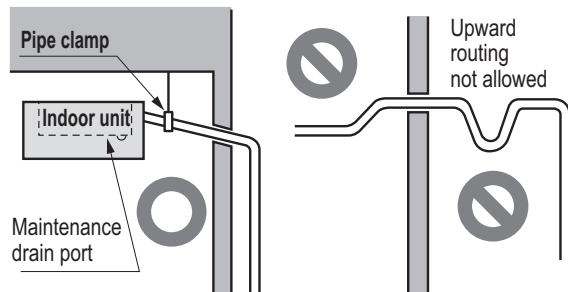
Use the following procedure to test the drain pump operation.

1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
2. Feed water to the flexible drain hose and check the piping for leakage.
3. Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
4. When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.

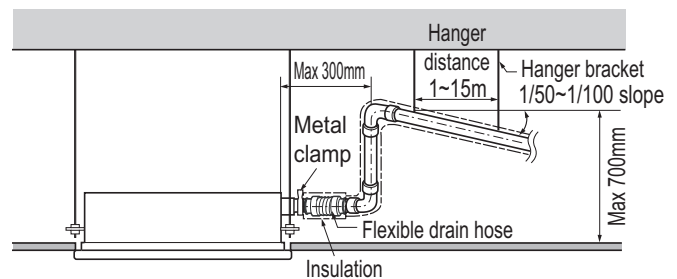


8.5.2 Drain piping of indoor unit with drain pump

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
 - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.

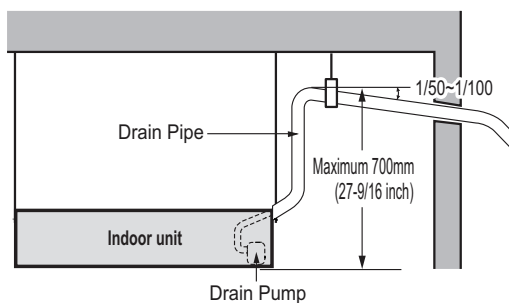


※ According to type of indoor unit, external appearance could be different.

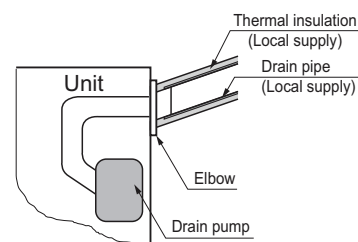


※ According to type of indoor unit, external appearance could be different.

- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- Be sure to install heat insulation on the drain piping.
 - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



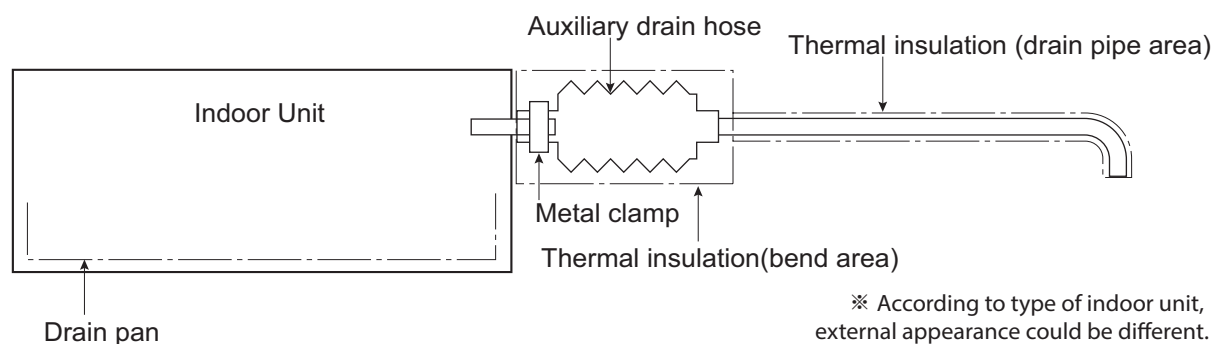
※ According to type of indoor unit, external appearance could be different.



8. Installation

8.5.3 Connection of an auxiliary(flexible) drain hose

- To connect drain pipe to the drain socket on the indoor unit, an auxiliary flexible drain hose should be used. auxiliary flexible drain hose allows that the drain pipe can be connected to the socket without breaking by excessive strain.

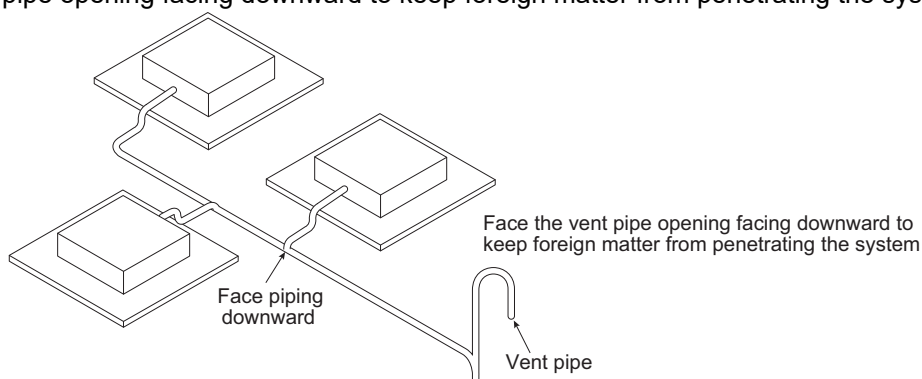


⚠ CAUTION

- The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.
- It is need to insulate the auxiliary drain hose with thermal insulation material.

8.5.4 Ground drain piping

- It is standard work practice to make connections to the main pipe from above. The pipe down from the combination should be as large as possible.
- The pipe work should be kept as short as possible and the number of indoor units per group kept to a minimum.
- Face the vent pipe opening facing downward to keep foreign matter from penetrating the system.



SINGLE

Heat pump

Ceiling Concealed Duct - Middle static pressure

- 1.List of Functions**
- 2.Specifications**
- 3.Dimensions**
- 4.Piping diagrams**
- 5.Wiring diagrams**
- 6.Fan Charateristic**
- 7.Sound levels**
- 8.Installation**

1. List of functions

◆ List of function

Category	Functions	ZBNW12GM1H1 [UM12FH N10] ZBNW18GM1H1 [UM18FH N10] ZBNW24GM2H1 [UM24FH N20] ZBNW30GM2H1 [UM30FH N20] ZBNW36GM3H1 [UM36FH N30] ZBNW42GM3H1 [UM42FH N30] ZBNW48GM3H1 [UM48FH N30]
Air Flow	Air Supply Outlet	1
	Airflow Steps (fan/cool/heat)	3 / 3 / 3
	Fan Speed Auto*	X
	Power Cool/Heat	X / X
	Dry Operation	O
Air Purification	Air Purify	Accessory
	UV-C	Accessory
	Pre-Filter	O
Reliability	Hot Start	O
	Self Diagnosis	O
Convenience	Auto Mode	O
	Auto Dry Operation	O
	Auto Restart	O
	Child Lock*	O
	Group Control*	O
	Sleep Timer	O
	Turn On/Off Reservation	O
	Schedule*	O
	Two Thermistor Control*	O
	External On/Off	O
Installation	Drain Pump	Embedded
	Auto.E.S.P. Control*	O
	E.S.P. Setting	O
Special Functions	Wi-Fi	Accessory

Note

- O : Applied, X : Not applied, Embedded : Included with product.
Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.
Accessory line-ups varies by region, so check your local catalogue or local sales material.
- Some functions can be limited by remote controller.
- Selecting a wireless remote controller in case of ducted type indoor units requires either a connection to the wired remote controller (Standard II) or an IR receiver accessory to be connected to the duct in order to receive the signal.
- * : These functions need to connect to the wired remote controller.
- ** : It is included by default when the product is manufactured.
- *** : This functions need to connect to the Standard III wired remote controller.

1. List of functions

◆ Accessory Compatibility List

Category		Product	Remark	ZBNW12GM1H1 [UM12FH N10] ZBNW18GM1H1 [UM18FH N10] ZBNW24GM2H1 [UM24FH N20] ZBNW30GM2H1 [UM30FH N20] ZBNW36GM3H1 [UM36FH N30] ZBNW42GM3H1 [UM42FH N30] ZBNW48GM3H1 [UM48FH N30]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O***
		PWLSSB21H	Heat Pump	O***
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard II (White)	O
		PREMTBB01	Standard II (Black)	O
		PREMTB100	Standard III (White)	O
		PREMTBB10	Standard III (Black)	O
	Premium	PREMTA000(A/B)	Premium	O
IR Receiver		PWLRVN000	-	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	For 3rd Party Thermostat	O
		PDRYCB320	For 3rd Party Thermostat (Analog Input)	O
		PDRYCB500	For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Without case	X
		PSNFP14A0	With case	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	O
	CO ₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O
	Human detecting sensor	PTVSMA0	-	X
	Drain Pump	ABDPG	-	O (Embedded)
	UVnano Filter Box Kit	PBM13M1UA0	For M1 Chassis	O
		PBM13M2UA0	For M2 Chassis	O
		PBM13M3UA0	For M3 Chassis	O
	High Efficiency Filter (Main Filter of Filter Box)	FBM13M1UA0	For M1 UVnano Filter Box	O
		FBM13M2UA0	For M2 UVnano Filter Box	O
		FBM13U3UA0	For M3 UVnano Filter Box	O

Note

1. O: Possible, X: Impossible, - : Not applicable, Embedded : Included with product.
2. * : Some advanced functions controlled by individual controller cannot be operated.
3. ** : It could not be operated some functions.
4. *** : Selecting a wireless remote controller in case of ducted type indoor units requires either a connection to the wired remote controller (Standard II) or an IR receiver accessory to be connected to the duct in order to receive the signal.
5. If you need more detail, please refer to the **BECON** PDB or the manual of product. (<http://partner.lge.com/global> : Home> Doc.Library> Product > Control(BECON))
6. Do not install both the IR Receiver and Wired Remote Controller. This may cause malfunctions.

2. Specifications

Model Name			Unit	ZBNW12GM1H1 [UM12FH N10]	ZBNW18GM1H1 [UM18FH N10]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Capacity(Nominal)	Cooling		kW	3.5	5.0
	Heating		kW	4.0	5.8
Power Input		H / M / L	W	150 / 130 / 110	180 / 150 / 130
Running Current		H / M / L	A	0.85 / 0.76 / 0.67	0.98 / 0.85 / 0.76
		Max.	A	1.6	1.6
Exterior	Color		-	Steel Gray	Steel Gray
Dimensions		W x H x D	mm	900 × 270 × 700	900 × 270 × 700
Weight	Net		kg	24.8	25.8
	Shipping		kg	30.0	31.0
Heat Exchanger	Rows x Columns x FPI			2 x 13 x 18	3 x 13 x 18
	Face Area		m²	0.21	0.21
Fan Type				Sirocco Fan	Sirocco Fan
Air Flow Rate		H / M / L	m³/min	16.0 / 12.0 / 9.0	17.5 / 16.0 / 14.0
External static pressure	Factory Set		Pa (mmAq)	58.8 (6)	58.8 (6)
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	136.5 x 1	136.5 x 1
Safety Device			-	Fuse	Fuse
			-	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas Side		mm (inch)	Ø 9.52 (3/8)	Ø 12.7 (1/2)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 26	Ø 32 / 26
Sound Pressure Level	Cooling	H / M / L	dB(A)	34 / 32 / 30	35 / 34 / 32
	Heating	H / M / L	dB(A)	34 / 32 / 30	35 / 34 / 32
Sound Power Level	Cooling	Rated	dB(A)	-	60
	Heating	Rated	dB(A)	-	-
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741).
4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity.
 - Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

2. Specifications

Model Name			Unit	ZBNW24GM2H1 [UM24FH N20]	ZBNW30GM2H1 [UM30FH N20]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Capacity(Nominal)	Cooling		kW	6.8	7.8
	Heating		kW	7.5	9.0
Power Input		H / M / L	W	134 / 101 / 80	134 / 101 / 80
Running Current		H / M / L	A	0.58 / 0.43 / 0.35	0.58 / 0.43 / 0.35
		Max.	A	2.3	2.3
Exterior	Color		-	Steel Gray	Steel Gray
Dimensions		W x H x D	mm	1250 x 270 x 700	1250 x 270 x 700
Weight	Net		kg	37.3	37.3
	Shipping		kg	43.0	43.0
Heat Exchanger	Rows x Columns x FPI			3 x 13 x 18	3 x 13 x 18
	Face Area		m²	0.26	0.26
Fan Type				Sirocco Fan	Sirocco Fan
Air Flow Rate		H / M / L	m³/min	28 / 24 / 21	28 / 24 / 21
External static pressure	Factory Set		Pa (mmAq)	58.8 (6)	58.8 (6)
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	350 x 1	350 x 1
Safety Device			-	Fuse	Fuse
			-	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 26	Ø 32 / 26
Sound Pressure Level	Cooling	H / M / L	dB(A)	34 / 33 / 32	34 / 33 / 32
	Heating	H / M / L	dB(A)	34 / 33 / 32	34 / 33 / 32
Sound Power Level	Cooling	Rated	dB(A)	59	59
	Heating	Rated	dB(A)	-	-
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741).
4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity.
 - Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

2. Specifications

Model Name			Unit	ZBNW36GM3H1 [UM36FH N30]	ZBNW42GM3H1 [UM42FH N30]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Capacity(Nominal)	Cooling		kW	9.5	12.0
	Heating		kW	10.8	13.5
Power Input		H / M / L	W	242 / 159 / 124	242 / 159 / 124
Running Current		H / M / L	A	1.05 / 0.69 / 0.53	1.05 / 0.69 / 0.53
		Max.	A	2.5	2.5
Exterior	Color		-	Steel Gray	Steel Gray
Dimensions		W x H x D	mm	1,250 × 360 × 700	1,250 × 360 × 700
Weight	Net		kg	41.8	41.8
	Shipping		kg	48.2	48.2
Heat Exchanger	Rows x Columns x FPI			3 x 16 x 18	3 x 16 x 18
	Face Area		m²	0.32	0.32
Fan Type				Sirocco Fan	Sirocco Fan
Air Flow Rate		H / M / L	m³/min	40 / 34 / 28	40 / 34 / 28
External static pressure	Factory Set		Pa (mmAq)	58.8 (6)	58.8 (6)
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	400 x 1	400 x 1
Safety Device			-	Fuse	Fuse
			-	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 26	Ø 32 / 26
Sound Pressure Level	Cooling	H / M / L	dB(A)	39 / 38 / 36	39 / 38 / 36
	Heating	H / M / L	dB(A)	39 / 38 / 36	39 / 38 / 36
Sound Power Level	Cooling	Rated	dB(A)	65	65
	Heating	Rated	dB(A)	-	-
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741).
4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity.
 - Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

2. Specifications

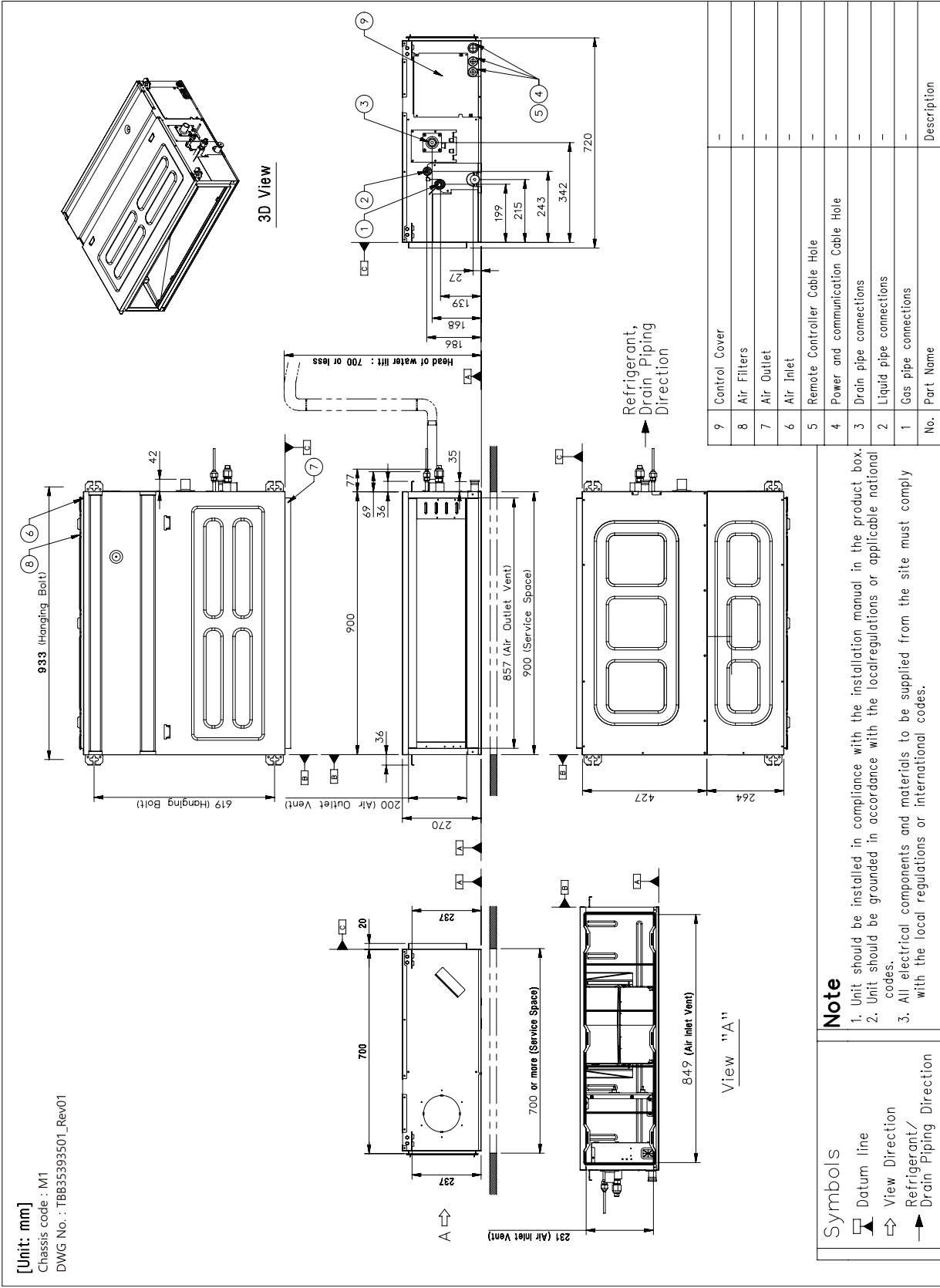
Model Name			Unit	ZBNW48GM3H1 [UM48FH N30]
Power Supply			V , Ø , Hz	220-240 , 1 , 50
				220 , 1 , 60
Capacity(Nominal)	Cooling		kW	13.4
	Heating		kW	15.5
Power Input		H / M / L	W	242 / 159 / 124
Running Current		H / M / L	A	1.05 / 0.69 / 0.53
		Max.	A	2.5
Exterior	Color		-	Steel Gray
Dimensions		W x H x D	mm	1,250 × 360 × 700
Weight	Net		kg	41.8
	Shipping		kg	48.2
Heat Exchanger	Rows x Columns x FPI			3 x 16 x 18
	Face Area		m²	0.32
Fan Type				Sirocco Fan
Air Flow Rate		H / M / L	m³/min	40 / 34 / 28
External static pressure	Factory Set		Pa (mmAq)	58.8 (6)
Fan Motor	Type			BLDC
	Drive			Internal
	Output		W x No.	400 x 1
Safety Device			-	Fuse
			-	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 26
Sound Pressure Level	Cooling	H / M / L	dB(A)	39 / 38 / 36
	Heating	H / M / L	dB(A)	39 / 38 / 36
Sound Power Level	Cooling	Rated	dB(A)	65
	Heating	Rated	dB(A)	65
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741)).
4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity.
 - Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

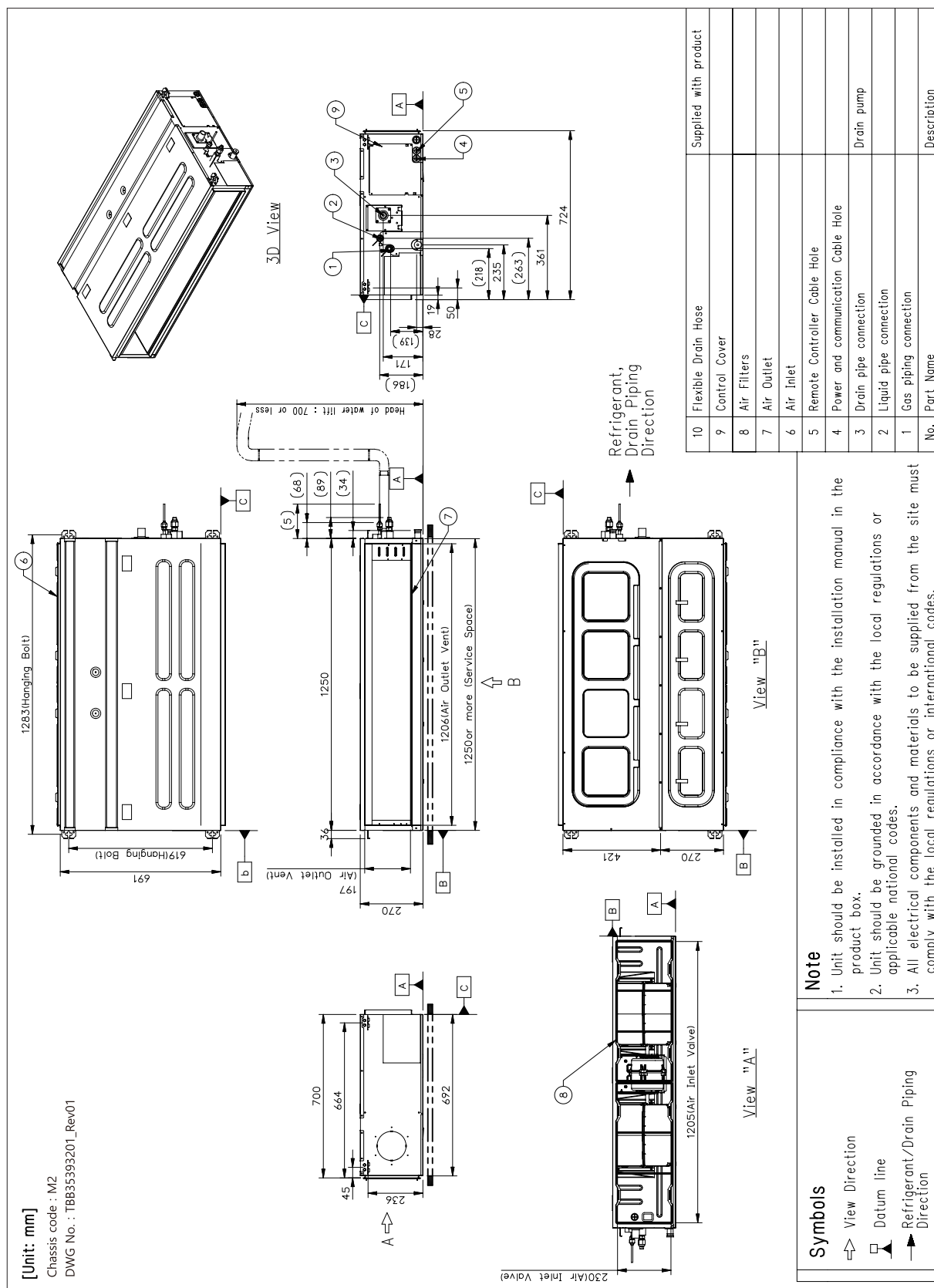
3. Dimensions

■ ZBNW12GM1H1 [UM12FH N10] / ZBNW18GM1H1 [UM18FH N10]



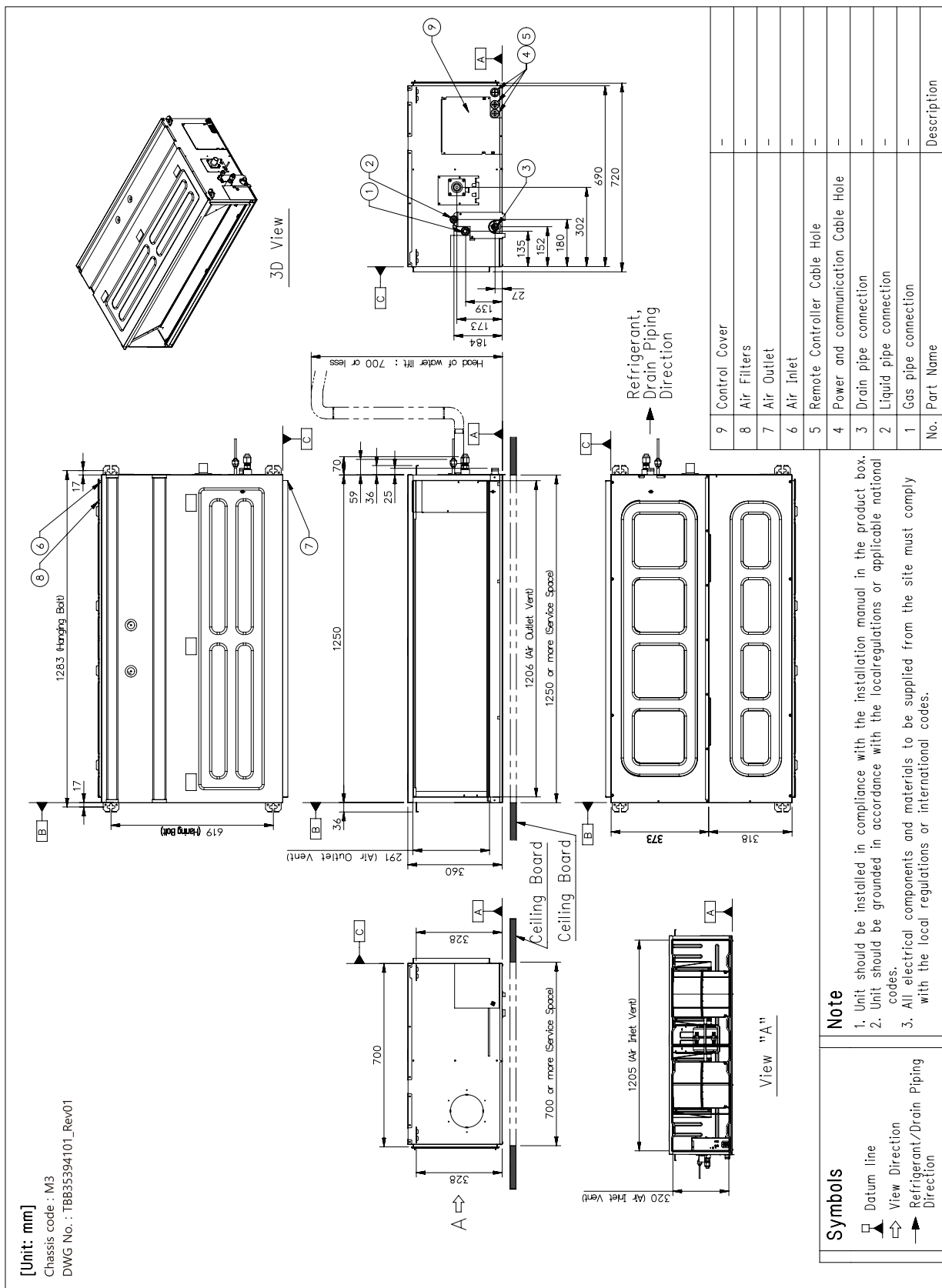
3. Dimensions

■ ZBNW24GM2H1 [UM24FH N20] / ZBNW30GM2H1 [UM30FH N20]



3. Dimensions

■ ZBNW36GM3H1 [UM36FH N30] / ZBNW42GM3H1 [UM42FH N30]
ZBNW48GM3H1 [UM48FH N30]



Note

1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit should be grounded in accordance with the local regulations or applicable national codes.
3. All electrical components and materials to be supplied from the site must comply with the local regulations or international codes.

Symbols

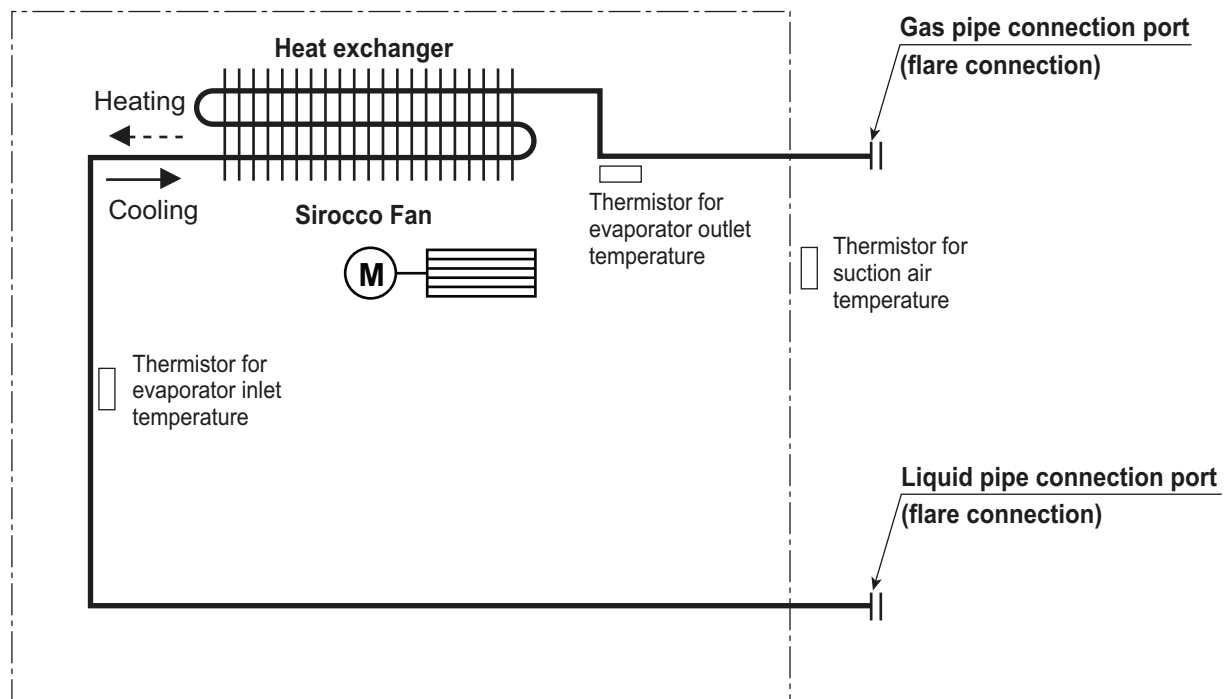
Datum line

View Direction

Refrigerant/Drain Piping Direction

4. Piping Diagrams

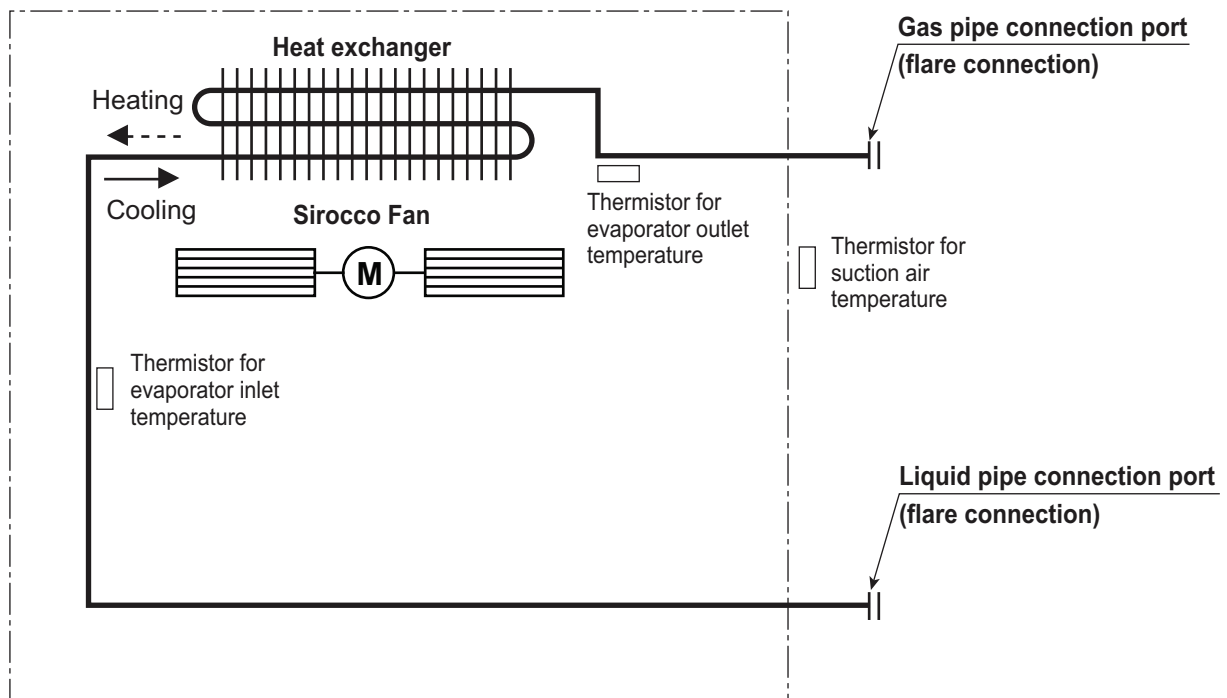
■ ZBNW12GM1H1 [UM12FH N10] / ZBNW18GM1H1 [UM18FH N10]



