

Technical & Service Manual

Series PCA Ceiling Suspended

R454B

Indoor unit
[Model Name]

PCA-AK24NL

PCA-AK30NL

PCA-AK36NL

PCA-AK42NL

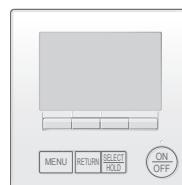
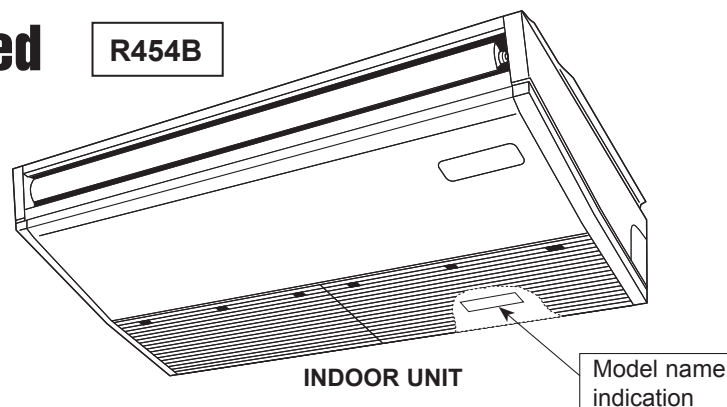
[Service Ref.]

PCA-AK24NL-U1

PCA-AK30NL-U1

PCA-AK36NL-U1

PCA-AK42NL-U1



WIRED REMOTE
CONTROLLER
(Option)



WIRELESS REMOTE
CONTROLLER (Option)

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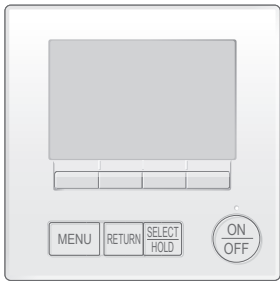
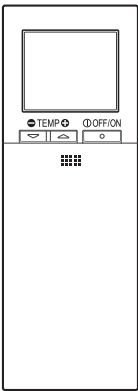
Technical data

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OUTDOOR UNIT SERVICE MANUAL

Model Name	Service Ref.	Service Manual No. / Parts catalog No.
PUZ-AH24/30NL PUY-AH24/30NL	PUZ-AH24/30NL-U1 PUY-AH24/30NL-U1	OCH871/OCB871
PUZ-AK36/42NL PUY-AK36/42NL	PUZ-AK36/42NL-U1 PUY-AK36/42NL-U1	OCH869/OCB869
PUZ-AK24/30/36/42NLHZ	PUZ-AK24/30/36/42NLHZ-U1	OCH870/OCB870

■ Remote controller (Optional parts)

Wired remote controller	Wireless remote controller
	

MEANINGS OF SYMBOLS DISPLAYED ON THE UNIT

	WARNING (Risk of fire)	This unit uses a flammable refrigerant. If the refrigerant leaks and comes in contact with fire or a heating part, it will create a harmful gas and there is a risk of fire.
		Read the OPERATION MANUAL carefully before operation.
		Service personnel are required to carefully read the OPERATION MANUAL and INSTALLATION MANUAL before operation.
		Further information is available in the OPERATION MANUAL, INSTALLATION MANUAL, and the like.

2-1. ALWAYS OBSERVE FOR SAFETY

Before obtaining access to terminal, all supply circuits must be disconnected.

2-2. CAUTIONS RELATED TO NEW REFRIGERANT

Cautions for units utilizing refrigerant R454B

Do not use the existing refrigerant piping.

The old refrigerant and lubricant in the existing piping contains a large amount of chlorine which may cause the lubricant deterioration of the new unit.

Make sure that the inside and outside of refrigerant piping is clean and it has no contaminants such as sulfur, oxides, dirt, shaving particles, etc., which are hazard to refrigerant cycle. In addition, use pipes with specified thickness.

Contamination inside refrigerant piping can cause deterioration of refrigerant oil, etc.

Store the piping indoors, and keep both ends of the piping sealed until just before brazing. (Leave elbow joints, etc. in their packaging.)

If dirt, dust or moisture enters into refrigerant cycle, that can cause deterioration of refrigerant oil or malfunction of compressor.

The refrigerant oil applied to flare and flange connections must be ester oil, ether oil or alkylbenzene oil in a small amount.

If large amount of mineral oil enters, that can cause deterioration of refrigerant oil, etc.

Charge refrigerant from liquid phase of gas cylinder.

If the refrigerant is charged from gas phase, composition change may occur in refrigerant and the efficiency will be lowered.

Ventilate the room if refrigerant leaks during operation. If refrigerant comes into contact with a flame, poisonous gases will be released.

Use a vacuum pump with a reverse flow check valve.

Vacuum pump oil may flow back into refrigerant cycle and that can cause deterioration of refrigerant oil, etc.

Use the following tools specifically designed for use with R454B refrigerant.

The following tools are necessary to use R454B refrigerant.

Tools for R454B	
Gauge manifold	Flare tool
Charge hose	Size adjustment gauge
Gas leak detector	Vacuum pump adaptor
Torque wrench	Electronic refrigerant charging scale

Handle tools with care.

If dirt, dust or moisture enters into refrigerant cycle, that can cause deterioration of refrigerant oil or malfunction of compressor.

Do not use a charging cylinder.

If a charging cylinder is used, the composition of refrigerant will change and the efficiency will be lowered.

Use the specified refrigerant only.**Never use any refrigerant other than that specified.**

Doing so may cause a burst, an explosion, or fire when the unit is being used, serviced, or disposed of.
Correct refrigerant is specified on name plate of outdoor unit.

If other refrigerant (R22, etc.) is used, chlorine in refrigerant can cause deterioration of refrigerant oil, etc.
We will not be held responsible for mechanical failure, system malfunction, unit breakdown or accidents caused by failure to follow the instructions.

[1] Warning for service

- (1) Do not alter the unit.
- (2) For installation and relocation work, follow the instructions in the Installation Manual and use tools and pipe components specifically made for use with refrigerant specified in the outdoor unit installation manual.
- (3) Ask a dealer or an authorized technician to install, relocate and repair the unit.
- (4) This unit should be installed in rooms which exceed the floor space specified in outdoor unit installation manual. Refer to outdoor unit installation manual.
- (5) Install the indoor unit at least 2.5 m above floor or grade level.
For appliances not accessible to the general public.
- (6) Refrigerant pipes connection shall be accessible for maintenance purposes.
- (7) If the air conditioner is installed in a small room or closed room, measures must be taken to prevent the refrigerant concentration in the room from exceeding the safety limit in the event of refrigerant leakage. Should the refrigerant leak and cause the concentration limit to be exceeded, hazards due to lack of oxygen in the room may result.
- (8) Keep gas-burning appliances, electric heaters, and other fire sources (ignition sources) away from the location where installation, repair, and other air conditioner work will be performed.
If refrigerant comes into contact with a flame, poisonous gases will be released.
- (9) When installing or relocating, or servicing the air conditioner, use only the specified refrigerant written on outdoor unit to charge the refrigerant lines.
Do not mix it with any other refrigerant and do not allow air to remain in the lines.
If air is mixed with the refrigerant, then it can be the cause of abnormal high pressure in the refrigerant line, and may result in an explosion and other hazards.
- (10) After installation has been completed, check for refrigerant leaks. If refrigerant leaks into the room and comes into contact with the flame of a heater or portable cooking range, poisonous gases will be released.
- (11) Do not use low temperature solder alloy in case of brazing the refrigerant pipes.
- (12) When performing brazing work, be sure to ventilate the room sufficiently. Make sure that there are no hazardous or flammable materials nearby.
When performing the work in a closed room, small room, or similar location, make sure that there are no refrigerant leaks before performing the work.
If refrigerant leaks and accumulates, it may ignite or poisonous gases may be released.
- (13) Do not install the unit in places where refrigerant may build-up or places with poor ventilation such as a semi-basement or a sunken place in outdoor: Refrigerant is heavier than air, and inclined to fall away from the leak source.
- (14) Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- (15) The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
- (16) Do not pierce or burn.
- (17) Be aware that refrigerants may not contain an odour.
- (18) Pipe-work shall be protected from physical damage.
- (19) The installation of pipe-work shall be kept to a minimum.
- (20) Compliance with national gas regulations shall be observed.
- (21) Keep any required ventilation openings clear of obstruction.
- (22) Servicing shall be performed only as recommended by the manufacturer.
- (23) The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- (24) Maintenance, service and repair operations shall be performed by authorized technician with required qualification.

[2] Cautions for service

- (1) Perform service after recovering the refrigerant left in unit completely.
- (2) Do not release refrigerant in the air.
- (3) After completing service, charge the cycle with specified amount of refrigerant.
- (4) When performing service, install a filter drier simultaneously.
Be sure to use a filter drier for new refrigerant.

[3] Additional refrigerant charge

When charging directly from cylinder

- (1) Check that cylinder for R454B available on the market is a syphon type.
- (2) Charging should be performed with the cylinder of syphon stood vertically. (Refrigerant is charged from liquid phase.)

[4] Cautions for unit using R454B refrigerant

Basic work procedures are the same as those for conventional units using refrigerant R410A. However, pay careful attention to the following points.

(1) Information on servicing

(1-1) Checks to the area

Prior to beginning work on systems containing FLAMMABLE REFRIGERANTS, safety checks are necessary to ensure that the risk of ignition is minimized.

For repair to the REFRIGERATING SYSTEM, 1-2 to 1-6 shall be completed prior to conducting work on the system.

(1-2) Work Procedure

Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapour being present while the work is being performed.

(1-3) General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.

(1-4) Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres.

Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

(1-5) Presence of fire extinguisher

If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand.

Have a dry powder or CO₂ fire extinguisher adjacent to the charging area.

(1-6) No ignition sources

No person carrying out work in relation to a REFRIGERATING SYSTEM which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion.

All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space.

Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

(1-7) Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out.

The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

(1-8) Checks to the refrigerating equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.

The following checks shall be applied to installations using FLAMMABLE REFRIGERANTS:

- the actual REFRIGERANT CHARGE is in accordance with the room size within which the refrigerant containing parts are installed.
- the ventilation machinery and outlets are operating adequately and are not obstructed.
- marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected.
- refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

(1-9) Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with.

If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking.
- that no live electrical components and wiring are exposed while charging, recovering or purging the system.
- that there is continuity of earth bonding.

(2) Repairs to sealed components

Sealed electrical components shall be replace.

(3) Repair to intrinsically safe components

Intrinsically safe components must be replaced.

(4) Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects.

The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

(5) Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks but, in the case of FLAMMABLE REFRIGERANTS, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.)

Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.

Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

If a leak is suspected, all naked flames shall be removed / extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Removal of refrigerant shall be according to 2-4.6.

(6) Removal and evacuation

When breaking into the refrigerant circuit to make repairs - or for any other purpose -conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed, since flammability is a consideration.

The following procedure shall be adhered to:

- safely remove refrigerant following local and national regulations;
 - evacuate
 - purge the circuit with inert gas
 - evacuate
 - continuously flush or purge with inert gas when using flame to open circuit
 - open the circuit

The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes.

For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process might need to be repeated several times.

Compressed air or oxygen shall not be used for purging refrigerant systems.

For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum.

This process shall be repeated until no refrigerant is within the system. When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.

The outlet for the vacuum pump shall not be close to any potential ignition sources, and ventilation shall be available.

(7) Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of REFRIGERANT contained in them.
- Cylinders shall be kept in an appropriate position according to the instructions.
- Ensure that the REFRIGERATING SYSTEM is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the REFRIGERATING SYSTEM.

Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

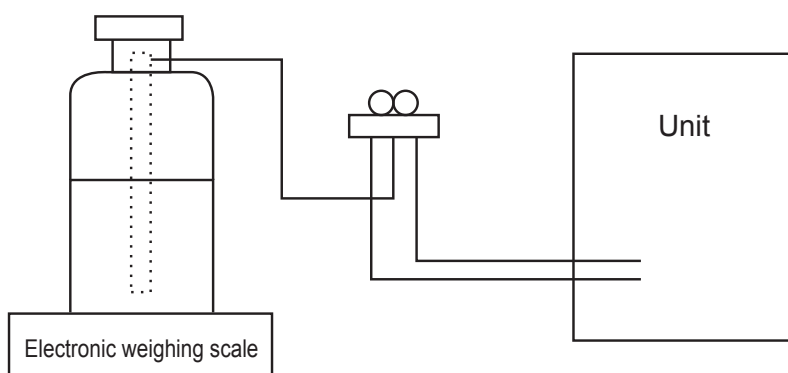
(8) Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely.

Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

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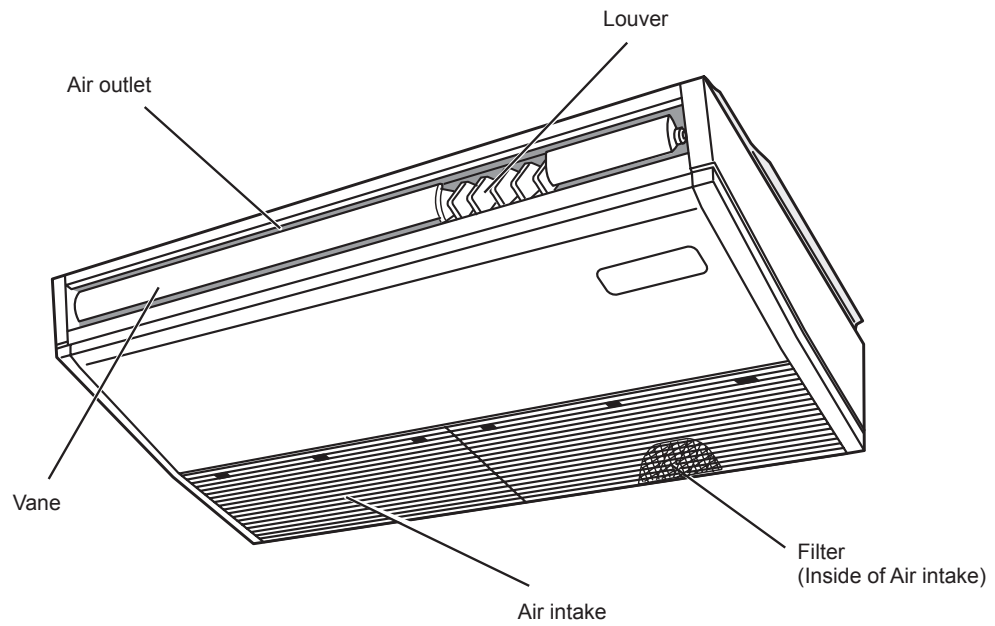
- a) Become familiar with the equipment and its operation.
- b) Isolate system electrically.
- c) Before attempting the procedure, ensure that:
- mechanical handling equipment is available, if required, for handling refrigerant cylinders.
 - all personal protective equipment is available and being used correctly.
 - the recovery process is supervised at all times by a competent person.
 - recovery equipment and cylinders conform to the appropriate standards.
- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with instructions.
- h) Do not overfill cylinders. (no more than 80 % volume liquid charge)
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another REFRIGERATING SYSTEM unless it has been cleaned and checked.
- (9) Labelling
- Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing FLAMMABLE REFRIGERANTS, ensure that there are labels on the equipment stating the equipment contains FLAMMABLE REFRIGERANT.
- (10) Recovery
- When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.
- When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available.
- All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order.
- Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
- The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant.
- If in doubt, the manufacturer should be consulted. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition.
- The recovered refrigerant shall be processed according to local legislation in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.
- If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant.
- The compressor body shall not be heated by an open flame or other ignition sources to accelerate this process.
- When oil is drained from a system, it shall be carried out safely.



[5] Service tools

Use the below service tools as exclusive tools for R454B refrigerant.

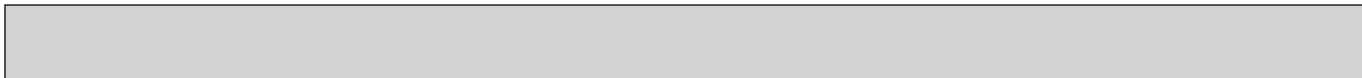
No.	Tool name	Specifications
1.	Gauge manifold	· Only for R454B · Use the existing fitting specifications. (UNF1/2) · Use high-tension side pressure of 768.7 PSIG [5.3 MPa.G] or over.
2.	Charge hose	· Only for R454B · Use pressure performance of 738.2 PSIG [5.09MPa.G] or over.
3.	Electronic weighing scale	—
4.	Gas leak detector	· Use the detector for R454B.
5.	Adaptor for reverse flow check	· Attach on vacuum pump.
6.	Refrigerant charge base	—
7.	Refrigerant cylinder	· Only for R454B · Cylinder with syphon
8.	Refrigerant recovery equipment	—



Service Ref.			PCA-AK24NL-U1
INDOOR UNIT	Power supply (phase, cycle, voltage)		1-phase, 60 Hz, 208/230 V
	Max. Fuse Size	A	15
	Min.Circuit Ampacity	A	1
	External finish		White Munsell 6.4Y 8.9/0.4
	Heat exchanger		Plate fin coil
	Fan	Fan (drive) × No.	Sirocco fan (direct) × 3
		Fan motor output	0.095
		Fan motor	0.54
		Airflow (Low-Medium2-Medium1-High)	Dry: 530-565-600-670 (15-16-17-19) Wet: 495-530-565-635 (14-15-16-18)
		External static pressure	0 (direct blow)
	Operation control & Thermostat		Remote controller & built-in
	Noise level (Low-Medium2-Medium1-High)		33-35-37-40
	Field drain pipe O.D.		26 (1)
	Dimensions	W	1,280 (50-3/8)
		D	680 (26-3/4)
		H	230 (9-1/16)
	Weight		32 (71)

Service Ref.			PCA-AK30NL-U1
INDOOR UNIT	Power supply (phase, cycle, voltage)		1-phase, 60 Hz, 208/230 V
	Max. Fuse Size	A	15
	Min.Circuit Ampacity	A	1
	External finish		White Munsell 6.4Y 8.9/0.4
	Heat exchanger		Plate fin coil
	Fan	Fan (drive) × No.	Sirocco fan (direct) × 3
		Fan motor output	0.095
		Fan motor	0.54
		Airflow (Low-Medium2-Medium1-High)	Dry: 565-600-635-705 (16-17-18-20) Wet: 530-565-600-670 (15-16-17-19)
		External static pressure	0 (direct blow)
	Operation control & Thermostat		Remote controller & built-in
	Noise level (Low-Medium2-Medium1-High)		35-37-39-41
	Field drain pipe O.D.		26 (1)
	Dimensions	W	1,280 (50-3/8)
		D	680 (26-3/4)
		H	230 (9-1/16)
	Weight		32 (71)

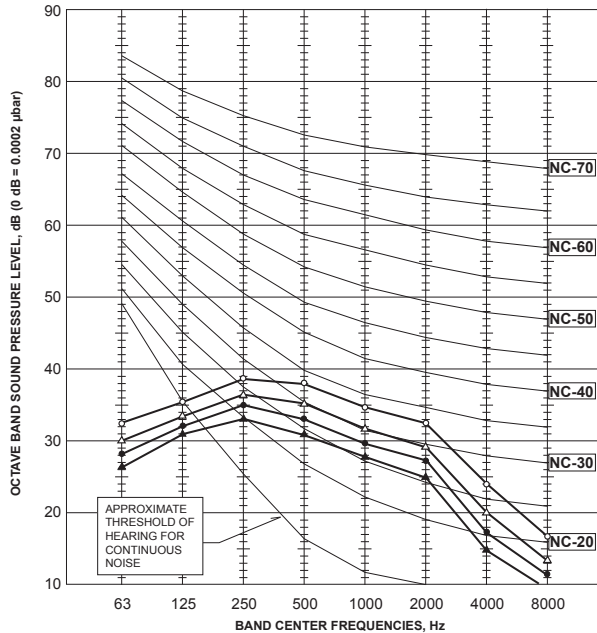
Service Ref.			PCA-AK36NL-U1
INDOOR UNIT	Power supply (phase, cycle, voltage)		1 phase, 60 Hz, 208/230 V
	Max. Fuse Size	A	15
	Min.Circuit Ampacity	A	2
	External finish		White Munsell 6.4Y 8.9/0.4
	Heat exchanger		Plate fin coil
	Fan	Fan (drive) × No.	Sirocco fan (direct) × 3
		Fan motor output	0.160
		Fan motor	0.97
		Airflow (Low-Medium2-Medium1-High)	Dry: 775-850-920-990 (22-24-26-28) Wet: 705-775-850-920 (20-22-24-26)
		External static pressure	0 (direct blow)
	Operation control & Thermostat		Remote controller & built-in
	Noise level (Low-Medium2-Medium1-High)		37-39-41-43
	Field drain pipe O.D.		26 (1)
	Dimensions	W	1,600 (63)
		D	680 (26-3/4)
		H	230 (9-1/16)
	Weight		36 (79)



INDOOR UNIT	Service Ref.		PCA-AK42NL-U1
	Power supply (phase, cycle, voltage)		1-phase, 60 Hz, 208/230 V
	Max. Fuse Size	A	15
	Min.Circuit Ampacity	A	2
	External finish		White Munsell 6.4Y 8.9/0.4
	Heat exchanger		Plate fin coil
	Fan	Fan (drive) × No.	Sirocco fan (direct) × 4
		Fan motor output	kW 0.160
		Fan motor	F.L.A 0.97
		Airflow (Low-Medium2-Medium1-High)	Dry: 810-885-955-1025 (23-25-27-29)
			Wet: 740-810-885-955 (21-23-25-27)
		External static pressure	Pa (mmAq) 0 (direct blow)
	Operation control & Thermostat		Remote controller & built-in
	Noise level (Low-Medium2-Medium1-High)	dB (A)	39-41-43-45
	Field drain pipe O.D.		26 (1)
	Dimensions	W	mm (in.) 1,600 (63)
		D	mm (in.) 680 (26-3/4)
		H	mm (in.) 230 (9-1/16)
	Weight		kg (lbs) 39 (86)