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

4. Piping Diagrams

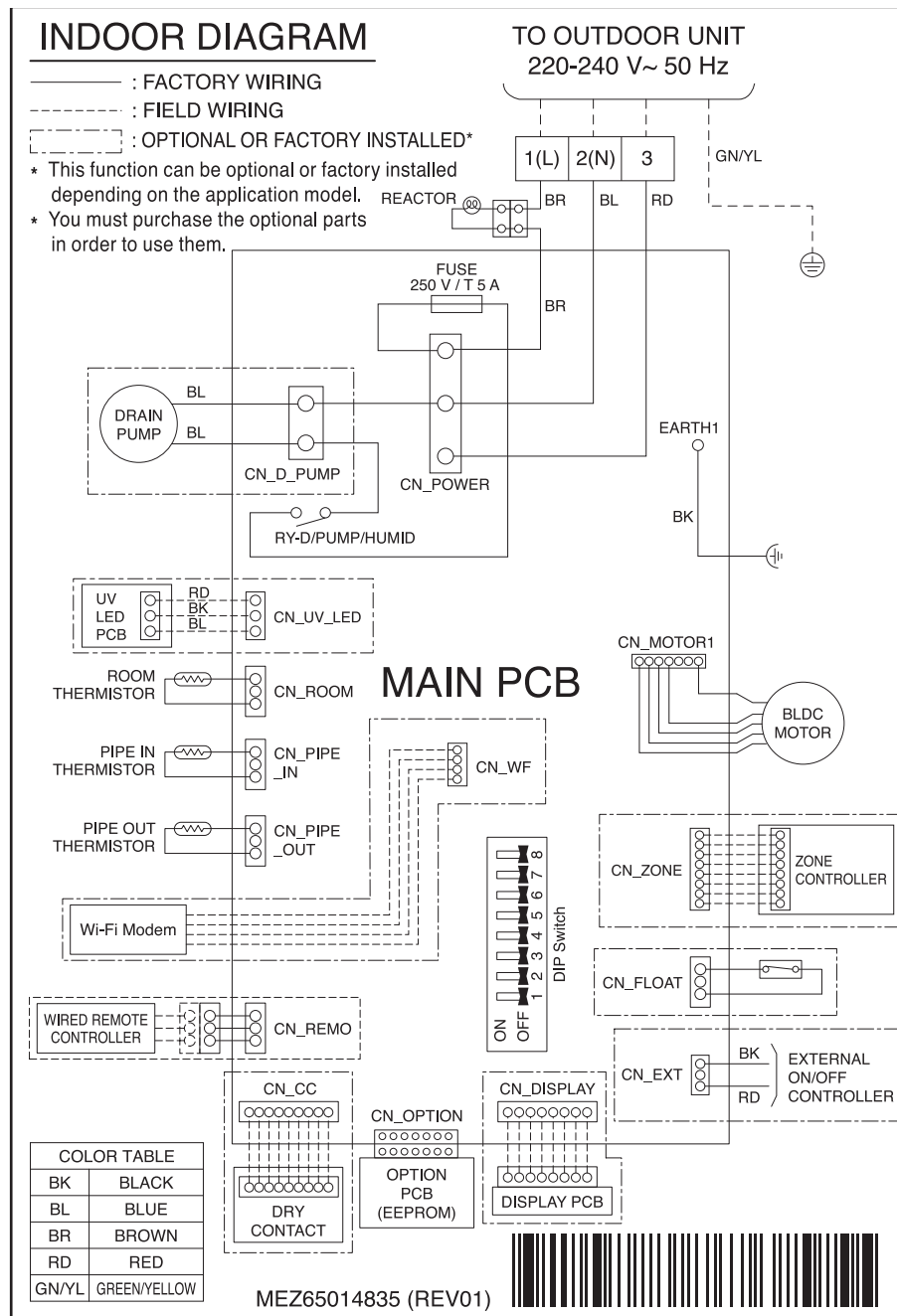
- ZBNW24GM2H1 [UM24FH N20] / ZBNW30GM2H1 [UM30FH N20]
 ZBNW36GM3H1 [UM36FH N30] / ZBNW42GM3H1 [UM42FH N30]
 ZBNW48GM3H1 [UM48FH N30]



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

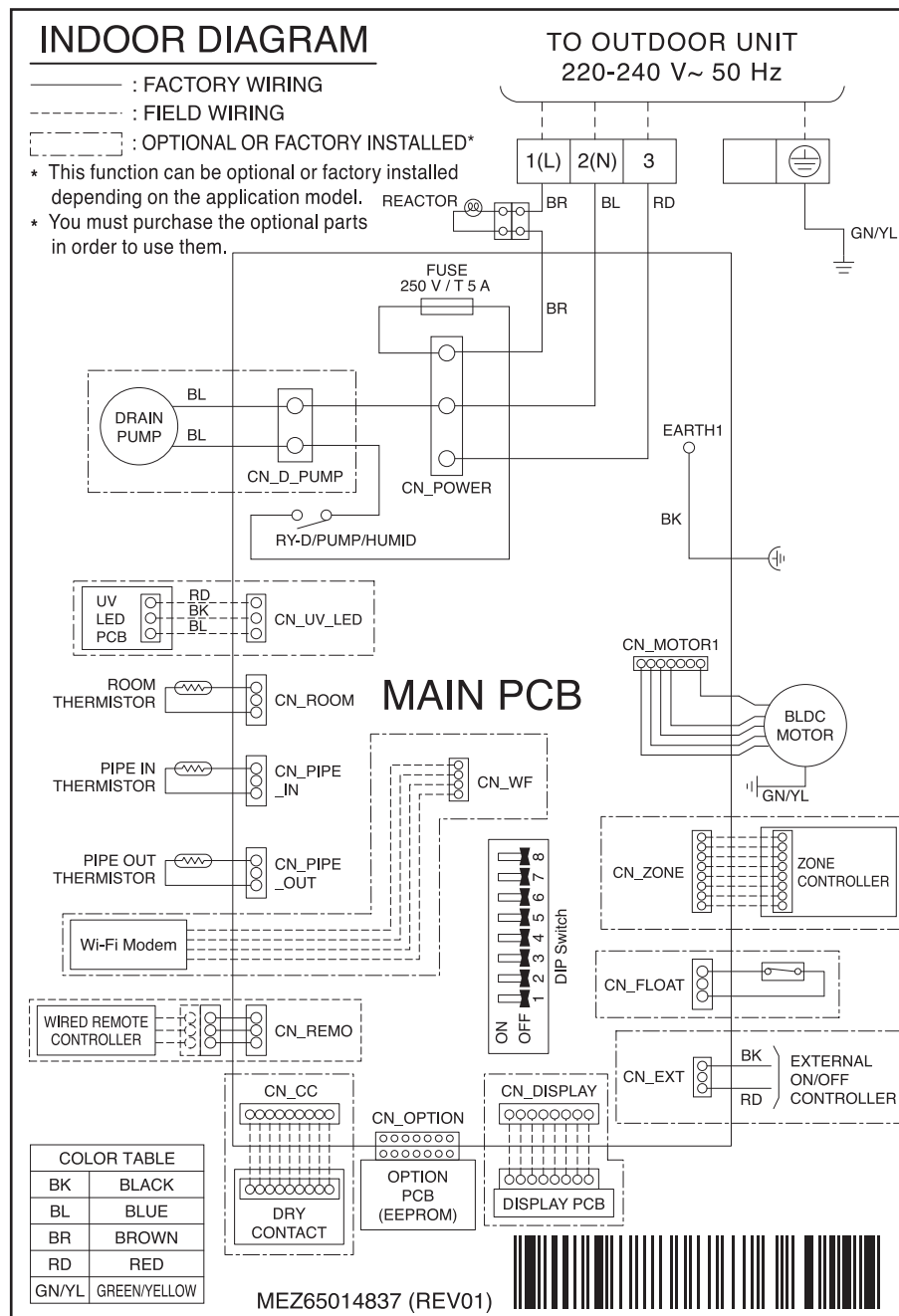
5. Wiring Diagrams

■ ZBNW12GM1H1 [UM12FH N10] / ZBNW18GM1H1 [UM18FH N10]



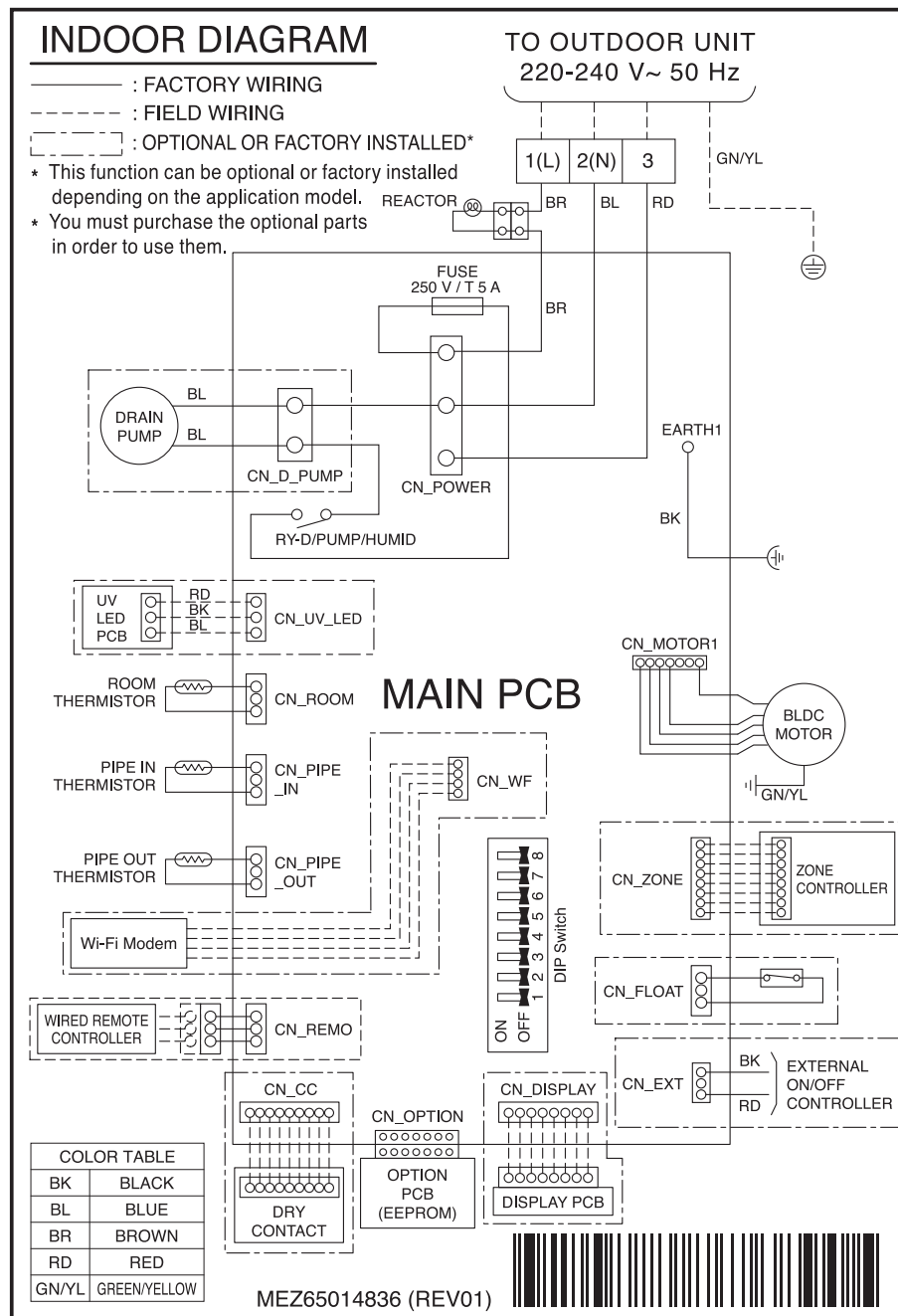
5. Wiring Diagrams

■ ZBNW24GM2H1 [UM24FH N20] / ZBNW30GM2H1 [UM30FH N20]



5. Wiring Diagrams

■ ZBNW36GM3H1 [UM36FH N30] / ZBNW42GM3H1 [UM42FH N30] ZBNW48GM3H1 [UM48FH N30]



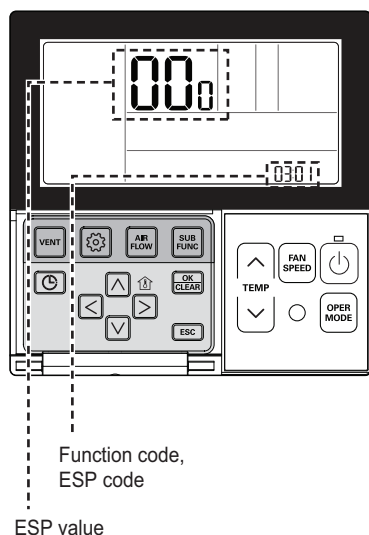
6. Fan Characteristic

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

Wired Remote Controller (Standard II)

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.



<p>1 If pressing button long for 3 seconds, it enters into remote controller setter setup mode. - If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.</p>	<p>4 Move to ESP value setting by pressing button. (It is 000 when delivering from the warehouse.)</p> <p>0301 000</p>
<p>2 If entering into ESP setup mode by using button, it indicates as the picture below.</p>	<p>5 Press button to setup ESP value. (It is possible to setup ESP value from 1 to 255, and 1 is the smallest and 255 is the biggest.)</p>
<p>3 Select ESP fan step by pressing button. (01: very low, 02: low, 03: medium, 04: high, 05: very high)</p> <p>0301</p>	<p>6 Select ESP fan step again by using button and setup ESP value, as No. 4 and 5, that corresponds each wind flow</p>
	<p>7 Press button to save.</p>
	<p>8 Press button to exit. * After setup, it automatically gets out of setup mode if there is no button input for 25 seconds. * When exiting without pressing set button, the manipulated value is not reflected.</p>

- 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.

6. Fan Characteristic

Wired Remote Controller (Standard III)

Static pressure setting can be set only in the duct products. (It cannot be set in other products.)

- You can set the following setting values using [<,>(left/right)] button.

Installer	Back OK OK
Ceiling Height Selection	< LOW >
Static Pressure	< V-H >
RMC Master/Slave	< Master >
Override Master/Slave	< Slave >
Dry Contact Mode	< Auto >

Static pressure		Description	
		Variable / Fixed	ESP default value
Variable high static pressure	V-H	Variable	High static pressure(High)
Fixed high static pressure	F-H	Fixed	High static pressure(High)
Variable low static pressure	V-L	Variable	Low static pressure(Low)
Fixed low static pressure	F-L	Fixed	Low static pressure(Low)

- 2TH function's operation characteristics may be different for each product.

6. Fan Characteristic

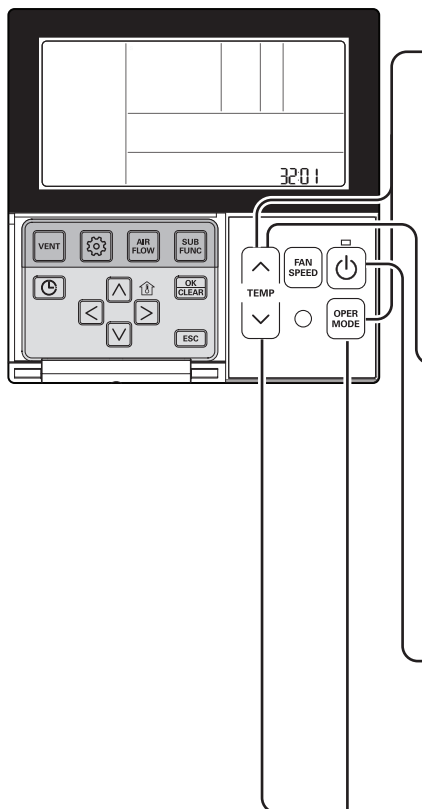
■ Installer Setting - Static Pressure Step Setting






Wired Remote Controller (Standard II)


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.



- When pressing the  button and  button simultaneously for more than 3 seconds, the system will be entered into the installer setting mode.
- After entering into the installer setting mode, select the static pressure step setting code value by pressing the  button.
* Static pressure step setting code value : 32
- Select the desired setting value with the temperature up(), down() button.


 ↓ ↓
 Function Code Existing condition

 00: use static pressure (code 06) set value
 01~ 11: static pressure step (code 32) set value
- When pressing  button, currently established static pressure value will be set up.
- When pressing the  button and  button simultaneously for more than 3 seconds after the setting has been completed, the setting mode will be released.
- If there isn't any button input for more than 25 seconds, the installer setting mode will also be released.

- 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

6. Fan Characteristic

Wired Remote Controller (Standard III)

It is the function to subdivide and set the product's static pressure to 11 stages.

- Change setting values using [**<**,**>**](left/right)] button.

Installer	Back OK
Static Pressure Step	< Step 0 >
Guard Timer	< Step 0 >
Fan Speed In Cooling Thermal Off	< Low >
Primary Heater	< Not Use >
AC Fan Oper. Interlocked With Vent	< On >

Value
Step 0 ~ Step 11

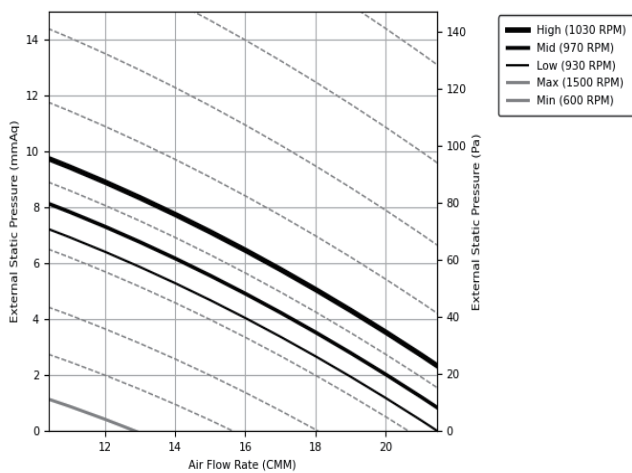
NOTE

If Static pressure step setting is used, the Static pressure setting is not used.
For the Static pressure step value for each stage, refer to the indoor unit product manual

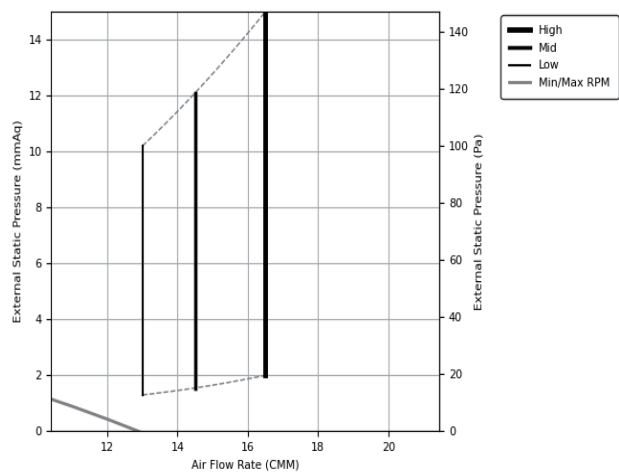
6. Fan Characteristic

Model : ZBNW12GM1H1

P-Q Curve

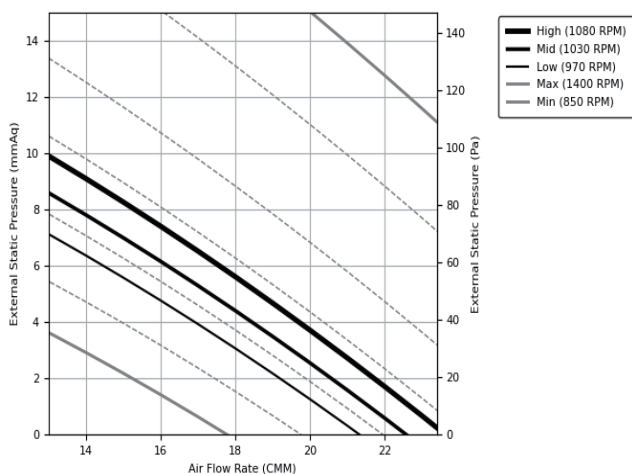


Auto E.S.P. Setting Range

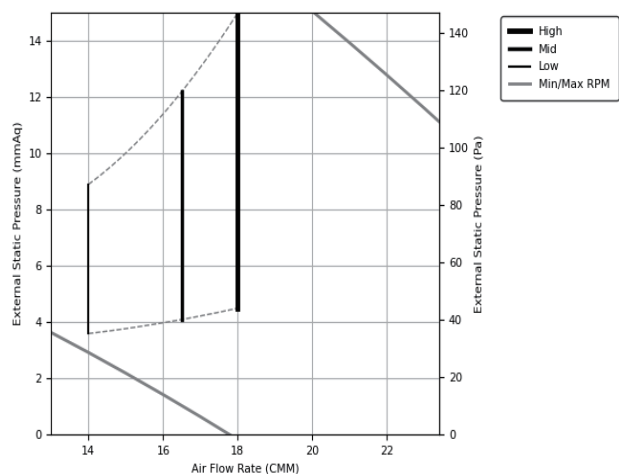


Model : ZBNW18GM1H1

P-Q Curve



Auto E.S.P. Setting Range

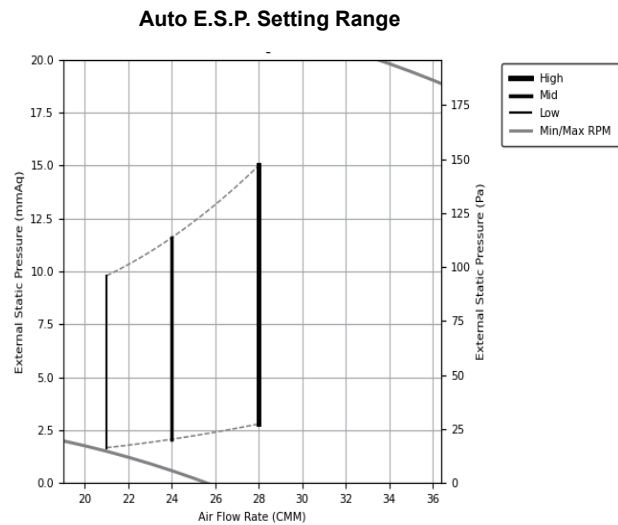
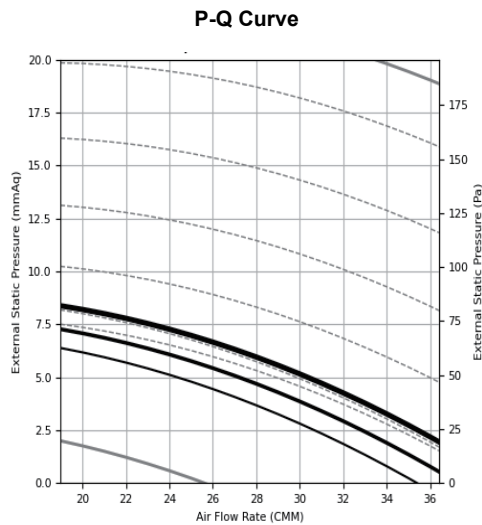


Note

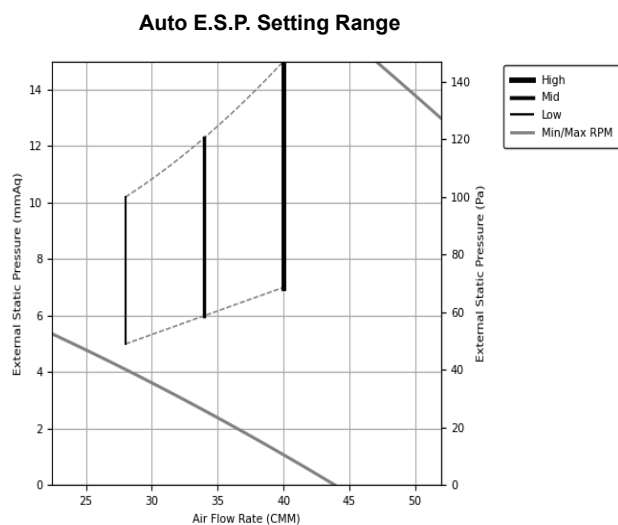
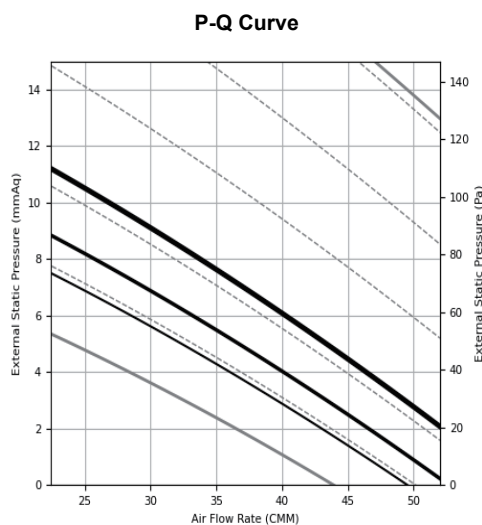
1. Each dash line represents for each 100 RPM step
2. If operation range is out of auto E.S.P. setting range, air flow rate should be adjusted manually by wired remote controller. (ESP Set Value = RPM / 10) For more information, please see the installation manual.
3. The above P-Q Curve shows available E.S.P. range. If the E.S.P. value is out of min/max RPM at desired air flow, indoor components could be failed and performance would be decreased.

6. Fan Characteristic

Model : ZBNW24GM2H1 / ZNW30GM2H1



Model : ZBNW36GM3H1 / ZBNW42GM3H1 / ZBNW48GM3H1



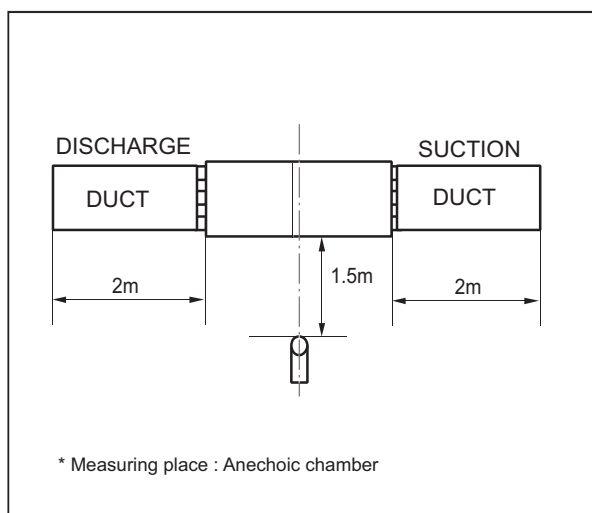
Note

1. Each dash line represents for each 100 RPM step
2. If operation range is out of auto E.S.P. setting range, air flow rate should be adjusted manually by wired remote controller. (ESP Set Value = RPM / 10) For more information, please see the installation manual.
3. The above P-Q Curve shows available E.S.P. range. If the E.S.P. value is out of min/max RPM at desired air flow, indoor components could be failed and performance would be decreased.

7. Sound Levels

7.1 Sound Pressure Level

Overall



Note

1. Sound measured at some distance away from the center of the unit.
2. Data is valid at free field condition.
3. Reference acoustic pressure $0\text{dB} = 20\mu\text{Pa}$.
4. Data is valid at nominal operation condition.
Refer to the Model Specifications for nominal conditions (Power source and Ambient temperature, etc)
5. Sound levels can be increased in accordance with installation and operating conditions. (Static pressure mode, used air guide, Room target temperature setting, etc)
6. 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.
7. Sound pressure level is measured on the rated condition in the anechoic rooms. (LG Internal Standard)
Therefore, these values can be increased owing to ambient conditions during operation.