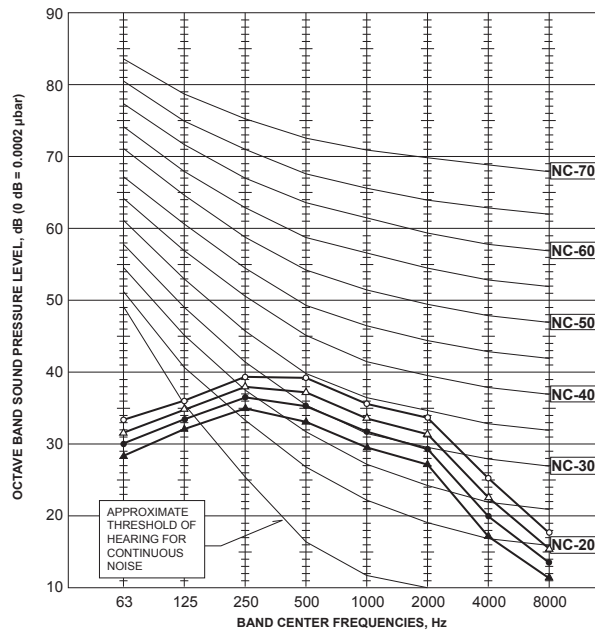
PCA-AK24NL-U1

NOTCH	SPL(dB)	LINE
High	40	○—○
Medium1	37	△—△
Medium2	35	●—●
Low	33	▲—▲



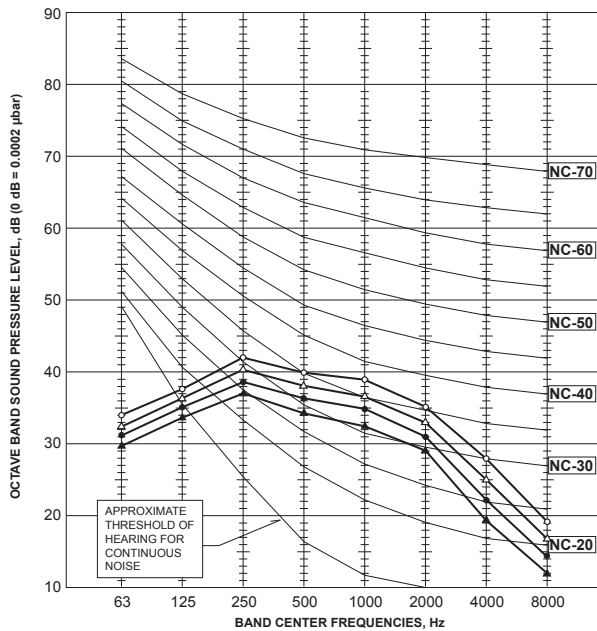
PCA-AK30NL-U1

NOTCH	SPL(dB)	LINE
High	41	○—○
Medium1	39	△—△
Medium2	37	●—●
Low	35	▲—▲



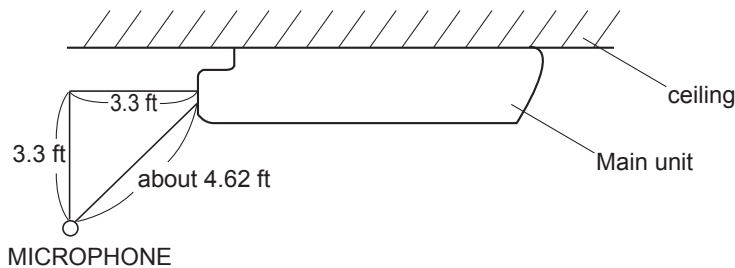
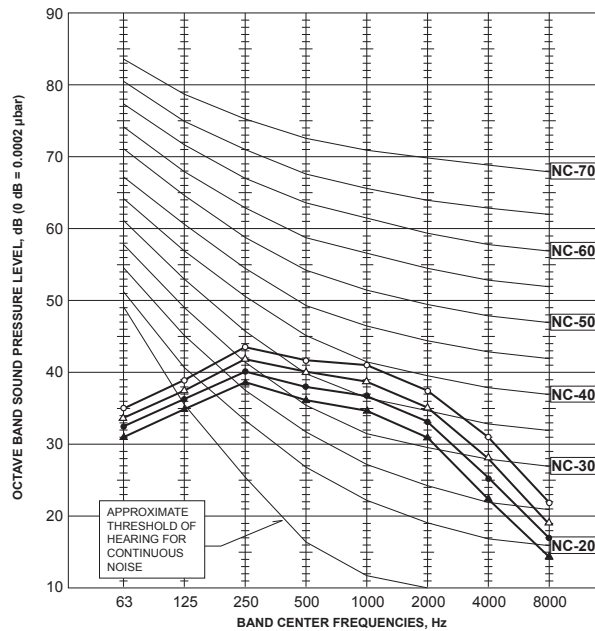
PCA-AK36NL-U1

NOTCH	SPL(dB)	LINE
High	43	○—○
Medium1	41	△—△
Medium2	39	●—●
Low	37	▲—▲



PCA-AK42NL-U1

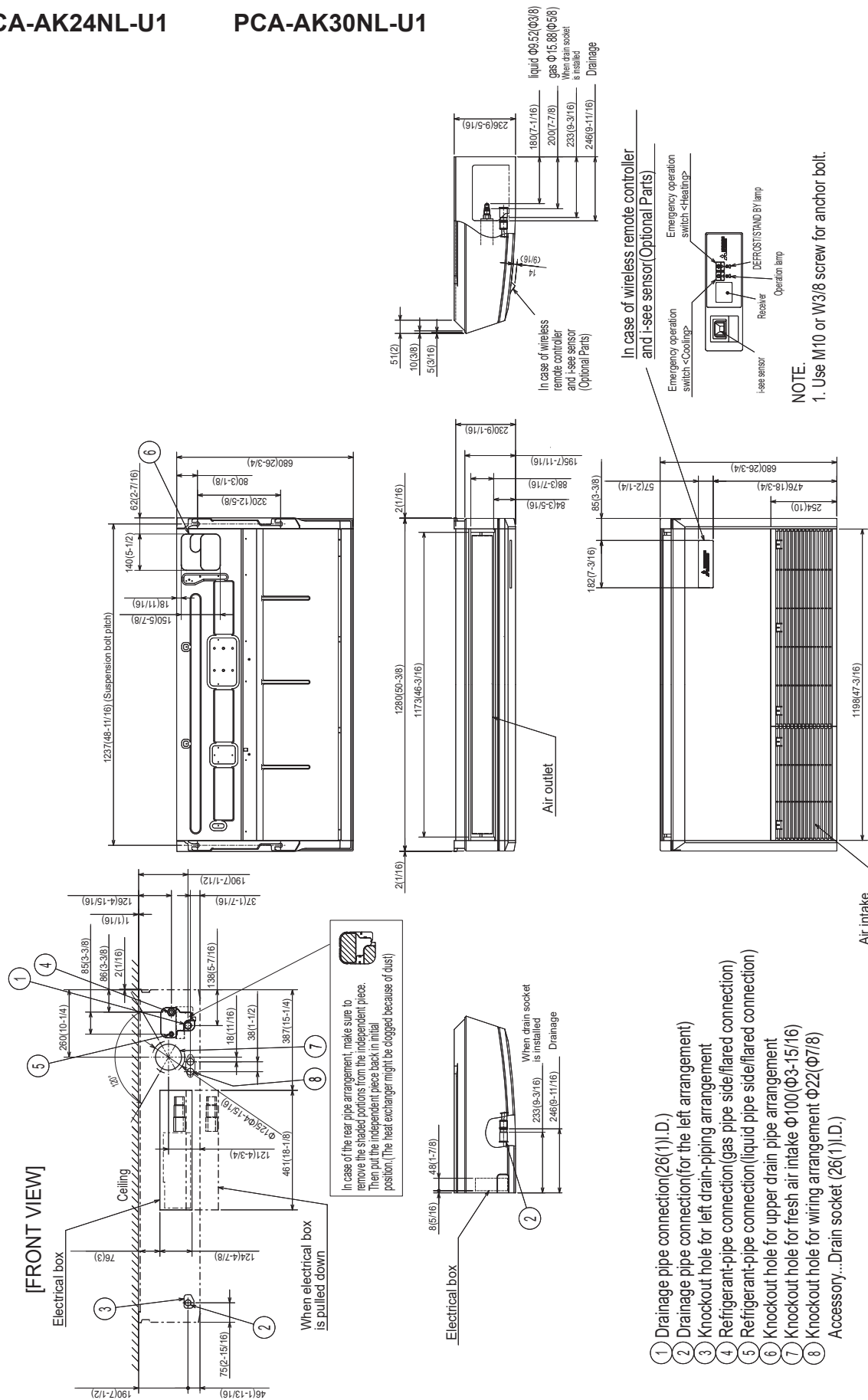
NOTCH	SPL(dB)	LINE
High	45	○—○
Medium1	43	△—△
Medium2	41	●—●
Low	39	▲—▲



PCA-AK24NL-U1

PCA-AK30NL-U1

Unit: mm (in.)

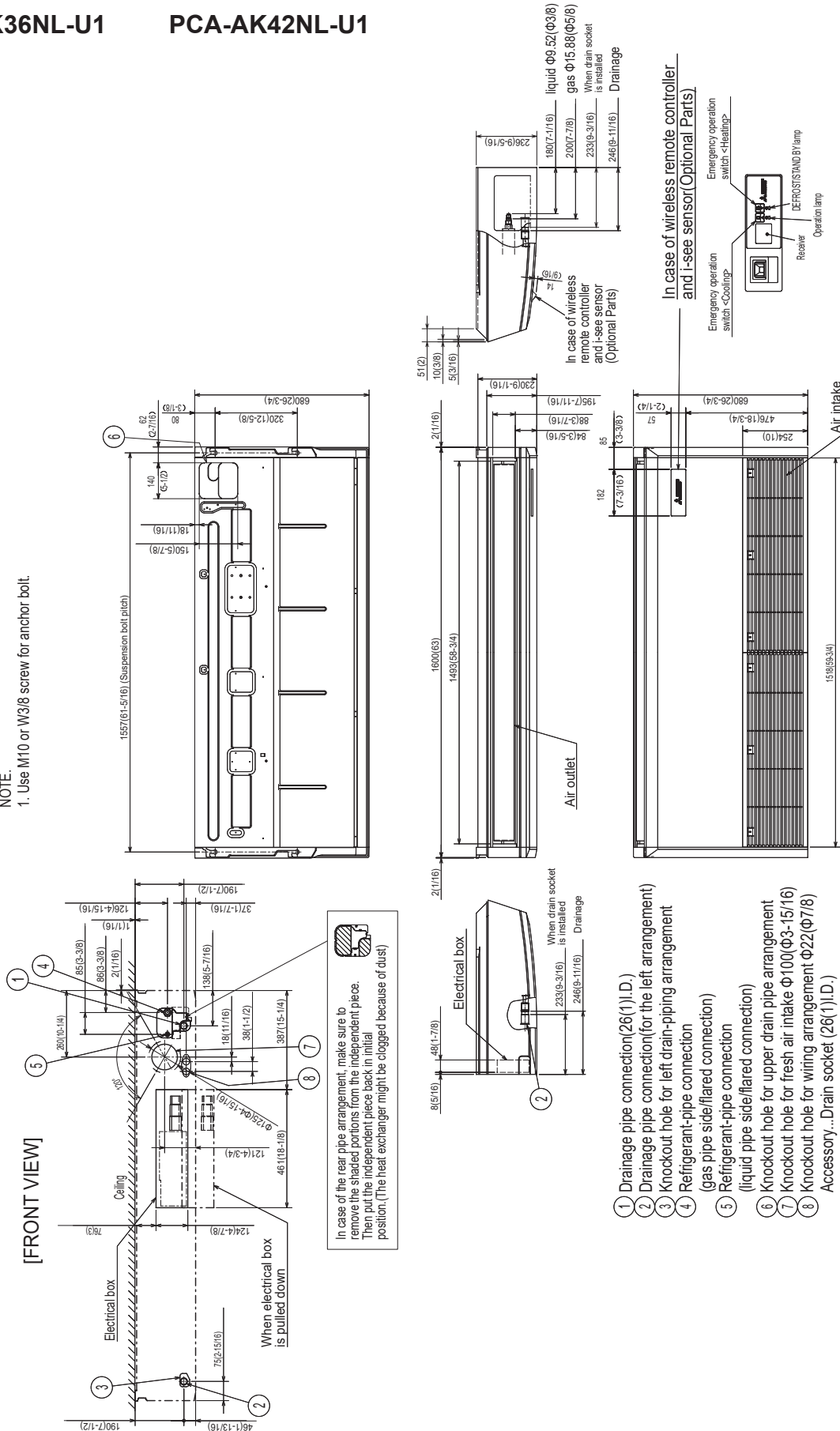


PCA-AK36NL-U1

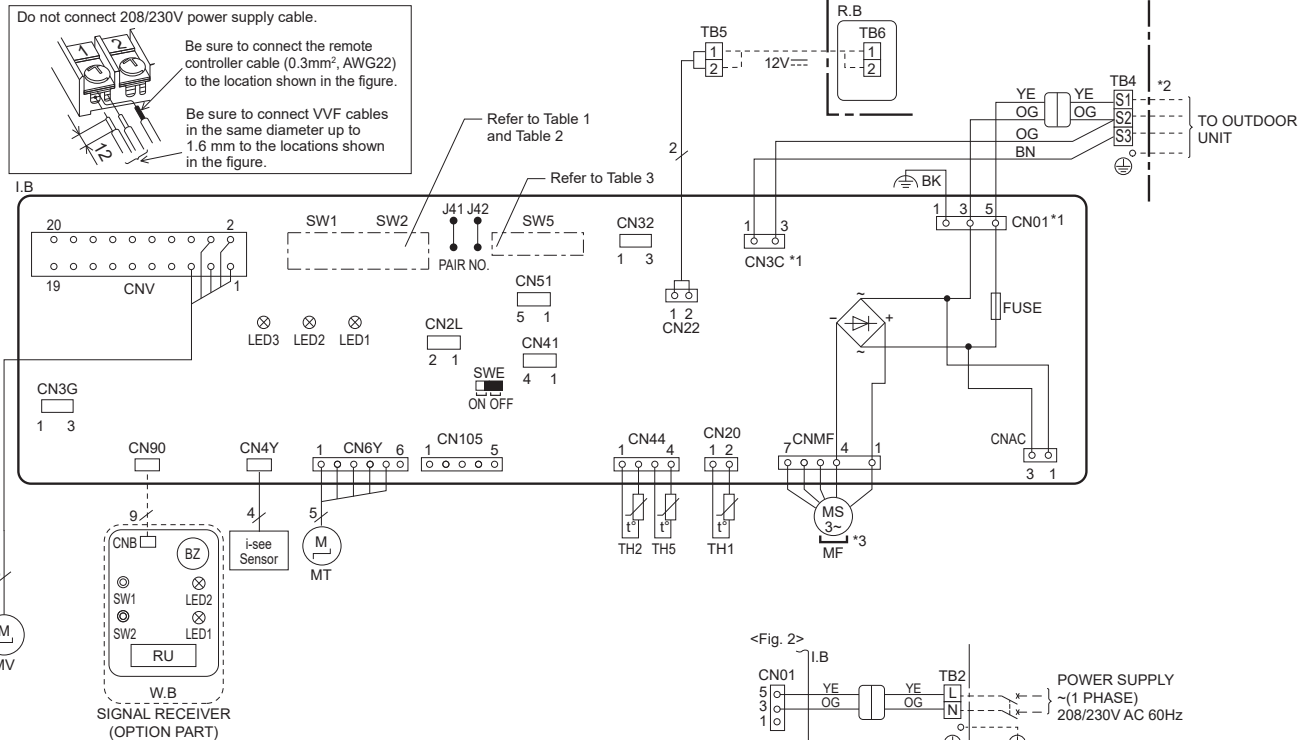
PCA-AK42NL-U1

Unit: mm (in.)

NOTE:
1. Use M10 or W3/8 screw for anchor bolt.



<Fig. 1> Caution when connecting the remote controller to the terminal block TB5



<Table 1> SW1 (MODEL SELECTION)

MODELS	SETTING
PCA-AK.NL	1 2 3 4 5 ON OFF

<Table 2> SW2 (CAPACITY CODE)

MODELS	SETTING	MODELS	SETTING
24	1 2 3 4 5 ON OFF	36	1 2 3 4 5 ON OFF
30	1 2 3 4 5 ON OFF	42	1 2 3 4 5 ON OFF

<Table 3> SW5 (FUNCTION SETTING)

MODELS	SETTING
1 2 3 4 5 6 7 8	ON OFF

Turn it off when a remote controller other than PAR-4*MAAUB/CT01MAU is connected.

NOTES:

- Symbols used in wiring diagram are, : terminal block, : connector.
- Indoor and outdoor connecting wires have polarities, make sure to match terminal numbers (S1, S2, S3).
- Please note that 208/230V AC is applied to TB4 (terminal block).
- Do not connect the power supply cable to TB5 (terminal block). For other precautions, please refer to Fig. 1 in this wiring diagram.
- Since the outdoor side electric wiring may change be sure to check the outdoor unit electric wiring diagram for servicing.
- The black square (■) in the wiring diagram indicates a switch position.

*1 This diagram shows the wiring of indoor and outdoor connecting wires. (specification of 208/230V), adopting superimposed system of power and signal. If the separate indoor/outdoor unit power supplied system is applied refer to Fig. 2.

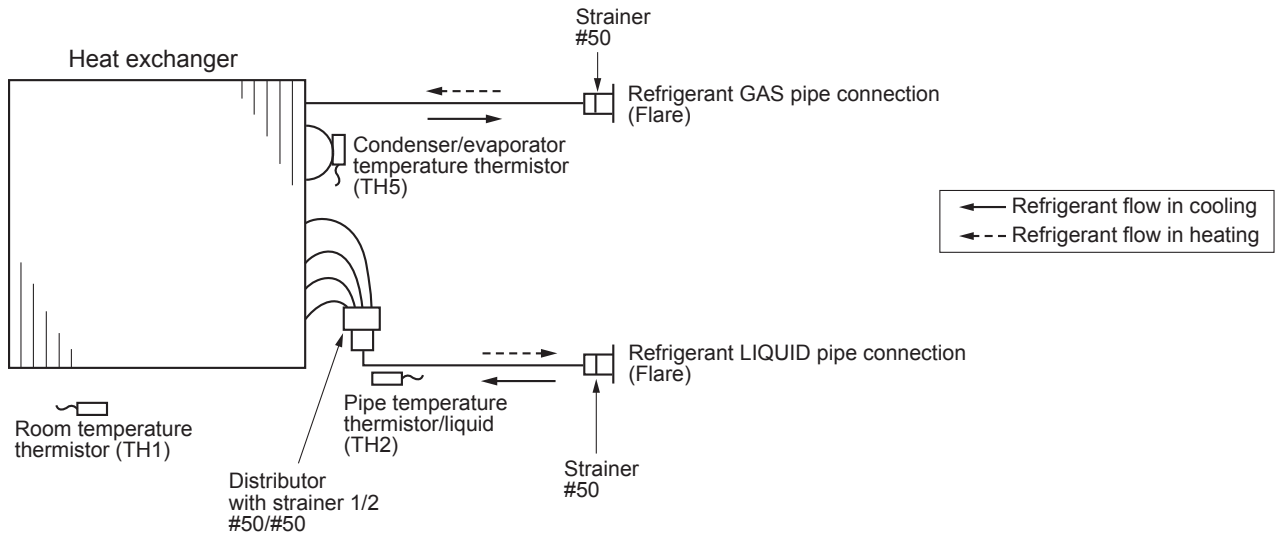
For power supply system of this unit, refer to the caution label located near this diagram.

*2 Use copper supply wires.
Utiliser des fils d'alimentation en cuivre.

*3 Be sure to turn off the source power and then disconnect fan motor connector. (Failure to do so will cause trouble in Fan motor)

[LEGEND]

SYMBOL	NAME	SYMBOL	NAME
I.B	INDOOR CONTROLLER BOARD	TB4	TERMINAL BLOCK (INDOOR/OUTDOOR CONNECTING LINE)
FUSE	FUSE(T6.3A L250V)	TB5, TB6	TERMINAL BLOCK (REMOTE CONTROLLER TRANSMISSION LINE)
CN105	CONNECTOR	TH1	ROOM TEMP. THERMISTOR (0°C/15kΩ, 25°C/5.4kΩ) (32°F/15kΩ, 77°F/5.4kΩ)
CN2L	CONNECTOR(LOSSNAY)	TH2	PIPE TEMP. THERMISTOR/LIQUID (0°C/15kΩ, 25°C/5.4kΩ) (32°F/15kΩ, 77°F/5.4kΩ)
CN32	CONNECTOR(REMOTE SWITCH)	TH5	COND./EVA. TEMP. THERMISTOR (0°C/15kΩ, 25°C/5.4kΩ) (32°F/15kΩ, 77°F/5.4kΩ)
CN41	CONNECTOR(HA TERMINAL-A)	R.B	WIRED REMOTE CONTROLLER BOARD
CN51	CONNECTOR(CENTRALLY CONTROL)	OPTIONAL PARTS	
LED1	POWER SUPPLY(I.B)	W.B	PCB FOR WIRELESS REMOTE CONTROLLER
LED2	POWER SUPPLY(R.B)	BZ	BUZZER
LED3	TRANSMISSION(INDOOR-OUTDOOR)	LED1	LED (OPERATION INDICATION : GREEN)
X2	RELAY (OPTIONAL PART : DRAIN PUMP)	RU	RECEIVING UNIT
SW1	SWITCH (MODEL SELECTION)*Refer to <Table 1>	SW1	EMERGENCY OPERATION (FAN)
SW2	SWITCH (CAPACITY CODE)*Refer to <Table 2>	SW2	EMERGENCY OPERATION (COOL)
SW5	SWITCH (FUNCTION SETTING)*Refer to <Table 3>		
SWE	CONNECTOR(EMERGENCY OPERATION)		
MF	FAN MOTOR		
MV	VANE MOTOR		
MT	i-see Sensor MOTOR		
TB2	TERMINAL BLOCK (INDOOR UNIT POWER (OPTION))		



9-1. TROUBLESHOOTING

<Check code displayed by self-diagnosis and actions to be taken for service (summary)>

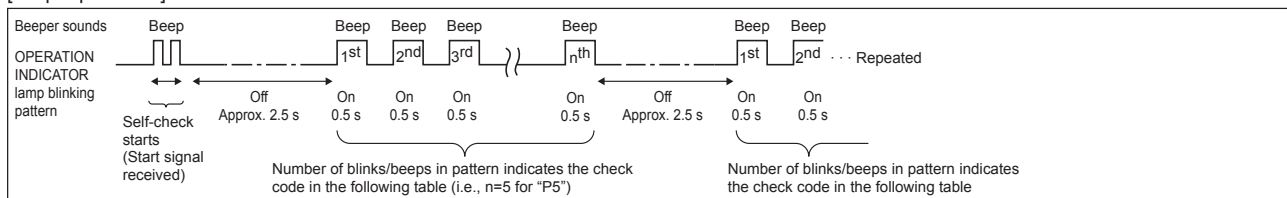
Present and past check codes are logged, and they can be displayed on the wired remote controller and control board of outdoor unit. Actions to be taken for service, which depends on whether or not the trouble is reoccurring in the field, are summarized in the table below. Check the contents below before investigating details.

Unit conditions at service	Check code	Actions to be taken for service (summary)
The trouble is reoccurring.	Displayed	Judge the problem and take a corrective action according to "9-3. SELF-DIAGNOSIS ACTION TABLE".
	Not displayed	Conduct troubleshooting and ascertain the cause of the trouble according to "9-4. TROUBLESHOOTING OF PROBLEMS".
The trouble is not reoccurring.	Logged	① Consider the temporary defects such as the work of protection devices in the refrigerant circuit including compressor, poor connection of wiring, noise, etc. Re-check the symptom, and check the installation environment, refrigerant amount, weather when the trouble occurred, matters related to wiring, etc. ② Reset check code logs and restart the unit after finishing service. ③ There is no abnormality in electrical component, controller board, remote controller, etc.
	Not logged	① Re-check the abnormal symptom. ② Conduct troubleshooting and ascertain the cause of the trouble according to "9-4. TROUBLESHOOTING OF PROBLEMS". ③ Continue to operate unit for the time being if the cause is not ascertained. ④ There is no abnormality concerning of parts such as electrical component, controller board, remote controller, etc.