Model	Sound Pressure Levels (dB(A),H-M-L)			
	External Static Pressure [mmAq(Pa)]			
	2.0(20)	2.5(25)	6(59)	15(147)
ZBNW12GM1H1 [UM12FH N10]	34-32-29	34-32-29	34-32-30	38-37-36

Model	Sound Pressure Levels (dB(A),H-M-L)				
	External Static Pressure [mmAq(Pa)]				
	2.5(25)	5(49)	7(69)	10(98)	15(147)
ZBNW18GM1H1 [UM18FH N10]	34-32-30	35-33-32	36-35-34	38-37-36	40-39-38

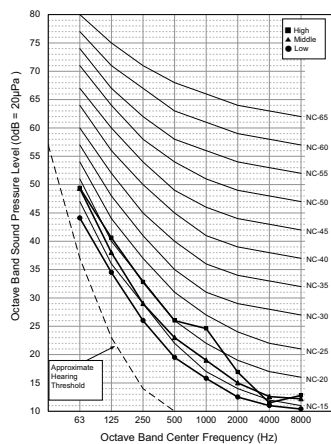
Model	Sound Pressure Levels (dB(A),H-M-L)					
	External Static Pressure [mmAq(Pa)]					
	2.5(25)	4(39)	5(49)	7(69)	10(98)	15(147)
ZBNW24GM2H1 [UM24FH N20] ZBNW30GM2H1 [UM30FH N20]	34-33-32	34-33-32	36-34-33	37-35-34	38-37-36	40-39-38

Model	Sound Pressure Levels (dB(A),H-M-L)					
	External Static Pressure [mmAq(Pa)]					
	2.5(25)	4(39)	5(49)	7(69)	10(98)	15(147)
ZBNW36GM3H1 [UM36FH N30] ZBNW42GM3H1 [UM42FH N30] ZBNW48GM3H1 [UM48FH N30]	-	-	39-37-35	40-38-36	41-39-37	43-42-41

7. Sound Levels

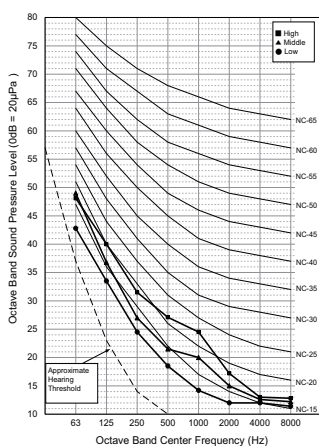
◆ External Static Pressure 2.0(20) [mmAq(Pa)]

ZBNW12GM1H1 [UM12FH N10]

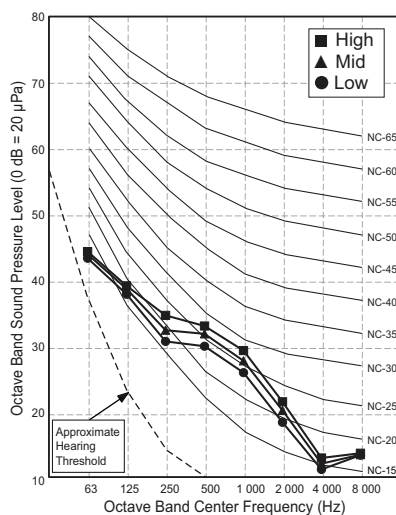


◆ External Static Pressure 2.5(25) [mmAq(Pa)]

ZBNW12GM1H1 [UM12FH N10]

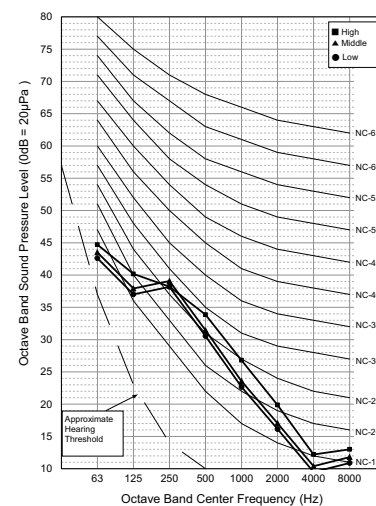


ZBNW18GM1H1 [UM18FH N10]



ZBNW24GM2H1 [UM24FH N20]

ZBNW30GM2H1 [UM30FH N20]

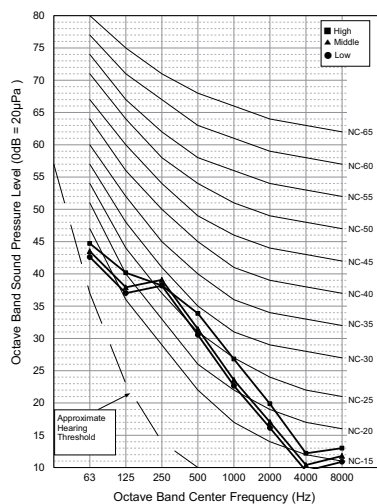


7. Sound Levels

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

ZBNW24GM2H1 [UM24FH N20]

ZBNW30GM2H1 [UM30FH N20]



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

ZBNW18GM1H1 [UM18FH N10]

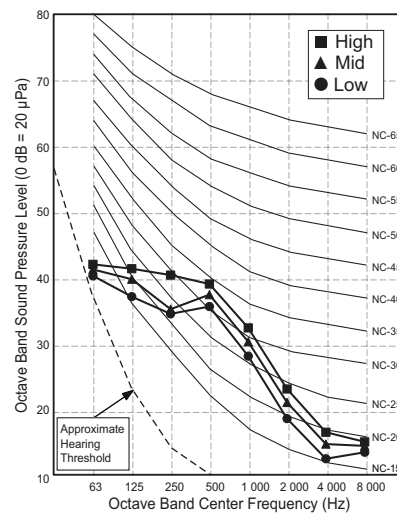
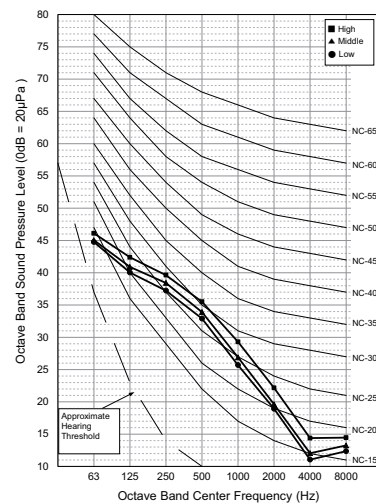
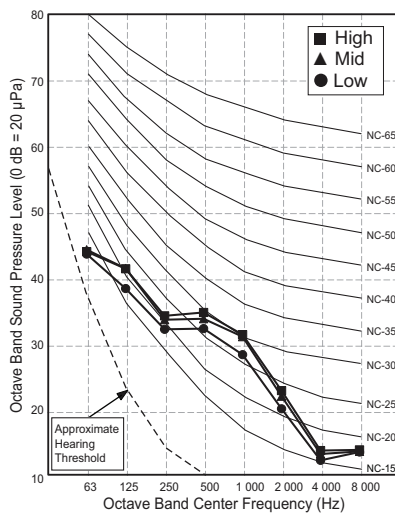
ZBNW24GM2H1 [UM24FH N20]

ZBNW30GM2H1 [UM30FH N20]

ZBNW36GM3H1 [UM36FH N30]

ZBNW42GM3H1 [UM42FH N30]

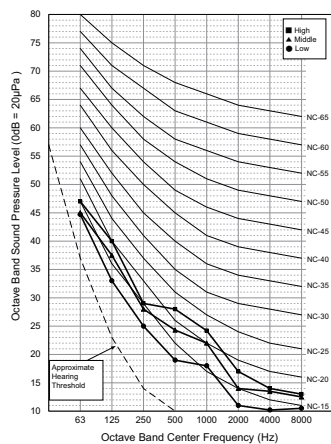
ZBNW48GM3H1 [UM48FH N30]



7. Sound Levels

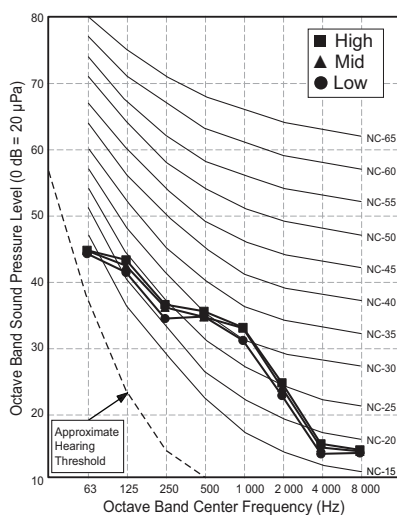
◆ External Static Pressure 6(59) [mmAq(Pa)]

ZBNW12GM1H1 [UM12FH N10]

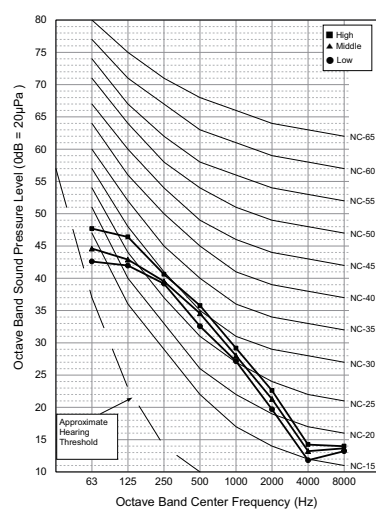


◆ External Static Pressure 7(69) [mmAq(Pa)]

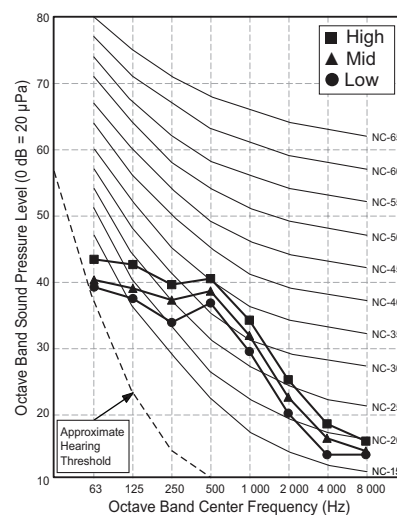
ZBNW18GM1H1 [UM18FH N10]



ZBNW24GM2H1 [UM24FH N20]
ZBNW30GM2H1 [UM30FH N20]



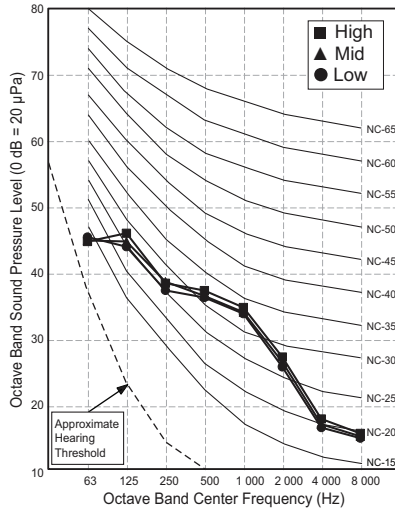
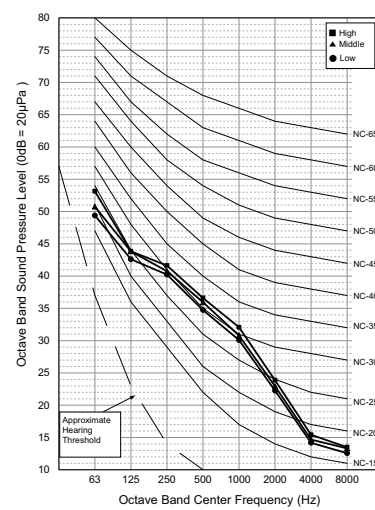
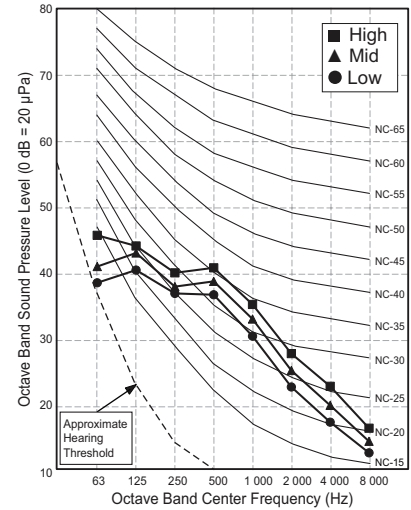
ZBNW36GM3H1 [UM36FH N30]
ZBNW42GM3H1 [UM42FH N30]
ZBNW48GM3H1 [UM48FH N30]



7. Sound Levels

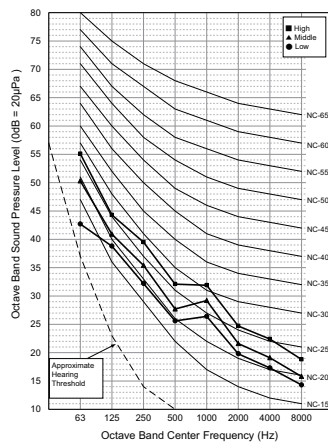
◆ External Static Pressure 10(98) [mmAq(Pa)]

ZBNW18GM1H1 [UM18FH N10]

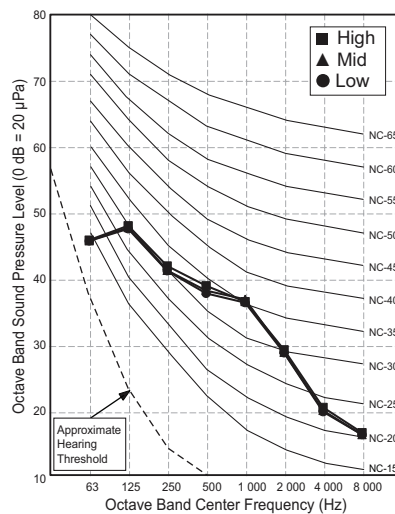
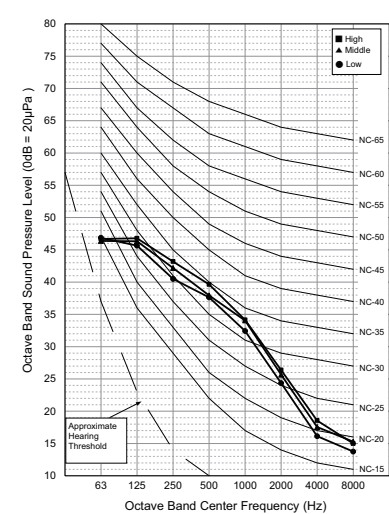
ZBNW24GM2H1 [UM24FH N20]
ZBNW30GM2H1 [UM30FH N20]ZBNW36GM3H1 [UM36FH N30]
ZBNW42GM3H1 [UM42FH N30]
ZBNW48GM3H1 [UM48FH N30]

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

ZBNW12GM1H1 [UM12FH N10]

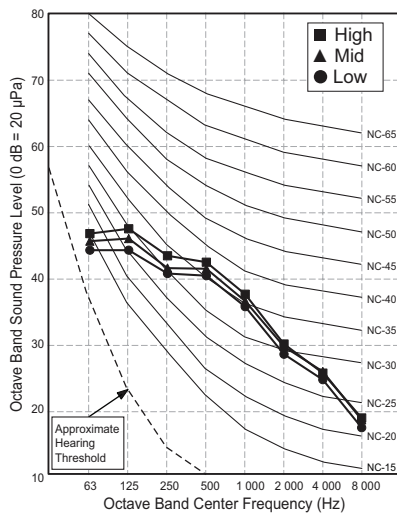


ZBNW18GM1H1 [UM18FH N10]

ZBNW24GM2H1 [UM24FH N20]
ZBNW30GM2H1 [UM30FH N20]

7. Sound Levels

ZBNW36GM3H1 [UM36FH N30]
ZBNW42GM3H1 [UM42FH N30]
ZBNW48GM3H1 [UM48FH N30]



7. Sound Levels

7.2 Sound Power Level

Note

1. Operating condition

- Power source : 220-240V 50 Hz / 220V 60 Hz
- 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 to the specifications.

2. Data is valid at diffuse field condition.

3. Data is valid at nominal operating condition

4. Sound level can be increased in static pressure mode or used air guide.

5. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient).

6. Reference acoustic intensity 0dB = 10E-6μW/m²

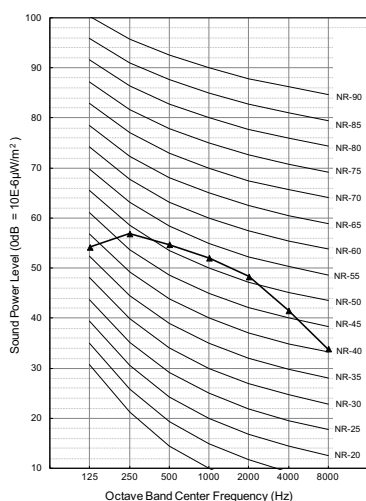
7. Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard. Therefore, these values can be increased owing to ambient conditions during operation.

Model	Sound Power Levels (dB(A))
	External Static Pressure [mmAq(Pa)]
	2.5(25)
ZBNW12GM1H1 [UM12FH N10]	57
ZBNW18GM1H1 [UM18FH N10]	59

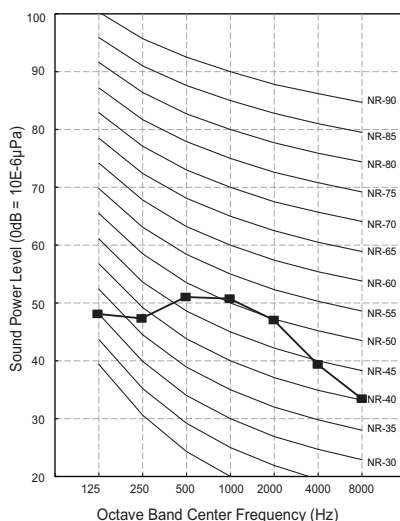
Model	Sound Power Levels (dB(A))
	External Static Pressure [mmAq(Pa)]
	5(49)
ZBNW24GM2H1 [UM24FH N20] ZBNW30GM2H1 [UM30FH N20]	59
ZBNW36GM3H1 [UM36FH N30] ZBNW42GM3H1 [UM42FH N30] ZBNW48GM3H1 [UM48FH N30]	65

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

ZBNW12GM1H1 [UM12FH N10]



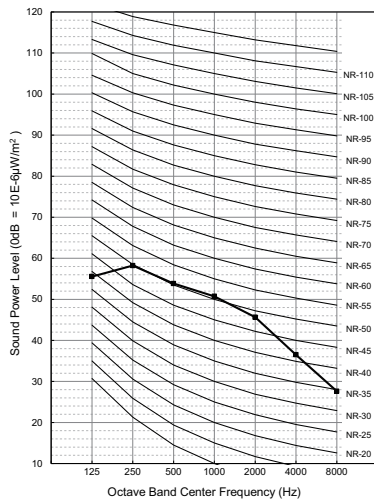
ZBNW18GM1H1 [UM18FH N10]



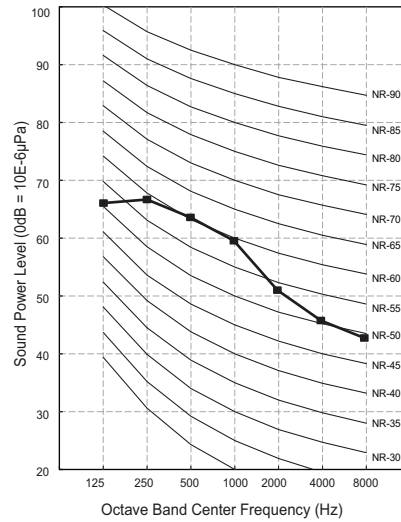
7. Sound Levels

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

ZBNW24GM2H1 [UM24FH N20]
ZBNW30GM2H1 [UM30FH N20]

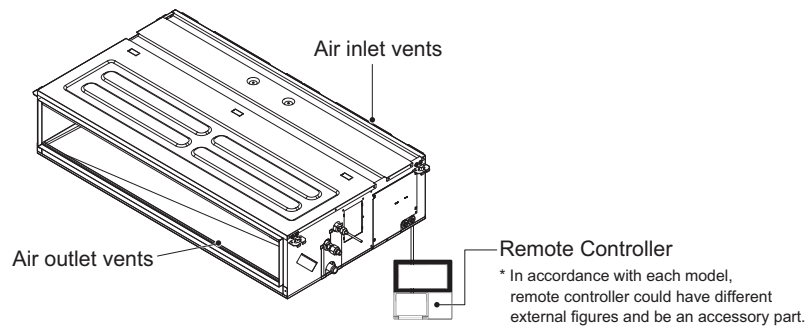


ZBNW36GM3H1 [UM36FH N30]
ZBNW42GM3H1 [UM42FH N30]
ZBNW48GM3H1 [UM48FH N30]



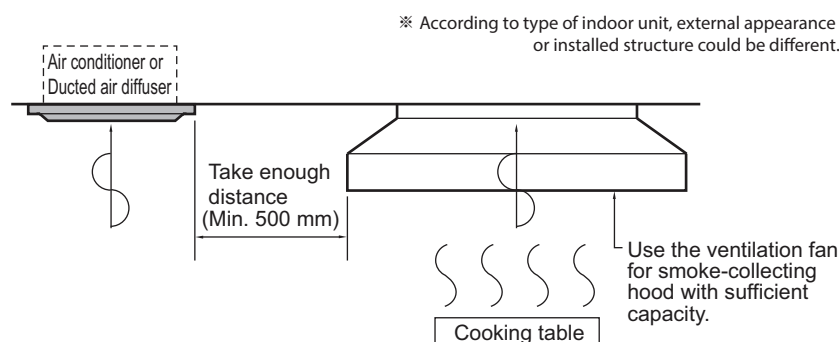
8. Installation

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



8.1 Selection of the best location

- The place where room air circulation is good.
- Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- The place where the unit is leveled.
- The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- The place where the unit is not affected by an electrical noise.
- The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
 1. Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated. These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function. In these cases, take the following actions;
 - Make sure that ventilation fan is enough to cover all noxious gases from this place.
 - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



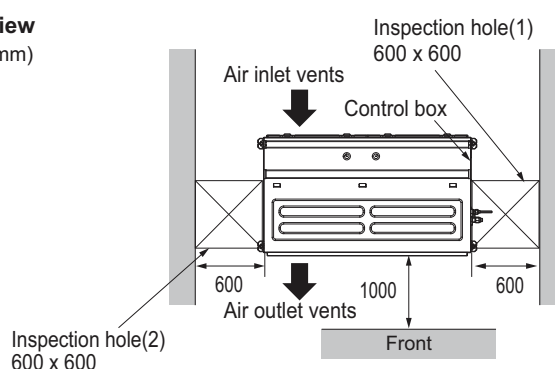
8. Installation

2. Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
3. Avoid places where inflammable gas is generated.
4. Avoid place where noxious gas is generated.
5. Avoid places near high frequency generators.

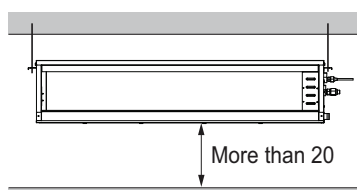
⚠ CAUTION

- If the temperature rise above 30 °C or the humidity rise above RH 80%, the dew-protective kit should be equipped or use additional insulation to the indoor unit body.
 - "Dew Protective kit" is sold separately.
 - Use the glass wool material or polyethylene foam and it make sure to be thick of 10mm at least.

Top view
(Unit: mm)



Front view
(Unit: mm)



* These figures are representative.
Actual appearance of indoor unit
may be different but clearances
will stay the same.

◆ Inspection Hole Standard

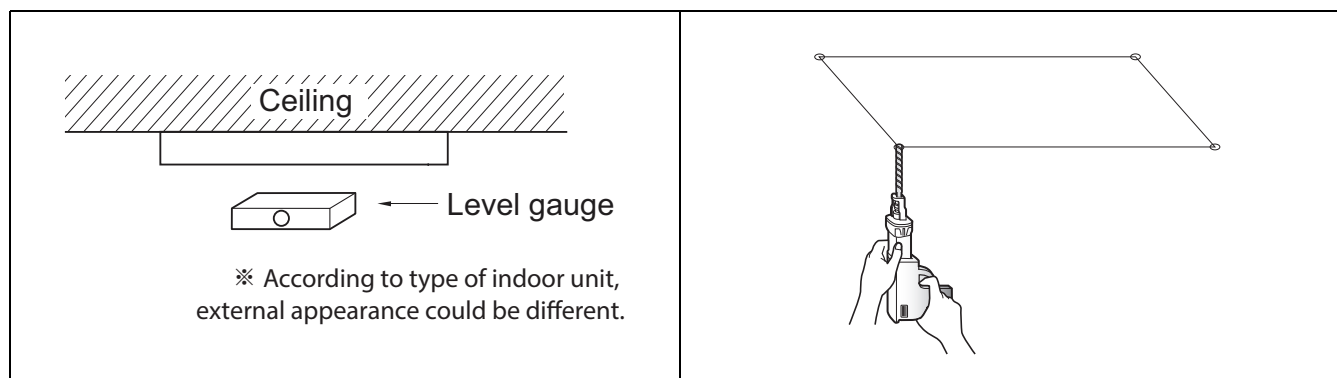
Distance between false ceiling & actual ceiling	Number of in spection hole	Remarks
More than 100cm	1	Sufficient space in the ceiling for servicing.
20cm to 100cm	2	Insufficient space. Difficult for servicing
Less than 20cm	Hole size should be more than the size of IDU.	Minimum height for motor replacement.

8. Installation

8.2 Ceiling dimension and hanging bolt location

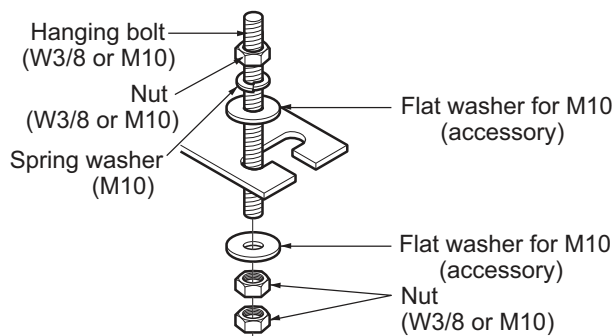
⚠ CAUTION

- During the installation, care should be taken not to damage electric wires.
- In case of using a drain pump, install the unit horizontally using a level gauge.



1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
2. Select and mark the position for fixing bolts and piping hole.
3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
4. Drill the hole for anchor bolt on the wall or ceiling.
 - 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.
5. In case of ducted type unit, apply a joint-canvas between the unit and duct to absorb unnecessary vibration.

8. Installation

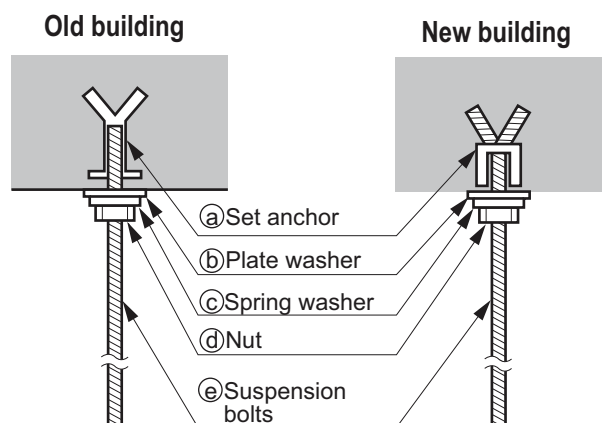


- The following parts are local purchasing.

1. Hanging bolt - W 3/8 or M10
2. Nut - W 3/8 or M10
3. Spring washer - M10
4. Plate washer - M10

CAUTION

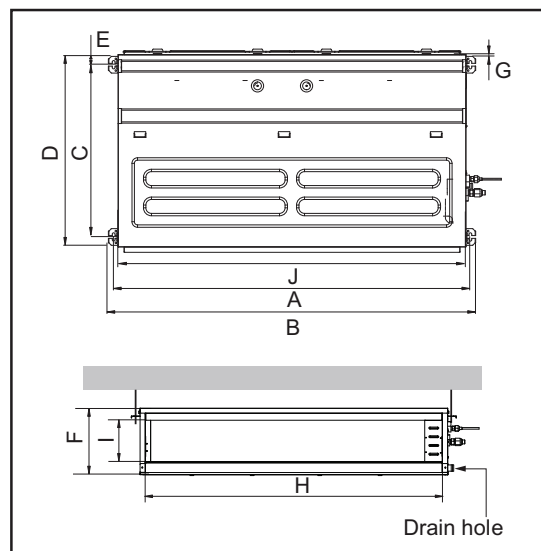
- Tighten the nut and bolt to prevent the unit from falling.
- When mechanical connectors are reused indoors, sealing parts shall be renewed. (for R32)
- When flared joints are reused indoors, the flare part shall be re-fabricated. (for R32)



Installation dimension of Indoor unit

M1/M2/M3 Chassis

* According to product type, model line up, sales region...etc, applicability of each chassis could be different.



Chassis name	Dimension (mm)									
	A	B	C	D	E	F	G	H	I	J
M1	933.4	971.6	619.2	700	30	270	15.2	858	201.4	900
M2	1,283.4	1,321.6	619.2	689.6	30	270	15.2	1,208	201.4	1,250
M3	1,283.4	1,321.6	619.2	689.6	30	360	15.2	1,208	291.4	1,250

8. Installation

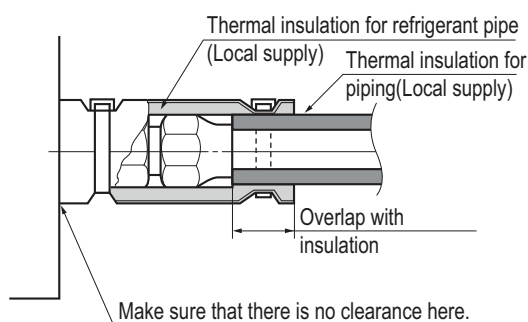
8.3 Connecting pipes to the indoor unit

■ Refrigerant piping work

To detail information for connecting the refrigerant pipes, please refer to the installation manual included with product.

■ Piping insulation work

- 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 (over 120°C (248°F)).
- Precautions in high humidity circumstance
 - This air conditioner has been tested according to the "KS Conditions" and confirmed.
 - 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.



- Heat insulation material : Adiabatic glass wool with thickness of 10~20mm(13/32 ~13/16 inch).
- 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.

8. Installation

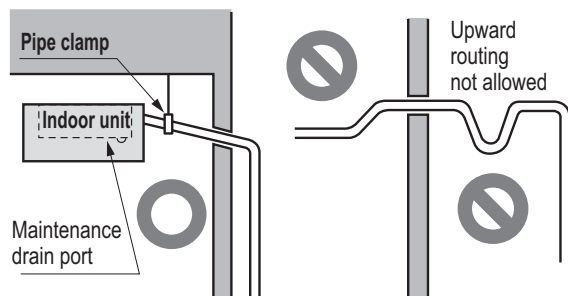
8.4 Indoor Unit Drain Piping

Important

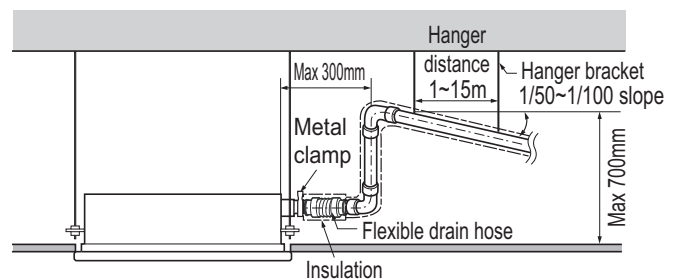
- The drain pipe should be at least equal in size to drain conduit of the indoor unit.
- The drain pipe is thermally insulated to prevent the formation of condensation inside the pipe.
- The drain up mechanism should be fitted before the indoor unit is installed and when the electricity has been connected a little of water should be added to the drain pan and the drain pump to check and see if it is functioning correctly.
- All connections should be secure. (Special care is needed with PVC pipe)

8.4.1 Drain piping of indoor unit with drain pump

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
 - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.

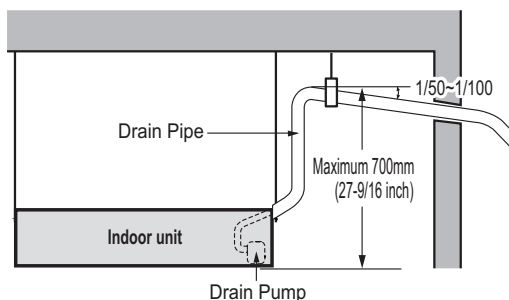


※ According to type of indoor unit, external appearance could be different.

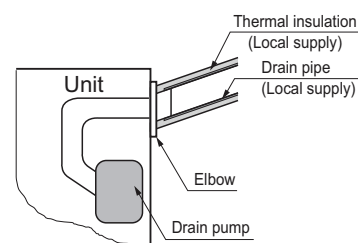


※ According to type of indoor unit, external appearance could be different.

- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- Be sure to install heat insulation on the drain piping.
 - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



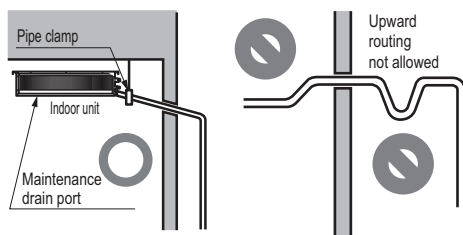
※ According to type of indoor unit, external appearance could be different.



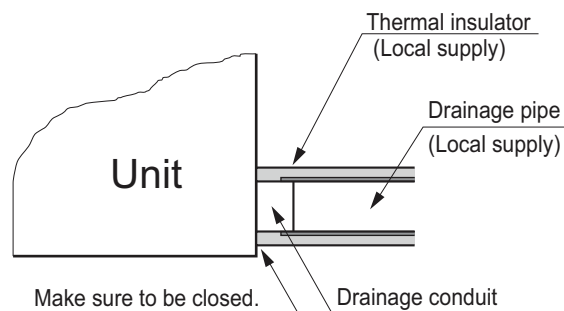
8. Installation

8.4.2 Drain pipe connection without drain pump

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit and drain piping fittings should be referenced from 'Specifications' of each models.
 - Piping material: Use the Polyvinyl chloride pipe.
- Be sure to install heat insulation on the drain piping.
 - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



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



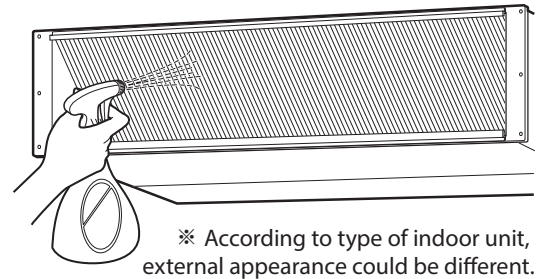
8. Installation

8.4.3 Method of Drainage test

◆ Drainage test of indoor unit

Use the following procedure to test the drainage.

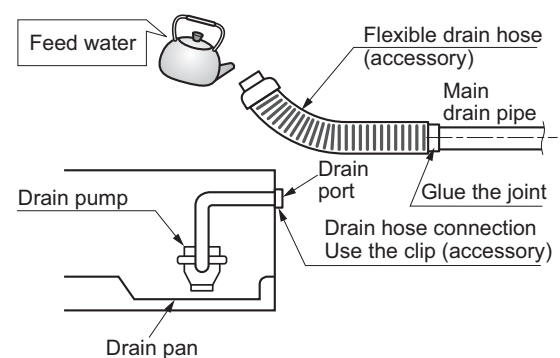
1. In case that there are air filter, remove the air filter first.
2. Spray one or two glasses of water on the evaporator.
3. Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



◆ Drainage test of indoor unit with drain pump

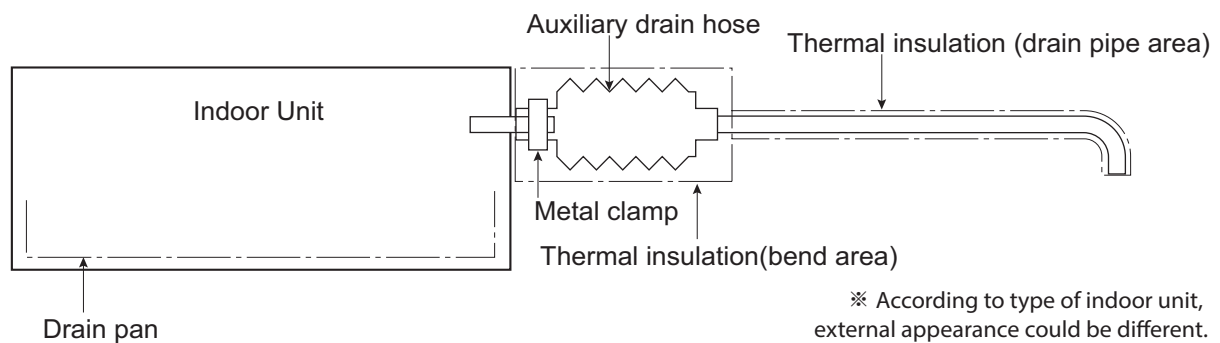
Use the following procedure to test the drain pump operation.

1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
2. Feed water to the flexible drain hose and check the piping for leakage.
3. Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
4. When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.



8.4.4 Connection of an auxiliary(flexible) drain hose

- To connect drain pipe to the drain socket on the indoor unit, an auxiliary flexible drain hose should be used. auxiliary flexible drain hose allows that the drain pipe can be connected to the socket without breaking by excessive strain.



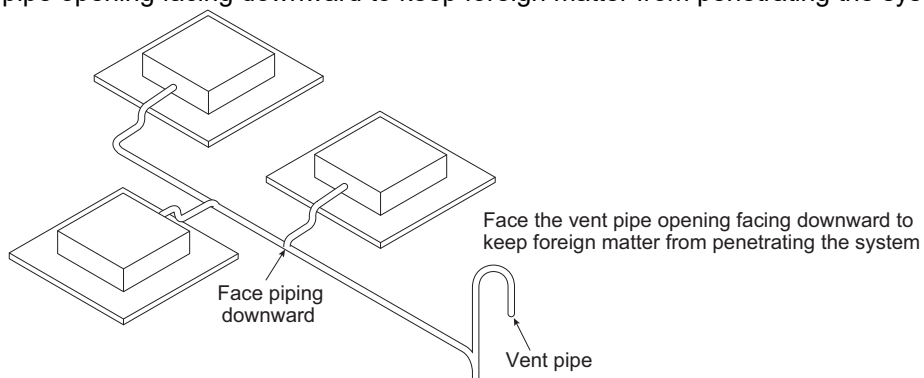
⚠ CAUTION

- The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.
- It is need to insulate the auxiliary drain hose with thermal insulation material.

8. Installation

8.4.5 Ground drain piping

- It is standard work practice to make connections to the main pipe from above. The pipe down from the combination should be as large as possible.
- The pipe work should be kept as short as possible and the number of indoor units per group kept to a minimum.
- Face the vent pipe opening facing downward to keep foreign matter from penetrating the system.



8. Installation

8.5 Electric wiring work

8.5.1 General instructions

- All field supplied parts and materials, electric works must conform to local codes. Use copper wire only.
- Follow the **"WIRING DIAGRAM"** attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- All wiring must be performed by an authorized electrician.
- A circuit breaker capable of shutting down the power supply to the entire system must be installed.

CAUTION

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

- Never fail to have separate power specially for the air conditioner.
- Provide a circuit breaker switch between power source and the unit.
- Confirm the Specification of power source.
- Confirm that electrical capacity is sufficient.
- Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
- Confirm that the cable thickness is as specified in the power sources specification.
(Particularly note the relation between cable length and thickness.)
- Do not install the leakage breaker in a place which is wet or moist.
Water or moist may cause short circuit.
- The following troubles would be caused by voltage drop-down.
 - » Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
 - » Proper starting power is not given to the compressor.

8.5.2 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.
- In case of the system with multiple indoor units, mark each indoor unit as unit A, unit B, etc and be sure the terminal board wiring to the outdoor unit and indoor units are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.

8.5.3 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 connecting of communication (transmission) cable, put the cable(or thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel. In case that communication (transmission) cable is not needed to connect, fix the other side of the clamp with a screw strongly.

8. Installation

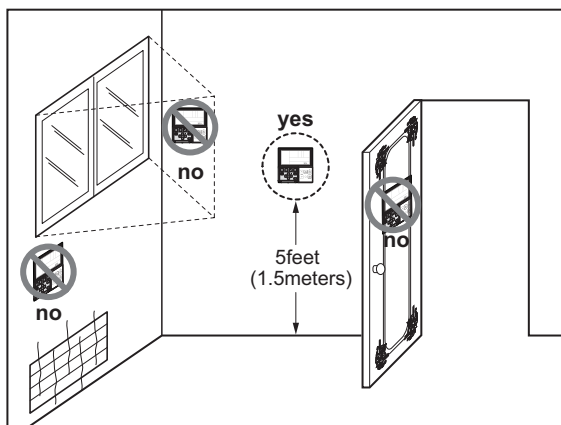
! WARNING

- Make sure that the screws of the terminal are fixed tightly.
- The screw 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.)
- 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 wiring through holes to prevent damage to them.
- 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.

8.5.4 Wired Remote Controller Installation

Since the room temperature sensor is in the remote controller, the remote controller box should be installed in a place away from direct sunlight, high humidity and direct supply of cold air to maintain proper space temperature.

Install the remote controller about 5ft(1.5m) above the floor in an area with good air circulation at an average temperature.



• Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

SINGLE

Heat pump

Ceiling Concealed Duct - Low static pressure

- 1.List of Functions**
- 2.Specifications**
- 3.Dimensions**
- 4.Piping Diagrams**
- 5.Wiring Diagrams**
- 6.External static pressure & Air flow**
- 7.Sound Levels**
- 8.Installation**

1. List of functions

◆ List of function

Category	Functions	ZBNW12GL5H1 [UL12FH N50] ZBNW18GL3H1 [UL18FH N30]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	X
	Auto swing (left & right)	X
	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	X
Air purification	Triple filter (Deodorization)	X
	Air purifier (Plasma)	X
	Air purifier (Ionizer)	X
	Allergy Safe filter	X
	Pre-Filter (washable / anti-fungus)	O
Installation	Drain pump	O
	E.S.P. control*	O
	Electric heater	X
	High ceiling operation*	X
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	O
	Auto cleaning	O
	Auto operation(artificial intelligence)	X
	Auto Restart	O
	Child lock*	O
	Forced operation	X
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
	Auto Elevation Grille	X
Special Functions	Wi-Fi	O (Accessory)
	Comfort Cooling (Humidity Control)	X
Wireless Remote Controller		O (Accessory)
Wired Remote Controller		O (Accessory)
Network Solution(LGAP)		O

Note

1. O : Applied, X : Not applied, Embedded : Included with product.

Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.

Accessory line-ups varies by region, so check your local catalogue or local sales material.

2. Some functions can be limited by remote controller.

3. Selecting a wireless remote controller in case of ducted type indoor units requires either a connection to the wired remote controller (Standard II) or an IR receiver accessory to be connected to the duct in order to receive the signal.

4. * : These functions need to connect to the wired remote controller.

5. ** : It is included by default when the product is manufactured.

6. *** : This functions need to connect to the Standard III wired remote controller.

1. List of functions

◆ Accessory Compatibility List

Category		Product	Remark	ZBNW12GL5H1 [UL12FH N50] ZBNW18GL3H1 [UL18FH N30]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O***
		PWLSSB21H	Heat Pump	O***
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard II (White)	O
		PREMTBB01	Standard II (Black)	O
		PREMTB100	Standard III (White)	O
		PREMTBB10	Standard III (Black)	O
	Premium	PREMTA000(A/B)	Premium	O
IR Receiver		PWLRVN000	-	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	For 3rd Party Thermostat	O
		PDRYCB320	For 3rd Party Thermostat (Analog Input)	O
		PDRYCB500	For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Without case	X
		PSNFP14A0	With case	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	O
	CO ₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O
	Human detecting sensor	PTVSMA0	-	X
Drain Pump		ABDPG	-	O (Embedded)

Note

1. O: Possible, X: Impossible, - : Not applicable, Embedded : Included with product.
2. * : Some advanced functions controlled by individual controller cannot be operated.
3. ** : It could not be operated some functions.
4. *** : Selecting a wireless remote controller in case of ducted type indoor units requires either a connection to the wired remote controller (Standard II) or an IR receiver accessory to be connected to the duct in order to receive the signal.
5. If you need more detail, please refer to the **BECON** PDB or the manual of product. (<http://partner.lge.com/global> : Home> Doc.Library> Product > Control(BECON))
6. Do not install both the IR Receiver and Wired Remote Controller. This may cause malfunctions.

2. Specifications

Model Name			Unit	ZBNW12GL5H1 [UL12FH N50]
Power Supply			V , Ø , Hz	220-240 , 1 , 50
				220 , 1 , 60
Capacity(Nominal)	Cooling		kW	3.4
	Heating		kW	4.0
Power Input		H / M / L	W	21 / 15 / 13
Running Current		H / M / L	A	0.21 / 0.16 / 0.14
		Max.	A	0.76
Exterior	Color		-	Steel Gray
Dimensions		W x H x D	mm	900 x 190 x 460
Weight	Net		kg	18.0
	Shipping		kg	22.0
Heat Exchanger	Rows x Columns x FPI x No.			(2 x 6 x 18) x 2
	Face Area		m²	0.17
Fan Type				Sirocco Fan
Air Flow Rate		H / M / L	m³/min	11.5 / 9.5 / 8.0
External static pressure	Factory Set		Pa (mmAq)	0 (0)
Fan Motor	Type			BLDC
	Drive			Internal
	Output		W x No.	(19 x 1) + (5 x 1)
Safety Device			-	Fuse
			-	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)
	Gas Side		mm (inch)	Ø 9.52 (3/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 26
Sound Pressure Level	Cooling	H / M / L	dB(A)	35 / 30 / 27
	Heating	H / M / L	dB(A)	35 / 30 / 27
Sound Power Level	Cooling	Rated	dB(A)	55
	Heating	Rated	dB(A)	-
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741).
4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity.
 - Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

2. Specifications

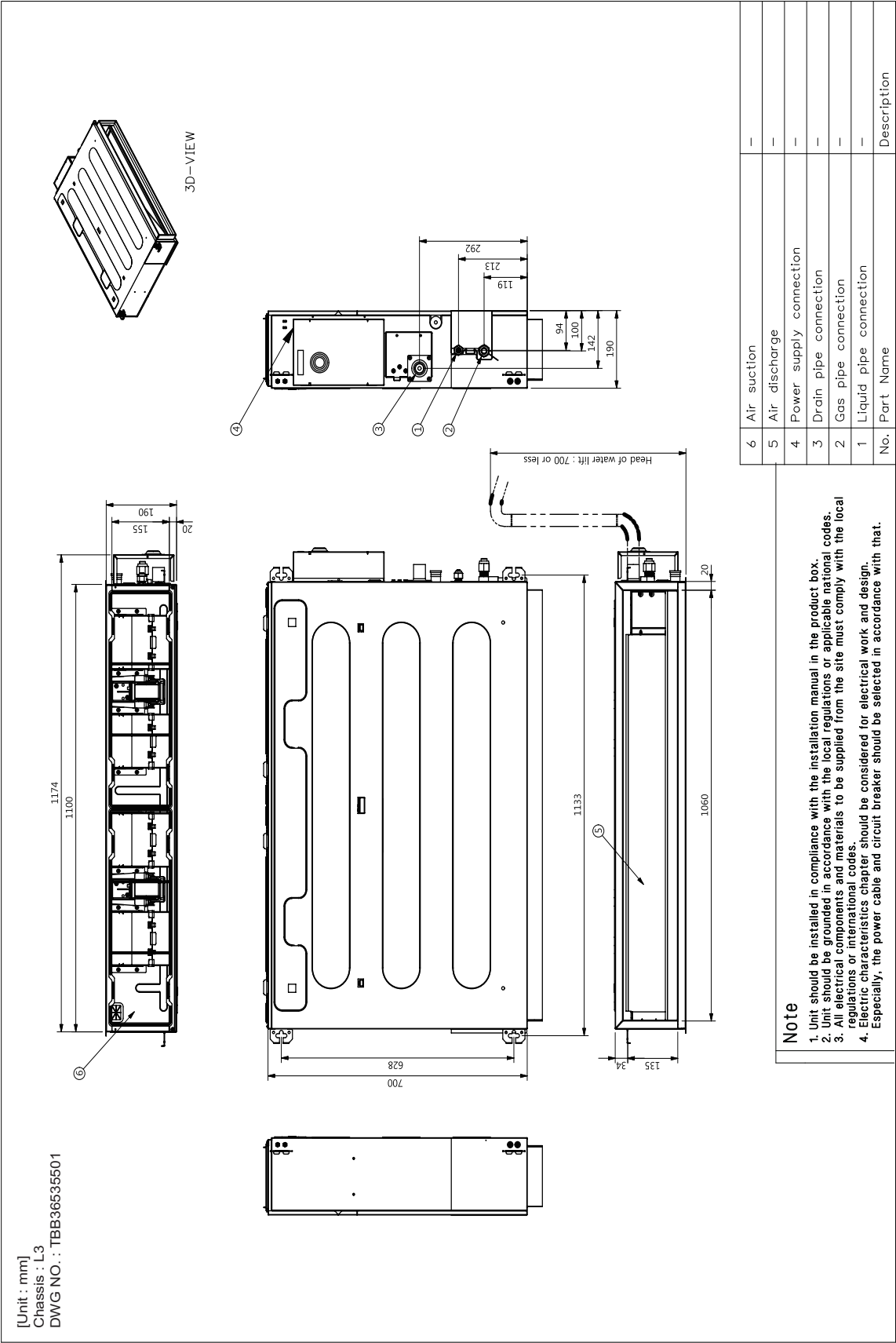
Model Name			Unit	ZBNW18GL3H1 [UL18FH N30]
Power Supply			V , Ø , Hz	220-240 , 1 , 50
				220 , 1 , 60
Capacity(Nominal)	Cooling		kW	5.0
	Heating		kW	5.8
Power Input		H / M / L	W	140 / 125 / 100
Running Current		H / M / L	A	0.60 / 0.54 / 0.43
		Max.	A	1.0
Exterior	Color		-	Steel Gray
Dimensions		W x H x D	mm	1,100 x 190 x 700
Weight	Net		kg	24.2
	Shipping		kg	29.9
Heat Exchanger	Rows x Columns x FPI			3 x 11 x 18
	Face Area		m ²	0.22
Fan Type				Sirocco Fan
Air Flow Rate		H / M / L	m ³ /min	18.5 / 15.0 / 11.0
External static pressure	Factory Set		Pa (mmAq)	24.5 (2.5)
Fan Motor	Type			BLDC
	Drive			Internal
	Output		W x No.	19 x 2
Safety Device			-	Fuse
			-	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)
	Gas Side		mm (inch)	Ø 12.7 (1/2)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 26
Sound Pressure Level	Cooling	H / M / L	dB(A)	38 / 34 / 31
	Heating	H / M / L	dB(A)	38 / 34 / 31
Sound Power Level	Cooling	Rated	dB(A)	56
	Heating	Rated	dB(A)	-
Power and Communication Cable (included Earth)			No. x mm ²	4C x 0.75

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741).
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 - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

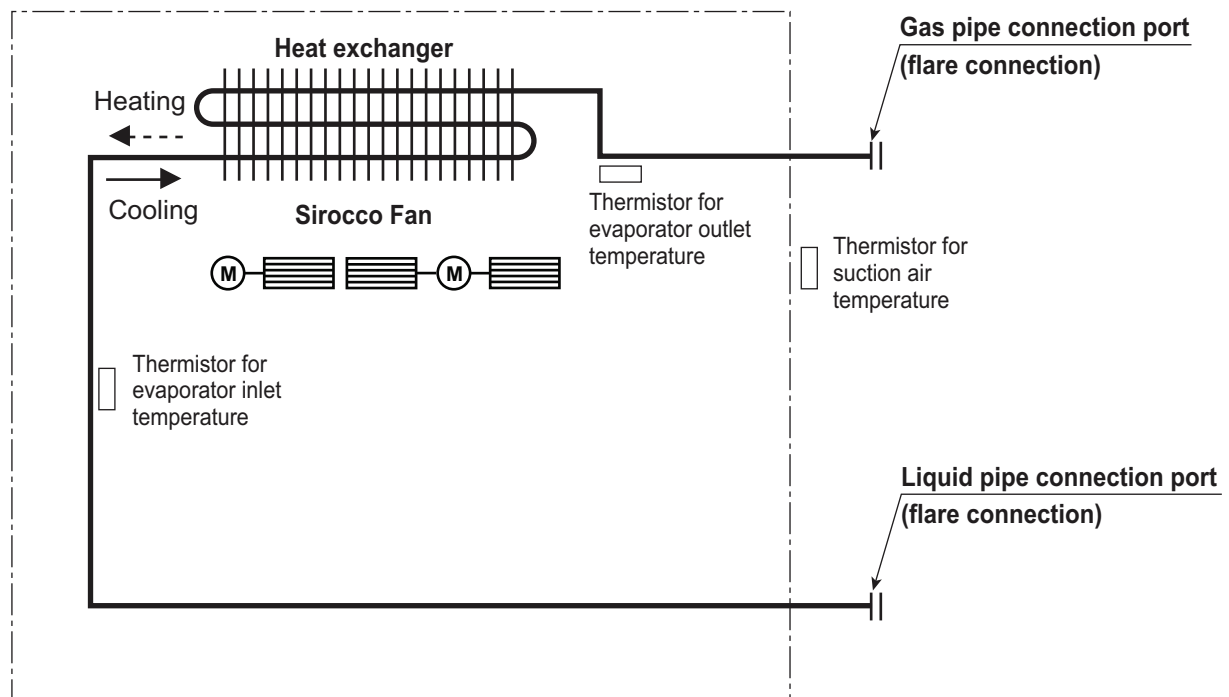
3. Dimensions

■ ZBNW18GL3H1 [UL18FH N30]



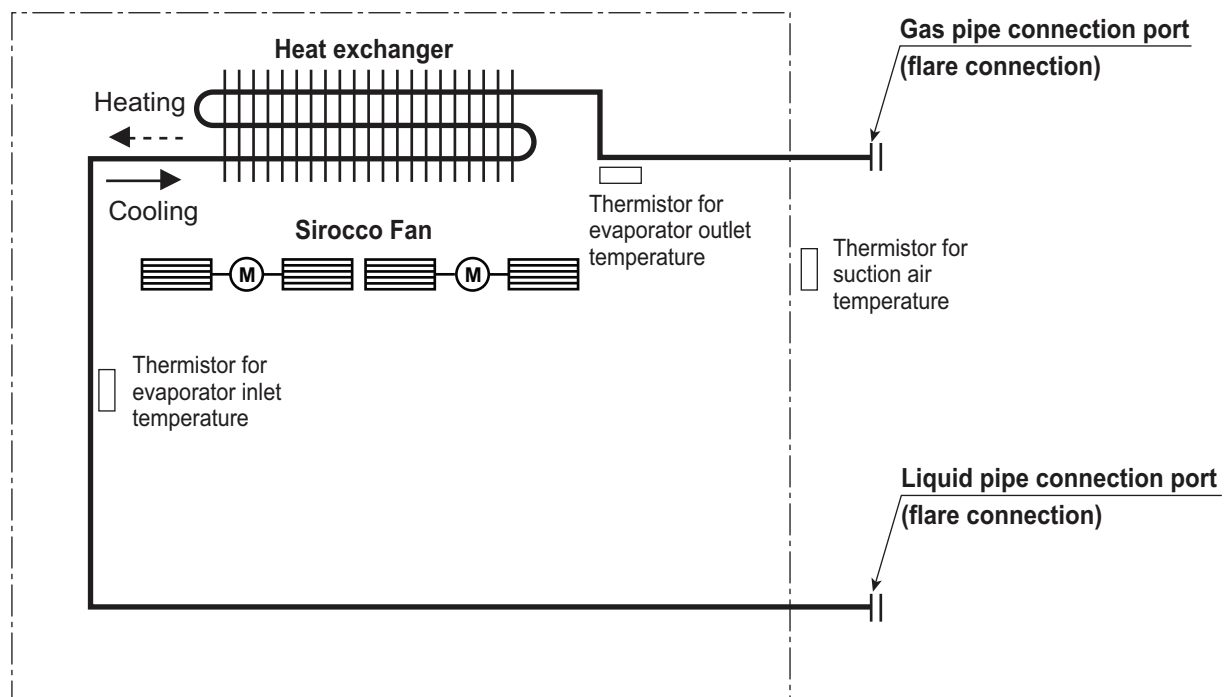
4. Piping Diagrams

■ ZBNW12GL5H1 [UL12FH N50]



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

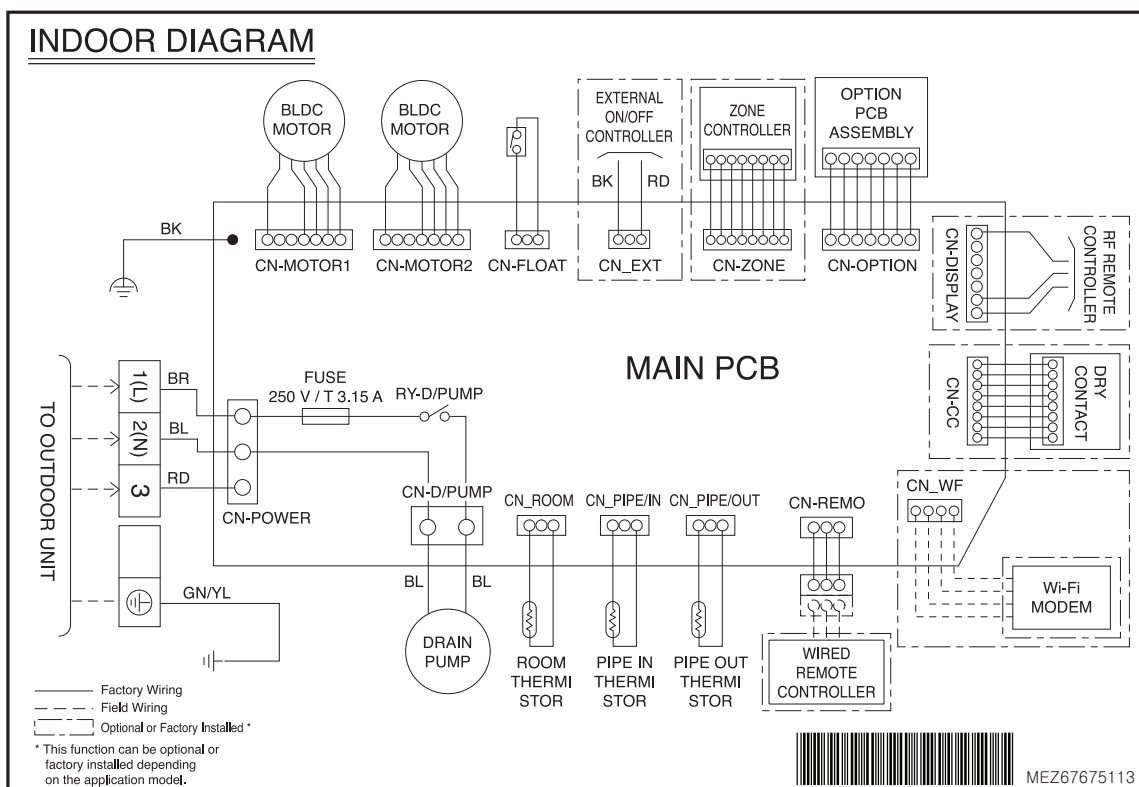
■ ZBNW18GL3H1 [UL18FH N30]



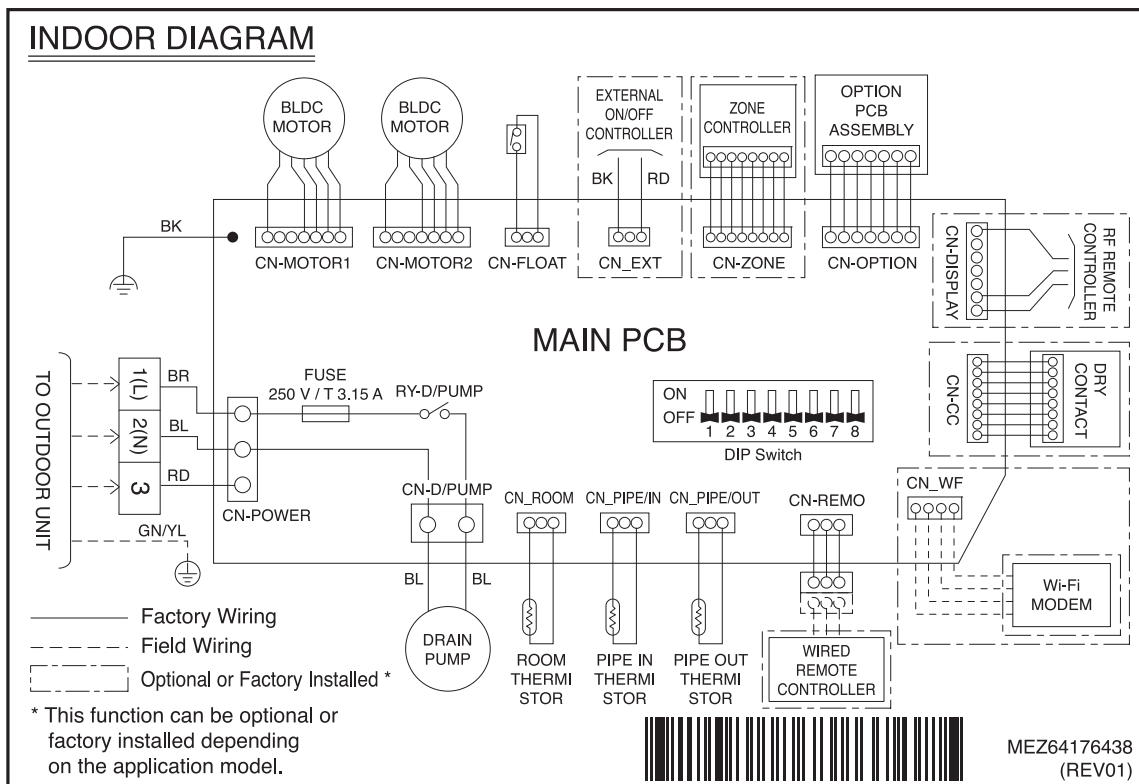
Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE / IN
Thermistor for evaporator outlet temperature	CN-PIPE / OUT

5. Wiring Diagrams

◆ ZBNW12GL5H1 [UL12FH N50]



◆ ZBNW18GL3H1 [UL18FH N30]



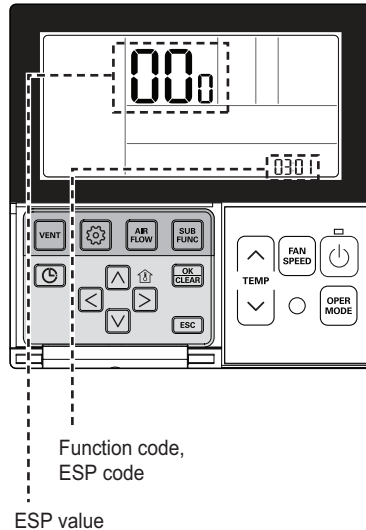
6. External Static Pressure & Air Flow

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

Wired Remote Controller (Standard II)

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.



<p>1 If pressing button long for 3 seconds, it enters into remote controller setter setup mode. - If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.</p>	<p>4 Move to ESP value setting by pressing button. (It is 000 when delivering from the warehouse.)</p> <p>0301 000</p>
<p>2 If entering into ESP setup mode by using button, it indicates as the picture below.</p>	<p>5 Press button to setup ESP value. (It is possible to setup ESP value from 1 to 255, and 1 is the smallest and 255 is the biggest.)</p>
<p>3 Select ESP fan step by pressing button. (01: very low, 02: low, 03: medium, 04: high, 05: very high)</p> <p>0301</p>	<p>6 Select ESP fan step again by using button and setup ESP value, as No. 4 and 5, that corresponds each wind flow</p>
	<p>7 Press button to save.</p>
	<p>8 Press button to exit. * After setup, it automatically gets out of setup mode if there is no button input for 25 seconds. * When exiting without pressing set button, the manipulated value is not reflected.</p>

- 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.

6. External Static Pressure & Air Flow

Wired Remote Controller (Standard III)

Static pressure setting can be set only in the duct products. (It cannot be set in other products.)

- You can set the following setting values using [<,>(left/right)] button.

Installer	Back OK OK
Ceiling Height Selection	< LOW >
Static Pressure	< V-H >
RMC Master/Slave	< Master >
Override Master/Slave	< Slave >
Dry Contact Mode	< Auto >

Static pressure		Description	
		Variable / Fixed	ESP default value
Variable high static pressure	V-H	Variable	High static pressure(High)
Fixed high static pressure	F-H	Fixed	High static pressure(High)
Variable low static pressure	V-L	Variable	Low static pressure(Low)
Fixed low static pressure	F-L	Fixed	Low static pressure(Low)

- 2TH function's operation characteristics may be different for each product.

6. External Static Pressure & Air Flow

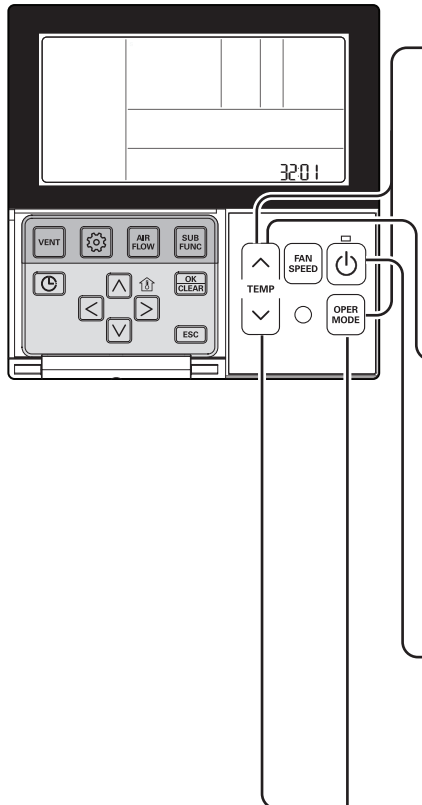
■ Installer Setting - Static Pressure Step Setting






Wired Remote Controller (Standard II)





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.



- When pressing the  button and  button simultaneously for more than 3 seconds, the system will be entered into the installer setting mode.
- After entering into the installer setting mode, select the static pressure step setting code value by pressing the  button.
* Static pressure step setting code value : 32
- Select the desired setting value with the temperature up(), down() button.


 Function Code Existing condition
 00: use static pressure (code 06) set value
 01~ 11: static pressure step (code 32) set value
- When pressing  button, currently established static pressure value will be set up.
- When pressing the  button and  button simultaneously for more than 3 seconds after the setting has been completed, the setting mode will be released.
- If there isn't any button input for more than 25 seconds, the installer setting mode will also be released.

- 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

6. External Static Pressure & Air Flow

Wired Remote Controller (Standard III)

It is the function to subdivide and set the product's static pressure to 11 stages.

- Change setting values using [**<**,**>**(left/right)] button.

Installer	Back OK
Static Pressure Step	< Step 0 >
Guard Timer	< Step 0 >
Fan Speed In Cooling Thermal Off	< Low >
Primary Heater	< Not Use >
AC Fan Oper. Interlocked With Vent	< On >

Value
Step 0 ~ Step 11

NOTE

If Static pressure step setting is used, the Static pressure setting is not used.
For the Static pressure step value for each stage, refer to the indoor unit product manual

6. External Static Pressure & Air Flow

■ Table 1

Model	Step	CMM	Static Pressure[mmAq(Pa)]					
			0(0)	1(10)	2(20)	3(29)	4(39)	5(49)
			Setting Value					
			32:01	32:02	32:03	32:04	32:05	32:06
ZBNW12GL5H1 [UL12FH N50]	LOW	8.0	82	87	90	96	106	116
	MID	9.5	92	98	105	109	119	128
	HIGH	11.5	100	106	112	122	129	137

Model	Step	CMM	Static Pressure[mmAq(Pa)]					
			0(0)	1(10)	2(20)	3(29)	4(39)	5(49)
			Setting Value					
			32:01	32:02	32:03	32:04	32:05	32:06
ZBNW18GL3H1 [UL18FH N30]	LOW	11.0	80	90	95	100	110	120
	MID	15.0	97	103	109	117	126	134
	HIGH	18.5	115	122	127	133	138	142

6. External Static Pressure & Air Flow

■ Table 2

◆ ZBNW12GL5H1 [UL12FH N50]

Setting Value	Static Pressure [mmAq(Pa)]					
	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (50)
	Air Flow Rate [m³/min]					
75	6.50	-	-	-	-	-
80	7.34	6.70	-	-	-	-
85	8.20	7.55	6.69	-	-	-
90	9.07	8.43	7.56	6.47	-	-
95	9.96	9.32	8.45	7.36	-	-
100	10.87	10.22	9.36	8.27	6.96	-
105	11.79	11.15	10.28	9.19	7.89	6.35
110	12.73	12.09	11.22	10.14	8.83	7.30
115	13.69	13.05	12.18	11.09	9.78	8.25
120	14.67	14.02	13.16	12.07	10.76	9.23
125	15.66	15.01	14.15	13.06	11.75	10.22
130	16.67	16.02	15.16	14.07	12.76	11.23
135	-	-	16.18	15.10	13.79	12.26
140	-	-	-	16.14	14.83	13.30
145	-	-	-	-	15.89	14.36

◆ ZBNW18GL3H1 [UL18FH N30]

Setting Value	Static Pressure [mmAq(Pa)]					
	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (50)
	Air Flow Rate [m³/min]					
85	10.19	-	-	-	-	-
90	12.18	10.71	11.09	-	-	-
95	13.81	12.34	12.19	-	-	-
100	15.16	13.69	13.38	10.71	-	-
105	16.30	14.83	14.36	11.85	-	-
110	17.31	15.85	15.23	12.86	10.97	-
115	18.27	16.80	16.07	13.82	11.93	-
120	19.26	17.79	16.93	14.80	12.91	10.49
125	20.34	18.87	17.89	15.88	13.99	11.57
130	21.60	20.13	19.01	17.14	15.25	12.83
135	-	21.64	20.36	18.66	16.76	14.35
140	-	-	22.01	20.50	18.61	16.19
145	-	-	-	22.75	20.86	18.44

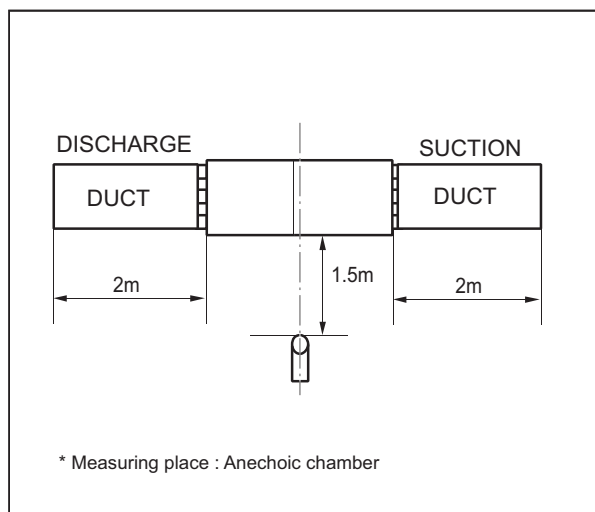
Note

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

7. Sound Levels

7.1 Sound Pressure Level

Overall

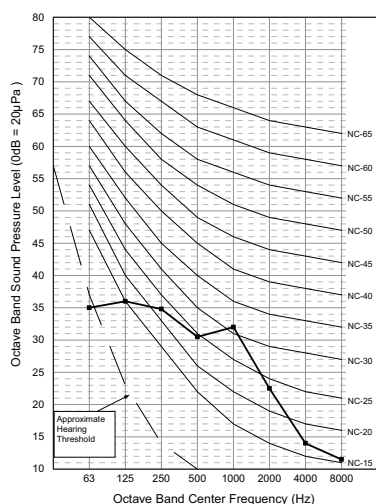


Note

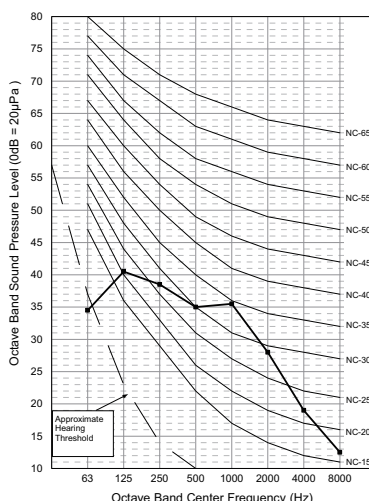
1. Sound measured at some distance away from the center of the unit.
2. Data is valid at free field condition.
3. Reference acoustic pressure 0dB = 20μPa.
4. Data is valid at nominal operation condition.
Refer to the Model Specifications for nominal conditions (Power source and Ambient temperature, etc)
5. Sound levels can be increased in accordance with installation and operating conditions. (Static pressure mode, used air guide, Room target temperature setting, etc)
6. 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.
7. Sound pressure level is measured on the rated condition in the anechoic rooms. (LG Internal Standard)
Therefore, these values can be increased owing to ambient conditions during operation.