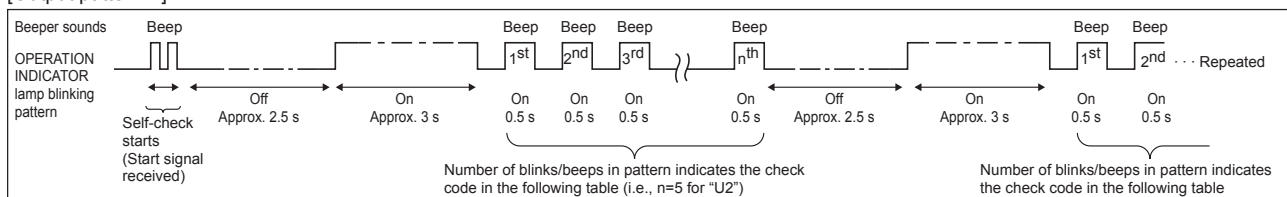
9-2. MALFUNCTION-DIAGNOSIS METHOD BY REMOTE CONTROLLER

Refer to "13-7. SELF-DIAGNOSIS" to search for the error history.

[Output pattern A]



[Output pattern B]



[Output pattern A] Errors detected by indoor unit

Wireless remote controller Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Wired remote controller Check code	Symptom	Remark
1	P1	Intake sensor error	
2	P2, P9	Pipe (liquid or 2-phase pipe) sensor error	
3	E6, E7	Indoor/outdoor unit communication error	
4	P4	Float switch connector open	
5	P5	Drain pump error	
	PA	Forced compressor error	
6	P6	Freezing (during cooling operation)/Overheating protection operation (during heating operation)	
7	EE	Assembly error (system error)	
8	P8	Pipe temperature error	
9	E4, E5	Communication error between wired remote controller and indoor unit	
10	—	—	
11	PB(Pb)	Indoor unit fan motor error	
12	FB(Fb)	Indoor unit control system error (memory error, etc.)	
14	PL	Refrigerant circuit abnormal	
No sound	E0, E3	Remote controller transmission error	
No sound	E1, E2	Remote controller control board error	
No sound	— — — —	No corresponding	

[Output pattern B] Errors detected by unit other than indoor unit (outdoor unit, etc.)

Note: The supported check codes may vary depending on the connected outdoor unit.

Wireless remote controller Beeper sounds/OPERATION INDICATOR lamp blinks (Number of times)	Wired remote controller Check code	Symptom	Remark
1	E9	Indoor/outdoor unit communication error	For details, check the LED display of the outdoor controller board.
2	UP	Compressor overcurrent interruption	
3	U3, U4	Open/short of outdoor unit thermistors	
4	UF	Compressor overcurrent interruption (When compressor locked)	
5	U2	Abnormal high discharging temperature/49C worked/insufficient refrigerant	
6	U1, Ud	Abnormal high pressure (63H worked)/Overheating protection operation	
7	U5	Abnormal temperature of heat sink	
8	U8	Outdoor unit fan protection stop	
9	U6	Compressor overcurrent interruption/Abnormal of power module	
10	U7	Abnormality of super heat due to low discharge temperature	
11	U9, UH	Abnormality such as overvoltage or voltage shortage and abnormal synchronous signal to main circuit/Current sensor error	
12	—	—	
13	—	—	
14	Others	Other errors (Refer to the technical manual for the outdoor unit.)	

Notes:

1. If the beeper does not sound again after the initial 2 beeps to confirm the self-check start signal was received and the OPERATION INDICATOR lamp does not come on, there are no error records.
2. If the beeper sounds 3 times continuously "beep, beep, beep (0.4 + 0.4 + 0.4 seconds)" after the initial 2 beeps to confirm the self-check start signal was received, the specified refrigerant address is incorrect.

Continued to the next page

- On wireless remote controller
The continuous buzzer sounds from receiving section of indoor unit.
Blink of operation lamp

- On wired remote controller

① Check code displayed in the LCD.

*The check code in the parenthesis indicates PAR-42MAAUB model.

- If the unit cannot be operated properly after test run, refer to the following table to find the cause.

Symptom			Cause
Wired remote controller		LED 1, 2 (PCB in outdoor unit)	
Please Wait	For about 3 minutes after power-on	After LED 1, 2 are lit, LED 2 is turned off, then only LED 1 is lit. (Correct operation)	• For about 3 minutes following power-on, operation of the remote controller is not possible due to system startup. (Correct operation)
Please Wait → Check code	Subsequent to about 3 minutes after power-on	Only LED 1 is lit. → LED 1, 2 blink.	• Connector for the outdoor unit's protection device is not connected. • Reverse or open phase wiring for the outdoor unit's power terminal block (L1, L2, GR).
Display messages do not appear even when operation switch is turned ON (operation lamp does not light up).		Only LED 1 is lit. → LED 1 blinks twice, LED 2 blinks once.	• Incorrect wiring between indoor and outdoor units (incorrect polarity of S1, S2, S3) • Remote controller wire short

On the wireless remote controller with condition above, following phenomena take place.

- No signals from the remote controller can be received.
- Operation lamp is blinking.
- The buzzer makes a short ping sound.

Note:

Operation is not possible for about 30 seconds after cancellation of function selection. (Correct operation)

For description of each LED (LED1, 2, 3) provided on the indoor controller, refer to the following table.

LED1 (power for microprocessor)	Indicates whether control power is supplied. Make sure that this LED is always lit.
LED2 (power for remote controller)	Indicates whether power is supplied to the remote controller. This LED lights only in the case of the indoor unit which is connected to the outdoor unit refrigerant addresses "0".
LED3 (communication between indoor and outdoor units)	Indicates state of communication between the indoor and outdoor units. Make sure that this LED is always blinking.

9-3. SELF-DIAGNOSIS ACTION TABLE

Note:

Errors to be detected in outdoor unit, such as codes starting with F, U or E (excluding E0 to E7), are not covered in this document. Please refer to the outdoor unit service manual for the details.

Check code	Abnormal point and detection method	Cause	Countermeasure
P1	Room temperature thermistor (TH1) ① The unit is in 3-minute resume prevention mode if short/open of thermistor is detected. Abnormal if the unit does not reset normally after 3 minutes. (The unit returns to normal operation, if it has been reset normally.) ② Constantly detected during cooling, drying, and heating operation. Short: 90°C [194°F] or more Open: -40°C [-40°F] or less	① Defective thermistor characteristics ② Contact failure of connector (CN20) on the indoor controller board (Insert failure) ③ Breaking of wire or contact failure of thermistor wiring ④ Defective indoor controller board	①—③ Check resistance value of thermistor. 0°C [32°F]...15.0 kΩ 10°C [50°F].....9.6 kΩ 20°C [68°F].....6.3 kΩ 30°C [86°F].....4.3 kΩ 40°C [104°F].....3.0 kΩ If you put force on (draw or bend) the lead wire with measuring resistance value of thermistor, breaking of wire or contact failure can be detected. ② Check contact failure of connector (CN20) on the indoor controller board. Refer to "9-7. TEST POINT DIAGRAM". Turn the power on again and check restart after inserting connector again. ④ Check room temperature display on remote controller. Replace indoor controller board if there is abnormal difference with actual room temperature. Turn the power off, and on again to operate after check.
P2	Pipe temperature thermistor/liquid (TH2) ① The unit is in 3-minute resume prevention mode if short/open of thermistor is detected. Abnormal if the unit does not reset normally after 3 minutes. (The unit returns to normal operation, if it has been reset normally.) ② Constantly detected during cooling, drying, and heating (except defrosting) operation Short: 90°C [194°F] or more Open: -40°C [-40°F] or less	① Defective thermistor characteristics ② Contact failure of connector (CN44) on the indoor controller board (Insert failure) ③ Breaking of wire or contact failure of thermistor wiring ④ Defective refrigerant circuit is causing thermistor temperature of 90°C [194°F] or more, or -40°C [-40°F] or less. ⑤ Defective indoor controller board	①—③ Check resistance value of thermistor. For characteristics, refer to (P1) above. ② Check contact failure of connector (CN44) on the indoor controller board. Refer to "9-7. TEST POINT DIAGRAM". Turn the power on and check restart after inserting connector again. ④ Check pipe <liquid> temperature with remote controller in test run mode. If pipe <liquid> temperature is extremely low (in cooling mode) or high (in heating mode), refrigerant circuit may have defective. ⑤ Check pipe <liquid> temperature with remote controller in test run mode. If there is extremely difference with actual pipe <liquid> temperature, replace indoor controller board. Turn the power off, and on again to operate after check.
P4	Contact failure of drain float switch (CN4F) • Extract when the connector of drain float switch is disconnected. (③ and ④ of connector CN4F is not short-circuited.) • Constantly detected during operation	① Contact failure of connector (Insert failure) ② Defective indoor controller board	① Check contact failure of float switch connector. Turn the power on again and check after inserting connector again. ② Operate with connector (CN4F) short-circuited. Replace indoor controller board if abnormality reappears.
P5	Drain over flow protection operation ① Suspensive abnormality, if drain float switch is detected to be underwater for 1 minute and 30 seconds continuously with drain pump on. Compressor and indoor fan will be turned off. ② Drain pump is abnormal if the condition above is detected during suspensive abnormality. ③ Constantly detected during drain pump operation	① Malfunction of drain pump ② Defective drain Clogged drain pump Clogged drain pipe ③ Defective drain float switch Catch of drain float switch or malfunction of moving parts cause drain float switch to be detected under water (Switch On) ④ Defective indoor-controller board	① Check if drain-up machine works. ② Check drain function. ③ Remove drain float switch connector CN4F and check if it is short (Switch On) with the moving part of float switch UP, or OPEN with the moving part of float switch down. Replace float switch if it is short with the moving part of float switch down. ④ Replace indoor controller board if it is short-circuited between ③—④ of the drain float switch connector CN4F and abnormality reappears. It is not abnormal if there is no problem about the above-mentioned ①—④. Turn the power off, and on again to operate after check.

Check code	Abnormal point and detection method	Cause	Countermeasure
P6	Freezing/overheating protection is working ① Freezing protection (Cooling mode) The unit is in 6-minute resume prevention mode if pipe <liquid or condenser/evaporator> temperature stays under -15°C [5°F] for 3 minutes, 3 minutes after the compressor started. Abnormal if it stays under -15°C [5°F] for 3 minutes again within 16 minutes after 6-minute resume prevention mode. ② Overheating protection (Heating mode) The unit is in 6-minute resume prevention mode if pipe <liquid or condenser/evaporator> temperature is detected as over 70°C [158°F] after the compressor started. Abnormal if the temperature of over 70°C [158°F] is detected again within 30 minutes after 6-minute resume prevention mode.	(Cooling or drying mode) ① Clogged filter (reduced airflow) ② Short cycle of air path ③ Low-load (low temperature) operation out of the tolerance range ④ Defective indoor fan motor • Fan motor is defective. • Indoor controller board is defective. ⑤ Defective outdoor fan control ⑥ Overcharge of refrigerant ⑦ Defective refrigerant circuit (clogs) (Heating mode) ① Clogged filter (reduced airflow) ② Short cycle of air path ③ Over-load (high temperature) operation out of the tolerance range ④ Defective indoor fan motor • Fan motor is defective. • Indoor controller board is defective. ⑤ Defective outdoor fan control ⑥ Overcharge of refrigerant ⑦ Defective refrigerant circuit (clogs) ⑧ Bypass circuit of outdoor unit is defective.	(Cooling or drying mode) ① Check clogs of the filter. ② Remove shields. ④ Refer to "9-6. HOW TO CHECK THE PARTS". ⑤ Check outdoor fan motor. ⑥⑦ Check operating condition of refrigerant circuit. (Heating mode) ① Check clogs of the filter. ② Remove shields. ④ Refer to "9-6. HOW TO CHECK THE PARTS". ⑤ Check outdoor fan motor. ⑥—⑧ Check operating condition of refrigerant circuit.
P8	Pipe temperature <Cooling mode> Detected as abnormal when the pipe temperature is not in the cooling range 3 minutes after compressor start and 6 minutes after the liquid or condenser/evaporator pipe is out of cooling range. Note 1: It takes at least 9 minutes to detect. Note 2: Abnormality P8 is not detected in drying mode. Cooling range: -3°C [-5.4°F] $\geq$ (TH–TH1) TH: Lower temperature between liquid pipe temperature (TH2) and condenser/evaporator temperature (TH5) TH1: Intake temperature <Heating mode> When 10 seconds have passed after the compressor starts operation and the hot adjustment mode has finished, the unit is detected as abnormal when condenser/evaporator pipe temperature is not in heating range within 20 minutes. Note 3: It takes at least 27 minutes to detect abnormality. Note 4: It excludes the period of defrosting. (Detection restarts when defrosting mode is over.) Heating range: 3°C [5.4°F] $\leq$ (TH5–TH1)	① Slight temperature difference between indoor room temperature and pipe <liquid or condenser/evaporator> temperature thermistor • Shortage of refrigerant • Disconnected holder of pipe <liquid or condenser/evaporator> thermistor • Defective refrigerant circuit ② Converse connection of extension pipe (on plural units connection) ③ Converse wiring of indoor/outdoor unit connecting wire (on plural units connection) ④ Defective detection of indoor room temperature and pipe <condenser/evaporator> temperature thermistor ⑤ Stop valve is not opened completely.	①—④ Check pipe <liquid or condenser/evaporator> temperature with room temperature display on remote controller and outdoor controller circuit board. Pipe <liquid or condenser/evaporator> temperature display is indicated by setting SW2 of outdoor controller circuit board as follows. (Conduct temperature check with outdoor controller circuit board after connecting 'A-Control Service Tool (PAC-SK52ST)'). ②③ Check converse connection of extension pipe or converse wiring of indoor/outdoor unit connecting wire.



Check code	Abnormal point and detection method	Cause	Countermeasure
P9	Condenser/evaporator temperature thermistor (TH5) ① The unit is in 3-minute resume protection mode if short/open of thermistor is detected. Abnormal if the unit does not get back to normal within 3 minutes. (The unit returns to normal operation, if it has been reset normally.) ② Constantly detected during cooling, drying, and heating operation (except defrosting) Short: 90°C [194°F] or more Open: -40°C [-40°F] or less	① Defective thermistor characteristics ② Contact failure of connector (CN44) on the indoor controller board (Insert failure) ③ Breaking of wire or contact failure of thermistor wiring ④ Temperature of thermistor is 90°C [194°F] or more or -40°C [-40°F] or less caused by defective refrigerant circuit. ⑤ Defective indoor controller board	①—③ Check resistance value of thermistor. For characteristics, refer to (P1) above. ② Check contact failure of connector (CN44) on the indoor controller board. Refer to "9-7. TEST POINT DIAGRAM". Turn the power on and check restart after inserting connector again. ④ Operate in test run mode and check pipe <condenser/evaporator> temperature with outdoor controller circuit board. If pipe <condenser/evaporator> temperature is extremely low (in cooling mode) or high (in heating mode), refrigerant circuit may have defect. ⑤ Operate in test run mode and check pipe <condenser/evaporator> temperature with outdoor control circuit board. If there is extreme difference with actual pipe <condenser/evaporator> temperature, replace indoor controller board. There is no abnormality if none of above comes within the unit. Turn the power off and on again to operate. (In case of checking pipe temperature with outdoor controller circuit board, be sure to connect A-control service tool (PAC-SK52ST).)
PA	Forced compressor stop (due to water leakage abnormality) ① The unit has a water leakage abnormality when the following conditions, a) and b), are satisfied while the above-mentioned detection is performed. a) The intake temperature subtracted with liquid pipe temperature detects to be less than -10°C [14°F] for a total of 30 minutes. (When the drain sensor is detected to be NOT soaked in the water, the detection record of a) and b) will be cleared.) b) Drain float switch detects to be in the water for more than 15 minutes. Note: Once the water leakage abnormality is detected, abnormality state will not be released until the main power is reset.	① Drain pump trouble ② Drain defective · Drain pump clogging · Drain pipe clogging ③ Open circuit of float switch ④ Contact failure of float switch connector ⑤ Dew condensation on float switch · Drain water descends along lead wire. · Drain water is waving due to filter clogging. ⑥ Extension piping connection difference at twin, triple or quadruple system ⑦ Miswiring of indoor/outdoor connecting at twin, triple or quadruple system ⑧ Room temperature thermistor/ liquid pipe temperature thermistor detection is defective.	① Check the drain pump. ② Check whether water can be drained. ③ Check the resistance of the float switch. ④ Check the connector contact failure. ⑤ Check the float switch leadwire mounted. Check the filter clogging. ⑥ Check the piping connection. ⑦ Check the indoor/outdoor connecting wires. ⑧ Check the room temperature display of remote controller. Check the indoor liquid pipe temperature display of outdoor controller board.
PB (Pb)	Fan motor trouble	① Defective fan motor ② Defective indoor controller board ③ Contact failure of fan motor connector	①—③ Refer to "9-6-2. DC fan motor (fan motor/indoor controller circuit board)".
E0 or E4	Remote controller transmission error(E0)/signal receiving error (E4) ① Abnormal if main or sub remote controller cannot receive any transmission normally from indoor unit of refrigerant address "0" for 3 minutes. (Check code: E0) ② Abnormal if sub remote controller could not receive any signal for 2 minutes. (Check code: E0) ① Abnormal if indoor controller board can not receive any data normally from remote controller board or from other indoor controller board for 3 minutes. (Check code: E4) ② Indoor controller board cannot receive any signal from remote controller for 2 minutes. (Check code: E4)	① Contact failure at transmission wire of remote controller ② All remote controllers are set as "sub" remote controller. In this case, E0 is displayed on remote controller, and E4 is displayed at LED (LED1, LED2) on the outdoor controller circuit board. ③ Miswiring of remote controller ④ Defective transmitting receiving circuit of remote controller ⑤ Defective transmitting receiving circuit of indoor controller board of refrigerant addresses "0". ⑥ Noise has entered into the transmission wire of remote controller.	① Check disconnection or looseness of indoor unit or transmission wire of remote controller. ② Set one of the remote controllers "main" if there is no problem with the action above. ③ Check wiring of remote controller. · Total wiring length: max. 500 m (Do not use cables with 3 cores or more. Do not use shielded wires.) · The number of connecting indoor units: max. 16 units · The number of connecting remote controller: max. 2 units When two units are connected, the total wiring length shall not exceed 200 m. If the cause of trouble is not in above ①—③, ④ Diagnose remote controllers. a) When "OK" is displayed, remote controllers have no problem. Turn the power off, and on again to check. If abnormality generates again, replace indoor controller board. b) When "NG" is displayed, replace remote controller. c) When "E3" or "ERC" is displayed, noise may be causing abnormality. Note: If the unit is not normal after replacing indoor controller board in group control, indoor controller board of address "0" may be abnormal.

Check code	Abnormal point and detection method	Cause	Countermeasure
E3 or E5	Remote controller transmission error(E3)/signal receiving error(E5) ① Abnormal if remote controller could not find blank of transmission path for 6 seconds and could not transmit. (Check code: E3) ② Remote controller receives transmitted data at the same time and compares the received and transmitted data. Abnormal if these data are judged to be different 30 continuous times. (Check code: E3) ① Abnormal if indoor controller board could not find blank of transmission path. (Check code: E5) ② Indoor controller board receives transmitted data at the same time and compares the received and transmitted data. Abnormal if these data are judged to be different 30 continuous times. (Check code: E5)	① 2 remote controllers are set as "main." (In case of 2 remote controllers) ② Remote controller is connected with 2 indoor units or more. ③ Repetition of refrigerant address ④ Defective transmitting receiving circuit of remote controller ⑤ Defective transmitting receiving circuit of indoor controller board ⑥ Noise has entered into transmission wire of remote controller.	① Set a remote controller to main, and the other to sub. ② Remote controller is connected with only one indoor unit. ③ The address changes to a separate setting. ④—⑥ Diagnose remote controller. a) When "OK" is displayed, remote controllers have no problem. Turn the power off, and on again to check. When becoming abnormal again, replace indoor controller board. b) When "NG" is displayed, replace remote controller. c) When "E3" or "ERC" is displayed, noise may be causing abnormality.
E6	Indoor/outdoor unit communication error (Signal receiving error) ① Abnormal if indoor controller board cannot receive any signal normally for 6 minutes after turning the power on. ② Abnormal if indoor controller board cannot receive any signal normally for 3 minutes. ③ Consider the unit abnormal under the following condition: When 2 or more indoor units are connected to an outdoor unit, indoor controller board cannot receive a signal for 3 minutes from outdoor controller circuit board, a signal which allows outdoor controller circuit board to transmit signals.	① Contact failure, short circuit or, miswiring (converse wiring) of indoor/outdoor unit connecting wire ② Defective transmitting receiving circuit of indoor controller board ③ Defective transmitting receiving circuit of indoor controller board ④ Noise has entered into indoor/outdoor unit connecting wire.	Check LED display on the outdoor control circuit board. (Connect A-control service tool, PAC-SK52ST.) Refer to outdoor unit service manual. ① Check disconnection or looseness of indoor/ outdoor unit connecting wire of indoor unit or outdoor unit. Check all the units in case of twin triple indoor unit system. ②—④ Turn the power off, and on again to check. If abnormality generates again, replace indoor controller board or outdoor controller circuit board. Note: Other indoor controller board may have defect in the case of twin triple indoor unit system.
E7	Indoor/outdoor unit communication error (Transmitting error) Abnormal if "1" receiving is detected 30 times continuously though indoor controller board has transmitted "0".	① Defective transmitting receiving circuit of indoor controller board ② Noise has entered into power supply. ③ Noise has entered into outdoor control wire.	①—③ Turn the power off, and on again to check. If abnormality generates again, replace indoor controller board.
FB (Fb)	Indoor controller board Abnormal if data cannot be read normally from the nonvolatile memory of the indoor controller board.	① Defective indoor controller board	① Replace indoor controller board.
E1 or E2	Remote controller control board ① Abnormal if data cannot be read normally from the nonvolatile memory of the remote controller control board. (Check code: E1) ② Abnormal if the clock function of remote controller cannot be operated normally. (Check code: E2)	① Defective remote controller	① Replace remote controller.
PL	Abnormal refrigerant circuit During Cooling, Drying, or Auto Cooling operation, the following conditions are regarded as failures when detected for 1 second. a) The compressor continues to run for 30 or more seconds. b) The liquid pipe temperature or the condenser/evaporator temperature is 75°C [167°F] or more. <u>These detected errors will not be cancelled until the power source is reset.</u>	① Abnormal operation of 4-way valve ② Disconnection of or leakage in refrigerant pipes ③ Air into refrigerant piping ④ Abnormal operation (no rotation) of indoor fan · Defective fan motor · Defective indoor control board ⑤ Defective refrigerant circuit (clogging)	① <u>When this error occurs, be sure to replace the 4-way valve.</u> ② Check refrigerant pipes for disconnection or leakage. ③ After the recovery of refrigerant, vacuum dry the whole refrigerant circuit. ④ Refer to "9-6-2. DC fan motor (fan motor/ indoor controller circuit board)". ⑤ Check refrigerant circuit for operation. <u>To avoid entry of moisture or air into refrigerant circuit which could cause abnormal high pressure, purge air in refrigerant circuit or replace refrigerant.</u>

9-4. TROUBLESHOOTING OF PROBLEMS

Note: Refer to the outdoor unit's service manual for the detail of remote controller.

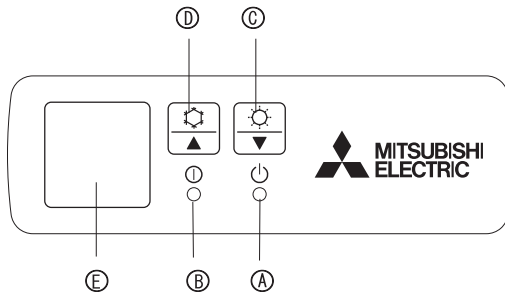
Phenomena	Cause	Countermeasure
(1) LED2 on indoor controller board is off.	- When LED1 on indoor controller board is also off. - Power supply of rated voltage is not supplied to outdoor unit. - Defective outdoor controller circuit board - Power supply of 208/230 V is not supplied to indoor unit. - Defective indoor controller board	- Check the voltage of outdoor power supply terminal block (L1, L2). - When 208/230 VAC is not detected, check the power wiring to outdoor unit and the breaker. - When 208/230 VAC is detected, check ② (below). - Check the voltage between outdoor terminal block S1 and S2. - When 208/230 VAC is not detected, —check the fuse on outdoor controller circuit board. —check the wiring connection. - When 208/230 VAC is detected, check ③ (below). - Check the voltage between indoor terminal block S1 and S2. - When 208/230 VAC is not detected, check indoor/outdoor unit connecting wire for miswiring. - When 208/230 VAC is detected, check ④ (below). - Check the fuse on indoor controller board. Check the wiring connection. If no problem is found, indoor controller board is defective.
	- When LED1 on indoor controller board is lit. - Mis-setting of refrigerant address for outdoor unit (There is no unit corresponding to refrigerant address "0".)	Check again the setting of refrigerant address for outdoor unit. Set the refrigerant address to "0". (For grouping control system under which 2 or more outdoor units are connected, set one of the units to "0".) Set refrigerant address using SW1 (3-6) on outdoor controller circuit board.
(2) LED2 on indoor controller board is blinking.	- When LED1 on indoor controller board is also blinking. - Connection failure of indoor/outdoor unit connecting wire - When LED1 is lit. - Miswiring of remote controller wires Under twin or triple indoor unit system, 2 or more indoor units are wired together. - Refrigerant address for outdoor unit is wrong or not set. Under grouping control system, there are some units whose refrigerant addresses are 0. - Short-circuit of remote controller wires - Defective remote controller	- Check indoor/outdoor unit connecting wire for connection failure. - Check the connection of remote controller wires in case of twin triple indoor unit system. When 2 or more indoor units are wired in one refrigerant system, connect remote controller wires to one of those units. - Check the setting of refrigerant address in case of grouping control system. If there are some units whose refrigerant addresses are 0 in one group, set one of the units to 0 using SW1 (3-6) on outdoor controller circuit board. - Remove remote controller wires and check LED2 on indoor controller board. - When LED2 is blinking, check the short-circuit of remote controller wires. - When LED2 is lit, connect remote controller wires again and: if LED2 is blinking, remote controller is defective; if LED2 is lit, connection failure of remote controller terminal block, etc. has returned to normal.

Note: Refer to the outdoor unit's service manual for the detail of remote controller.

Phenomena	Cause	Countermeasure
(3) Upward/downward vane performance failure	① The vane is not downward during defrosting and heat preparation and when the thermostat is OFF in HEAT mode. (Working of COOL protection function) ② Vane motor does not rotate. • Defective vane motor • Breaking of wire or connection failure of connector ③ Upward/downward vane does not work. • The vane is set to fixed position.	① Normal operation (The vane is set to horizontal regardless of remote control.) ② Check ② (left). • Check the vane motor. (Refer to 9-6. HOW TO CHECK THE PARTS.) • Check for breaking of wire or connection failure of connector. ③ Normal operation (Each connector on vane motor side is disconnected or setting the fixed vanes by wired remote controller.)
(4) Receiver for wireless remote controller	① Weak batteries of wireless remote controller ② Contact failure of connector (CNB) on wireless remote controller board (Insert failure) ③ Contact failure of connector (CN90) on indoor controller board (Insert failure) ④ Contact failure of connector between wireless remote controller board and indoor controller board	① Replace batteries of wireless remote controller. ②—④ Check contact failure of each connector. If no problems are found of connector, replace indoor controller board. When the same trouble occurs even if indoor controller board is replaced, replace wireless remote controller board.

9-5. EMERGENCY OPERATION

9-5-1. When wireless remote controller fails or its battery is exhausted



When the remote controller cannot be used

When the batteries of the remote controller run out or the remote controller malfunctions, the Emergency Operation can be done using the emergency buttons on the grille.

- Ⓐ Defrost/Standby lamp
- Ⓑ Operation lamp
- Ⓒ Emergency operation switch (heating)
- Ⓓ Emergency operation switch (cooling)
- Ⓔ Receiver

Starting operation

- To operate the cooling mode, press the Ⓓ button for more than 2 seconds.
- To operate the heating mode, press the Ⓒ button for more than 2 seconds.

Note: Lighting of the Operation lamp Ⓑ means the start of operation.

• Details of emergency mode are as shown below.

Operation mode	COOL	HEAT
Set temperature	24°C [75°F]	24°C [75°F]
Fan speed	High	High
Airflow direction	Horizontal	Downward 5

Stopping operation

- To stop operation, press the Ⓓ button Ⓓ or the Ⓒ button Ⓒ.

9-5-2. When wired remote controller or indoor unit microprocessor fails

1. When the wired remote controller or the indoor unit microprocessor has failed, but all other components work properly, if you set the switch (SWE) on the indoor controller board ON, the indoor unit will begin Emergency Operation.

When Emergency Operation is activated, the indoor unit operates as follows:

(1) Indoor fan is running at high speed. (2) Drain pump is working. (option)

Note on the wireless remote control:

When the remote control does not function, it is possible to activate Emergency Operation by using the indoor unit Emergency Operation switch.

However, if the indoor unit microprocessor has failed, it is necessary to proceed with points (2) and (3) below as in the case of the wired remote controller.

2. When you activate Emergency Operation of the cooling or heating, you have to set the switch (SWE) on the indoor controller board and activate Emergency Operation of the outdoor unit.

For details on how to activate Emergency Operation of the outdoor unit, refer to the outdoor unit wiring diagram.

3. Before you activate Emergency Operation, check the following points:

(1) Emergency operation cannot be activated when:

- the outdoor unit malfunctions.
- the indoor fan malfunctions.
- when it has detected the malfunction of drain pump during self-diagnosing.

(2) Emergency operation becomes continuous only by switching the power source on/off.

ON/OFF on the remote control or temperature control, etc. does not function.

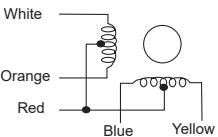
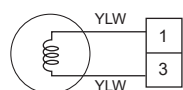
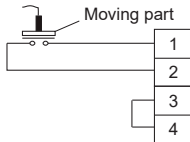
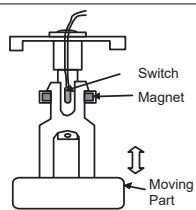
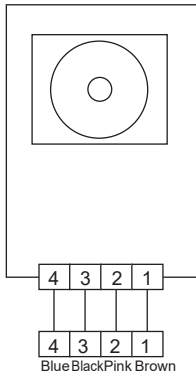
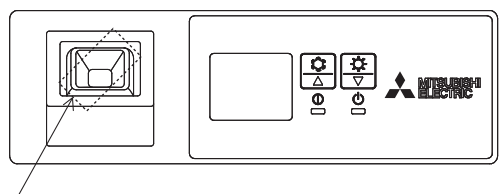
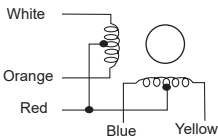
(3) Avoid operating for a long time when the outdoor unit begins defrosting while Emergency Operation of the heating is activated because it will start to blow cold air.

(4) Emergency cooling should be limited to 10 hours maximum (The indoor unit heat exchanger may freeze).

(5) After Emergency Operation has been deactivated, set the switches etc. to their original positions.

(6) Movement of the vanes does not work in Emergency Operation, therefore you have to slowly set them manually to the appropriate position.

9-6. HOW TO CHECK THE PARTS

Parts name	Checkpoints									
Room temperature thermistor (TH1) Pipe temperature thermistor/liquid (TH2) Condenser/evaporator temperature thermistor (TH5)	Disconnect the connector then measure the resistance with a multimeter. (At the ambient temperature 10 to 30°C [50 to 86°F]) <table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>4.3 to 9.6 kΩ</td><td>Open or short</td></tr></table> (Refer to “9-6-1. Thermistor”).	Normal	Abnormal	4.3 to 9.6 kΩ	Open or short					
Normal	Abnormal									
4.3 to 9.6 kΩ	Open or short									
Vane motor (MV) 	Measure the resistance between the terminals with a multimeter. (At the ambient temperature of 20 to 30°C [68 to 86°F]) <table><tr><th>Connector</th><th>Normal</th><th>Abnormal</th></tr><tr><td>Red - Yellow</td><td rowspan="4">300 Ω</td><td rowspan="4">Open or short</td></tr><tr><td>Red - Blue</td></tr><tr><td>Red - Orange</td></tr><tr><td>Red - White</td></tr></table>	Connector	Normal	Abnormal	Red - Yellow	300 Ω	Open or short	Red - Blue	Red - Orange	Red - White
Connector	Normal	Abnormal								
Red - Yellow	300 Ω	Open or short								
Red - Blue										
Red - Orange										
Red - White										
Drain pump (DP) (Option) 	Measure the resistance between the terminals with a multimeter. (Winding temperature 20°C [68°F]) <table><tr><th>Normal</th><th>Abnormal</th></tr><tr><td>290 Ω</td><td>Open or short</td></tr></table>	Normal	Abnormal	290 Ω	Open or short					
Normal	Abnormal									
290 Ω	Open or short									
Drain float switch (FS) (Option) 	Measure the resistance between the terminals with a multimeter. <table><tr><th>State of moving part</th><th>Normal</th><th>Abnormal</th></tr><tr><td>UP</td><td>Short</td><td>Other than short</td></tr><tr><td>DOWN</td><td>Open</td><td>Other than open</td></tr></table> 	State of moving part	Normal	Abnormal	UP	Short	Other than short	DOWN	Open	Other than open
State of moving part	Normal	Abnormal								
UP	Short	Other than short								
DOWN	Open	Other than open								
i-see Sensor (Option) 	① Turn on the indoor unit with the black plastic tape on the outside of i-see Sensor controller board. ② i-see Sensor rotates then pull out the connector of motor for i-see Sensor. ③ With electricity being turned on, measure the power voltage between connectors with multimeter.  Black plastic tape i-see Sensor (At the ambient temperature of 10 to 60°C [50 to 104°F]) <table><tr><th>i-see Sensor connector</th><th>Normal</th><th>Abnormal</th></tr><tr><td>②(-) – ④(+)</td><td>1.857 to 3.132 VDC</td><td>Other than the normal</td></tr><tr><td>①(+) – ②(-)</td><td>0.939 to 1.506 VDC</td><td>Other than the normal</td></tr></table> NOTE : Be careful not to discharge static electricity into electronic device.	i-see Sensor connector	Normal	Abnormal	②(-) – ④(+)	1.857 to 3.132 VDC	Other than the normal	①(+) – ②(-)	0.939 to 1.506 VDC	Other than the normal
i-see Sensor connector	Normal	Abnormal								
②(-) – ④(+)	1.857 to 3.132 VDC	Other than the normal								
①(+) – ②(-)	0.939 to 1.506 VDC	Other than the normal								
Vane motor for i-see Sensor (Option) 	Measure the resistance between the terminals with a multimeter. (At the ambient temperature of 20 to 30°C [68 to 86°F]) <table><tr><th>Connector</th><th>Normal</th><th>Abnormal</th></tr><tr><td>Red - Yellow</td><td rowspan="4">250 Ω</td><td rowspan="4">Open or short</td></tr><tr><td>Red - Blue</td></tr><tr><td>Red - Orange</td></tr><tr><td>Red - White</td></tr></table>	Connector	Normal	Abnormal	Red - Yellow	250 Ω	Open or short	Red - Blue	Red - Orange	Red - White
Connector	Normal	Abnormal								
Red - Yellow	250 Ω	Open or short								
Red - Blue										
Red - Orange										
Red - White										

9-6-1. Thermistor

<Thermistor characteristic graph>

Thermistors for lower temperature

Room temperature thermistor (TH1)
Pipe temperature thermistor/liquid (TH2)
Condenser/evaporator temperature thermistor (TH5)

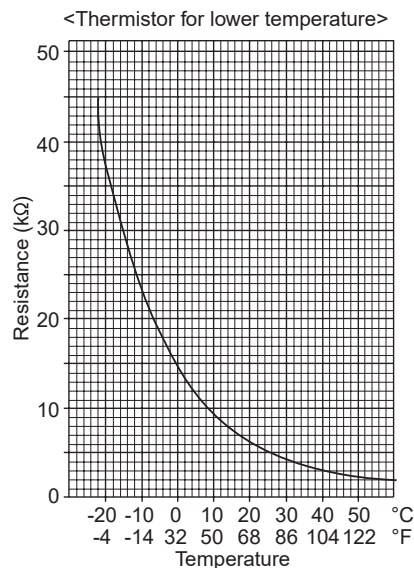
Thermistor $R_0 = 15 \text{ k}\Omega \pm 3\%$

Fixed number of $B = 3480 \pm 2\%$

$$t(^{\circ}\text{C}) \dots R_t (\text{k}\Omega) = R_0 \exp\left\{B \left(\frac{1}{273+t} - \frac{1}{273} \right)\right\}$$

$$T(^{\circ}\text{F}) \dots R_T (\text{k}\Omega) = R_0 \exp\left\{B \left(\frac{1}{273 + \frac{T-32}{1.8}} - \frac{1}{273} \right)\right\}$$

0°C	[32°F]	15 kΩ
10°C	[50°F]	9.6 kΩ
20°C	[68°F]	6.3 kΩ
25°C	[77°F]	5.4 kΩ
30°C	[86°F]	4.3 kΩ
40°C	[104°F]	3.0 kΩ



9-6-2. DC Fan Motor (fan motor/indoor controller circuit board)

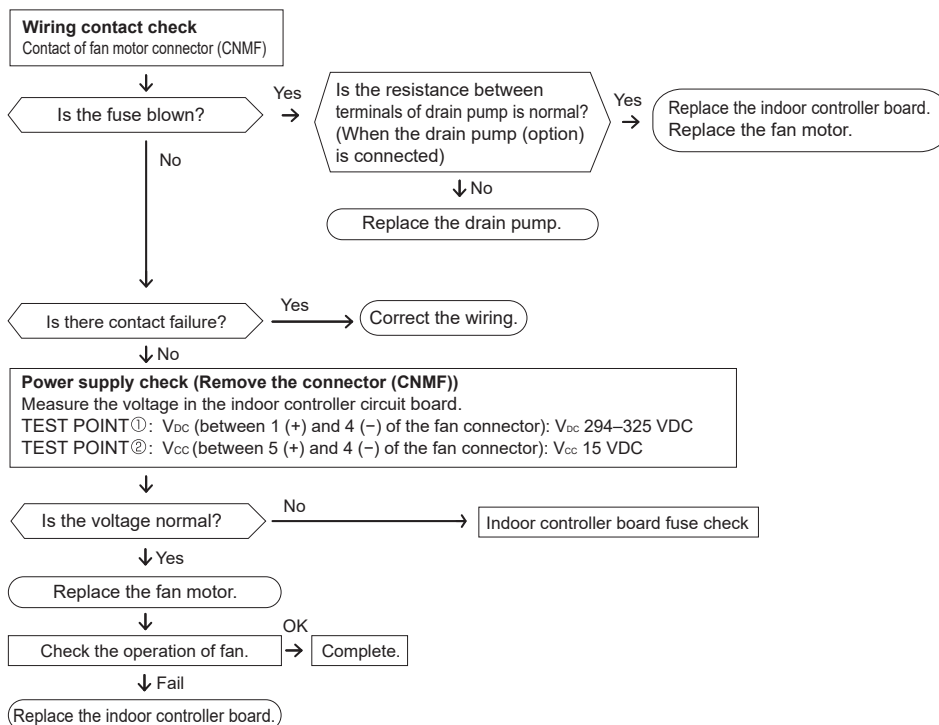
Check method of DC fan motor (fan motor/indoor controller circuit board)

① Notes

- High voltage is applied to the connector (CNMF) for the fan motor. Pay attention to the service.
(It causes trouble of the indoor controller circuit board and fan motor.)

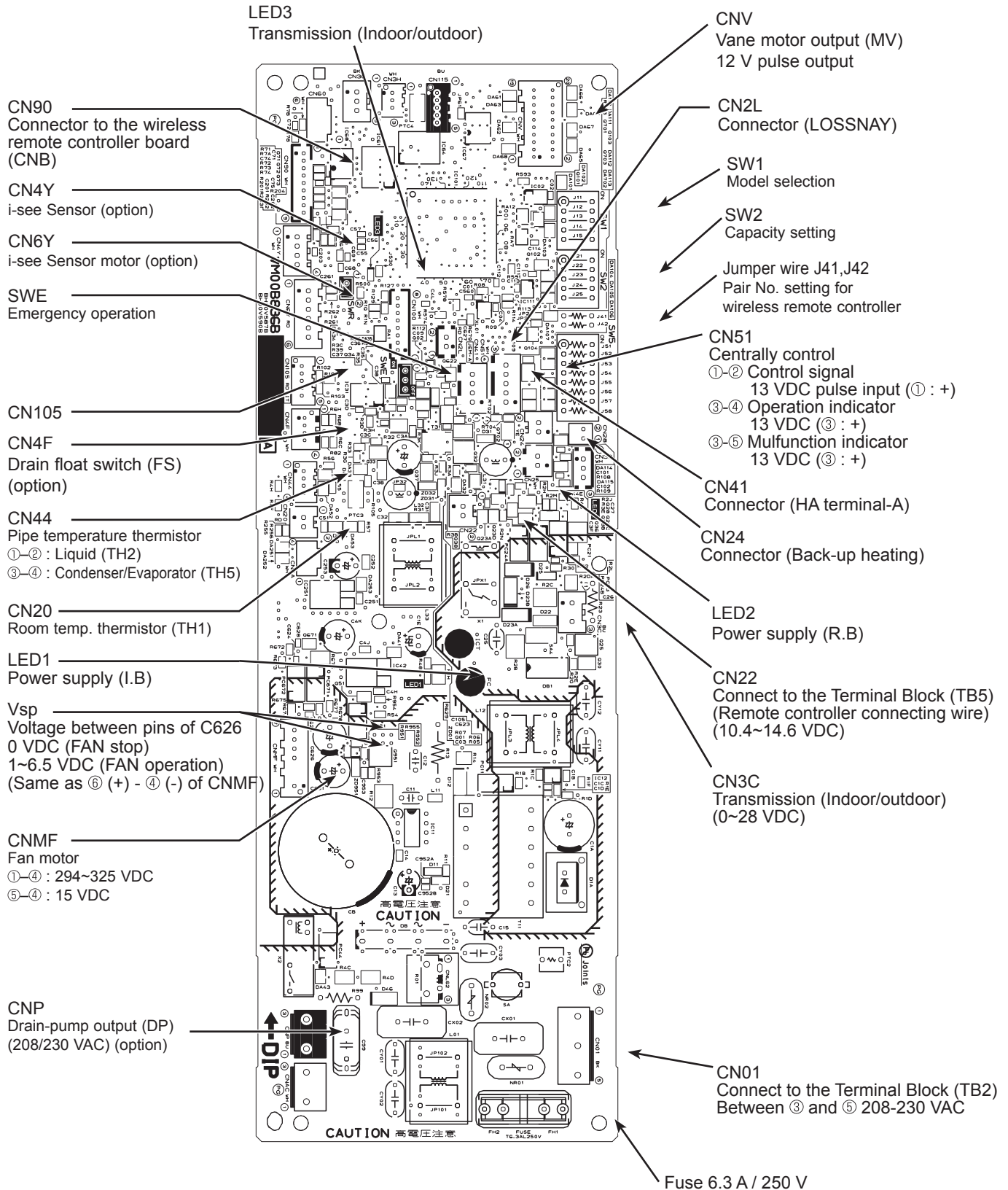
② Self check

Symptom : The indoor fan cannot rotate.



9-7. TEST POINT DIAGRAM

Indoor controller board



9-8. FUNCTIONS OF DIP SWITCH AND JUMPER WIRE

Each function is controlled by the DIP switch and the jumper wire on indoor controller board.

The black square (■) indicates a switch position.

Switch Jumper wire	Functions	Setting by the DIP switch and jumper wire	Remarks																																																												
SW1	Model settings	For service board <table><tr><th>MODELS</th><th>SETTING</th></tr><tr><td>PCA-AK.NL</td><td><table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>ON OFF</td></tr></table></td></tr></table>	MODELS	SETTING	PCA-AK.NL	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>ON OFF</td></tr></table>	1	2	3	4	5							ON OFF																																													
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1	2	3	4	5																																																											
					ON OFF																																																										
SW2	Capacity settings	<table><tr><th>MODELS</th><th>SETTING</th><th>MODELS</th><th>SETTING</th></tr><tr><td>24</td><td><table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>ON OFF</td></tr></table></td><td>36</td><td><table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>ON OFF</td></tr></table></td></tr><tr><td>30</td><td><table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>ON OFF</td></tr></table></td><td>42</td><td><table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>ON OFF</td></tr></table></td></tr></table>	MODELS	SETTING	MODELS	SETTING	24	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>ON OFF</td></tr></table>	1	2	3	4	5							ON OFF	36	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>ON OFF</td></tr></table>	1	2	3	4	5							ON OFF	30	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>ON OFF</td></tr></table>	1	2	3	4	5							ON OFF	42	<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td></td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td>ON OFF</td></tr></table>	1	2	3	4	5							ON OFF	
MODELS	SETTING	MODELS	SETTING																																																												
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J41 J42	Pair number setting with wireless remote controller	<table><tr><th rowspan="2">Wireless remote controller setting</th><th colspan="2">Control PCB setting</th></tr><tr><th>J41</th><th>J42</th></tr><tr><td>0</td><td>Short</td><td>Short</td></tr><tr><td>1</td><td>Open</td><td>Short</td></tr><tr><td>2</td><td>Short</td><td>Open</td></tr><tr><td>3–9</td><td>Open</td><td>Open</td></tr></table>	Wireless remote controller setting	Control PCB setting		J41	J42	0	Short	Short	1	Open	Short	2	Short	Open	3–9	Open	Open	<Initial setting> Wireless remote controller: 0 Control PCB: 0 4 pair number settings are supported. The pair number settings of the wireless remote controller and indoor control PCB (J41/J42) are given in the table on the left.																																											
Wireless remote controller setting	Control PCB setting																																																														
	J41	J42																																																													
0	Short	Short																																																													
1	Open	Short																																																													
2	Short	Open																																																													
3–9	Open	Open																																																													

10-1. UNIT FUNCTION SETTING BY THE REMOTE CONTROLLER

Each function can be set as necessary using the remote controller. The setting of function for each unit can only be done by the remote controller.