Model	50Hz, 220-240V		
	Sound Pressure Level [dB(A)]		
	H	M	L
ZBNW12GL5H1 [UL12FH N50]	35	30	27
ZBNW18GL3H1 [UL18FH N30]	38	34	31

ZBNW12GL5H1 [UL12FH N50]



ZBNW18GL3H1 [UL18FH N30]



7. Sound Levels

7.2 Sound Power Level

Note

1. Operating condition

- Power source : 220-240V 50 Hz / 220V 60 Hz
- 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 to the specifications.

2. Data is valid at diffuse field condition.

3. Data is valid at nominal operating condition

4. Sound level can be increased in static pressure mode or used air guide.

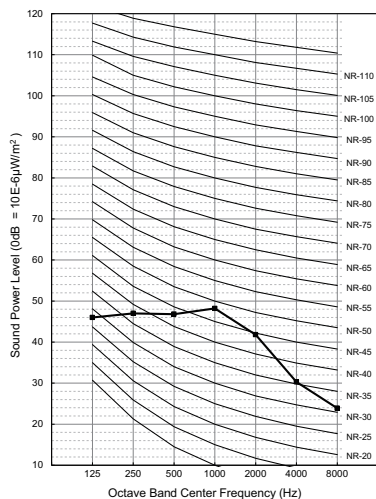
5. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient).

6. Reference acoustic intensity 0dB = $10E-6\mu W/m^2$

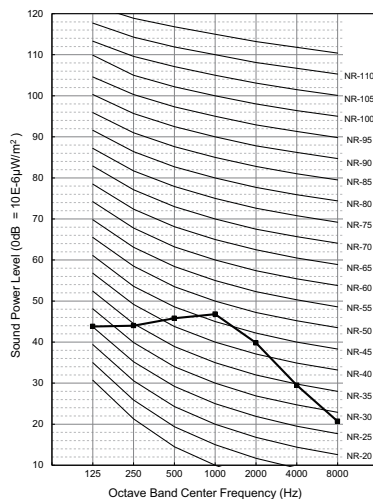
7. Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard. Therefore, these values can be increased owing to ambient conditions during operation.

Model	Sound Power Level [dB(A)]
	Cooling
ZBNW12GL5H1 [UL12FH N50]	55
ZBNW18GL3H1 [UL18FH N30]	56

ZBNW12GL5H1 [UL12FH N50]



ZBNW18GL3H1 [UL18FH N30]

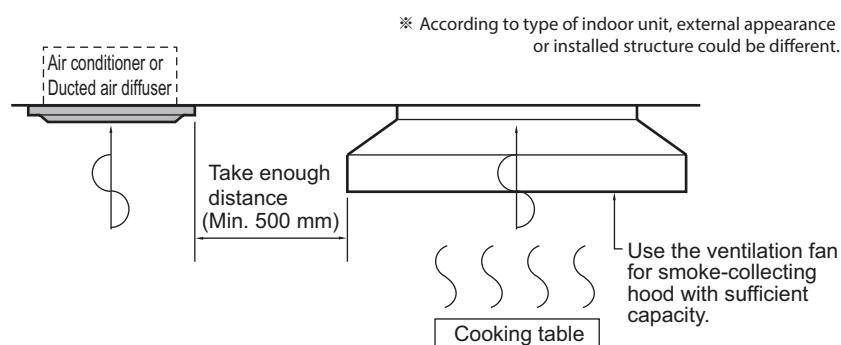


8. Installation

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

8.1 Selection of the best location

- The place where room air circulation is good.
- Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- The place where the unit is leveled.
- The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- The place where the unit is not affected by an electrical noise.
- The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
 1. Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated. These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function. In these cases, take the following actions;
 - Make sure that ventilation fan is enough to cover all noxious gases from this place.
 - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



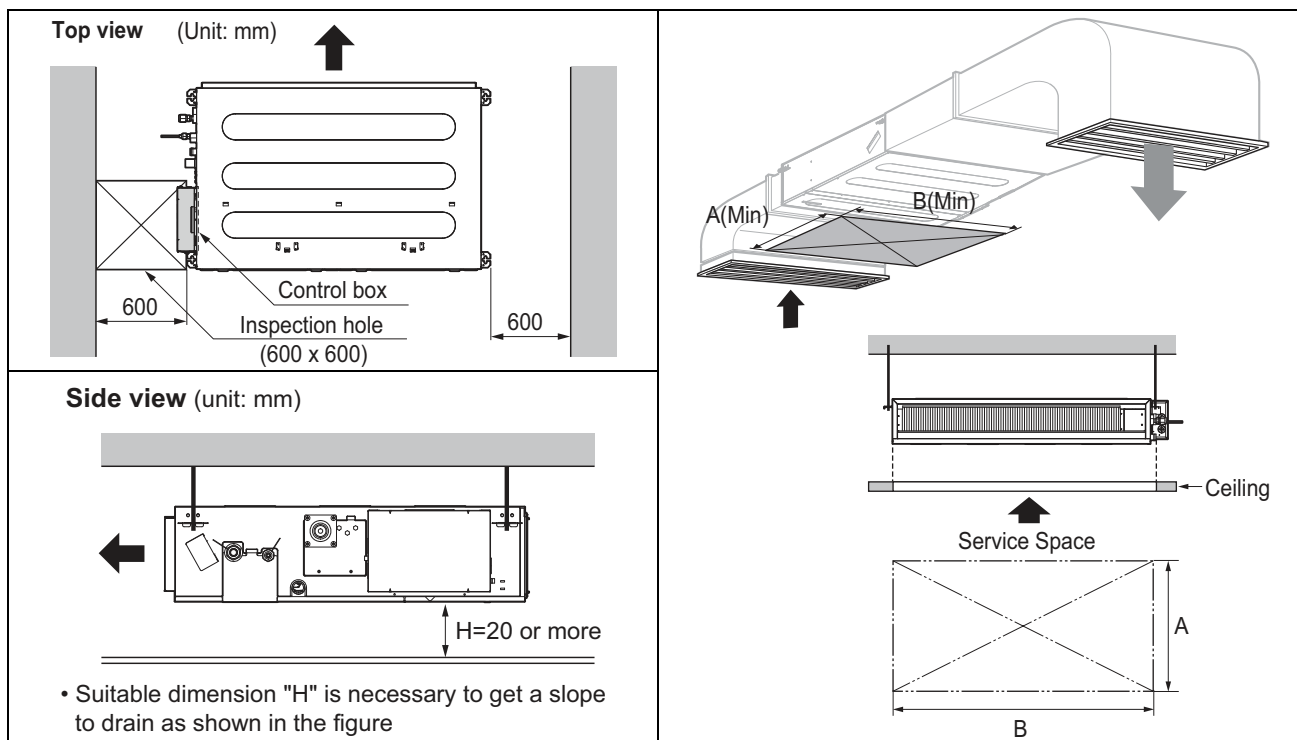
2. Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
3. Avoid places where inflammable gas is generated.
4. Avoid place where noxious gas is generated.
5. Avoid places near high frequency generators.

8. Installation

⚠ CAUTION

- If the temperature rise above 30°C or the humidity rise above RH 80%, the dew-protective kit should be equipped or use additional insulation to the indoor unit body.
 - "Dew Protective kit" is sold separately.
 - Use the glass wool material or polyethylene foam and it make sure to be thick of 10mm at least.

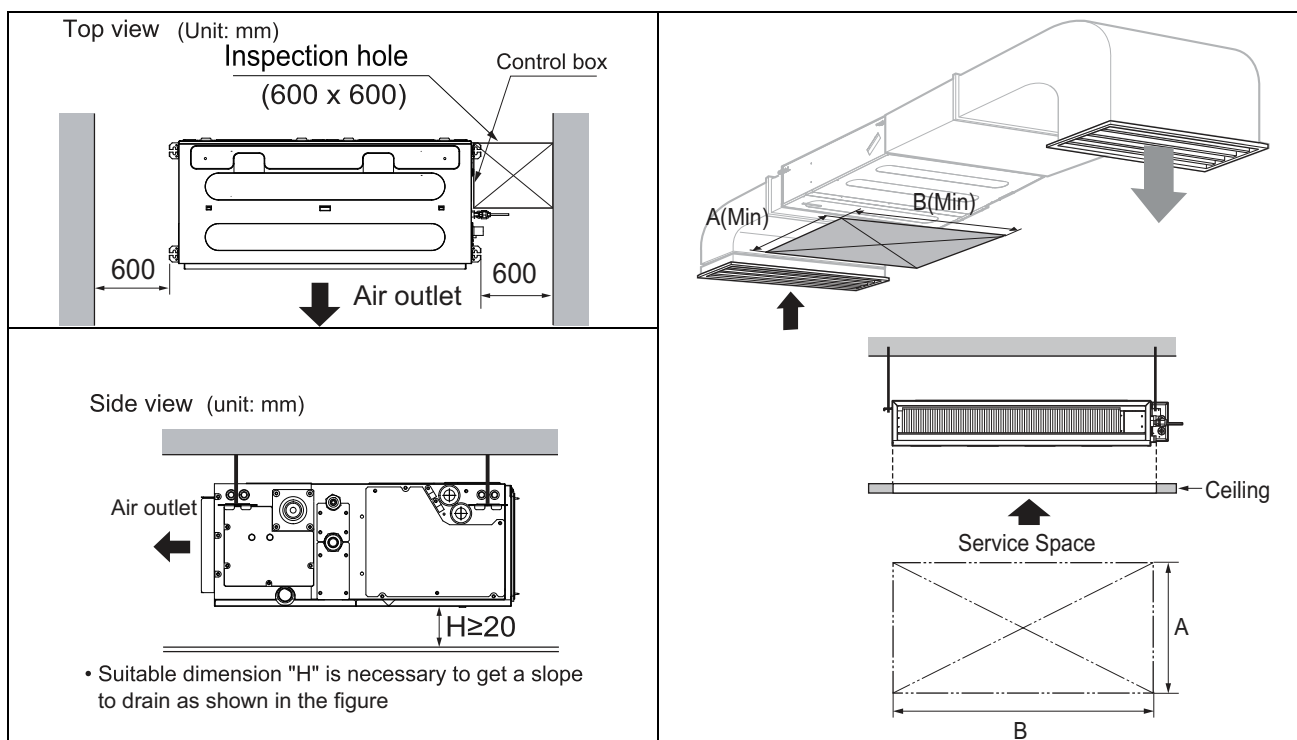
◆ L1 / L2 / L3



Chassis code	A [mm]	B [mm]
L1	800	800
L2	800	1,000
L3	800	1,200

8. Installation

◆ L4 / L5 / L6



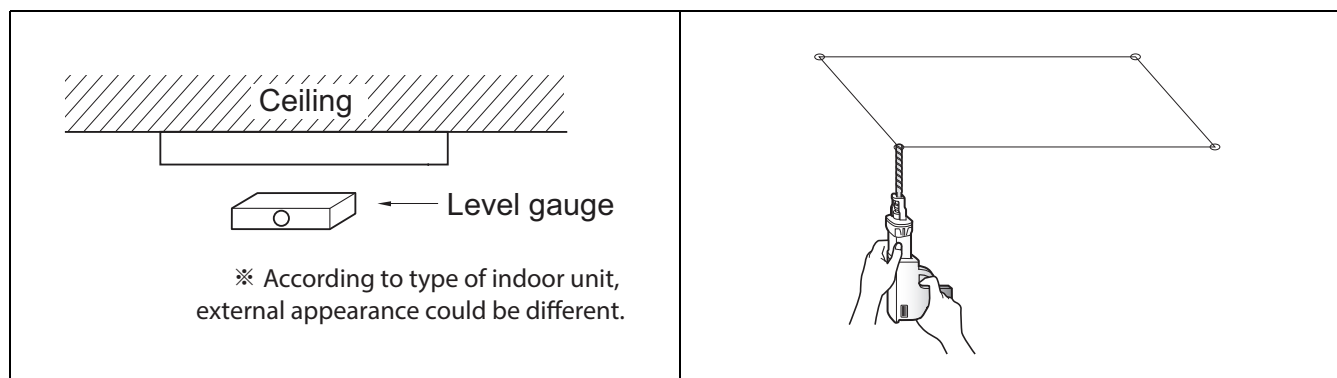
Chassis code	A [mm]	B [mm]
L4	600	800
L5	600	1,000
L6	600	1,200

8. Installation

8.2 Ceiling dimension and hanging bolt location

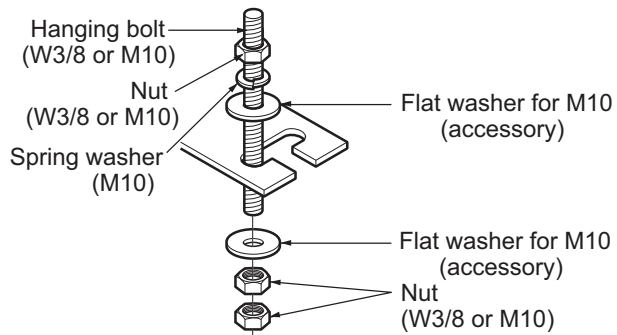
⚠ CAUTION

- During the installation, care should be taken not to damage electric wires.
- In case of using a drain pump, install the unit horizontally using a level gauge.



1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
2. Select and mark the position for fixing bolts and piping hole.
3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
4. Drill the hole for anchor bolt on the wall or ceiling.
 - 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.
5. In case of ducted type unit, apply a joint-canvas between the unit and duct to absorb unnecessary vibration.

8. Installation

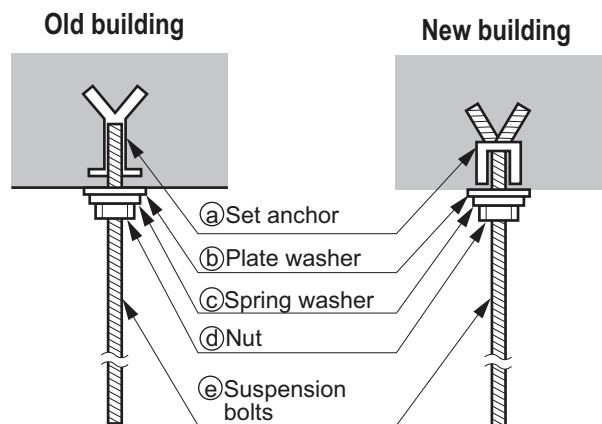


- The following parts are local purchasing.

1. Hanging bolt - W 3/8 or M10
2. Nut - W 3/8 or M10
3. Spring washer - M10
4. Plate washer - M10

⚠ CAUTION

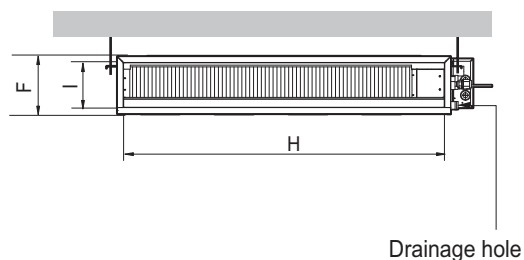
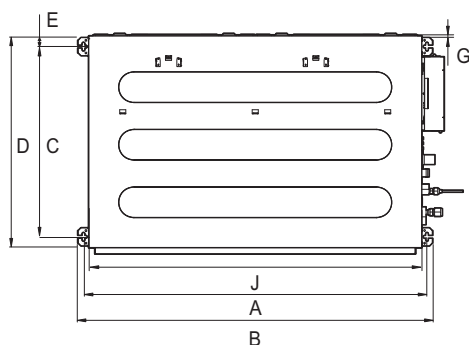
- Tighten the nut and bolt to prevent the unit from falling.
- When mechanical connectors are reused indoors, sealing parts shall be renewed. (for R32)
- When flared joints are reused indoors, the flare part shall be re-fabricated. (for R32)



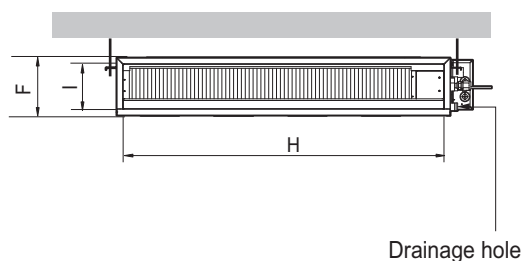
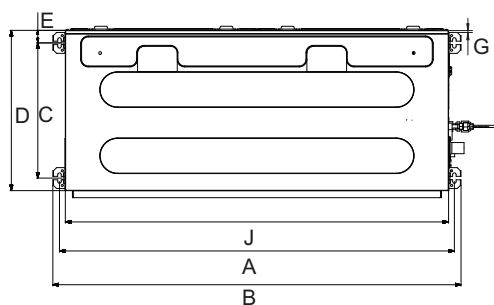
8. Installation

■ Installation of Unit

Install the unit above the ceiling correctly.



Chassis	Dimension (mm)									
	A	B	C	D	E	F	G	H	I	J
L1	733	772	628	700	36	190	20	660	155	700
L2	933	972	628	700	36	190	20	860	155	900
L3	1,133	1,172	628	700	36	190	20	1,060	155	1,100



Chassis	Dimension (mm)									
	A	B	C	D	E	F	G	H	I	J
L4	733	772	338	460	36	190	20	660	148	700
L5	933	972	338	460	36	190	20	860	148	900
L6	1,133	1,172	338	460	36	190	20	1,060	148	1,100

8. Installation

8.3 Connecting cables between Indoor Unit and Outdoor Unit

8.3.1 General instructions

- All field supplied parts and materials, electric works must conform to local codes. Use copper wire only.
- Follow the **"WIRING DIAGRAM"** attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- All wiring must be performed by an authorized electrician.
- A circuit breaker capable of shutting down the power supply to the entire system must be installed.

CAUTION

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

- Never fail to have separate power specially for the air conditioner.
- Provide a circuit breaker switch between power source and the unit.
- Confirm the Specification of power source.
- Confirm that electrical capacity is sufficient.
- Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
- Confirm that the cable thickness is as specified in the power sources specification.
(Particularly note the relation between cable length and thickness.)
- Do not install the leakage breaker in a place which is wet or moist.
Water or moist may cause short circuit.
- The following troubles would be caused by voltage drop-down.
 - » Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
 - » Proper starting power is not given to the compressor.

8.3.2 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.
- In case of the system with multiple indoor units, mark each indoor unit as unit A, unit B, etc and be sure the terminal board wiring to the outdoor unit and indoor units are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.

8.3.3 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 connecting of communication (transmission) cable, put the cable(or thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel. In case that communication (transmission) cable is not needed to connect, fix the other side of the clamp with a screw strongly.

8. Installation

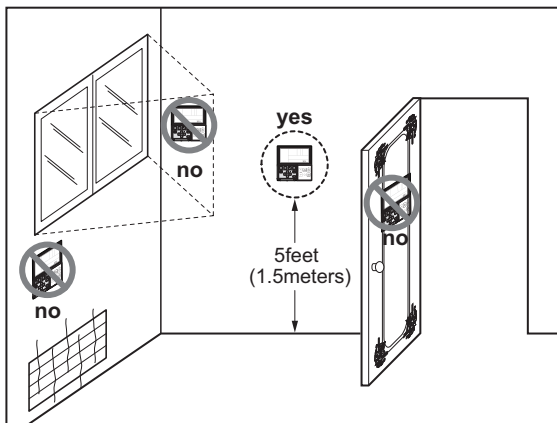
⚠ WARNING

- Make sure that the screws of the terminal are fixed tightly.
- The screw 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.)
- 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 wiring through holes to prevent damage to them.
- 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.

8.3.4 Wire Remote Controller Installation (Optional)

Since the room temperature sensor is in the remote controller, the remote controller box should be installed in a place away from direct sunlight, high humidity and direct supply of cold air to maintain proper space temperature.

Install the remote controller about 5ft(1.5m) above the floor in an area with good air circulation at an average temperature.



• Do not install the remote controller where it can be affected by :

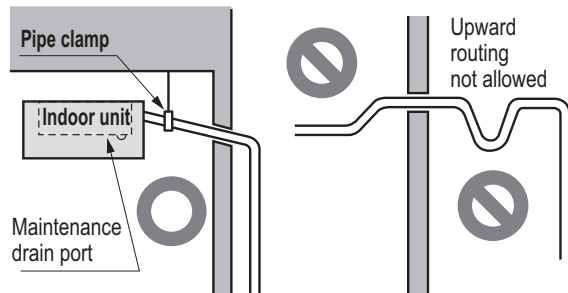
- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

8. Installation

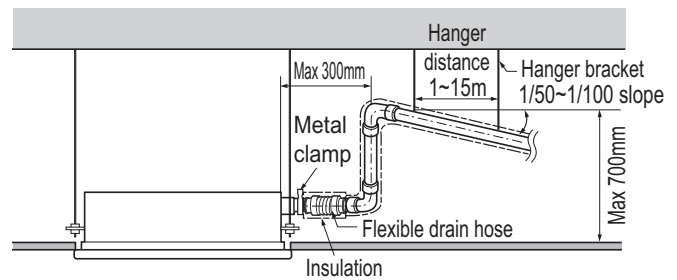
8.4 Indoor Unit Drain Piping

8.4.1 Drain piping of indoor unit with drain pump

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
 - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.

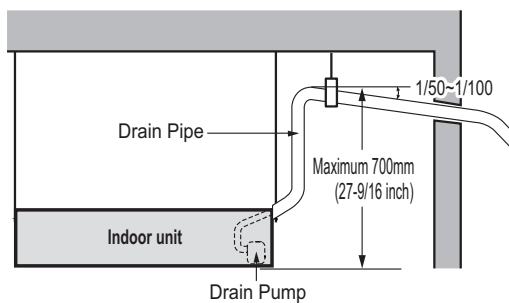


※ According to type of indoor unit, external appearance could be different.

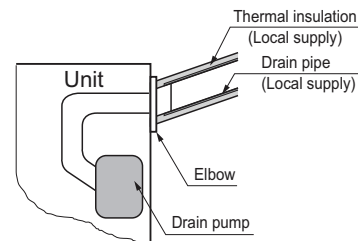


※ According to type of indoor unit, external appearance could be different.

- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- Be sure to install heat insulation on the drain piping.
 - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



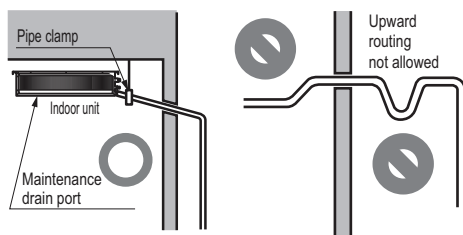
※ According to type of indoor unit, external appearance could be different.



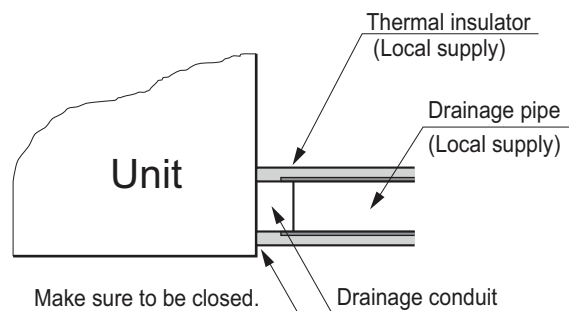
8. Installation

8.4.2 Drain pipe connection without drain pump

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit and drain piping fittings should be referenced from 'Specifications' of each models.
 - Piping material: Use the Polyvinyl chloride pipe.
- Be sure to install heat insulation on the drain piping.
 - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



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



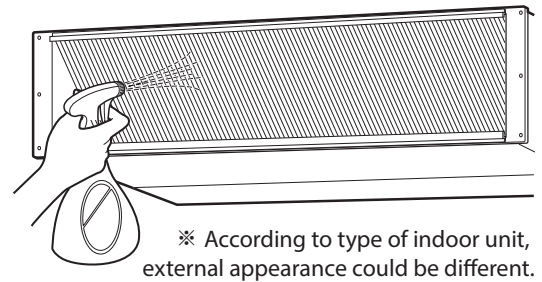
8. Installation

8.4.3 Method of Drainage test

◆ Drainage test of indoor unit

Use the following procedure to test the drainage.

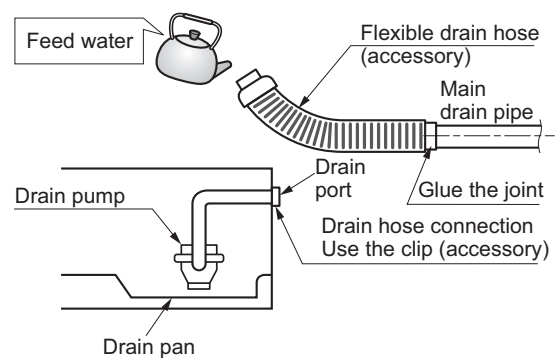
1. In case that there are air filter, remove the air filter first.
2. Spray one or two glasses of water on the evaporator.
3. Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



◆ Drainage test of indoor unit with drain pump

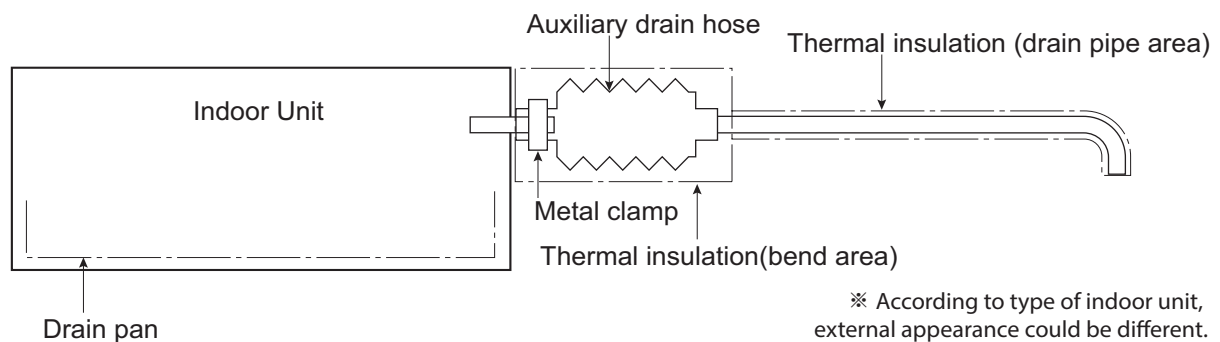
Use the following procedure to test the drain pump operation.

1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
2. Feed water to the flexible drain hose and check the piping for leakage.
3. Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
4. When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.



8.4.4 Connection of an auxiliary(flexible) drain hose

- To connect drain pipe to the drain socket on the indoor unit, an auxiliary flexible drain hose should be used. auxiliary flexible drain hose allows that the drain pipe can be connected to the socket without breaking by excessive strain.



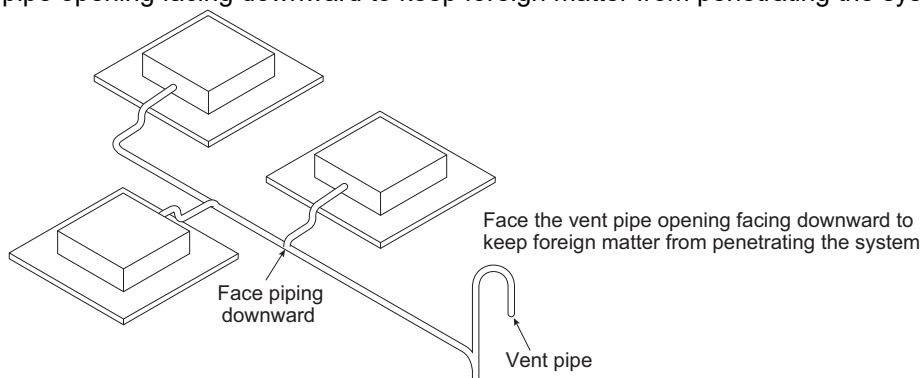
⚠ CAUTION

- The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.
- It is need to insulate the auxiliary drain hose with thermal insulation material.

8. Installation

8.4.5 Ground drain piping

- It is standard work practice to make connections to the main pipe from above. The pipe down from the combination should be as large as possible.
- The pipe work should be kept as short as possible and the number of indoor units per group kept to a minimum.
- Face the vent pipe opening facing downward to keep foreign matter from penetrating the system.



SINGLE

Heat pump

Ceiling Suspended Unit

- 1.List of Functions**
- 2.Specifications**
- 3.Dimensions**
- 4.Piping Diagrams**
- 5.Wiring Diagrams**
- 6.Air flow and temperature distribution**
- 7.Sound Levels**
- 8.Installation**

1. List of functions

◆ List of function

Category	Functions	ZVNW18GM1H1 [UV18FH N10] ZVNW24GM2H1 [UV24FH N20] ZVNW30GM2H1 [UV30FH N20] ZVNW36GM2H1 [UV36FH N20] ZVNW42GM2H1 [UV42FH N20]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	Auto
	Auto swing (left & right)	X
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	4 / 5 / 5
	Chaos wind(auto wind)	X
	Jet cool/heat	O / O
	Swirl wind	X
Air purification	Triple filter (Deodorization)	X
	Air purifier (Plasma)	X
	Air purifier (Ionizer)	X
	Allergy Safe filter	X
	Pre-Filter (washable / anti-fungus)	O
Installation	Drain pump	O
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	X
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	O
	Auto cleaning	O
	Auto operation(artificial intelligence)	X
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
	Auto Elevation Grille	X
Special Functions	Wi-Fi	O (Accessory)
	Comfort Cooling (Humidity Control)	O
Wireless Remote Controller		O**
Wired Remote Controller		O (Accessory)
Network Solution(LGAP)		O

Note

1. O : Applied, X : Not applied, Embedded : Included with product.

Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.

Accessory line-ups varies by region, so check your local catalogue or local sales material.

2. Some functions can be limited by remote controller.

3. Selecting a wireless remote controller in case of ducted type indoor units requires either a connection to the wired remote controller (Standard II) or an IR receiver accessory to be connected to the duct in order to receive the signal.

4. * : These functions need to connect to the wired remote controller.

5. ** : It is included by default when the product is manufactured.

6. *** : This functions need to connect to the Standard III wired remote controller.