- (1) Functions available when setting the unit number to 00
Refer to the service manual that comes with each outdoor unit.

- (2) Functions available when setting the unit number to 1–4 or All (07 in case of wireless remote controller)

Function	Settings	Mode No.	Setting No.	Initial setting	Setting
Filter sign	100 Hr	07	1		
	2500 Hr		2	○	
	No filter sign indicator		3		
Fan speed	Silent	08	1		
	Standard		2	○	
	High ceiling		3		
Installed option (high efficiency filter)	Not supported	10	1	○	
	Supported		2		
Up/down vane setting	No vanes	11	1		
	Equipped with vanes (vaner angle setup ①)		2	○	
	Equipped with vanes (vaner angle setup ②)		3		
Fan speed during the cooling thermostat is OFF	Setting fan speed	27	1	○	
	Stop		2		
	Extra low		3		

11-1. ROTATION FUNCTION (AND BACK-UP FUNCTION, 2ND STAGE CUT-IN FUNCTION)

Note that this function is not available for SUZ, MXZ, and PUMY models.

11-1-1. Operation

(1) Rotation function (and Back-up function)

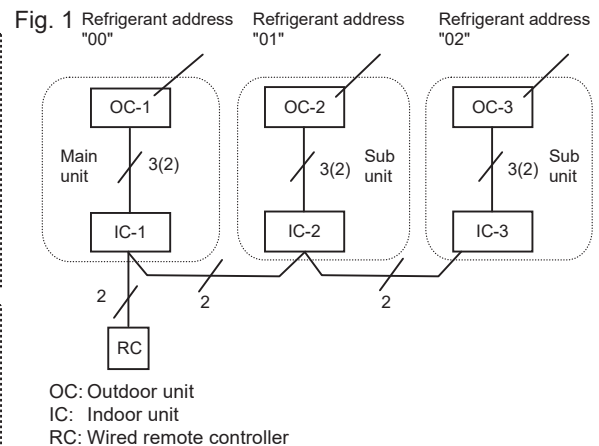
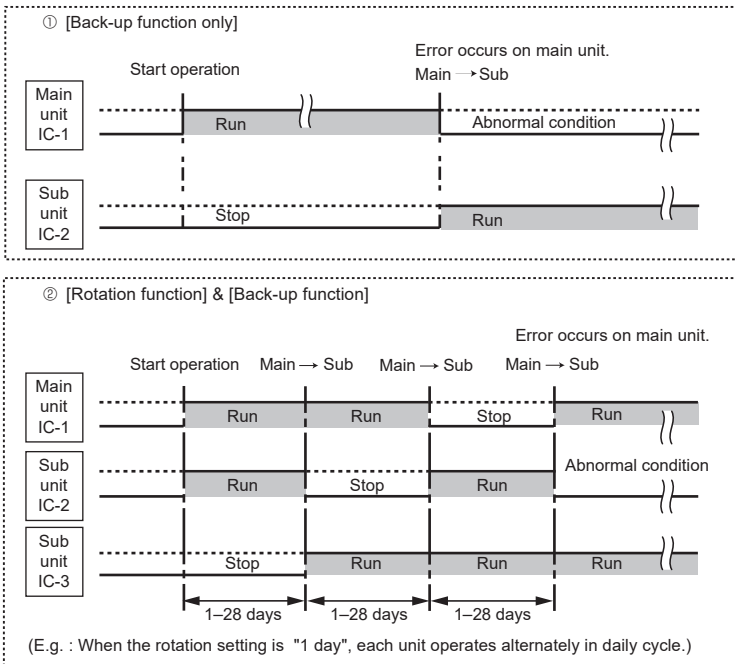
• Outline of functions

- Main and sub units operate according to the interval of rotation setting.
Main and sub units should be set by refrigerant address. (Outdoor DIP switch setting)
Refrigerant address "00" → Main unit
Refrigerant address "01", "02" → Sub unit
- When an error occurs to one unit, another unit will start operation. (Back-up function)

• System constraint

- This function is available only by the grouping control system (INDOOR UNIT: OUTDOOR UNIT=1:1) of 2 or 3 refrigerant groups. (Refer to Fig. 1)
- Main indoor unit should be connected for wired remote controller and the transmission line (TB5) for main and sub units should also be connected. (Refer to Fig. 1)
(This function cannot be set by wireless remote controller.)
- Set refrigerant address of each unit. (DIP switch on the outdoor unit ... Refrigerant address 00/01/02)

Operation pattern



Note:

- When the unit is restarted to operate after turning off the power or operation OFF status, the unit which was operating will start operation.
- To operate the main units, refer to "13-6. ROTATION SETTING" and set again.

(2) 2nd stage cut-in function

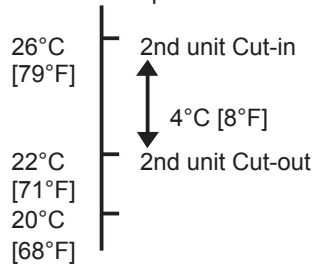
• Outline of functions

- When the 1st and 2nd units CANNOT supply sufficient capacity for exceptionally high-demand conditions and the actual room temperature reaches set point (*), the 3rd unit starts operation in conjunction with the 1st and 2nd units.
- Once the actual room temperature goes down to 4°C [8°F] below set point(*), the 3rd unit stops operation automatically.
(* set point = set temperature by R/C (remote controller) + 4, 6, 8°C [8, 10.8, 14.4°F] (selectable))
- The number of operating units is determined according to the room temperature and set point.
- When room temperature reaches higher than set point, standby unit starts. (3 units operation)
- When room temperature falls below set point -4°C [-8°F], standby unit stops. (2 units operation)

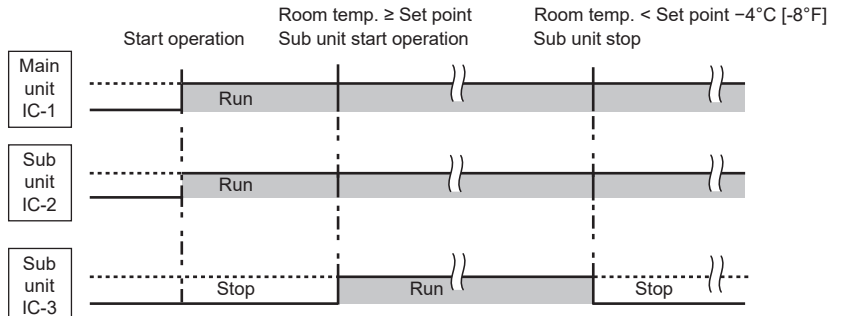
• **System constraint**

- This function is available only in cool mode.

Ex.) Set temp. by R/C = 20°C [68°F]
Set point = 26°C [79°F]
When request code number is "323".



[2nd stage cut-in function]



11-2. BACK-UP HEATING FUNCTION

11-2-1. Operation

The back-up heater turns ON when both of the following conditions have been satisfied:

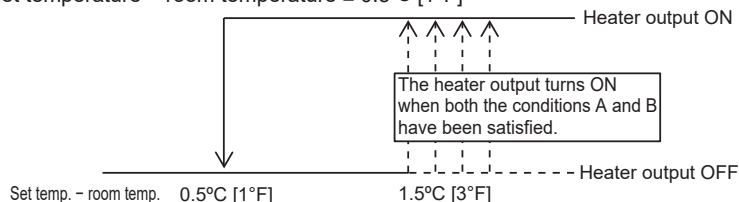
- A) When the heater ON delay time has passed and the room temperature, which is measured every minute, has not increased three times in a row compared with the temperature before the heater ON delay time started.

Note: The heater ON delay time starts when the condition of “set temperature – room temperature > 0.5°C [1°F]” has been satisfied.

- B) Set temperature – room temperature ≥ 1.5°C [3°F]

The back-up heater turns OFF when the following condition has been satisfied:

- Set temperature – room temperature ≤ 0.5°C [1°F]



11-2-2. How to change the heater ON delay time

You can set these functions by wired remote controller.

Notes:

- Both main and sub units should be set in the same setting.
- Every time replacing indoor controller board for service, the function should be set again.
- Stop the air-conditioner operation before changing the heater ON delay time.

Request code list

Setting No. (Request code)	Setting contents	Initial setting
No.1 (390)	Monitoring the request code of current setting	
No.2 (391)	10 minutes	
No.3 (392)	15 minutes	
No.4 (393)	20 minutes	○
No.5 (394)	25 minutes	
No.6 (395)	5 minutes	
No.7 (396)	1 minutes	

11-2-3. How to connect

When connecting to the connector CN24 of the indoor unit, use PAC-SE56RA-E (optional parts).

→ : Indicates the visible parts in the photos/figures.

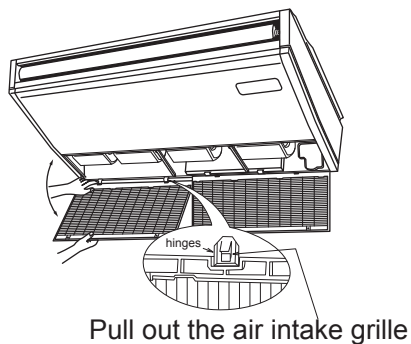
NOTE: Turn OFF the power supply before disassembly.
Be careful when removing heavy parts.

OPERATING PROCEDURE

1. Removing the air intake grille

- (1) Slide the air intake grille holding knobs (at 2 or 3 locations) to the rear to open the air intake grille. (See Figure 1)
- (2) While the air intake grille left open, push the stoppers on the rear hinges (at 2 or 3 locations) to pull out the air intake grille. (See Figure 2)

Figure 2



2. Removing the indoor controller board and the electrical box

- (1) Remove the air intake grille. (See Figure 1, 2)
- (2) Remove the beam by removing 1 screw (4 × 8 PT) (See Photo 1)
- (3) Remove 2 screws from the electrical cover, and remove the electrical cover.
- (4) Remove 2 screws from the electrical box and pull the electrical box downward.
Temporarily secure the electrical box using 2 hooks in the back of electrical box.
- (5) Disconnect the connectors on the indoor controller board.

[Removing the electrical box]

- (6) Disconnect the wires from the terminal blocks and pull out the electrical box. (See Photo 2)

[Removing the indoor controller board]

- (6) Remove the 6 supports from the indoor controller board and remove the indoor controller board. (See Figure 3)

PHOTOS/FIGURES

Figure 1

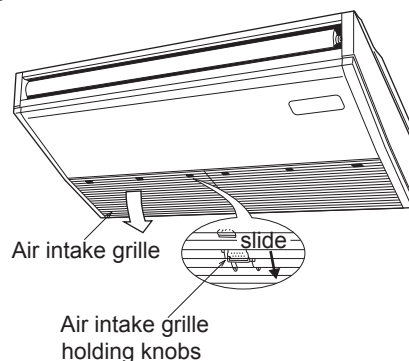


Photo 1

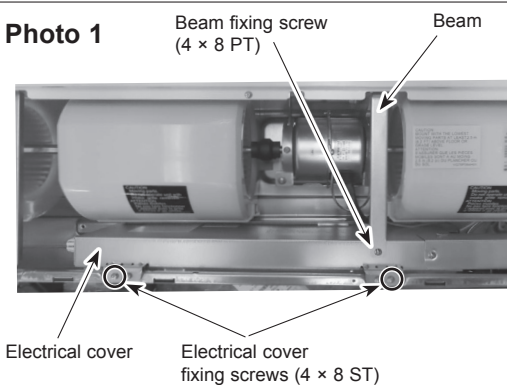


Photo 2

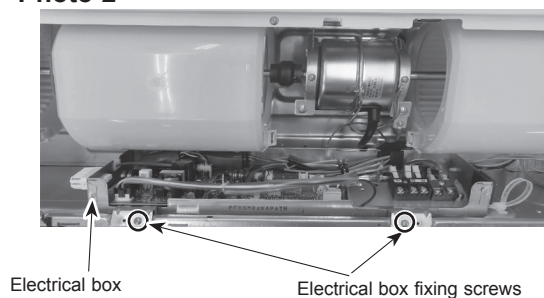
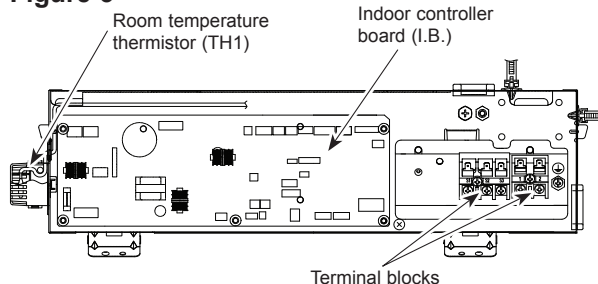


Figure 3



OPERATING PROCEDURE

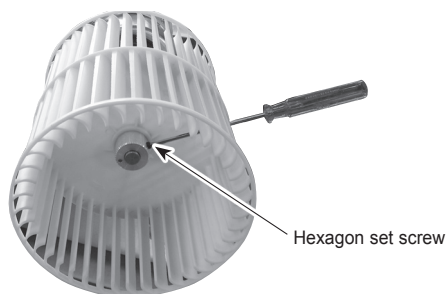
3. Removing the room temperature thermistor (TH1)

- (1) Remove the air intake grille. (See Figure 1, 2)
- (2) Remove the beam by removing 1 screw (4 × 8 PT) (See Photo 1)
- (3) Remove 2 screws from the electrical cover, and remove the electrical cover.
- (4) Remove 2 screws from the electrical box and pull the electrical box downward.
Temporarily secure the electrical box using 2 hooks in the back of electrical box.
- (5) Disconnect the connector CN20 from the indoor controller board.
- (6) Remove the sensor holder from the electrical box and remove the thermistor from the holder.

4. Removing the fan motor and right side fan

- (1) Remove the air intake grille. (See Figure 1, 2)
- (2) Remove the beam by removing 1 screw (4 × 8 PT) (See Photo 1)
- (3) Remove 2 screws from the electrical cover, and remove the electrical cover.
- (4) Remove 2 screws from the electrical box and pull the electrical box downward.
- (5) Temporarily secure the electrical box using 2 hooks in the back of electrical box.
- (6) Remove the lower casing while pressing the 4 catches of the casing (right side of the fan motor). (See Photo 5)
- (7) Loosen the 2 set screws (2 hexagon set screws) of fan joint assy and slide the fan motor to the left. (See Photo 4)
- (8) Remove the screw for motor earth wire. (See Photo 4)
- (9) Remove the motor piece (left and right, each 1 screw). (See Photo 4)
- (10) Remove the fan motor and right side fan together.
- (11) Loosen the set screw (hexagon set screw) of fan and remove the fan from the shaft. (See Photo 6, 7)

Photo 7



PHOTOS/FIGURES

Photo 3

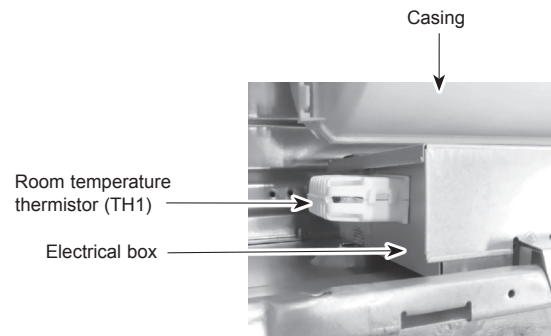


Photo 4

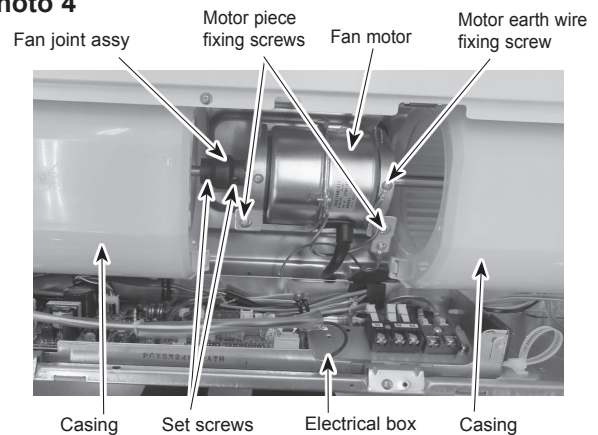


Photo 5

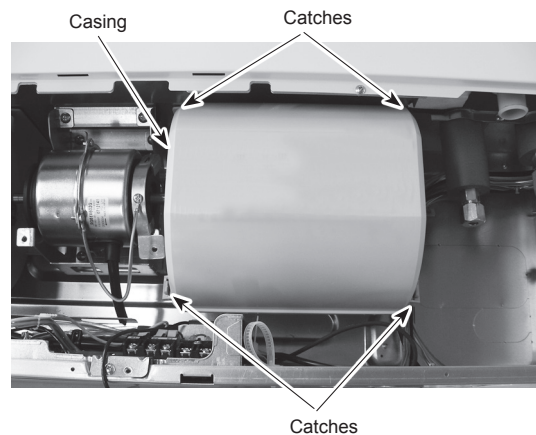
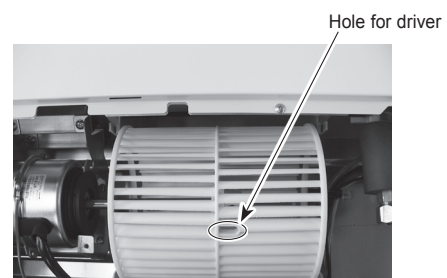


Photo 6

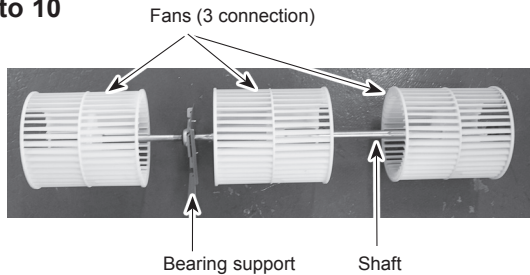


OPERATING PROCEDURE

5. Removing the fan (3 connection)

- (1) Remove the air intake grille. (See Figure 1, 2)
- (2) Remove the beam by removing 1 screw (4 × 8 PT) (See Photo 1)
- (3) Remove 2 screws from the electrical cover, and remove the electrical cover.
- (4) Remove 2 screws from the electrical box and pull the electrical box downward.
Temporarily secure the electrical box using 2 hooks in the back of electrical box.
- (5) Remove 2 screws from the left side beam and remove the beam. (See Photo 8)
- (6) Loosen 2 set screws (2 hexagon set screws) of connecting joint. (See Photo 4)
- (7) Remove 3 lower casings while pressing each 4 catches of the casing. (See Photo 5)
- (8) Remove the 4 screws from the bearing support. (See Photo 9)
- (9) Slide the connecting joint to the left and remove the fans and shaft together. (See Photo 10)
- (10) Remove the fans from the shaft. (See Photo 6,7)

Photo 10



PHOTOS/FIGURES

Photo 8

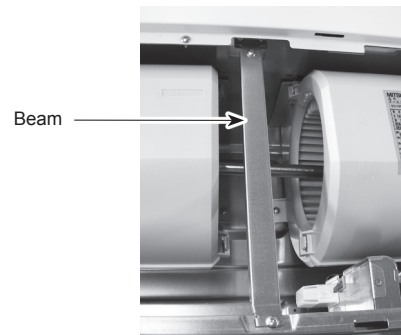
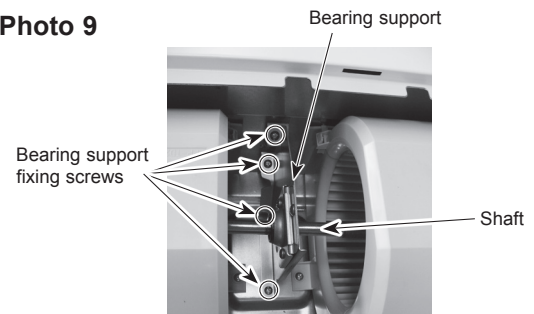


Photo 9



6. Removing the side panel

- (1) Remove the air intake grille. (See Figure 1, 2)
- (2) Remove the screws from the side panel, and remove the side panel by sliding the panel to the front.
- (3) Unhook the side panel support hanger, and then slide the side panel forward to remove it.

Figure 4

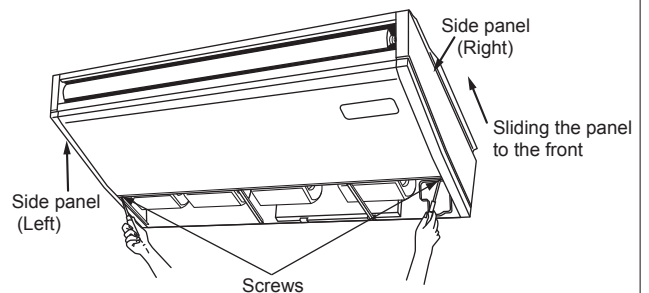
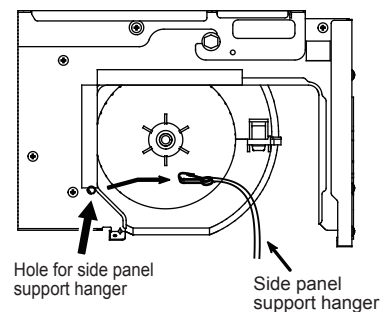


Figure 5

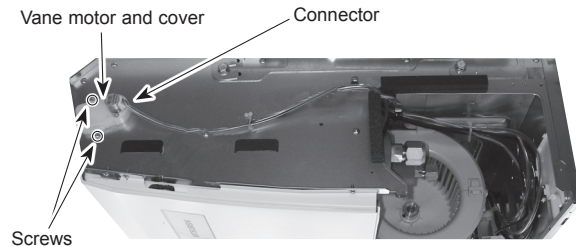


OPERATING PROCEDURE

7. Removing the vane motor

- (1) Remove the air intake grille. (See Figure 1, 2)
- (2) Remove the right side panel. (See Figure 4, 5)
- (3) Remove the connector of vane motor.
- (4) Remove 2 screws of vane motor cover, then remove vane motor.

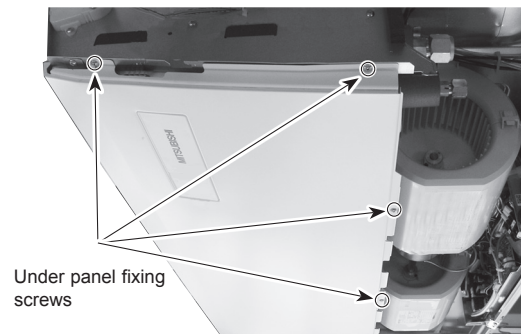
Photo 11



8. Removing the under panel

- (1) Remove the air intake grille. (See Figure 1, 2)
- (2) Remove the left and right side panels. (See Figure 4, 5)
- (3) Remove the beam. (See Photo 1)
- (4) Remove the electrical cover. (See Photo 1)
- (5) Pull the electrical box downward. (See Photo 2)
- (6) (Wireless remote controller receiver type only)
Disconnect the connector CNB from the PCB for wireless remote controller and remove the clamp and strap for wires.
- (7) Remove 8 screws from the under panel.
- (8) Move the under panel forward by about 10 mm (6/16 in.) and remove the under panel.

Photo 12



9. Removing the drain pan

- (1) Remove the air intake grille. (See Figure 1,2)
- (2) Remove the side panel (right and left). (See Figure 4, 5)
- (3) Remove the under panel. (See Photo 12)
Remove the screws of the right and left side drain pan. (See Photo 13)
- (4) Remove 2 insulation in center of the drain pan, and after removing 2 screws with washer, remove the drain pan. (See Photo 14,15)

Note: Please be aware that there might be some drainage left in the drain pan when you remove the drain pan.

Photo 13

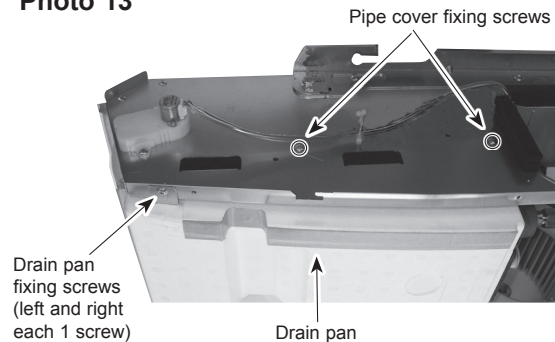


Photo 14

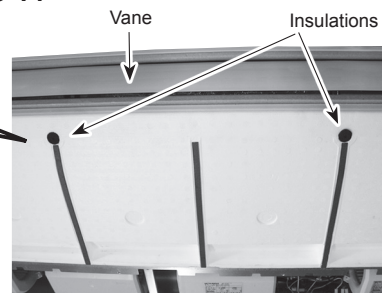
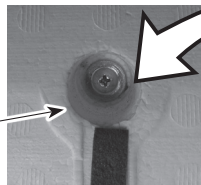
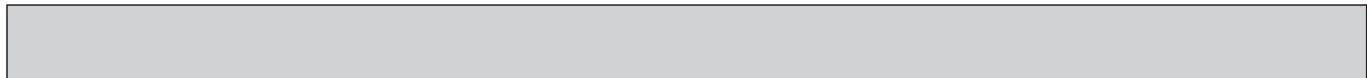
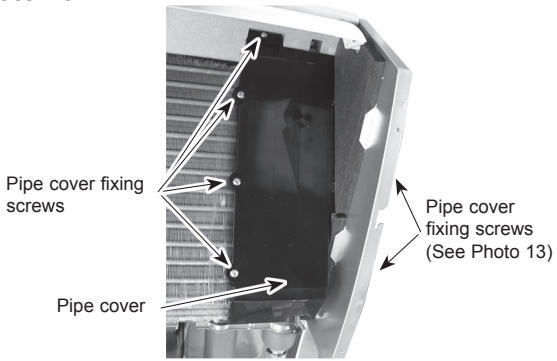
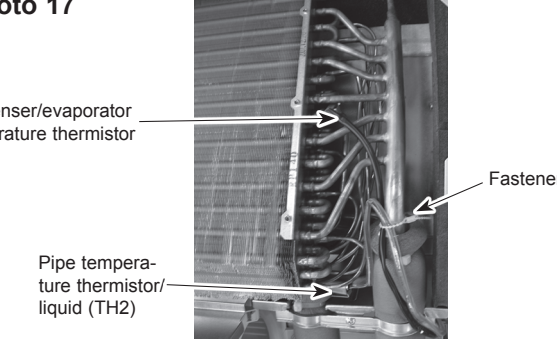
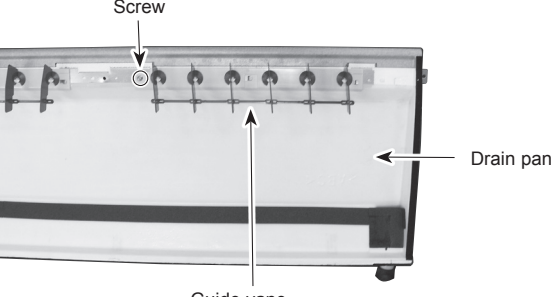
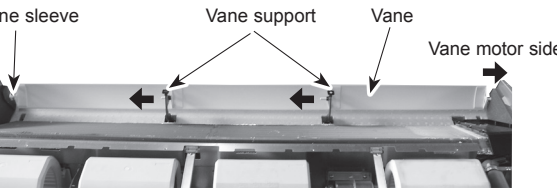


Photo 15

Screw with washer
(2 locations)





OPERATING PROCEDURE	PHOTOS/FIGURES
10. Removing the pipe temperature thermistor/liquid (TH2) and the condenser/evaporator temperature thermistor (TH5) (1) Remove the air intake grille. (See Figure 1, 2) (2) Remove the left and right side panels. (See Figure 4, 5) (3) Remove the under panel. (See Photo 12) (4) Remove the drain pan. (See Photo 13, 14, 15) (5) Disconnect the connector CN44 from the indoor controller board. (6) Remove 6 screws from the pipe cover and remove the pipe cover. (See Photo 13, 16) (7) Remove the fastener for wires and remove the thermistors (TH2 and TH5) from each holder. (See Photo 17)	Photo 16  Photo 17 
11. Removing the guide vane (1) Remove the intake grille. (See Figure 1, 2) (2) Remove the side panel (right and left). (See Figure 4, 5) (3) Remove the under panel. (See Photo 12) (4) Remove the drain pan. (See Photo 13, 14, 15) (5) Remove the screw from the guide vane, then remove the guide vane.	Photo 18 
12. Removing the Auto vane (1) Remove the intake grille. (See Figure 1, 2) (2) Remove the right side panel. (See Figure 4, 5) (3) Remove the vane motor and cover. (See Photo 11) (4) Slide the auto vane to the vane motor side. (5) Remove 2 axes from each vane support pushing the vane support to the vane sleeve side.	Photo 19 

OPERATING PROCEDURE

13. Removing the heat exchanger

- (1) Remove the air intake grille. (See Figure 1, 2)
- (2) Remove the left and right side panels. (See Figure 4, 5)
- (3) Remove the under panel. (See Photo 12)
- (4) Remove the drain pan. (See Photo 13, 14, 15)
- (5) Remove the pipe cover. (See Photo 16)
- (6) Remove the pipe thermistors (TH2 and TH5) from each holder. (See Photo 17)
- (7) Remove the pipe band fixing screw and remove the pipe band. (See Photo 20)
- (8) Remove 3 screws from the heat exchanger and remove the heat exchanger. (See Photo 21)

<Caution>

To avoid falling of the heat exchanger, be sure to hold the heat exchanger by hand. For safety reasons, this procedure must be performed by two persons.

PHOTOS/FIGURES

Photo 20

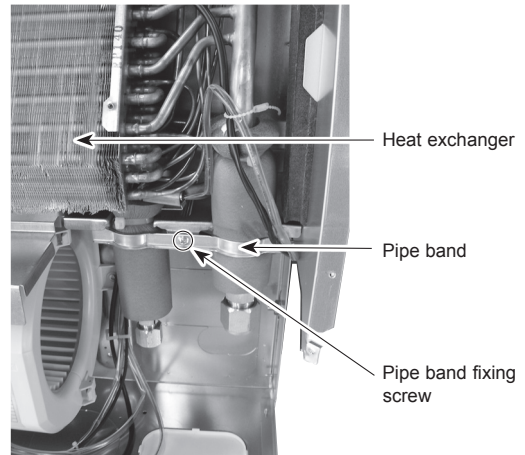
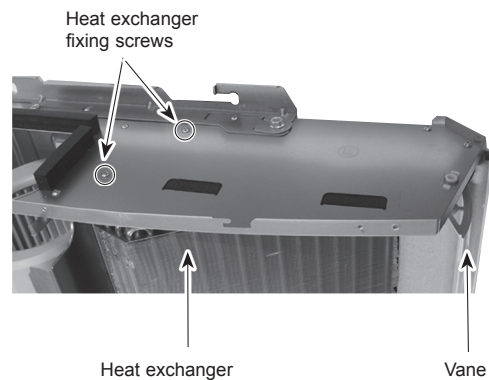


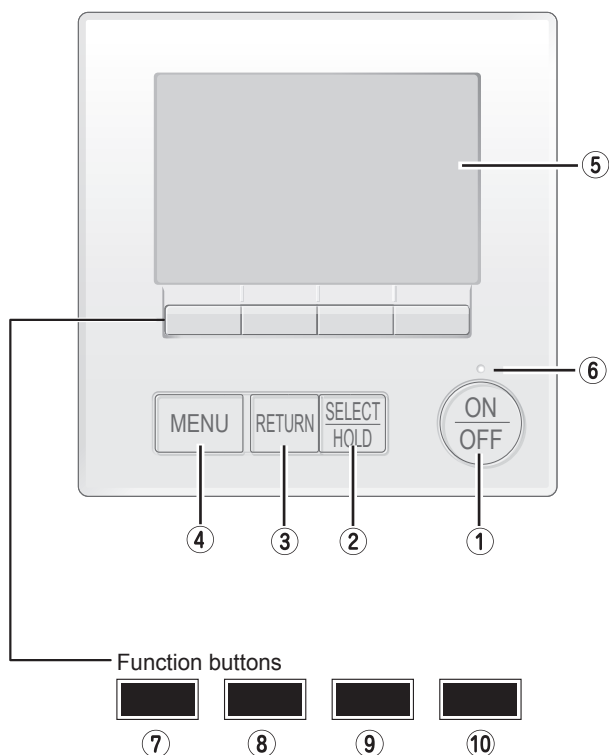
Photo 21



13-1. REMOTE CONTROLLER FUNCTIONS

<PAR-42MAAUB>

Controller interface

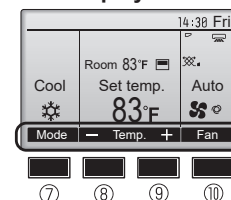


The functions of the function buttons change depending on the screen.

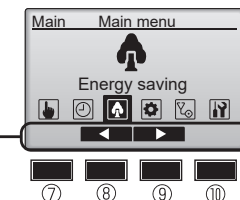
Refer to the button function guide that appears at the bottom of the LCD for the functions they serve on a given screen.

When the system is centrally controlled, the button function guide that corresponds to the locked button will not appear.

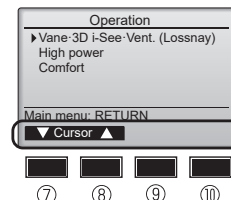
Main display



Main menu



Menu screen



Function guide

① [ON/OFF] button

Press to turn ON/OFF the indoor unit.

② [SELECT/HOLD] button

Press to save the setting.

When the Main menu is displayed, pressing this button will enable/disable the HOLD function.

③ [RETURN] button

Press to return to the previous screen.

④ [MENU] button

Press to bring up the Main menu.

⑤ Backlit LCD

Operation settings will appear.

When the backlight is off, pressing any button turns the backlight on and it will stay lit for a certain period of time depending on the screen.

When the backlight is off, pressing any button turns the backlight on and does not perform its function. (except for the [ON/OFF] button)

⑥ ON/OFF lamp

This lamp lights up in green while the unit is in operation. It blinks while the remote controller is starting up or when there is an error.

⑦ Function button [F1]

Main display: Press to change the operation mode.

Menu screen: The button function varies with the screen.

⑧ Function button [F2]

Main display: Press to decrease temperature.

Main menu: Press to move the cursor left.

Menu screen: The button function varies with the screen.

⑨ Function button [F3]

Main display: Press to increase temperature.

Main menu: Press to move the cursor right.

Menu screen: The button function varies with the screen.

⑩ Function button [F4]

Main display: Press to change the fan speed.

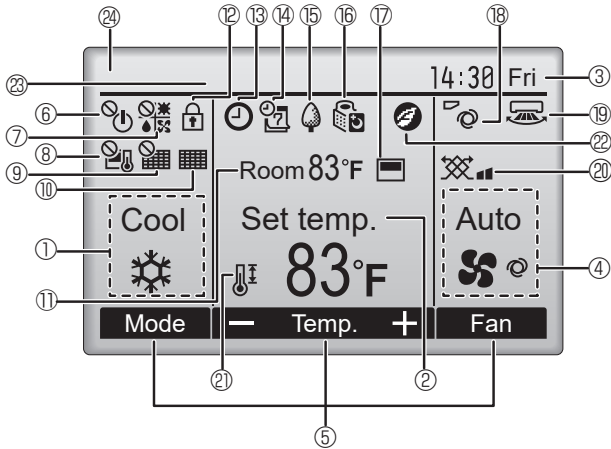
Menu screen: The button function varies with the screen.

Display

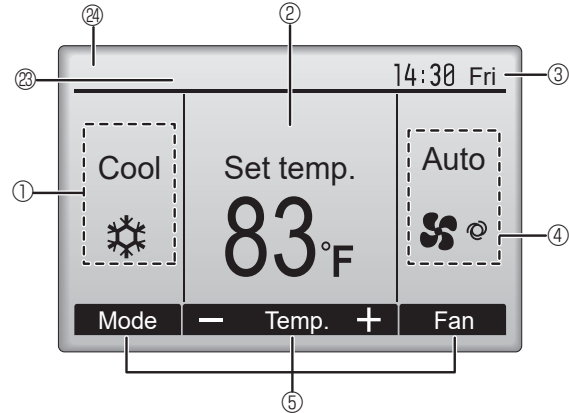
The main display can be displayed in two different modes: "Full" and "Basic". The initial setting is "Full". To switch to the "Basic" mode, change the setting on the Main display setting. (Refer to operation manual included with remote controller.)

<Full mode>

All icons are displayed for explanation.



<Basic mode>



① Operation mode

② Preset temperature

③ Clock

④ Fan speed

⑤ Button function guide

Functions of the corresponding buttons appear here.



Appears when the ON/OFF operation is centrally controlled.



Appears when the operation mode is centrally controlled.



Appears when the preset temperature is centrally controlled.



Appears when the filter reset function is centrally controlled.



Indicates when filter needs maintenance.

⑪ Room temperature



Appears when the buttons are locked.



Appears when the On/Off timer or Auto-off timer function is enabled.

⌚ appears when the timer is disabled by the centralized control system.
⌚ appears when the HOLD function is enable.



Appears when the Weekly timer is enabled.



Appears while the units are operated in the energy saving mode. (Will not appear on some models of indoor units)



Appears while the outdoor units are operated in the silent mode.



Appears when the built-in thermistor on the remote controller is activated to monitor the room temperature (1).

⌚ appears when the thermistor on the indoor unit is activated to monitor the room temperature.



Indicates the vane setting.



Indicates the louver setting.



Indicates the ventilation setting.



Appears when the preset temperature range is restricted.



Appears when an energy saving operation is performed using a "3D i-see Sensor" function.

⑳ Centrally controlled

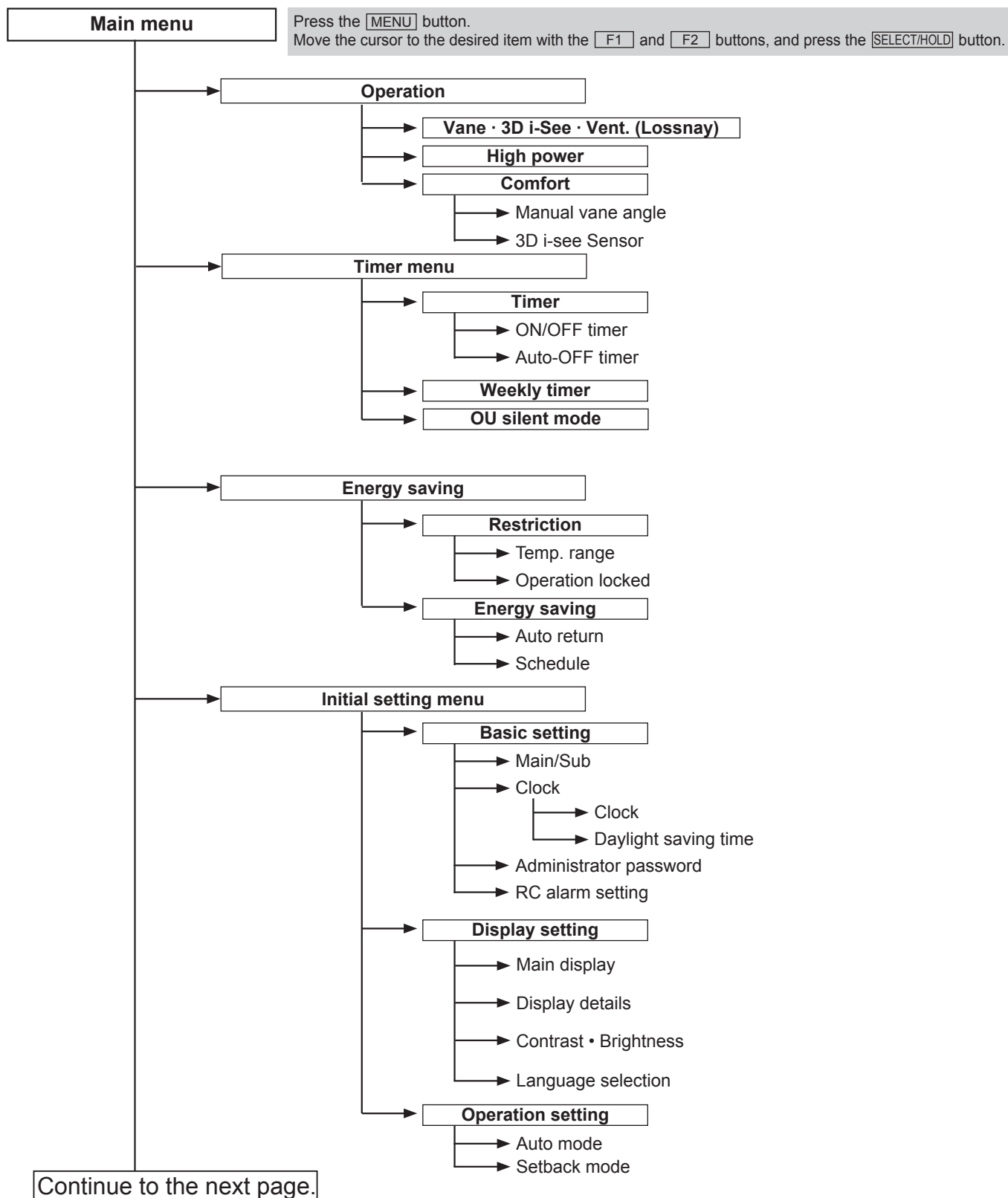
Appears for a certain period of time when a centrally-controlled item is operated.

㉑ Preliminary error display

A check code appears during the preliminary error.

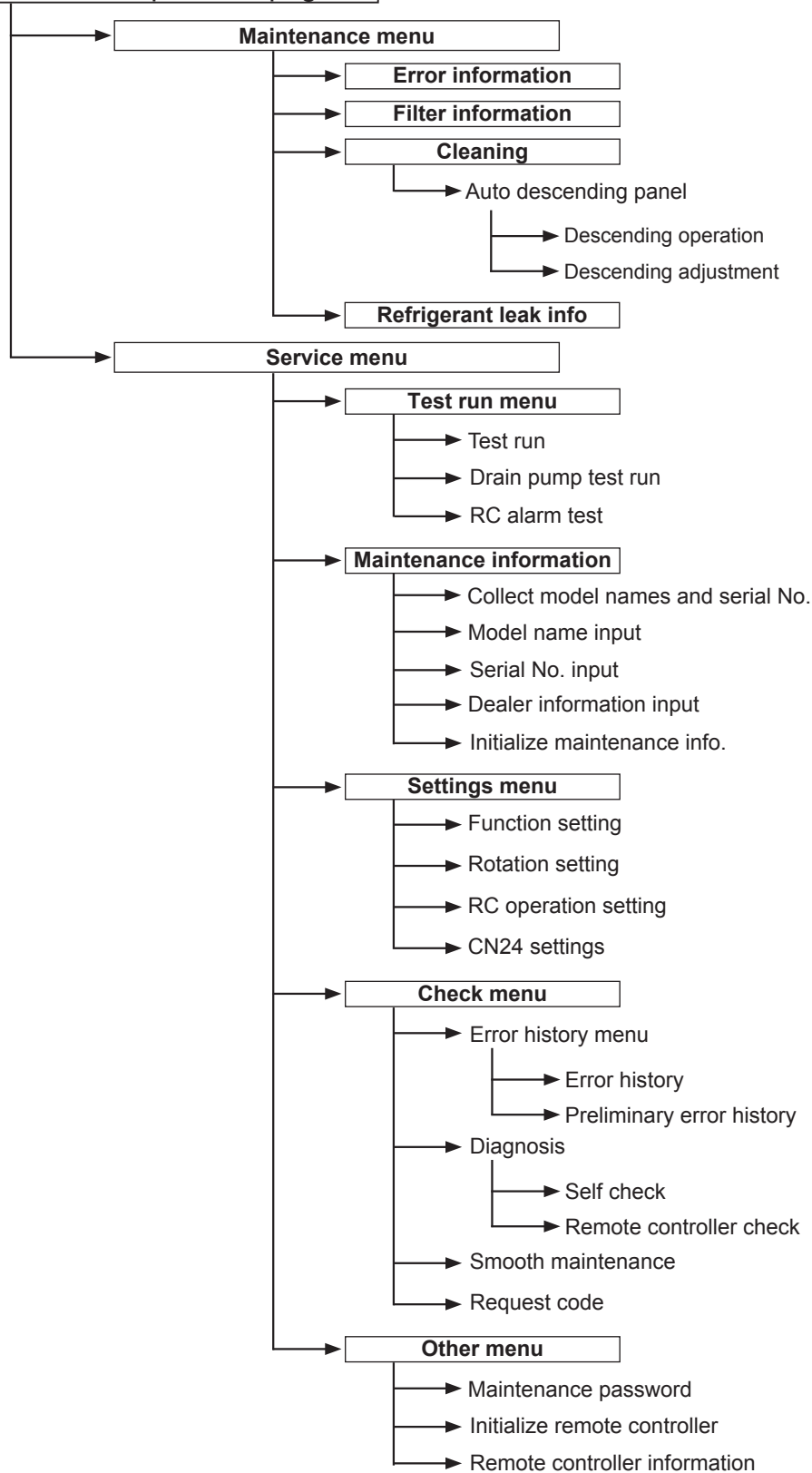
Most settings (except ON/OFF, mode, fan speed, temperature) can be made from the Main menu.

Menu structure



Not all functions are available on all models of indoor units.

Continue from the previous page.



Not all functions are available on all models of indoor units.