1. List of functions

◆ Accessory Compatibility List

Category		Product	Remark	ZVNW18GM1H1 [UV18FH N10] ZVNW24GM2H1 [UV24FH N20] ZVNW30GM2H1 [UV30FH N20] ZVNW36GM2H1 [UV36FH N20] ZVNW42GM2H1 [UV42FH N20]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	O
		PWLSSB21H	Heat Pump	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	X
		PQRCHCA0Q(W)	for Hotel	X
	Standard	PREMTB001	Standard II (White)	O
		PREMTBB01	Standard II (Black)	O
		PREMTB100	Standard III (White)	O
		PREMTBB10	Standard III (Black)	O
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	For 3rd Party Thermostat	O
		PDRYCB320	For 3rd Party Thermostat (Analog Input)	O
		PDRYCB500	For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Without case	X
		PSNFP14A0	With case	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	X
	CO ₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	O
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O
	Human detecting sensor	PTVSMA0	-	X
	Drain Pump	ABDPG	-	X

Note

1. O: Possible, X: Impossible, - : Not applicable, Embedded : Included with product.
2. * : Some advanced functions controlled by individual controller cannot be operated.
3. ** : It could not be operated some functions.
4. *** : Selecting a wireless remote controller in case of ducted type indoor units requires either a connection to the wired remote controller (Standard II) or an IR receiver accessory to be connected to the duct in order to receive the signal.
5. If you need more detail, please refer to the **BECON** PDB or the manual of product. (<http://partner.lge.com/global> : Home> Doc.Library> Product > Control(BECON))

2. Specifications

Model Name			Unit	ZVNW18GM1H1 [UV18FH N10]
Power Supply			V , Ø , Hz	220-240 , 1 , 50
				220 , 1 , 60
Capacity(Nominal)	Cooling		kW	5.0
	Heating		kW	5.8
Power Input		H / M / L	W	17 / 15 / 13
Running Current		H / M / L	A	0.55 / 0.54 / 0.53
		Max.	A	1.00
Exterior	Color (RAL Code)		-	Morning Fog (9001)
Dimensions		W x H x D	mm	1,200 x 235 x 690
Weight	Net		kg	27.3
	Shipping		kg	34.0
Heat Exchanger	Rows x Columns x FPI			2 x 18 x 18
	Face Area		m²	0.31
Fan Type				Cross Flow Fan
Air Flow Rate		H / M / L	m³/min	13 / 12 / 11
Fan Motor	Type			BLDC
	Drive			Internal
	Output		W x No.	85.9 x 1
Safety Device			-	Fuse
			-	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)
	Gas Side		mm (inch)	Ø 12.7 (1/2)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 26
Sound Pressure Level	Cooling	H / M / L	dB(A)	42 / 40 / 39
	Heating	H / M / L	dB(A)	42 / 40 / 39
Sound Power Level	Cooling	Rated	dB(A)	55
	Heating	Rated	dB(A)	-
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741).
4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity.
 - Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
 - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
 - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

2. Specifications

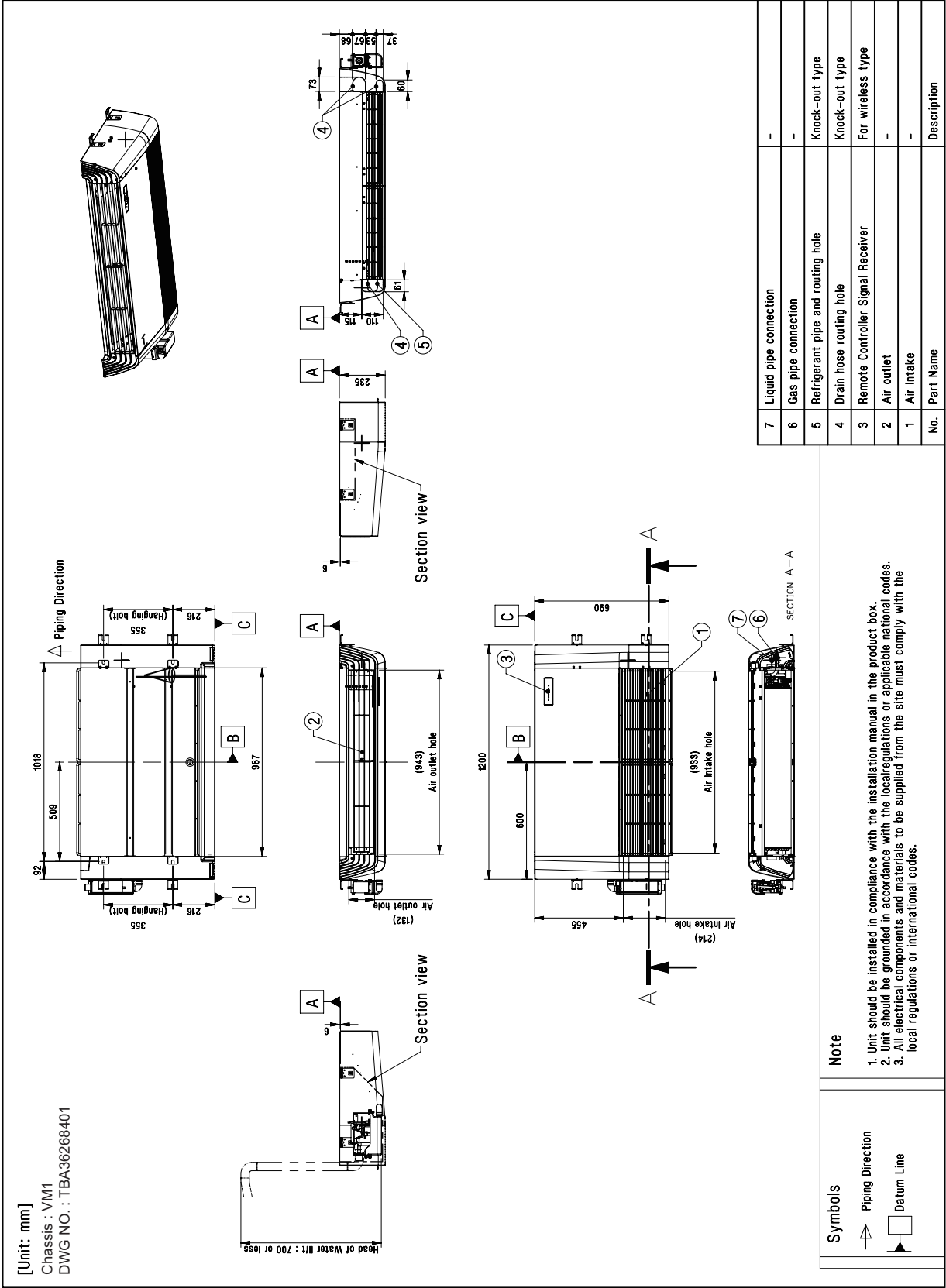
Model Name			Unit	ZVNW24GM2H1 [UV24FH N20]	ZVNW30GM2H1 [UV30FH N20]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Capacity(Nominal)	Cooling		kW	6.8	8.0
	Heating		kW	7.5	8.9
Power Input		H / M / L	W	35 / 32 / 27	35 / 32 / 27
Running Current		H / M / L	A	0.54 / 0.52 / 0.49	0.54 / 0.52 / 0.49
		Max.	A	0.97	0.97
Exterior	Color (RAL Code)		-	Morning Fog (9001)	Morning Fog (9001)
Dimensions		W x H x D	mm	1,600 x 235 x 690	1,600 x 235 x 690
Weight	Net		kg	37.4	37.4
	Shipping		kg	43.5	43.5
Heat Exchanger	Rows x Columns x FPI			3 x 18 x 18	3 x 18 x 18
	Face Area		m²	0.46	0.46
Fan Type				Cross Flow Fan	Cross Flow Fan
Air Flow Rate		H / M / L	m³/min	23 / 21 / 19	23 / 21 / 19
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	125 x 1	125 x 1
Safety Device			-	Fuse	Fuse
			-	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 26	Ø 32 / 26
Sound Pressure Level	Cooling	H / M / L	dB(A)	43 / 42 / 40	43 / 42 / 40
	Heating	H / M / L	dB(A)	43 / 42 / 40	43 / 42 / 40
Sound Power Level	Cooling	Rated	dB(A)	60	60
	Heating	Rated	dB(A)	-	-
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
Note					
1. Due to our policy of innovation some specifications may be changed without notification.					
2. Wiring cable size must comply with the applicable local and national code. And “Electric characteristics” chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.					
3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741)).					
4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity.					
• Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB					
• Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB					
• Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.					

2. Specifications

Model Name			Unit	ZVNW36GM2H1 [UV36FH N20]	ZVNW42GM2H1 [UV42FH N20]
Power Supply			V , Ø , Hz	220-240 , 1 , 50	220-240 , 1 , 50
				220 , 1 , 60	220 , 1 , 60
Capacity(Nominal)	Cooling		kW	9.5	12.1
	Heating		kW	10.8	13.5
Power Input		H / M / L	W	59 / 40 / 28	59 / 40 / 28
Running Current		H / M / L	A	0.62 / 0.56 / 0.50	0.62 / 0.56 / 0.50
		Max.	A	0.97	0.97
Exterior	Color (RAL Code)		-	Morning Fog (9001)	Morning Fog (9001)
Dimensions		W x H x D	mm	1,600 x 235 x 690	1,600 x 235 x 690
Weight	Net		kg	37.4	37.4
	Shipping		kg	43.5	43.5
Heat Exchanger	Rows x Columns x FPI			3 x 18 x 18	3 x 18 x 18
	Face Area		m²	0.46	0.46
Fan Type				Cross Flow Fan	Cross Flow Fan
Air Flow Rate		H / M / L	m³/min	30 / 25 / 20	30 / 25 / 20
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W x No.	125 x 1	125 x 1
Safety Device			-	Fuse	Fuse
			-	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 26	Ø 32 / 26
Sound Pressure Level	Cooling	H / M / L	dB(A)	48 / 44 / 40	48 / 44 / 40
	Heating	H / M / L	dB(A)	48 / 44 / 40	48 / 44 / 40
Sound Power Level	Cooling	Rated	dB(A)	62	62
	Heating	Rated	dB(A)	-	66
Power and Communication Cable (included Earth)			No. x mm²	4C x 0.75	4C x 0.75
Note 1. Due to our policy of innovation some specifications may be changed without notification. 2. Wiring cable size must comply with the applicable local and national code. And “Electric characteristics” chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that. 3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation(Sound Pressure : LG Internal standard, Sound Power : EN 12102 (ISO 3741). 4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity. • Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB • Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB • Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.					

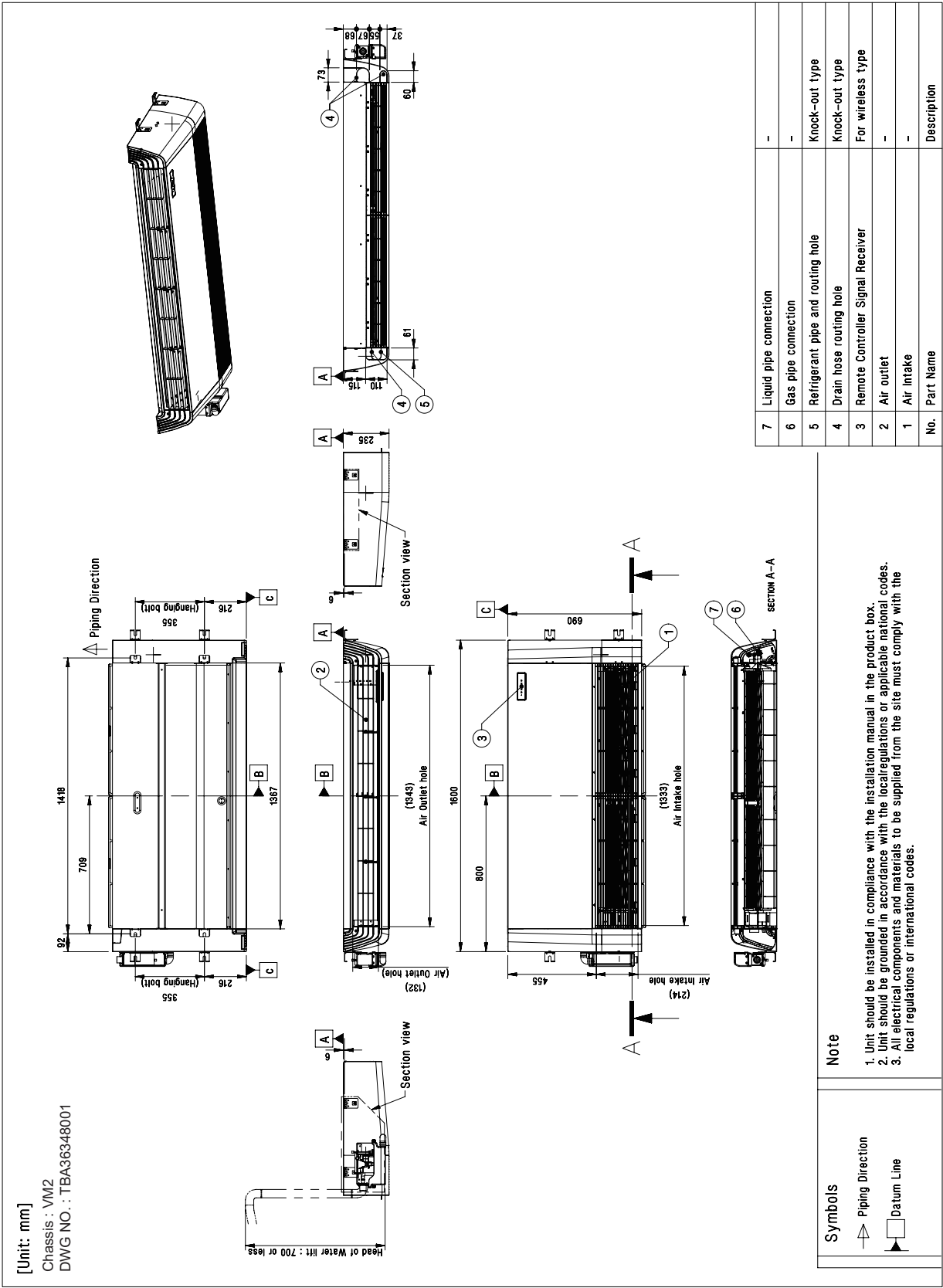
3. Dimensions

ZVNW18GM1H1 [UV18FH N10]



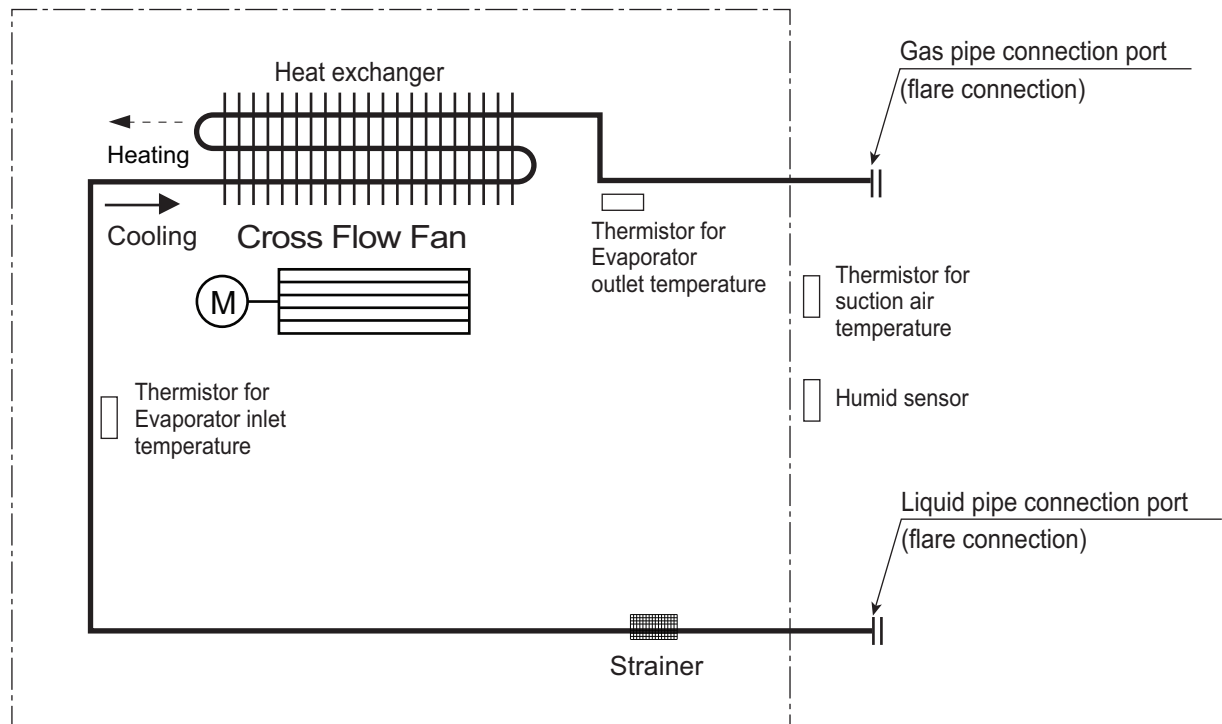
3. Dimensions

■ ZVNW24GM2H1 [UV24FH N20] / ZVNW30GM2H1 [UV30FH N20]
ZVNW36GM2H1 [UV36FHN20] / ZVNW42GM2H1 [UV42FH N20]



4. Piping Diagrams

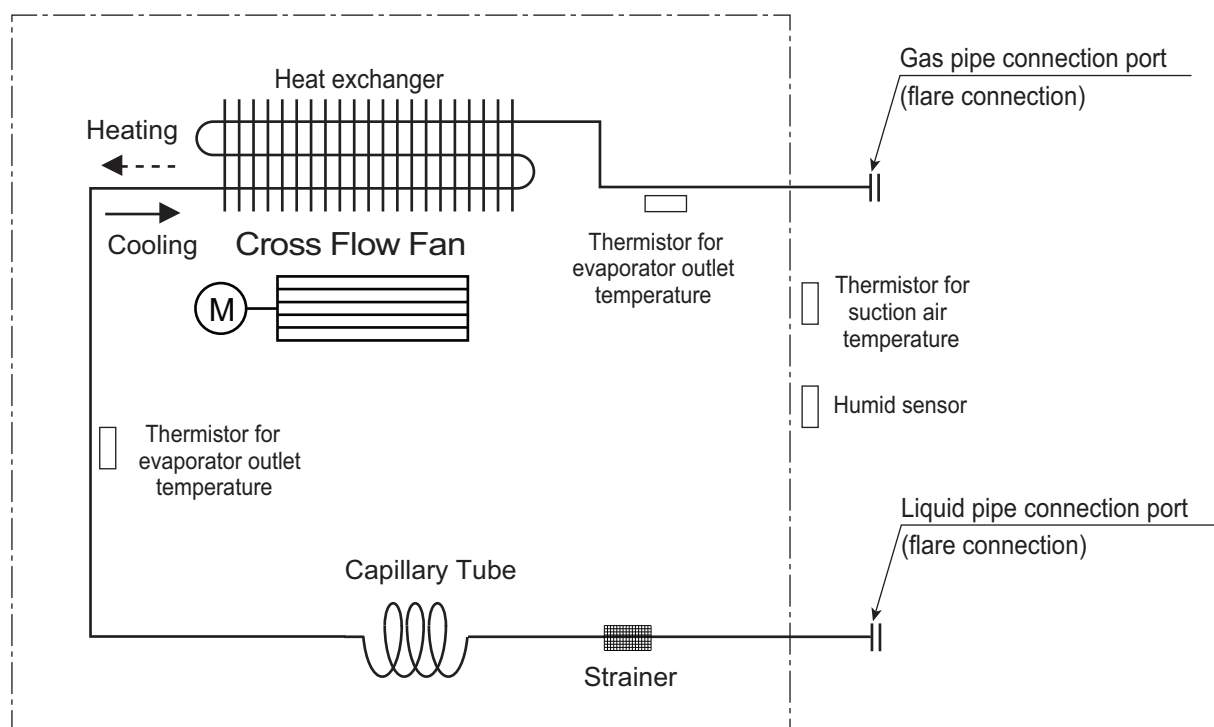
■ ZVNW18GM1H1 [UV18FH N10]



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
Humid sensor	CN_HUMID

4. Piping Diagrams

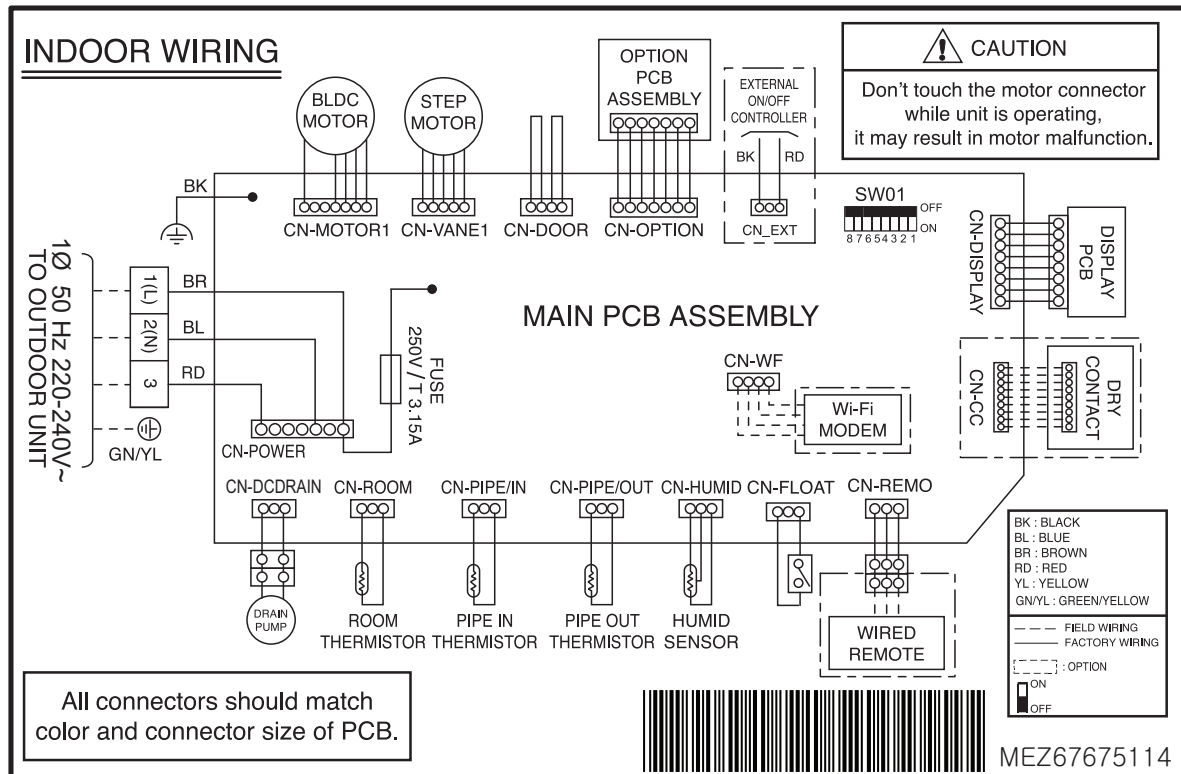
- ZVNW24GM2H1 [UV24FH N20] / ZVNW30GM2H1 [UV30FH N20]
ZVNW36GM2H1 [UV36FH N20] / ZVNW42GM2H1 [UV42FH N20]



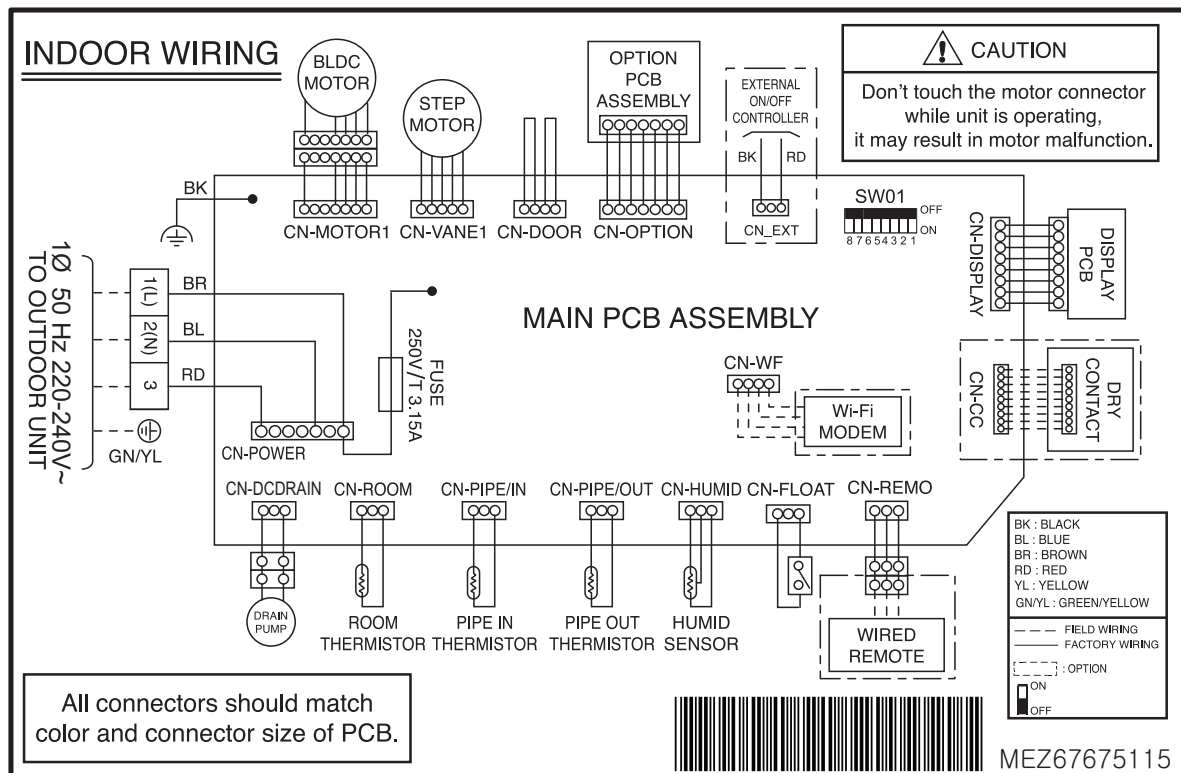
Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE / IN
Thermistor for evaporator outlet temperature	CN-PIPE / OUT
Humid sensor	CN_HUMID

5. Wiring Diagrams

◆ ZVNW18GM1H1 [UV18FH N10]



◆ ZVNW24GM2H1 [UV24FH N20] / ZVNW30GM2H1 [UV30FH N20] ZVNW36GM2H1 [UV36FH N20] / ZVNW42GM2H1 [UV42FH N20]

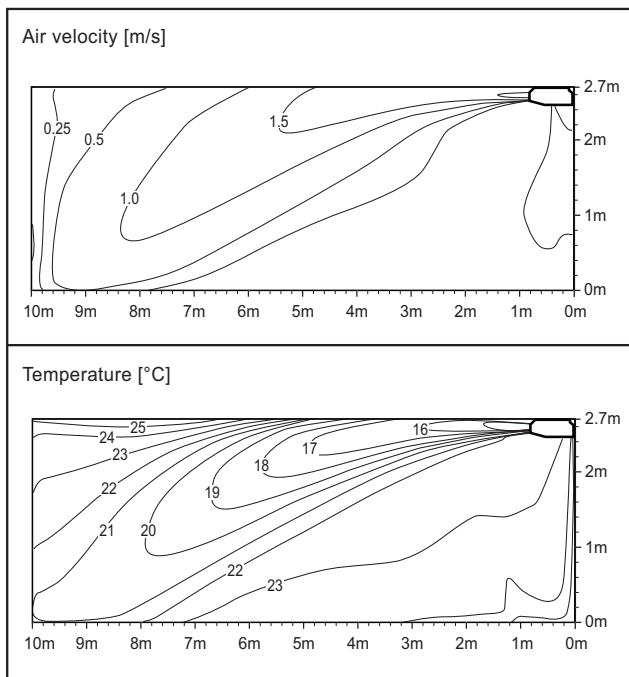


6. Air flow and temperature distributions (reference data)

■ ZVNW18GM1H1 [UV18FH N10]

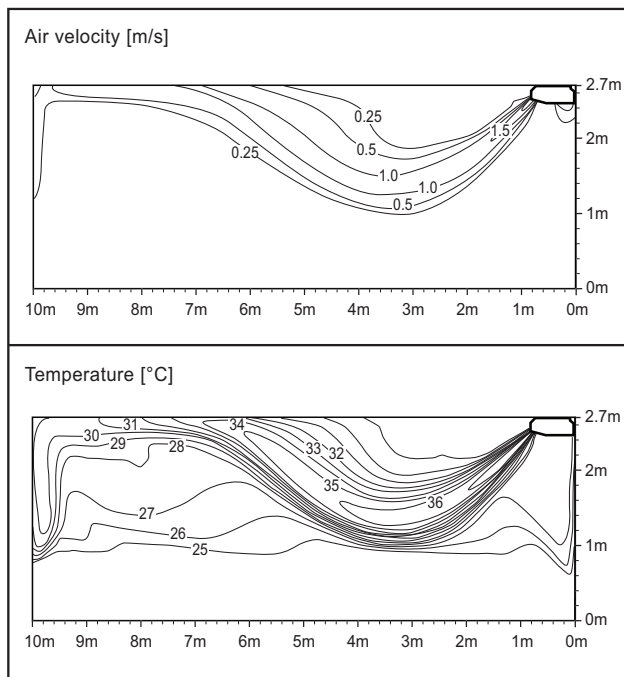
Cooling

Discharge angle: 0°



Heating

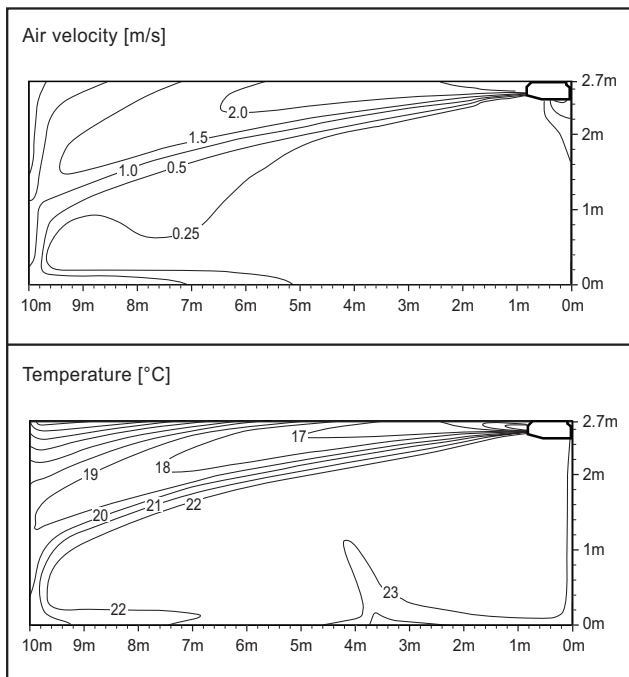
Discharge angle: 40°



■ ZVNW24GM2H1 [UV24FH N20]

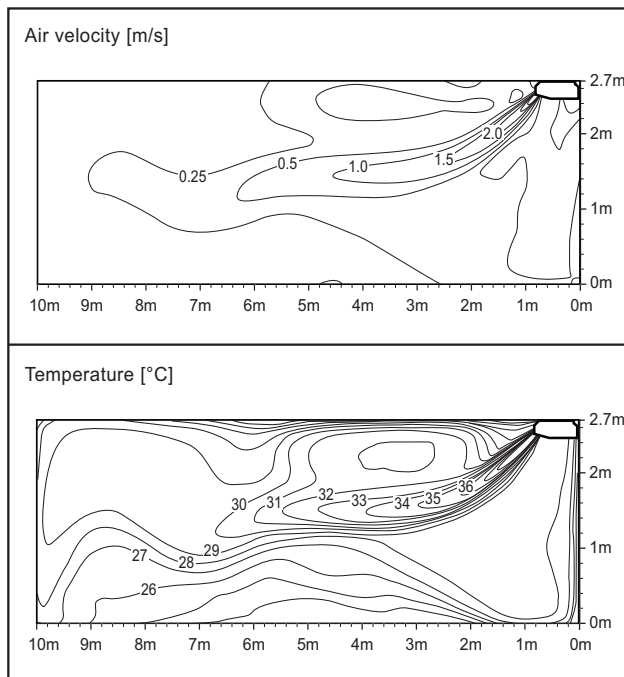
Cooling

Discharge angle: 0°



Heating

Discharge angle: 40°



Note

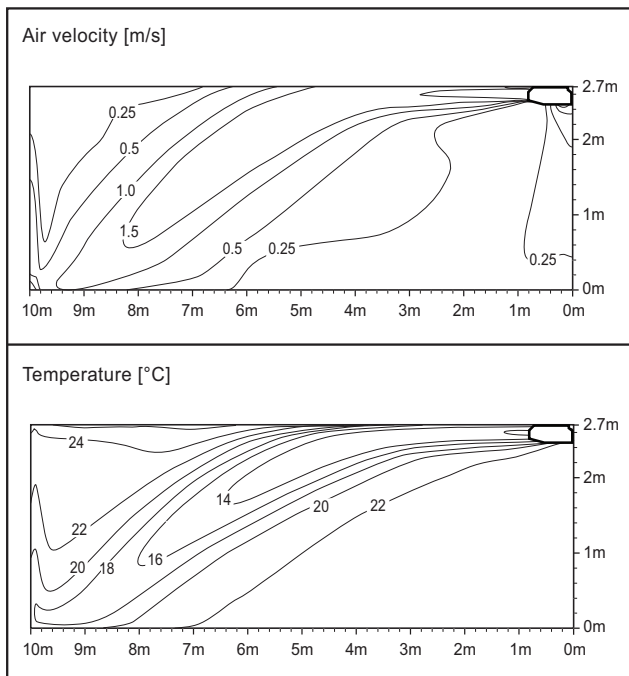
- These figures are accordance with normal certain condition and environment.
(Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