Main menu list

Main menu	Setting and display items		Setting details
Operation	Vane•3D i-See•Vent. (Lossnay) Vane · Louver · Vent. (Lossnay)		Vane: Use to set the vertical air direction. Louver: Use to set the horizontal air direction. 3D i-See sensor: This setting is available only for the air conditioners that support easy setting function of motion sensing air direction. Vent: Use to set the amount of ventilation. Use to set the vane angle. • Select a desired vane setting. Use to turn ON/OFF the louver. • Select a desired setting from "ON" and "OFF." Use to set the amount of ventilation. • Select a desired setting from "Off," "Low," and "High."
	High power ^{*3}		Use to reach the comfortable room temperature quickly. • Units can be operated in the High-power mode for up to 30 minutes.
	Comfort	Manual vane angle	Use to fix each vane angle.
		3D i-see Sensor	Use to set the following functions for 3D i-see Sensor. • Air distribution • Energy saving option • Seasonal airflow
Timer	Timer	ON/OFF timer ^{*1}	Use to set the operation ON/OFF times. • Time can be set in 5-minute increments.
		Auto-Off timer	Use to set the Auto-Off time. • Time can be set to a value from 30 to 240 in 10-minute increments.
	Weekly timer ^{*1, *2}		Use to set the weekly operation ON/OFF times. • Up to 8 operation patterns can be set for each day. (Not valid when the ON/OFF timer is enabled.)
	OU silent mode ^{*1, *3}		Use to set the time periods in which priority is given to quiet operation of outdoor units over temperature control. Set the Start/Stop times for each day of the week. • Select the desired silent level from "Normal," "Middle," and "Quiet."
Energy saving	Restriction	Temp. range ^{*2}	Use to restrict the preset temperature range. • Different temperature ranges can be set for different operation modes.
		Operation locked	Use to lock selected functions. • The locked functions cannot be operated.
	Energy saving	Auto return ^{*2}	Use to get the units to operate at the preset temperature after performing energy saving operation for a specified time period. • Time can be set to a value from 30 and 120 in 10-minute increments. (This function will not be valid when the preset temperature ranges are restricted.)
		Schedule ^{*1, *3}	Set the start/stop times to operate the units in the energy saving mode for each day of the week, and set the energy saving rate. • Up to 4 energy saving operation patterns can be set for each day. • Time can be set in 5-minute increments. • Energy saving rate can be set to a value from 0% or 50 to 90% in 10% increments.
Initial setting	Basic setting	Main/Sub	When connecting 2 remote controllers, one of them needs to be designated as a sub controller.
		Clock	Use to set the current time.
		Daylight saving time	Set the daylight saving time.
		Administrator password	The administrator password is required to make the settings for the following items. • Timer setting • Energy saving setting • Weekly timer setting • Restriction setting • Outdoor unit silent mode setting

^{*1} Clock setting is required.

^{*2} 2°F (1°C) increments.

^{*3} This function is available only when certain outdoor units are connected.

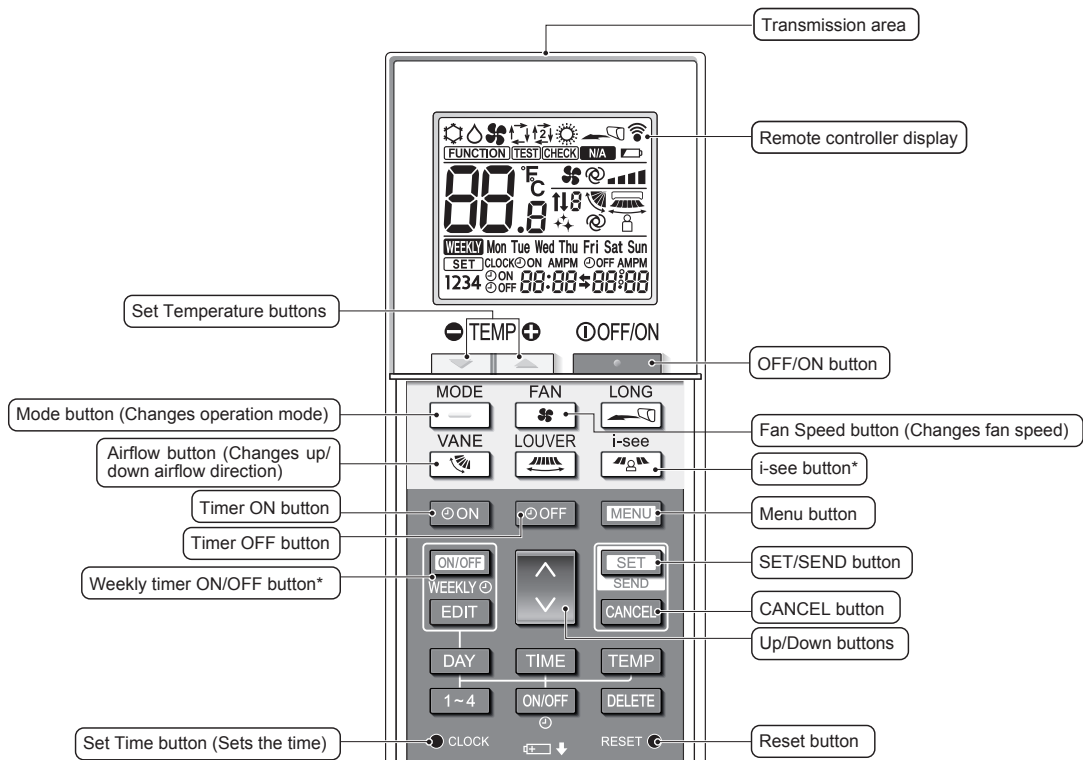
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Main menu	Setting and display items		Setting details
Initial setting	Display setting	Main display	Use to switch between "Full" and "Basic" modes for the Main display, and use to change the background colors of the display to black.
		Display details	Make the settings for the remote controller related items as necessary. Clock: The initial settings are "Yes" and "24h" format. Temperature: Set either Celsius (°C) or Fahrenheit (°F). Room temp.: Set Show or Hide. Auto mode: Set Auto mode display or Only Auto display.
		Contrast • Brightness	Use to adjust screen contrast and brightness.
		Language selection	Use to select the desired language.
	Operation setting	Auto mode	Whether or not to use Auto mode can be selected by using the button. This setting is valid only when indoor units with Auto mode function are connected.
		Setback mode	Whether or not to use the Setback mode can be selected by using the button. This setting is valid only when indoor units with the Setback mode function are connected.
Maintenance	Error information		Use to check error information when an error occurs. • Check code, error source, refrigerant address, model name, manufacturing number, contact information (dealer's phone number) can be displayed. (The model name, manufacturing number, and contact information need to be registered in advance to be displayed.)
	Refrigerant leak info		Use to check error information when a refrigerant leakage occurs. • Error code, error source, refrigerant address, unit model, manufacturing number, contact information (dealer's phone number) can be displayed. * The unit model, manufacturing number, and contact information need to be registered in advance to be displayed.
	Filter information		Use to check the filter status. • The filter sign can be reset.
	Cleaning	Auto descending panel	Use to lift and lower the auto descending panel (Optional parts).
Service	Test run		Select "Test run" from the Service menu to bring up the Test run menu. • Test run • Drain pump test run
	Input maintenance		Select "Input maintenance Info." from the Service menu to bring up the Maintenance information screen. The following settings can be made from the Maintenance Information screen. • Model name input • Serial No. input • Dealer information input • Initialize maintenance info.
	Settings	Function setting	Make the settings for the indoor unit functions via the remote controller as necessary.
	Check	Error history	Display the error history and execute "delete error history".
		Diagnosis	Self check: Error history of each unit can be checked via the remote controller. Remote controller check: When the remote controller does not work properly, use the remote controller checking function to troubleshoot the problem.
		Smooth maintenance * ¹	Use to display the maintenance data of indoor/outdoor units.
		Request code * ¹	Use to check operation data such as thermistor temperature and error information.
	Others	Maintenance password	Use to change the maintenance password.
		Initialize remote controller	Use to initialize the remote controller to the factory shipment status.
		Remote controller information	Use to display the remote controller model name, software version, and serial number.

*¹ This function is available only when certain outdoor units are connected.

<PAR-SL101A-E>

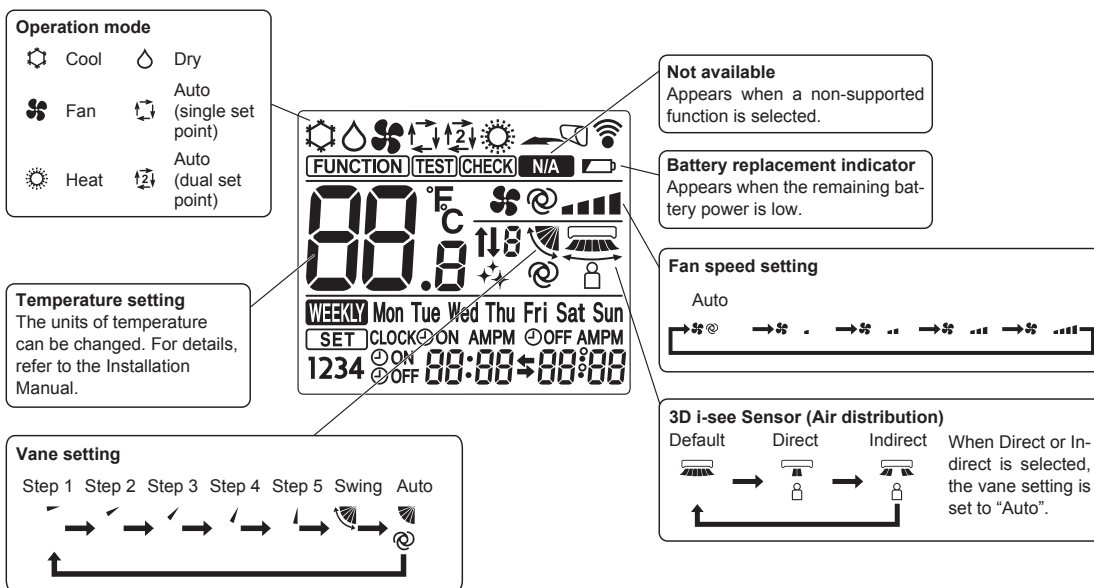
Controller interface



Note:

* This button is enabled or disabled depending on the model of the indoor unit.

Display



13-2. ERROR INFORMATION

**When an error occurs, the following screen will appear.
Check the error status, stop the operation, and consult your dealer.**

1. Check code, error unit, refrigerant address, model name, and serial number will appear.
The model name and serial number will appear only if the information has been registered.

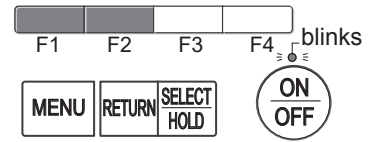
Press the **[F1]** or **[F2]** button to go to the next page.

Error information 1/2

Error code	A3
Error unit	IU 8 Unit#1
Time Occurred	02/01 4:48

Reset error: Reset button

▼ Page ▲ Reset



Contact information (dealer's phone number) will appear if the information has been registered.

Error information 2/2

Contact information

Dealer

Tel

Reset error: Reset button

▼ Page ▲ Reset

2. Press the **[F4]** button or the **[ON/OFF]** button to reset the error that is occurring.

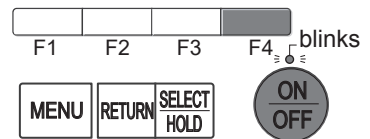
Errors cannot be reset while the ON/OFF operation is prohibited.

Error information 1/2

Error code	A3
Error unit	IU 8 Unit#1
Time Occurred	02/01 4:48

Reset error: Reset button

▼ Page ▲ Reset

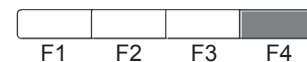


Select "OK" with the **[F4]** button.

Error reset

Reset current error?

Cancel OK



Error reset

Error reset

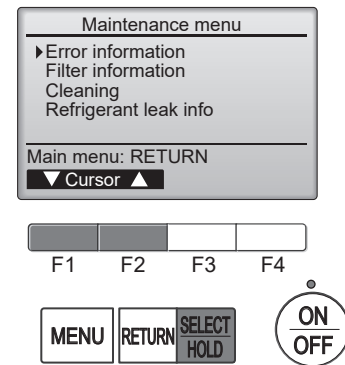
Main menu: MENU

Navigating through the screens

- To go back to the Service menu **[MENU]** button

• Checking the error information

While no errors are occurring, page 2/2 of the error information can be viewed by selecting "Error information" from the Maintenance menu. Errors cannot be reset from this screen.

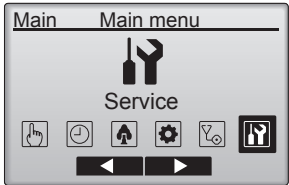


13-3. SERVICE MENU

Maintenance password is required

1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.

*At the main display, the menu button and select "Service" to make the maintenance setting.



2. When the Service menu is selected, a window will appear asking for the password.

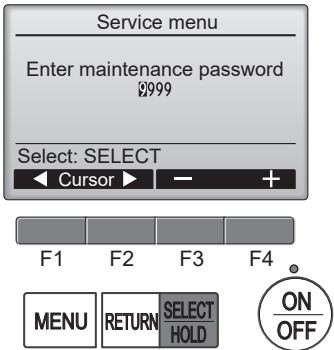
To enter the current maintenance password (4 numerical digits), move the cursor to the digit you want to change with the [F1] or [F2] button.



Set each number (0 through 9) with the [F3] or [F4] button.



Then, press the [SELECT/HOLD] button.



Note: The initial maintenance password is "9999". Change the default password as necessary to prevent unauthorized access. Have the password available for those who need it.

: If you forget your maintenance password, you can initialize the password to the default password "9999" by pressing and holding the [F1] button for 10 seconds on the maintenance password setting screen.

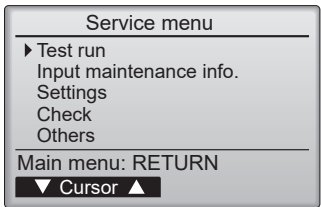
3. If the password matches, the Service menu will appear.

The type of menu that appears depends on the connected indoor units' type.

Note: Air conditioning units may need to be stopped to make only at "Settings". There may be some settings that cannot be made when the system is centrally controlled.



A screen will appear that indicates the setting has been saved.



Navigating through the screens

- To go back to the Service menu [MENU] button
- To return to the previous screen..... [RETURN] button

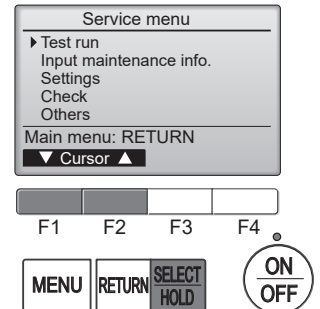
13-4. TEST RUN

13-4-1. PAR-42MAAUB

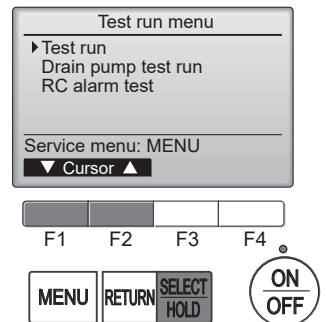
1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.



Select "Test run" with the [F1] or [F2] button, and press the [SELECT/HOLD] button.



2. Select "Test run" with the [F1] or [F2] button, and press the [SELECT/HOLD] button.



Test run operation

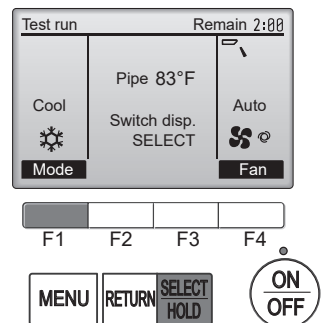
Press the [F1] button to go through the operation modes in the order of "Cool and Heat".

Cool mode: Check the cold air blows out.
Heat mode: Check the heat blows out.

Check the operation of the outdoor unit's fan.



Press the [SELECT/HOLD] button and open the Vane setting screen.



Auto vane check

Check the auto vane with the [F1] [F2] buttons.



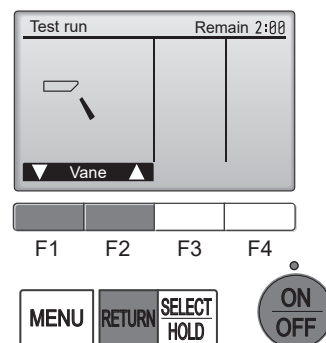
Press the [RETURN] button to return to "Test run operation".



Press the [ON/OFF] button.

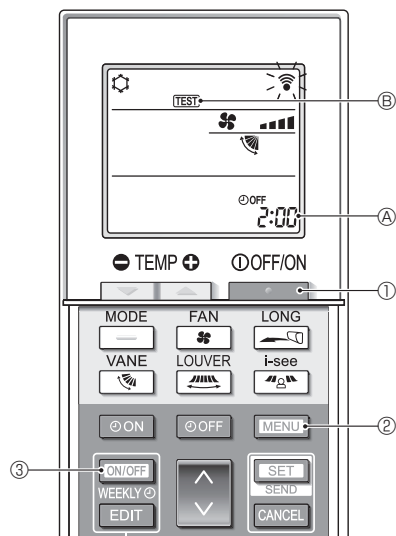
When the test run is completed, the "Test run menu" screen will appear.
The test run will automatically stop after 2 hours.

*The function is available only for the model with vanes.



13-4-2. PAR-SL101A-E

1. Press the  button ① to stop the air conditioner.
 - If the weekly timer is enabled (**WEEKLY** is on), press the  button ③ to disable it (**WEEKLY** is off).
2. Press the  button ② for 5 seconds.
 - **CHECK** comes on and the unit enters the service mode.
3. Press the  button ②.
 - **TEST** ④ comes on and the unit enters the test run mode.
4. Press the following buttons to start the test run.
 - : Switch the operation mode between cooling and heating and start the test run.
 - : Switch the fan speed and start the test run.
 - : Switch the airflow direction and start the test run.
 - : Switch the louver and start the test run.
 - : Start the test run.
5. Stop the test run.
 - Press the  button ① to stop the test run.
 - After 2 hours, the stop signal is transmitted.



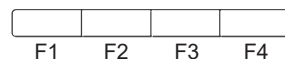
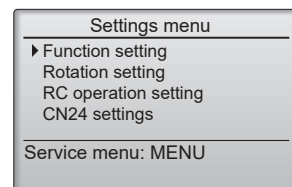
13-5. FUNCTION SETTING

13-5-1. PAR-42MAAUB

1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.

Select "Setting" from the Service menu, and press the [SELECT/HOLD] button.

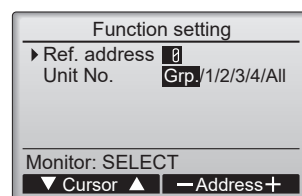
Select "Function setting", and press the [SELECT/HOLD] button.



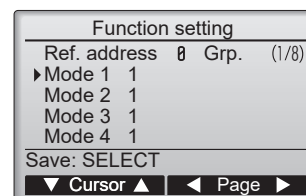
2. Set the indoor unit refrigerant addresses and unit numbers with the [F1] through [F4] buttons, and then press the [SELECT/HOLD] button to confirm the current setting.

Note: Checking the indoor unit No.

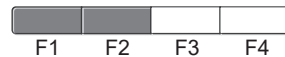
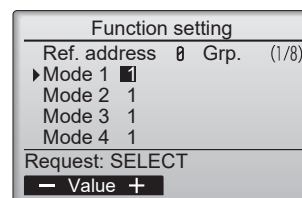
When the [SELECT/HOLD] button is pressed, the target indoor unit will start fan operation. If the unit is common or when running all units, all indoor units for the selected refrigerant address will start fan operation.



3. Toggle through the pages with the [F3] or [F4] button.
Select the mode number with the [F1] or [F2] button, and then press the [SELECT/HOLD] button



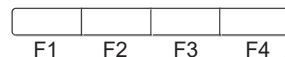
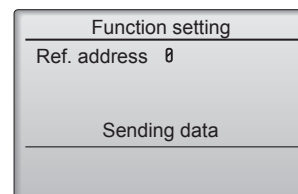
4. Select the setting number with the [F1] or [F2] button.
Setting range for modes 1 through 28: 1 through 3
Setting range for modes 31 through 66: 1 through 15



5. When the settings are completed, press the [SELECT/HOLD] button to send the setting data from the remote controller to the indoor units.
When the transmission is successfully completed, the screen will return to the Function setting screen.

Note: • Make the above settings only on Mr. Slim units as necessary.

- The above function settings are not available for the CITY MULTI units.
- Refer to the indoor unit Installation Manual for the detailed information about initial settings, mode numbers, and setting numbers for the indoor units.
- Be sure to write down the settings for all functions if any of the initial settings has been changed after the completion of installation work.



13-5-2. PAR-SL101A-E

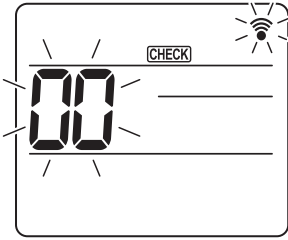


Fig. 1

1. Going to the function select mode

Press the **MENU** button between of 5 seconds.

(Start this operation from the status of remote controller display turned off.)

[CHECK] is lit and "00" blinks. (Fig. 1)

Press the **↓** button to set the "50".

Direct the wireless remote controller toward the receiver of the indoor unit and press the **SET** button.

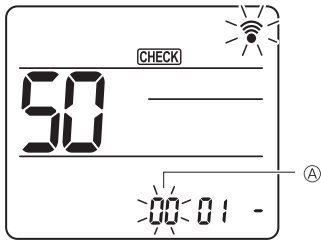


Fig. 2

2. Setting the unit number

Press the **↓** button to set unit number ①. (Fig. 2)

Direct the wireless remote controller toward the receiver of the indoor unit and press the **SET** button.

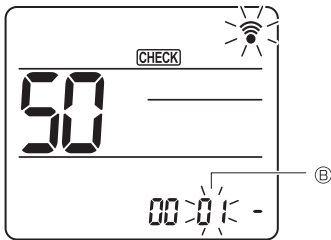


Fig. 3

3. Select a mode

Press the **↓** button to set Mode number ②. (Fig. 3)

Direct the wireless remote controller toward the receiver of the indoor unit and press the **SET** button.

Current setting number:

1=1 beep (1 second)

2=2 beep (1 second each)

3=3 beep (1 second each)

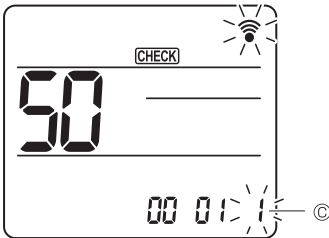


Fig. 4

4. Selecting the setting number

Use the **↓** button to change the Setting number ③. (Fig. 4)

Direct the wireless remote controller toward the receiver of the indoor unit and press the **SET** button.

5. To select multiple functions continuously

Repeat select ③ and ④ to change multiple function settings continuously.