6. Air flow and temperature distributions (reference data)

■ ZVNW30GM2H1 [UV30FH N20]

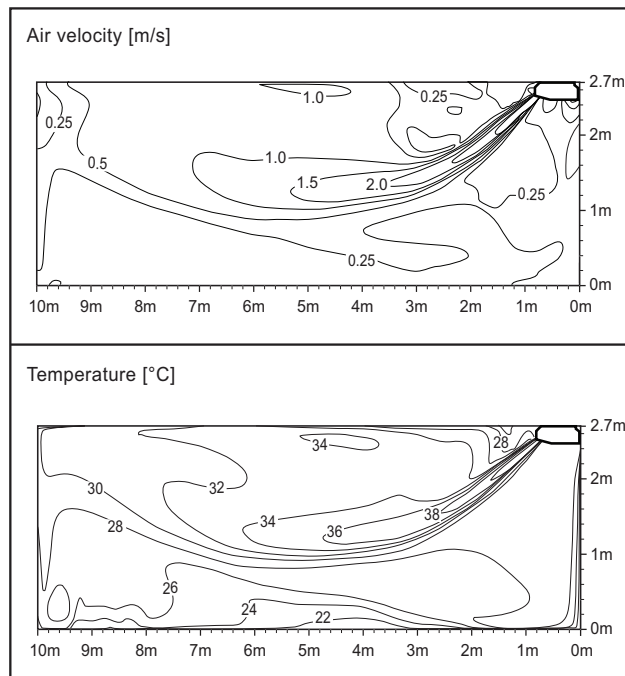
Cooling

Discharge angle: 0°



Heating

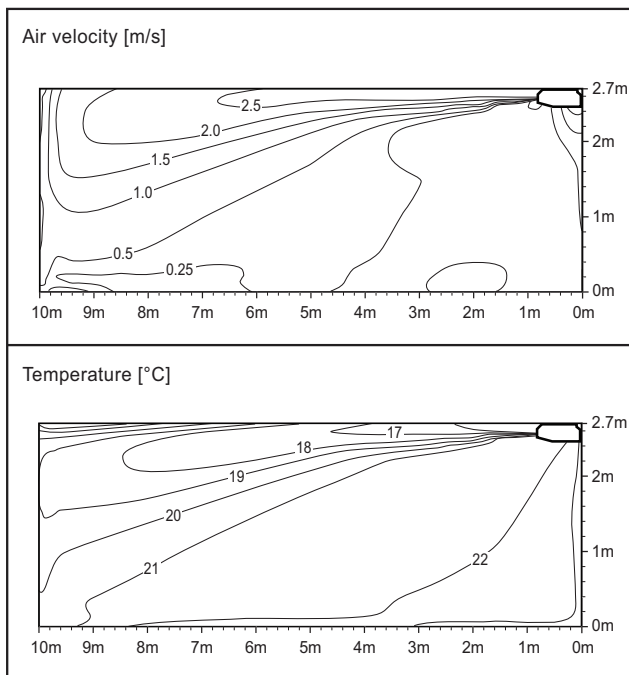
Discharge angle: 40°



■ ZVNW36GM2H1 [UV36FH N20]

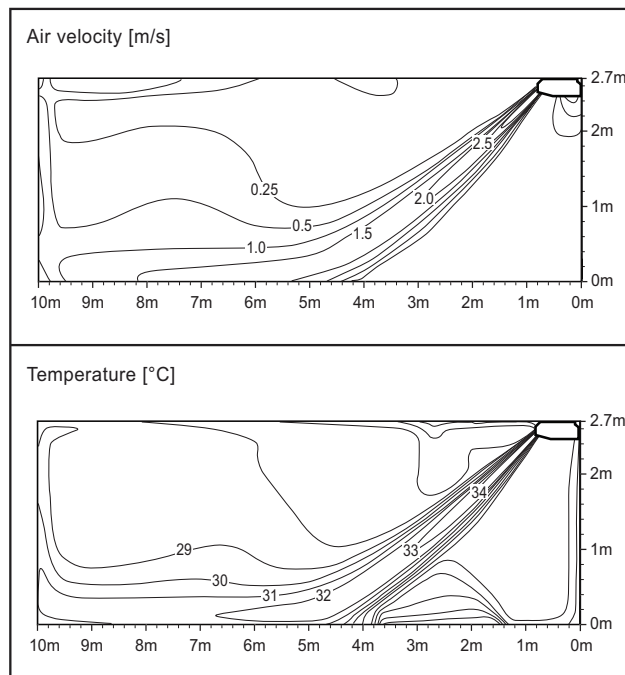
Cooling

Discharge angle: 0°



Heating

Discharge angle: 40°



Note

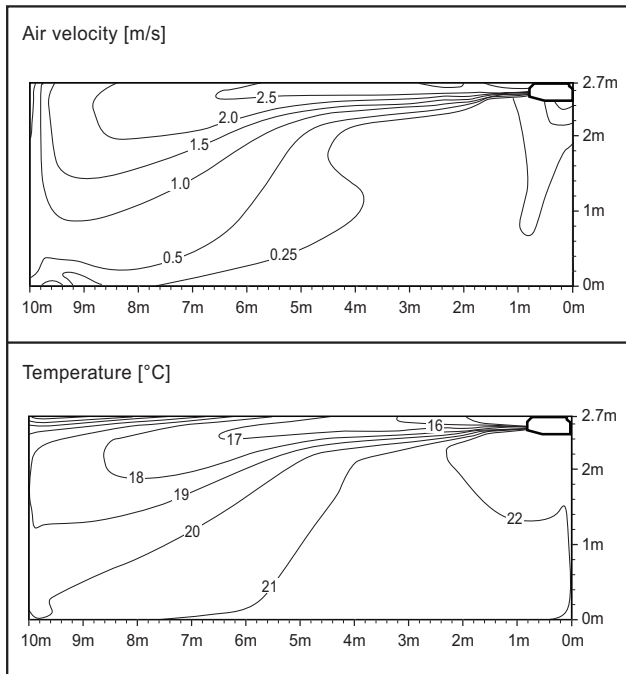
- These figures are accordance with normal certain condition and environment.
(Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

6. Air flow and temperature distributions (reference data)

■ ZVNW42GM2H1 [UV42FH N20]

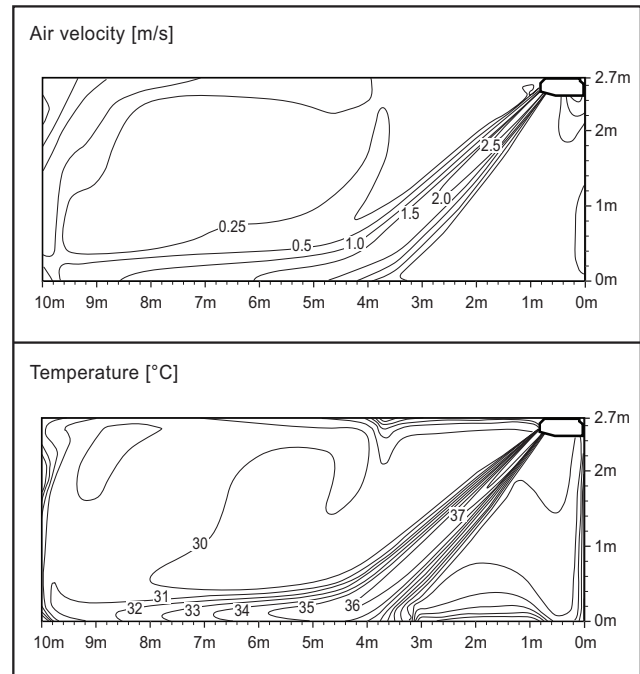
Cooling

Discharge angle: 0°



Heating

Discharge angle: 40°



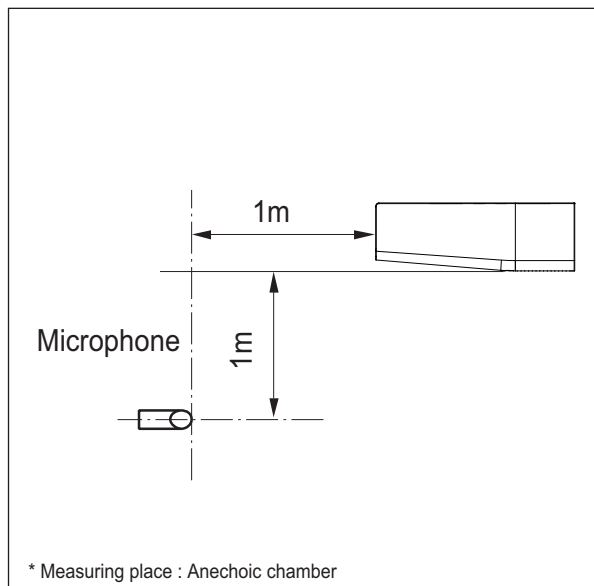
Note

- These figures are accordance with normal certain condition and environment.
(Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

7. Sound Levels

7.1 Sound Pressure Level

Overall

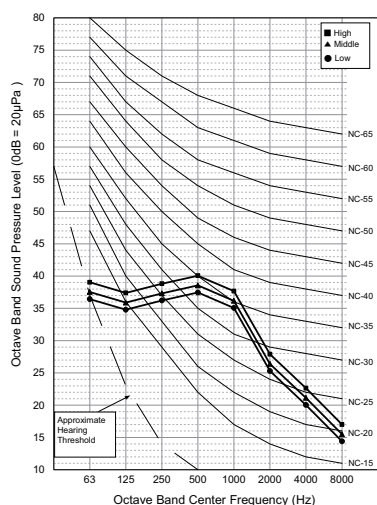


Note

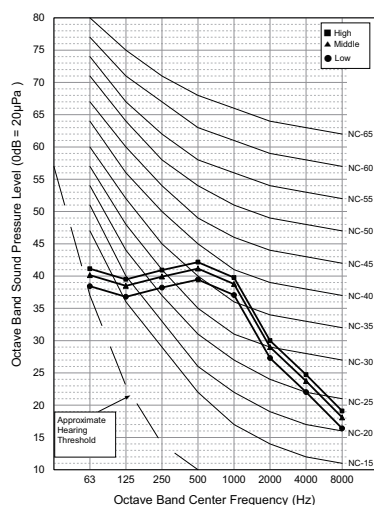
1. Sound measured at some distance away from the center of the unit.
2. Data is valid at free field condition.
3. Reference acoustic pressure 0dB = 20μPa.
4. Data is valid at nominal operation condition.
Refer to the Model Specifications for nominal conditions (Power source and Ambient temperature, etc)
5. Sound levels can be increased in accordance with installation and operating conditions. (Static pressure mode, used air guide, Room target temperature setting, etc)
6. 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.
7. Sound pressure level is measured on the rated condition in the anechoic rooms. (LG Internal Standard)
Therefore, these values can be increased owing to ambient conditions during operation.

Model	50Hz, 220-240V		
	Sound Pressure Levels [dB(A)]		
	H	M	L
ZVNW18GM1H1 [UV18FH N10]	42	40	39
ZVNW24GM2H1 [UV24FH N20] ZVNW30GM2H1 [UV30FH N20]	43	42	40
ZVNW36GM2H1 [UV36FH N20] ZVNW42GM2H1 [UV42FH N20]	48	44	40

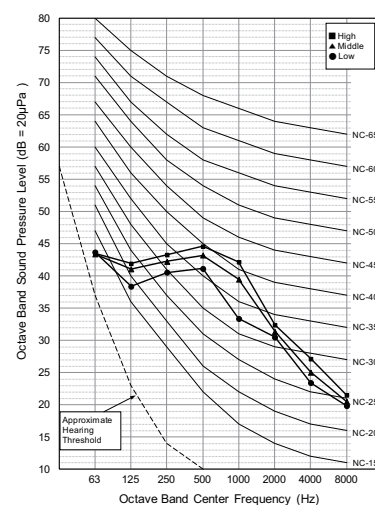
ZVNW18GM1H1 [UV18FH N10]



ZVNW24GM2H1 [UV24FH N20]
ZVNW30GM2H1 [UV30FH N20]



ZVNW36GM2H1 [UV36FH N20]
ZVNW42GM2H1 [UV42FH N20]



7. Sound Levels

7.2 Sound Power Level

Note

1. Operating condition

- Power source : 220-240V 50 Hz / 220V 60 Hz
- 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 to the specifications.

2. Data is valid at diffuse field condition.

3. Data is valid at nominal operating condition

4. Sound level can be increased in static pressure mode or used air guide.

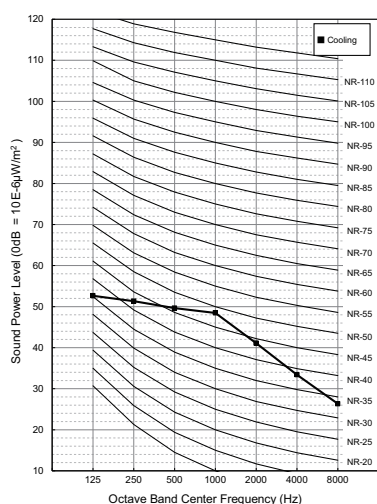
5. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient).

6. Reference acoustic intensity 0dB = 10E-6μW/m²

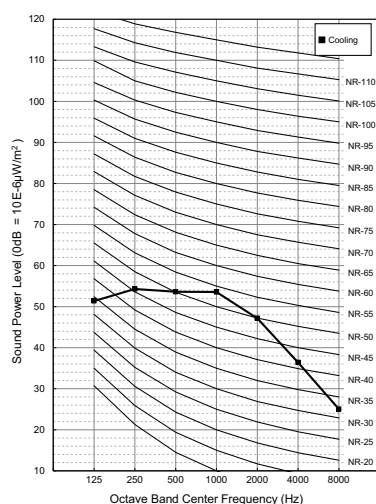
7. Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard. Therefore, these values can be increased owing to ambient conditions during operation.

Model	Sound Power Level [dB(A)]
	Cooling
ZVNW18GM1H1 [UV18FH N10]	55
ZVNW24GM2H1 [UV24FH N20] ZVNW30GM2H1 [UV30FH N20]	60
ZVNW36GM2H1 [UV36FH N20] ZVNW42GM2H1 [UV42FH N20]	62

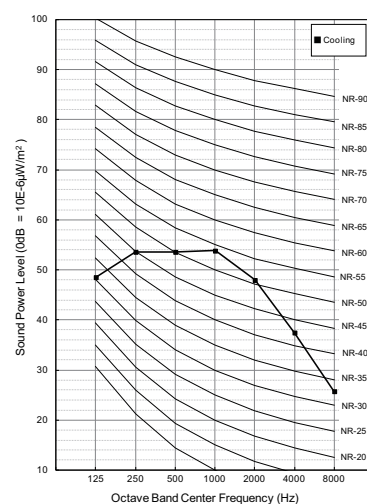
ZVNW18GM1H1 [UV18FH N10]



ZVNW24GM2H1 [UV24FH N20]
ZVNW30GM2H1 [UV30FH N20]



ZVNW36GM2H1 [UV36FH N20]
ZVNW42GM2H1 [UV42FH N20]

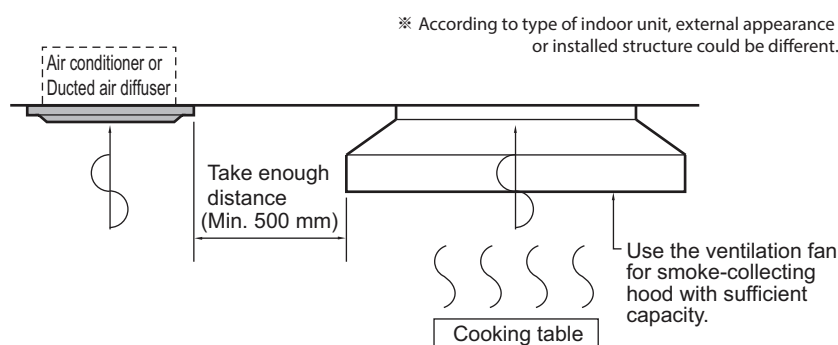


8. Installation

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

8.1 Selection of the best location

- The place where room air circulation is good.
- Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- The place where the unit is leveled.
- The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- The place where the unit is not affected by an electrical noise.
- The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
 1. Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated. These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function. In these cases, take the following actions;
 - Make sure that ventilation fan is enough to cover all noxious gases from this place.
 - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.

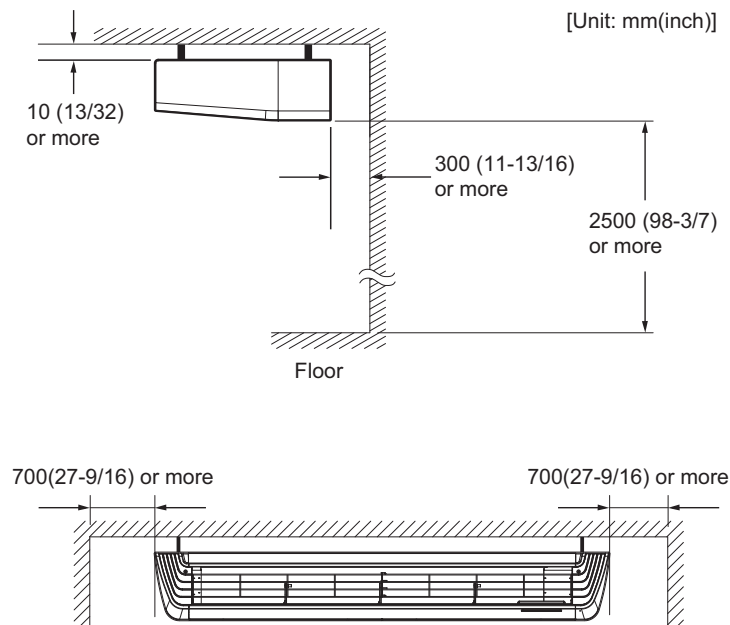


2. Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
3. Avoid places where inflammable gas is generated.
4. Avoid place where noxious gas is generated.
5. Avoid places near high frequency generators.

8. Installation

⚠ CAUTION

- If the temperature rise above 30°C or the humidity rise above RH 80%, the dew-protective kit should be equipped or use additional insulation to the indoor unit body.
 - "Dew Protective kit" is sold separately.
 - Use the glass wool material or polyethylene foam and it make sure to be thick of 10mm at least.



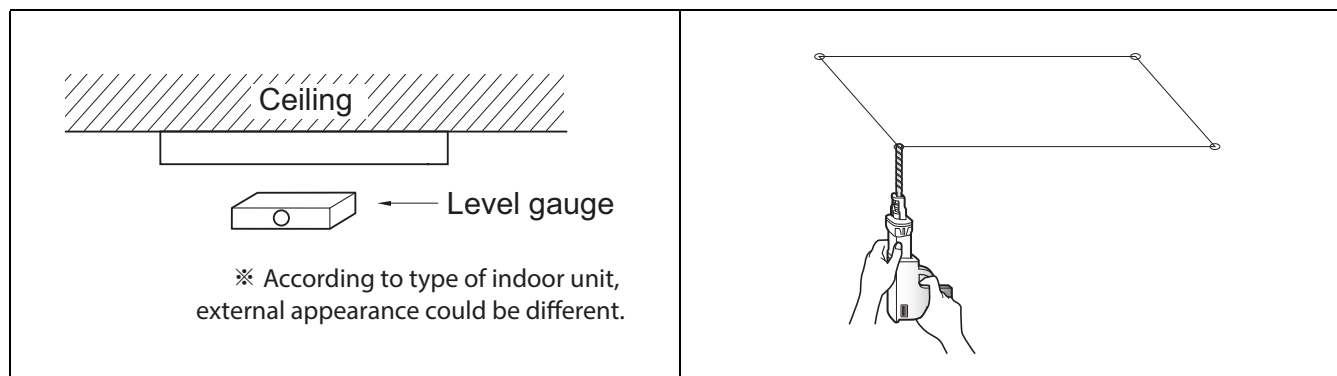
8. Installation

8.2 Installation of indoor units

8.2.1 Ceiling dimension and hanging bolt location

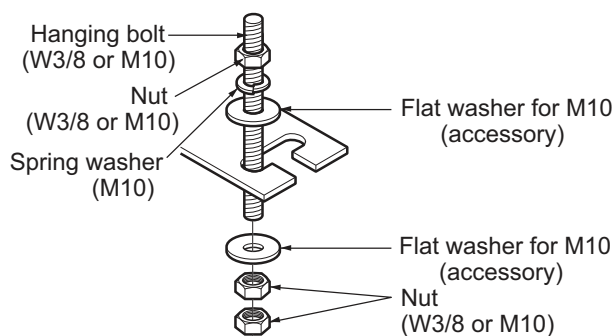
⚠ CAUTION

- During the installation, care should be taken not to damage electric wires.
- In case of using a drain pump, install the unit horizontally using a level gauge.



1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
2. Select and mark the position for fixing bolts and piping hole.
3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
4. Drill the hole for anchor bolt on the wall or ceiling.
 - 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.
5. In case of ducted type unit, apply a joint-canvas between the unit and duct to absorb unnecessary vibration.

8. Installation

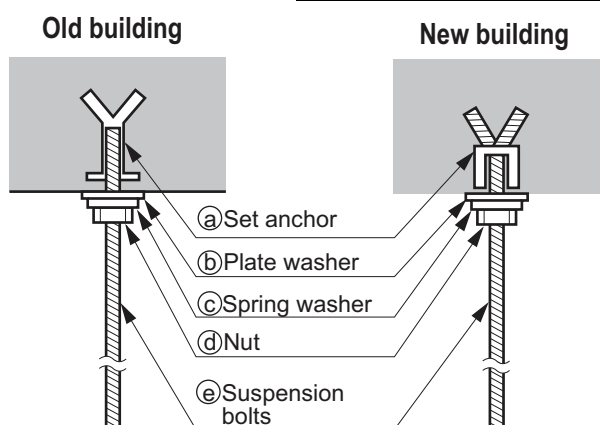


• The following parts are local purchasing.

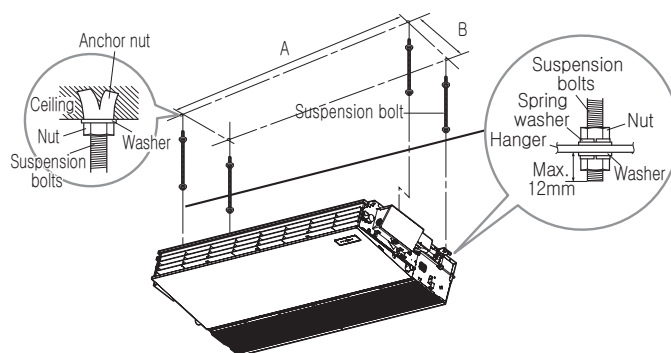
1. Hanging bolt - W 3/8 or M10
2. Nut - W 3/8 or M10
3. Spring washer - M10
4. Plate washer - M10

⚠ CAUTION

- Tighten the nut and bolt to prevent the unit from falling.
- When mechanical connectors are reused indoors, sealing parts shall be renewed. (for R32)
- When flared joints are reused indoors, the flare part shall be re-fabricated. (for R32)



◆ Hanging bolts dimensions



Chassis	Bolt lactions [Unit: mm]	
	A	B
VM1	1,018	355
VM2	1,418	355

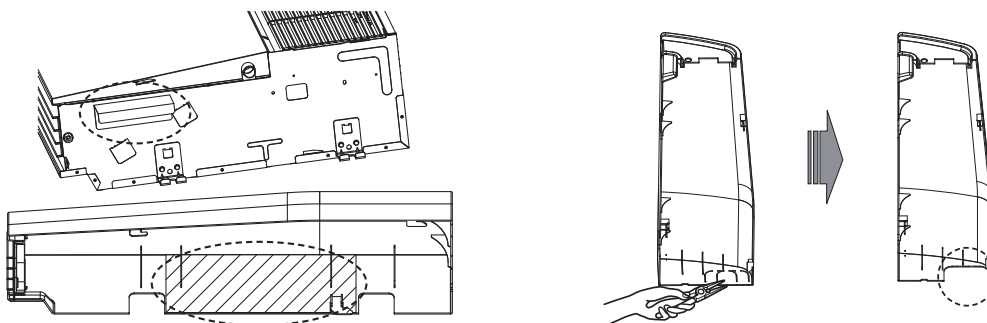
8.2.2 Preparing work for Installation

■ Open side cover

- 1) Remove two screws from Left and Right side-cover.
- 2) Unlock side-cover from side panel by slightly pulling the edge of side cover.
Tap the side-cover with your palm on the backside.
- 3) Remove bracket from side-panel and paper bracket from side-cover.

8. Installation

- 4) Knock out the pipe hole from the left side cover with nipper/plier.



- 5) Remove the rubber stopple in the desired drain direction.

Notice

For more details, refer to the product or panel installation manual.

Important

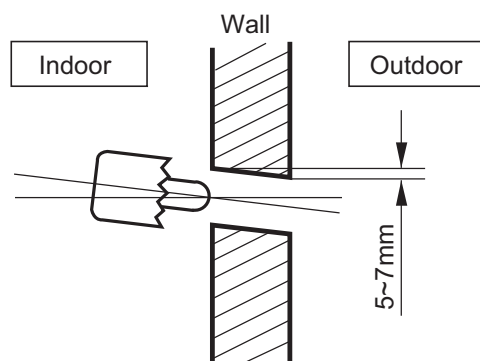
- It is recommended to select the left side for drain to have common hole in the side-cover along with pipe and wiring.
- Knock hole on right side-cover only if right side is selected for water drain.

CAUTION

- Hold the side-cover with other hand while tapping to prevent it to fall down.

■ Drill a hole in the wall

- Drill the piping hole with a $\varnothing 70\text{mm}$ hole core drill.
- Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.



8.2.3 Indoor unit installation

Hang the Indoor unit on suspension bolt as per following guidelines:

- 1) Lift the indoor unit to sufficient height.
- 2) Insert the suspended part of four suspension bolt in the four hangers provided on the side of main body one by one.
- 3) Lower the indoor unit till the hangers rest on their respective flat washer.
- 4) Adjust the level in the top down direction by adjusting the suspension bolts. Inclined the indoor unit as per direction provided in the figures.

8. Installation

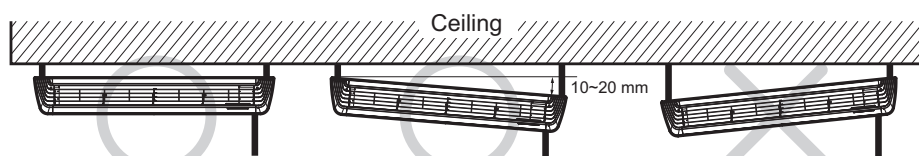
■ Installation Information For Declination

⚠ CAUTION

- Installation with declination of the indoor unit is very important for the drain of air conditioner.
- Minimum thickness of the insulation for the connecting pipe shall be 10mm.
- If the Installation Plates are fixed to horizontal line, the indoor unit after installing will be declined to the bottomside.

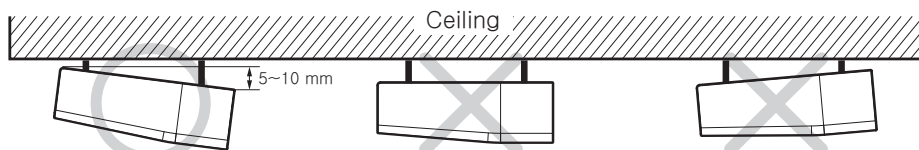
[Front of view]

- The unit must be horizontal or inclined at angle.
- The inclination should be less than or equal to 1° or in between 10 to 20mm inclined in drain direction as shown in fig.



[Side of view]

- The unit must be declined to the bottomside of the unit when finished installation.

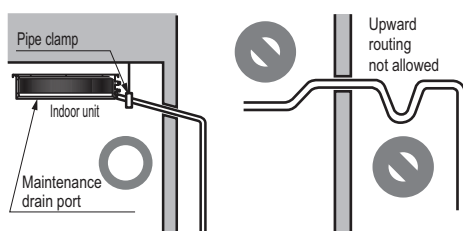


8. Installation

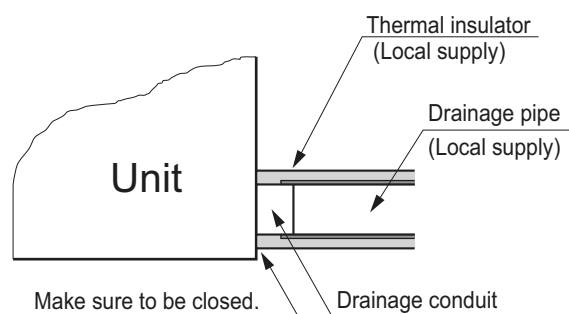
8.3 Indoor Unit Drain Piping

8.3.1 Drain piping of indoor unit

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit and drain piping fittings should be referenced from 'Specifications' of each models.
 - Piping material: Use the Polyvinyl chloride pipe.
- Be sure to install heat insulation on the drain piping.
 - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



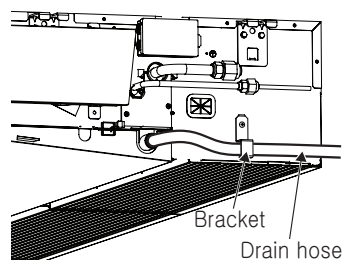
※ U-trap is not required for low static model in which the external static pressure is below 50 pa(5mm Aq)



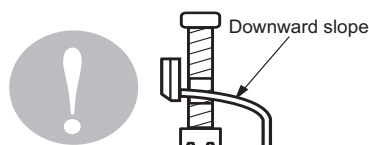
8. Installation

Important

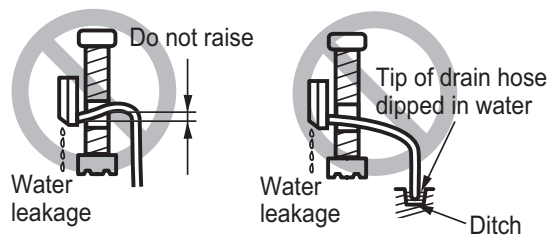
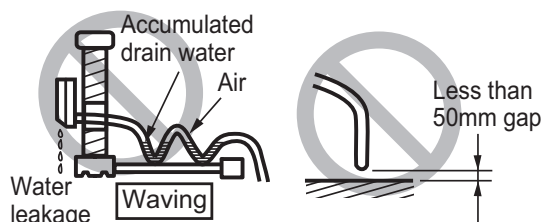
- Hook on the bracket after connecting the drain hose as shown figure.



- The drain hose should point downward for easy drain flow.



- Do not make drain piping like the following.
- Be sure to execute heat insulation on the drain piping.



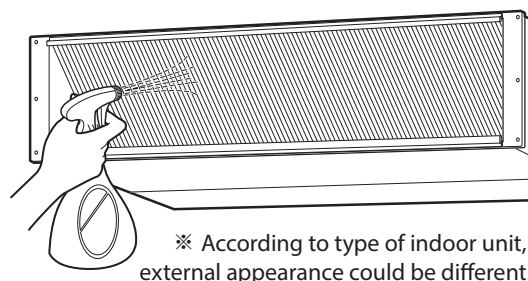
* The feature can be changed according to type of model.

8.3.2 Drain test

◆ Drainage test of indoor unit

Use the following procedure to test the drainage.

1. In case that there are air filter, remove the air filter first.
2. Spray one or two glasses of water on the evaporator.
3. Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



8. Installation

8.4 Connecting Cables between Indoor Unit and Outdoor Unit

8.4.1 General instructions

- All field supplied parts and materials, electric works must conform to local codes. Use copper wire only.
- Follow the **"WIRING DIAGRAM"** attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- All wiring must be performed by an authorized electrician.
- A circuit breaker capable of shutting down the power supply to the entire system must be installed.

CAUTION

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

- Never fail to have separate power specially for the air conditioner.
- Provide a circuit breaker switch between power source and the unit.
- Confirm the Specification of power source.
- Confirm that electrical capacity is sufficient.
- Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
- Confirm that the cable thickness is as specified in the power sources specification.
(Particularly note the relation between cable length and thickness.)
- Do not install the leakage breaker in a place which is wet or moist.
Water or moist may cause short circuit.
- The following troubles would be caused by voltage drop-down.
 - » Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
 - » Proper starting power is not given to the compressor.

8.4.2 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.
- In case of the system with multiple indoor units, mark each indoor unit as unit A, unit B, etc and be sure the terminal board wiring to the outdoor unit and indoor units are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.

8.4.3 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 connecting of communication (transmission) cable, put the cable(or thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel. In case that communication (transmission) cable is not needed to connect, fix the other side of the clamp with a screw strongly.

8. Installation

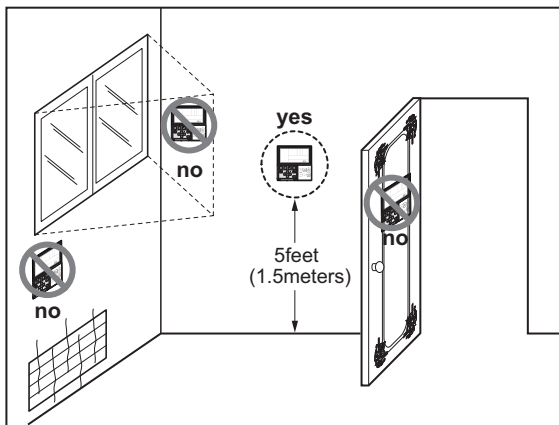
! WARNING

- Make sure that the screws of the terminal are fixed tightly.
- The screw 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.)
- 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 wiring through holes to prevent damage to them.
- 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.

8.4.4 Wired Remote Controller Installation (Accessory)

Since the room temperature sensor is in the remote controller, the remote controller box should be installed in a place away from direct sunlight, high humidity and direct supply of cold air to maintain proper space temperature.

Install the remote controller about 5ft(1.5m) above the floor in an area with good air circulation at an average temperature.



• Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

ACCESSORY

Accessory

1.Air Purification Kit

2.Filter Box Kit

ACCESSORY

Air Purification Kit

1.Specification

1. Specification

Specification		Unit	1way Cassette	
			TU	TT
Air Purification Kit Model		-	PTAHTP0	
Air Purification Panel		-	PT-UPHG0	PT-TPHG0
PM1.0 Sensor	Size (W x H x D)	mm	59 x 45 x 22	
	Supply Voltage	V	5	
	Measure	-	PM1.0 / PM2.5 / PM10	
HVPS	Size (W x H x D)	mm	99 X 50 X 30	
	Input	-	DC 12V	
	Output (Electrification / Dust Collection)	-	-7.7kV / -5.2kV	
PM1.0 Filter	Size (W x H x D)	mm	524 x 18 x 141	
	Weight	g	430	
Deodorization filter	Material	-	Pulp + Carbon (Corrugate)	
	Size (W x H x D)	mm	301 x 11 x 100	
	Weight	g	40	
Ionizer	Size (W x H x D)	mm	71 x 19 x 30	
	Input	-	DC 12V	
	Output	-	-3.2kV	
	Amount of Ion emission	EA/cc	3,000,000	

Specification		Unit	4way Cassette	
			TP-B / TM-A	
Air Purification Kit Model		-	PTAHMP0	
Air Purification Panel		-	PT-AFGW0 (Dual Vane)	
PM1.0 Sensor	Size (W x H x D)	mm	59 x 45 x 22	
	Supply Voltage	V	5	
	Measure	-	PM1.0 / PM2.5 / PM10	
HVPS	Size (W x H x D)	mm	99 X 50 X 30	
	Input	-	DC 12V	
	Output (Electrification / Dust Collection)	-	-7.7kV / -5.2kV	
PM1.0 Filter	Size (W x H x D)	mm	500 x 38 x 395	
	Weight	g	2,090	
Deodorization filter	Material	-	Pulp + Carbon (Corrugate)	
	Size (W x H x D)	mm	478 x 14 x 138	
	Weight	g	180	
Ionizer	Size (W x H x D)	mm	71 x 19 x 30	
	Input	-	DC 12V	
	Output	-	-3.2kV	
	Amount of Ion emission	EA/cc	3,000,000	

1. Specification

Specification		Unit	Round Cassette
			TY
Air Purification Kit Model		-	PTAHYP0
Air Purification Panel		-	-
PM1.0 Sensor	Size (W x H x D)	mm	59 x 45 x 16.6
	Supply Voltage	V	5
	Measure	-	PM1.0 / PM2.5 / PM10
HVPS	Size (W x H x D)	mm	99 X 50 X 30
	Input	-	DC 12V
	Output (Electrification / Dust Collection)	-	-7.7kV / -5.2kV
PM1.0 Filter	Size (W x H x D)	mm	500 x 38 x 395
	Weight	g	2,090
Deodorization filter	Material	-	Pulp + Carbon (Corrugate)
	Size (W x H x D)	mm	478 x 14 x 138
	Weight	g	180
Ionizer	Size (W x H x D)	mm	-
	Input	-	-
	Output	-	-
	Amount of Ion emission	EA/cc	-

ACCESSORY

UVnano Filter Box

1.Specification

2.Dimensions

3.External Static Pressure(E.S.P) & Air Flow

1. Specification

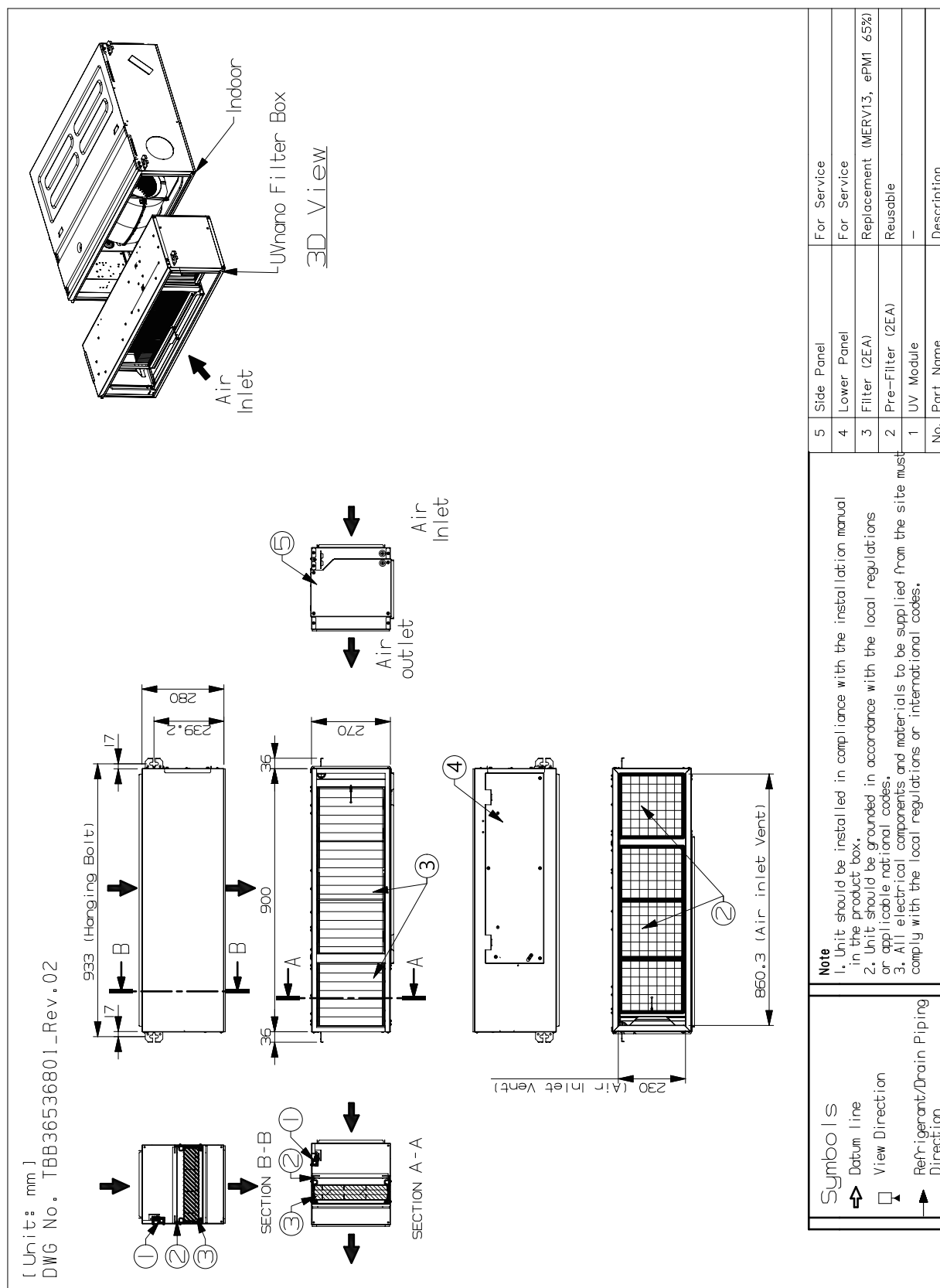
Model		Unit	PBM13M1UA0	PBM13M2UA0	PBM13M3UA0
Applied Chassis			M1	M2	M3
Net Size (W x H x D)		mm	900 x 270 x 280	1,250 x 270 x 280	1,250 x 360 x 280
Shipping Size (W x H x D)		mm	1,048 x 340 x 377	1,440 x 340 x 377	1,440 x 430 x 377
Net Weight		kg	9.1	11.6	12.7
Shipping Weight		kg	11.4	14.7	16.2
Filter (1)	Size(W x H x D)	mm	600 x 251 x 50.8	600 x 251 x 50.8	600 x 341 x 50.8
	Quantity	EA	1	2	2
	Grade 1	-	ePM1 65%	ePM1 65%	ePM1 65%
	Grade 2	-	MERV 13	MERV 13	MERV 13
Filter (2)	Size(W x H x D)	mm	250 x 251 x 50.8	-	-
	Quantity	EA	1	-	-
	Grade 1	-	ePM1 65%	-	-
	Grade 2	-	MERV 13	-	-
Pre-Filter (1)	Size(W x H x D)	mm	596 x 247 x 4	596 x 247 x 4	596 x 377 x 4
	Mesh	-	34 x 39	34 x 39	34 x 39
	Color	-	BLACK	BLACK	BLACK
	Quantity	-	1	2	2
Pre-Filter (2)	Size(W x H x D)	mm	247 x 247 x 4	-	-
	Mesh	-	34 x 39	-	-
	Color	-	BLACK	-	-
	Quantity	EA	1	-	-
UVnano	LED Quantity	EA	8	8	8
	Input	V	DC 12V	DC 12V	DC 12V
	Wavelength	nm	275	275	275

Note

1. Grade 1 : ISO EN 16890
2. Grade 2 : ASHRAE 52.2

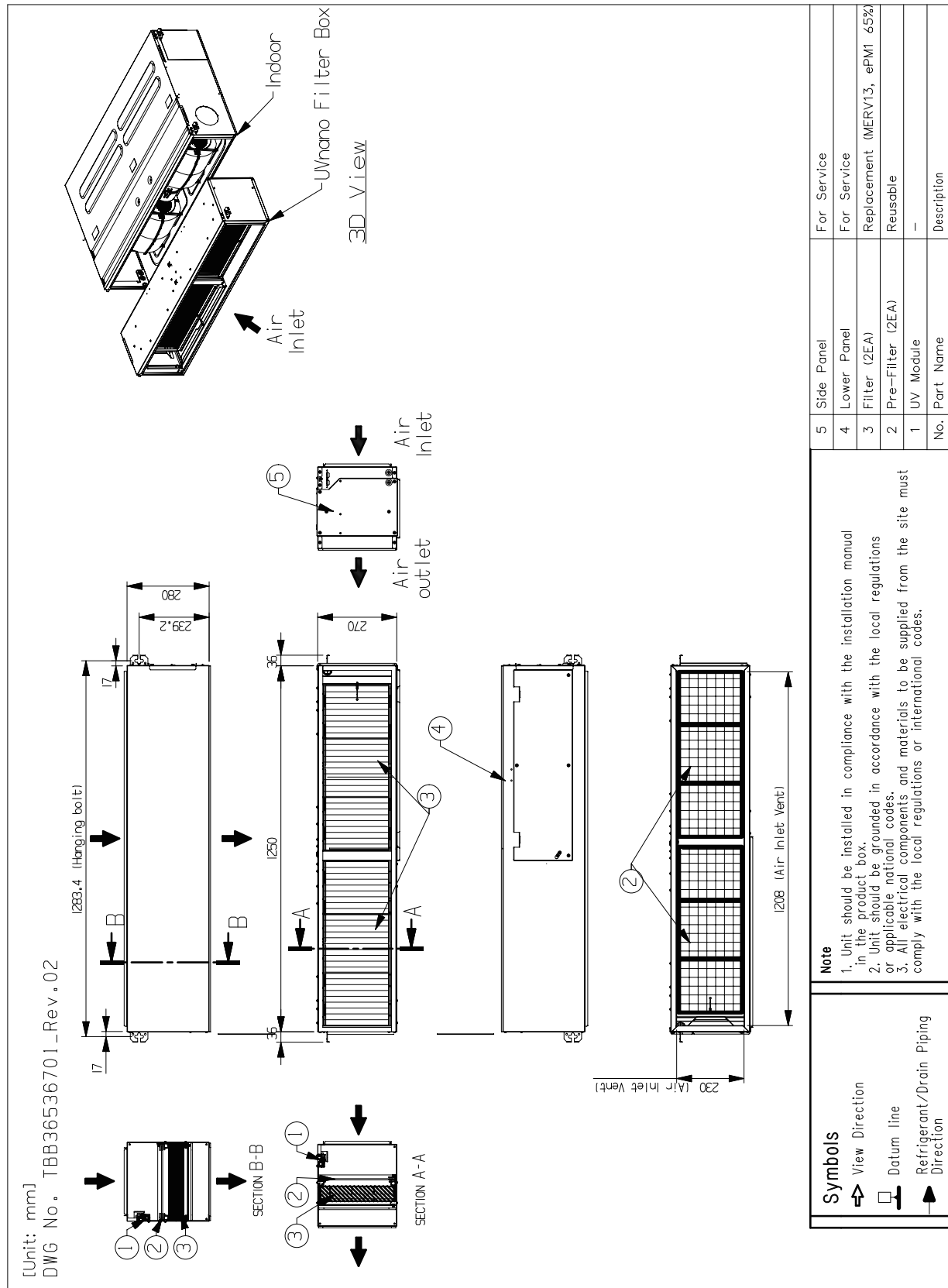
2. Dimensions

◆ PBM13M1UA0



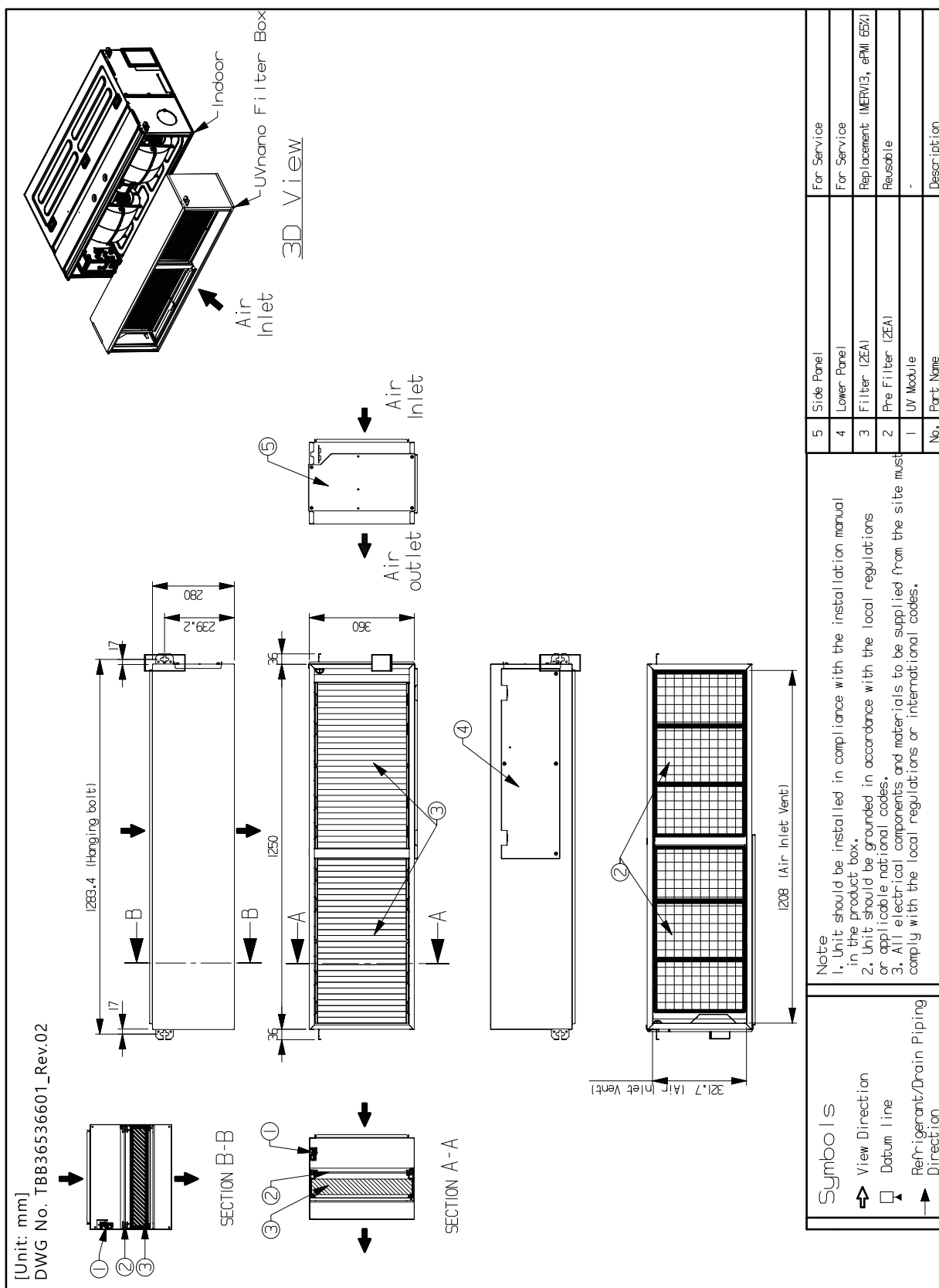
2. Dimensions

◆ PBM13M2UA0



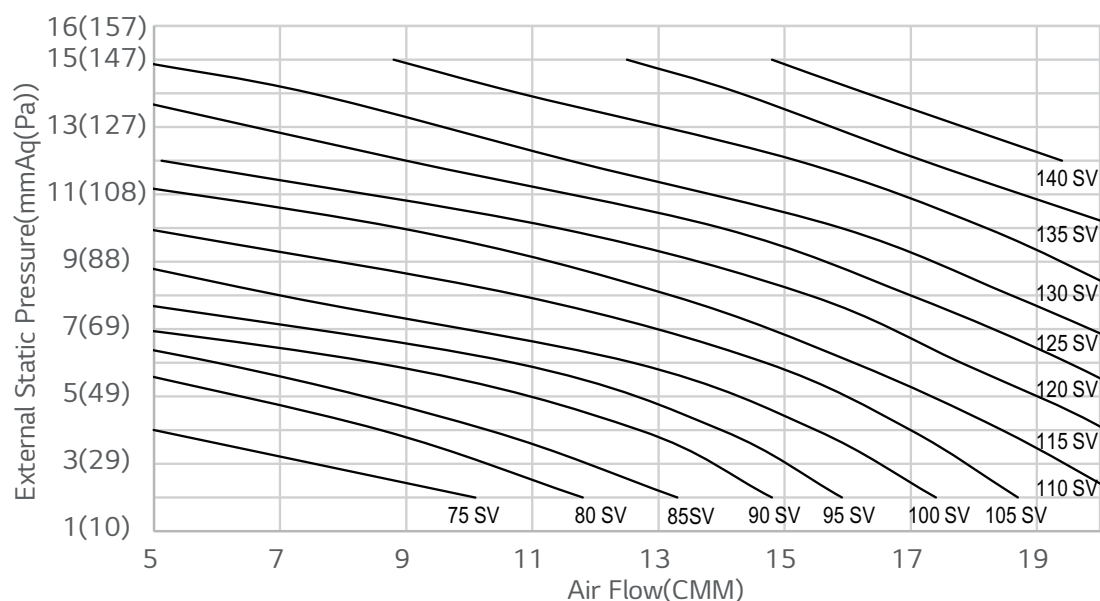
2. Dimensions

◆ PBM13M3UA0



3. External Static Pressure(E.S.P) & Air Flow

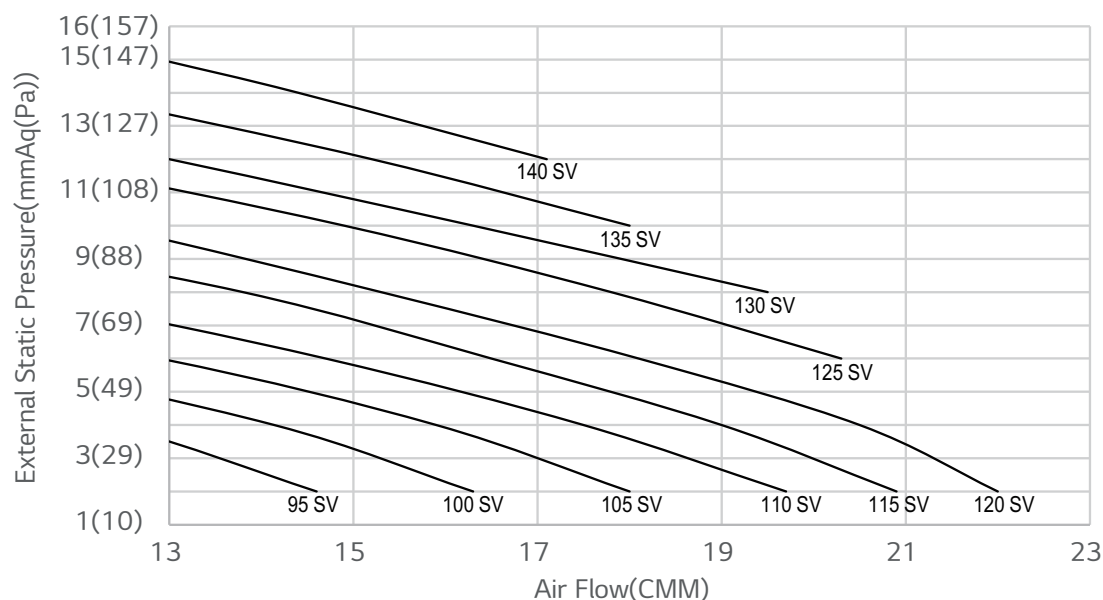
◆ M1 Chassis (18~24 kBTu/h)



Note

1. SV : Setting Value
2. The available range of External Static Pressure and Setting Value depends on the applied model.
Please check the specifications of the applied model.
3. Auto E.S.P Setting is also available with UVnano Filter Box.

◆ M1 Chassis (30 kBTu/h)

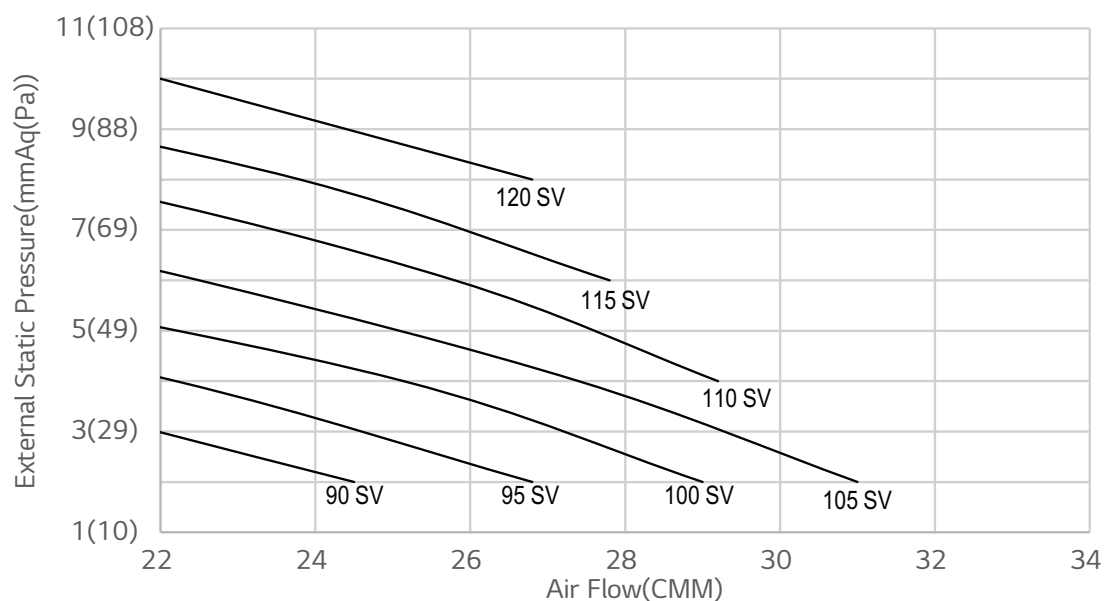


Note

1. SV : Setting Value
2. The available range of External Static Pressure and Setting Value depends on the applied model.
Please check the specifications of the applied model.
3. Auto E.S.P Setting is also available with UVnano Filter Box.

3. External Static Pressure(E.S.P) & Air Flow

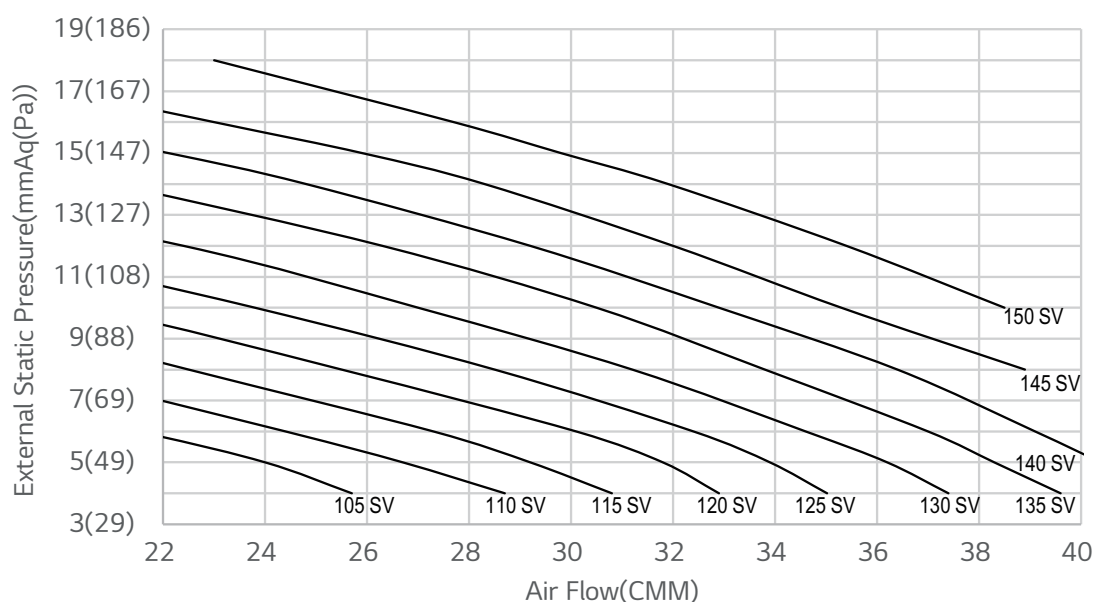
◆ M2 Chassis (30 kBTu/h)



Note

1. SV : Setting Value
2. The available range of External Static Pressure and Setting Value depends on the applied model. Please check the specifications of the applied model.
3. Auto E.S.P Setting is also available with UVnano Filter Box.
4. This PQ Curve is for ABN*30GM2** only.

◆ M2 Chassis (36~42 kBTu/h)

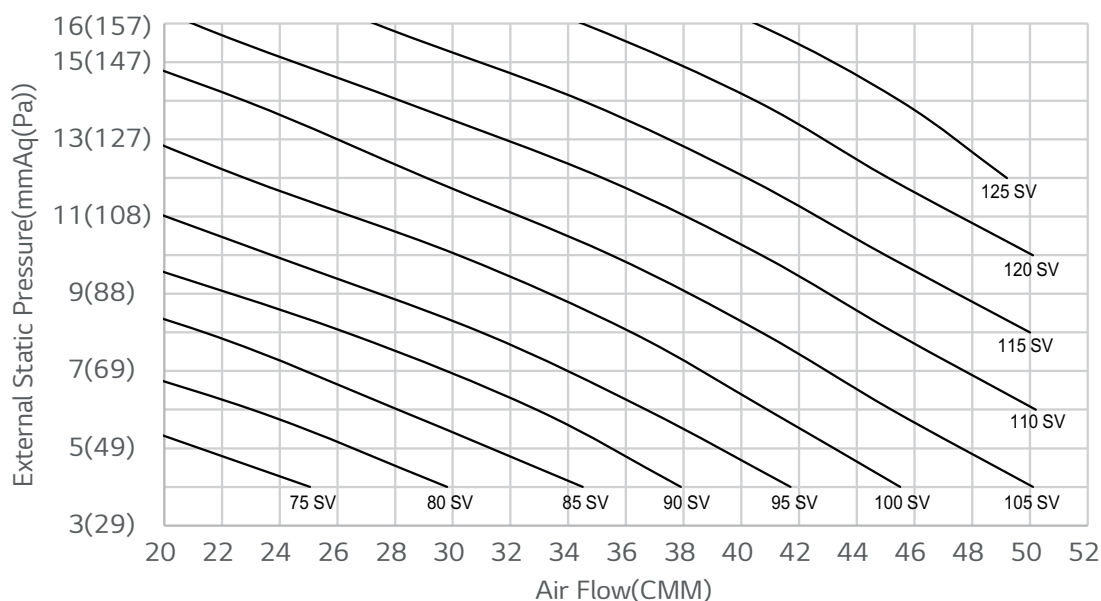


Note

1. SV : Setting Value
2. The available range of External Static Pressure and Setting Value depends on the applied model. Please check the specifications of the applied model.
3. Auto E.S.P Setting is also available with UVnano Filter Box.

3. External Static Pressure(E.S.P) & Air Flow

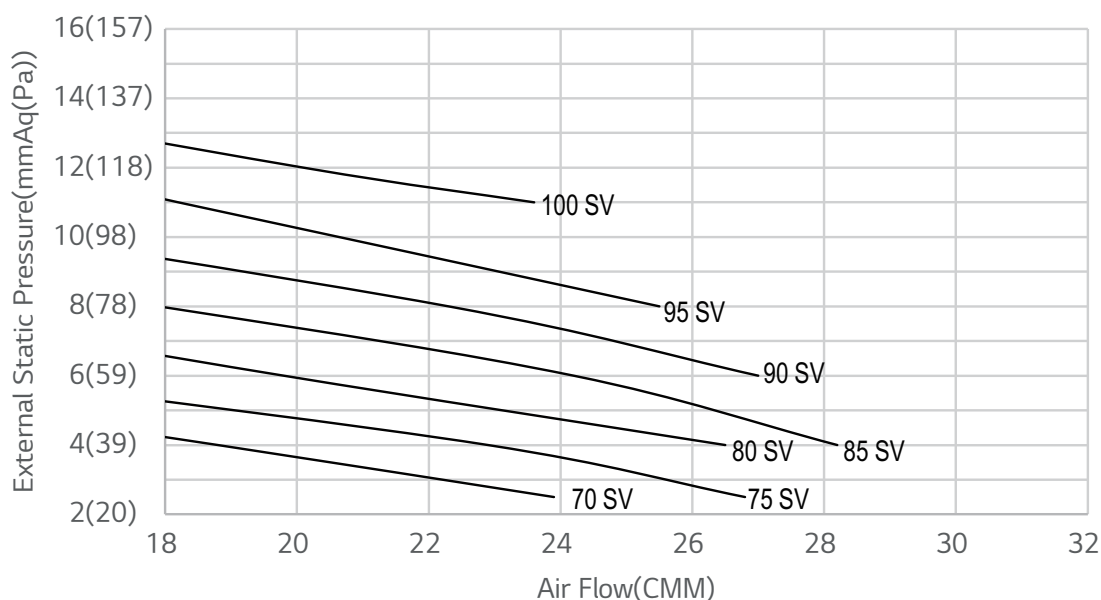
◆ M3 Chassis (36~60 kBTu/h)



Note

1. SV : Setting Value
2. The available range of External Static Pressure and Setting Value depends on the applied model. Please check the specifications of the applied model.
3. Auto E.S.P Setting is also available with UVnano Filter Box.

◆ M3 Chassis (36 kBTu/h)



Note

1. SV : Setting Value
2. The available range of External Static Pressure and Setting Value depends on the applied model. Please check the specifications of the applied model.
3. Auto E.S.P Setting is also available with UVnano Filter Box.
4. This PQ Curve is for ABN*36GM3** only.



Air Solution

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Printed in Korea February / 2022

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