6. Complete function selection

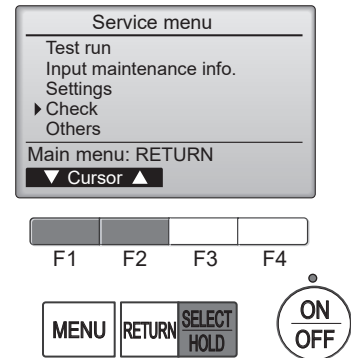
Direct the wireless remote controller toward the sensor of the indoor unit and press the **OFF/ON** button.

Note: Be sure to write down the settings for all functions if any of the initial settings has been changed after the completion of installation work.

13-6. ERROR HISTORY

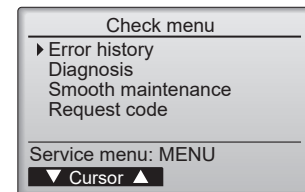
1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.

Select "Check" with the **F1** or **F2** button, and press the [SELECT/HOLD] button.



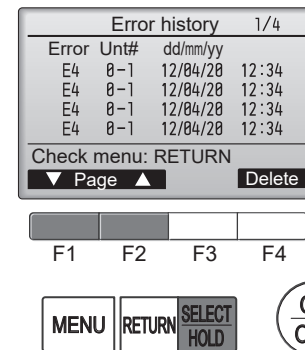
2. Select "Error history" with the **F1** or **F2** button, and press the [SELECT/HOLD] button.

Select "Error history" from the Error history menu, and press the [SELECT/HOLD] button.



3. 16 error history records will appear.

4 records are shown per page, and the top record on the first page indicates the latest error record.



4. Deleting the error history

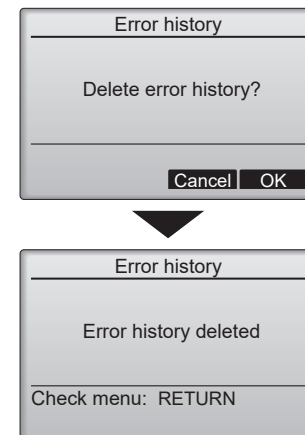
To delete the error history, press the **F4** button (Delete) on the screen that shows error history.

A confirmation screen will appear asking if you want to delete the error history.

Press the **F4** button (OK) to delete the history.

"Error history deleted" will appear on the screen.

Press the [RETURN] button to go back to the Check menu screen.



13-7. SELF-DIAGNOSIS

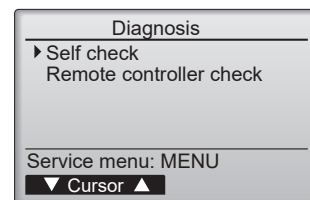
13-7-1. PAR-42MAAUB

1. Select "Service" from the Main menu,
and press the [SELECT/HOLD] button.

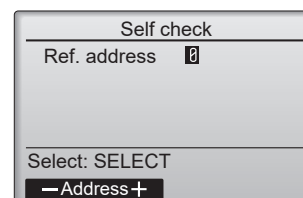
Select "Check" from the Service menu,
and press the [SELECT/HOLD] button.

Select "Diagnosis" from the Check menu,
and press the [SELECT/HOLD] button.

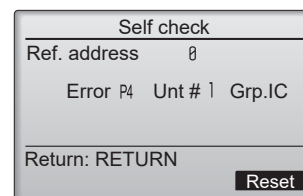
Select "Self check" with the [F1] or [F2] button,
and press the [SELECT/HOLD] button.



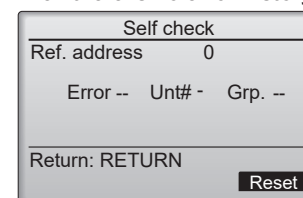
2. With the [F1] or [F2] button, enter the refrigerant address, and press the [SELECT/HOLD] button.



3. Check code, unit number, attribute will appear.
"-" will appear if no error history is available.



When there is no error history



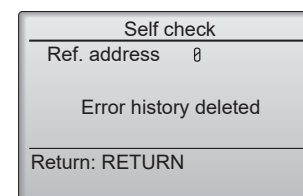
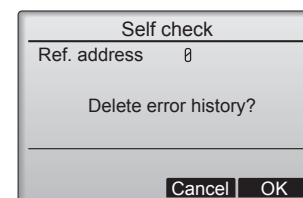
4. Resetting the error history

Press the [F4] button (Reset) on the screen that shows the error history.

A confirmation screen will appear asking if you want to delete the error history.

Press the [F4] button (OK) to delete the error history.

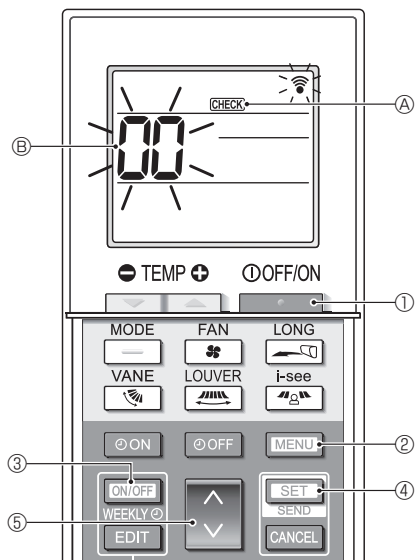
If deletion fails, "Request rejected" will appear.
"Unit not exist" will appear if no indoor units that are correspond to the entered address are found.



Navigating through the screens

- To go back to the Service menu [MENU] button
- To return to the previous screen..... [RETURN] button

13-7-2. PAR-SL101A-E



1. Press the button ① to stop the air conditioner.
 - If the weekly timer is enabled (**WEEKLY** is on), press the button ③ to disable it (**WEEKLY** is off).
2. Press the button ② for 5 seconds.
 - A comes on and the unit enters the self-check mode.
3. Press the button ⑤ to select the refrigerant address (M-NET address) B of the indoor unit for which you want to perform the self-check.
4. Press the button ④.
 - If an error is detected, the check code is indicated by the number of beeps from the indoor unit and the number of blinks of the OPERATION INDICATOR lamp.
5. Press the button ①.
 - A and the refrigerant address (M-NET address) B go off and the self-check is completed.

13-8. REMOTE CONTROLLER CHECK

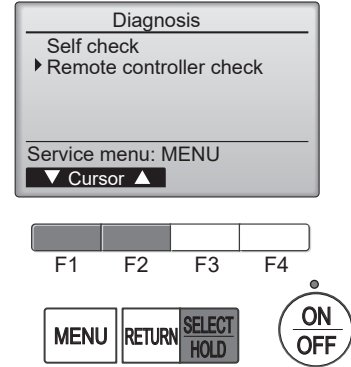
If operations cannot be completed with the remote controller, diagnose the remote controller with this function.

1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.

Select "Check" from the Service menu, and press the [SELECT/HOLD] button.

Select "Diagnosis" from the Check menu, and press the [SELECT/HOLD] button.

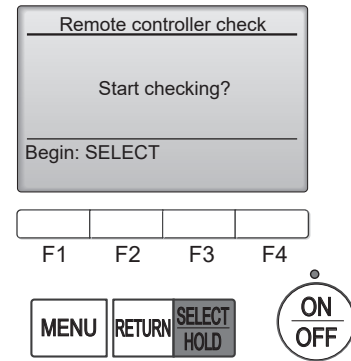
Select "Remote controller check" with the **F1** or **F2** button, and press the [SELECT/HOLD] button.



2. Select "Remote controller check" from the Diagnosis menu, and press the [SELECT/HOLD] button to start the remote controller check and see the check results.

To cancel the remote controller check and exit the "Remote controller check" menu screen, press the [MENU] or the [RETURN] button.

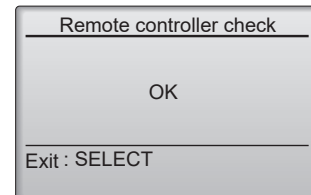
The remote controller will not reboot itself.



3.
 - OK: No problems are found with the remote controller. Check other parts for problems.
 - E3, 6832: There is noise on the transmission line, or the indoor unit or another remote controller is faulty. Check the transmission line and the other remote controllers.
 - NG (ALLO, ALL1): Send-receive circuit fault. The remote controller needs replacing.
 - ERC: The number of data errors is the discrepancy between the number of bits in the data transmitted from the remote controller and that of the data that was actually transmitted over the transmission line. If data errors are found, check the transmission line for external noise interference.

If the [SELECT/HOLD] button is pressed after the remote controller check results are displayed, remote controller check will end, and the remote controller will automatically reboot itself.

Remote controller check results screen



Check the remote controller display and see if anything is displayed (including lines). Nothing will appear on the remote controller display if the correct voltage (8.5–12 VDC) is not supplied to the remote controller. If this is the case, check the remote controller wiring and indoor units.

13-9. SMOOTH MAINTENANCE

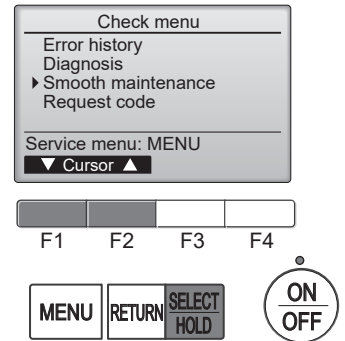
1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.

▼

Select "Check" with the [F1] or [F2] button, and press the [SELECT/HOLD] button.

▼

Select "Smooth maintenance" with the [F1] or [F2] button, and press the [SELECT/HOLD] button.



2. Set each item.

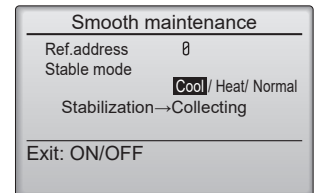
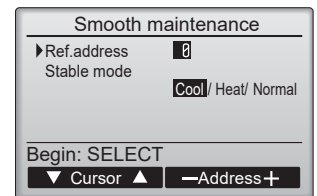
Select the item to be changed with the [F1] or [F2] button.

Select the required setting with the [F3] or [F4] button.

- <Ref.address>setting [0] – [15]
- <Stable mode>setting [Cool] / [Heat] / [Normal]

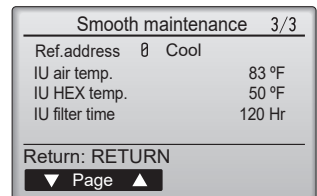
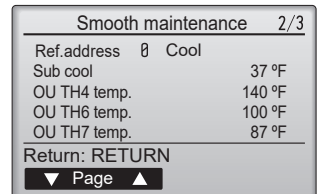
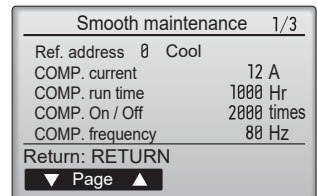
Press the [SELECT/HOLD] button, Fixed operation will start.

Note: Stable mode will take approx. 20 minutes.



3. The operation data will appear.

The Compressor-Accumulated operating (COMP. run) time is 10-hour unit, and the Compressor-Number of operation times (COMP. ON/OFF) is a 100-time unit (fractions discarded).



Navigating through the screens

- To go back to the Service menu [MENU] button
- To return to the previous screen [RETURN] button

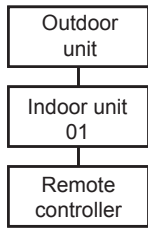
■ Refrigerant address

Single refrigerant system

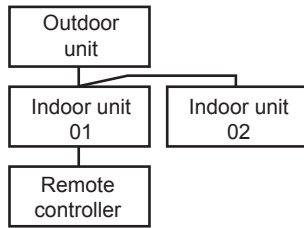
In the case of single refrigerant system, the refrigerant address is "00" and no operation is required.

Simultaneous twin, triple units belong to this category (single refrigerant system).

[1:1]
Refrigerant
address=00



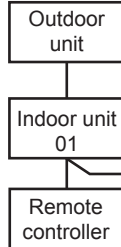
[Twin]
Refrigerant
address=00



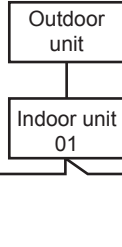
Multi refrigerant system (group control)

Up to 16 refrigerant systems (16 outdoor units) can be connected as a group by 1 remote controller. To check or set the refrigerant addresses.

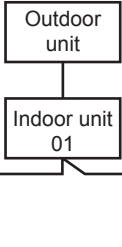
Refrigerant
address
00



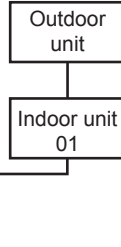
Refrigerant
address
01



Refrigerant
address
02



Refrigerant
address
15



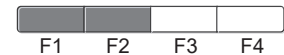
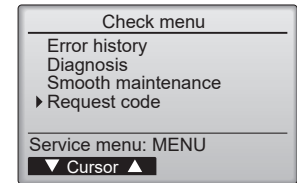
13-10. REQUEST CODE

Details on the operation data including each thermistor temperature and error history can be confirmed with the remote controller.

1. Select "Service" from the Main menu, and press the [SELECT/HOLD] button.

Select "Check" with the [F1] or [F2] button, and press the [SELECT/HOLD] button.

Select "Request code" with the [F1] or [F2] button, and press the [SELECT/HOLD] button.



2. Set the Refrigerant address and Request code.

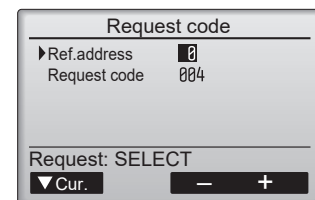
Select the item to be changed with the [F1] or [F2] button.

Select the required setting with the [F3] or [F4] button.

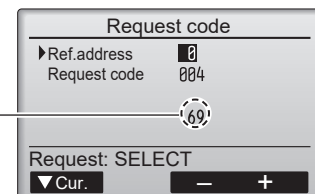
■ <Ref.address>setting [0] – [15]

■ <Request code>setting

Press the [SELECT/HOLD] button, Data will be collected and displayed.



Request code: 004
Discharge temperature: 69°C



T1-1. INVERTER

Model name		Indoor unit	PCA-AK24NL	PCA-AK30NL	PCA-AK36NL	PCA-AK42NL	
Cooling	at 95°F	Outdoor unit	PUY-AH24NL	PUY-AH30NL	PUY-AK36NL	PUY-AK42NL	
		Max. Capacity	Btu/h	24,000	30,000	37,000	42,500
		Rated Capacity ^{*1}	Btu/h	21,800	28,200	36,000	42,000
		Min. Capacity	Btu/h	6,600	6,600	13,500	13,600
		Total Input	W	1,810	2,850	2,930	3,820
		EER2	Btu/h/W	12.0	9.8	12.2	10.9
		Moisture Removal	Pints/h	4.0	9.9	12.7	15.4
		SHF		0.80	0.62	0.62	0.60
		Power factor	%	95	96	96	97
	SEER2	Btu/h/W	21.6	19.5	20.6	20.4	
Heating	at 47°F	Max. Capacity	Btu/h	-	-	-	-
		Rated Capacity	Btu/h	-	-	-	-
		Min. Capacity	Btu/h	-	-	-	-
		Total Input	W	-	-	-	-
		COP	W/W	-	-	-	-
		Power factor	%	-	-	-	-
	at 17°F	Rated Capacity	Btu/h	-	-	-	-
		Total Input	W	-	-	-	-
		COP	W/W	-	-	-	-
HSPF2(I/V)	Btu/h/W	-	-	-	-		
Power supply	Phase,Cycle,Voltage		1-phase, 60 Hz, 208/230 V				
	Breaker size	A	25		35		
Voltage	Indoor - Outdoor S1-S2		AC208 V / 230 V				
	Indoor - Outdoor S2-S3		DC24 V				
	Indoor - Remote controller		DC12 V				
Indoor unit	MCA	A	1		2		
	MOCP	A	15				
	Fan Motor Output	W	95		160		
	Air flow (Lo-Mid2-Mid1-Hi)	DRY(CFM)	495-530-565-635	530-565-600-670	705-775-850-920	740-810-885-955	
		WET(CFM)	530-565-600-670	565-600-635-705	775-850-920-990	810-885-955-1,025	
	External Static Pressure	in. WG [Pa]	-				
	Sound Pressure Level (Lo-Mid2-Mid1-Hi)	dB(A)	33-35-37-40	35-37-39-41	37-39-41-43	39-41-43-45	
		W:mm [inch]	1280 [50-3/8]		1600 [63]		
	Dimensions	D:mm [inch]	680 [26-3/4]				
		H:mm [inch]	230 [9-1/16]				
	Weight Unit	kg [lbs]	32 [71]		36 [79]	39 [86]	
	Field Drain pipe size	mm [inch]	ø26 [1-1/32F]				
	Refrigerant pipe size Gas	mm [inch]	ø15.88 [5/8F]				
	Refrigerant pipe size Liquid	mm [inch]	ø9.52 [3/8F]				
RemoteController	Attached in Indoor Unit						
Outdoor unit	MCA	A	22		34		
	MOCP	A	37		56		
	SCCR	kA	5				
	Inverter input	A	15		23		
	Fan Motor Output	W	74		74 × 2		
	Compressor	Model	SRB172FQHMC-L1		MRB36FEGMC		
	Air flow	CFM	1,940		3,910		
	Refrigerant Control		Electronic Expansion Valve				
	Defrost Method		-				
	Sound Pressure Level at cooling	dB(A)	49		52		
	Sound Pressure Level at heating	dB(A)	52		-		
	External Finish Color		Ivory Munsell 3Y 7.8/1.1				
	Dimensions	W: mm [inch]	950 [37-13/32]		1,050 [41-11/32]		
		D: mm [inch]	330 + 25 [13 + 63/64]		25 + 330 [63/64+12-63/64]		
		H: mm [inch]	943 [37-1/8]		1,338 [52-43/64]		
	Weight Unit	kg [lbs]	70 [155]		102 [224]		
	Refrigerant	Type		R454B			
		Charge	kg [lbs,oz]	3.5 [123]		4.5 [9lbs+14oz]	
		Oil	Model	RM68EH			
	L [oz]	0.7 [23]		1.4 [45]			
Refrigerant Pipe Size	Gas side O.D.	mm [inch]	ø15.88 [5/8F]				
	Liquid side O.D.	mm [inch]	ø9.52 [3/8F]				
Refrigerant pipe length	Height difference		Max. 30 m [Max.100 ft]				
	Length		Max. 69 m [Max.225 ft]				
Refrigerant Piping	Not Supplied						
Connection Method	Indoor/Outdoor	Flared					

NOTES: *1.Rating conditions (cooling)-Indoor : D.B. 26.7°C(80°F), W.B. 19.4°C(67°F) Outdoor : D.B. 35°C(95°F), W.B. 23.9°C(75°F)

Operating range

Cooling	Indoor intake air temperature		Outdoor intake air temperature	
	Maximum	D.B. 32°C(90°F), W.B. 23°C(73°F)	Maximum	D.B. 46°C(115°F)
	Minimum	D.B. 19°C(66°F), W.B. 15°C(59°F)	Minimum	D.B. -5°C(23°F)
				D.B. -28.9°C(-20°F)*

* In case that the wind baffle is installed. (In case that the wind baffle is not installed, the minimum temperature will be -5°C(23°F)DB.)

Model name		Indoor unit		PCA-AK24NL	PCA-AK30NL	PCA-AK36NL	PCA-AK42NL	
		Outdoor unit		PUZ-AH24NL	PUZ-AH30NL	PUZ-AK36NL	PUZ-AK42NL	
Cooling	at 95°F	Max. Capacity	Btu/h	24,000	30,000	37,000	42,500	
		Rated Capacity *1	Btu/h	21,800	28,200	36,000	42,000	
		Min. Capacity	Btu/h	6,600	6,600	13,500	13,600	
		Total Input	W	1,810	2,850	2,930	3,820	
		EER2	Btu/h/W	12.0	9.8	12.2	10.9	
		Moisture Removal	Pints/h	4.0	9.9	12.7	15.4	
		SHF		0.80	0.62	0.62	0.60	
		Power factor	%	95	96	96	97	
Heating	SEER2		Btu/h/W	21.6	19.5	20.6	20.4	
			Btu/h	28,000	34,200	40,000	49,400	
	at 47°F	Rated Capacity *1	Btu/h	26,000	32,000	38,000	45,000	
		Min. Capacity	Btu/h	5,200	5,200	13,200	13,300	
	Total Input	W	2,160	2,790	2,670	3,460		
	COP	W/W	3.5	3.3	4.1	3.8		
	Power factor	%	96	95	96	97		
	at 17°F	Rated Capacity *2	Btu/h	15,300	18,700	23,200	29,600	
		Total Input	W	1,610	2,030	2,480	3,010	
	COP	W/W	2.7	2.6	2.7	2.8		
	HSPF2(IV/V)	Btu/h/W	9.4/7.7	9.2/7.6	9.1/7.3	9.9/8.2		
	Power supply	Phase,Cycle,Voltage		1-phase, 60 Hz, 208/230 V				
Voltage	Breaker size	A	25		35			
	Indoor - Outdoor S1-S2	AC208 V / 230 V						
	Indoor - Outdoor S2-S3	DC24 V						
	Indoor - Remote controller	DC12 V						
Indoor unit	MCA	A	1		2			
	MOCP	A	15					
	Fan Motor Output	W	95		160			
	Air flow (Lo-Mid2-Mid1-Hi)	DRY(CFM)	495-530-565-635		530-565-600-670	705-775-850-920	740-810-885-955	
		WET(CFM)	530-565-600-670		565-600-635-705	775-850-920-990	810-885-955-1,025	
	External Static Pressure	in. WG [Pa]	-					
	Sound Pressure Level (Lo-Mid2-Mid1-Hi)	dB(A)	33-35-37-40		35-37-39-41	37-39-41-43	39-41-43-45	
	Dimensions	W:mm [inch]	1280 [50-3/8]			1600 [63]		
		D:mm [inch]	680 [26-3/4]					
		H:mm [inch]	230[9-1/16]					
	Weight Unit	kg [lbs]	32 [71]			36 [79]	39 [86]	
	Field Drain pipe size	mm [inch]	ø26 [1-1/32F]					
	Refrigerant pipe size Gas	mm [inch]	ø15.88 [5/8F]					
	Refrigerant pipe size Liquid	mm [inch]	ø9.52 [3/8F]					
RemoteController		Attached in Indoor Unit						
Outdoor unit	MCA	A	22		34			
	MOCP	A	37		56			
	SCCR	kA	5					
	Inverter input	A	15		23			
	Fan Motor Output	W	74		74 × 2			
	Compressor	Model	SRB172FQHMC-L1		MRB36FEGMC			
	Air flow	CFM	1,940		3,910			
	Refrigerant Control	Electronic Expansion Valve						
	Defrost Method	Reverse Cycle						
	Sound Pressure Level at cooling	dB(A)	49		52			
	Sound Pressure Level at heating	dB(A)	52		53			
	External Finish Color	Ivory Munsell 3Y 7.8/1.1						
	Dimensions	W: mm [inch]	950 [37-13/32]			1,050 [41-11/32]		
		D: mm [inch]	330 + 25 [13 + 63/64]			25 + 330 [63/64+12-63/64]		
		H: mm [inch]	943 [37-1/8]			1,338 [52-43/64]		
	Weight Unit	kg [lbs]	70 [155]		102 [224]			
	Refrigerant	Type	R454B					
		Charge	kg [lbs,oz]	3.5[123]		4.5[9lbs+14oz]		
Oil		Model	RM68EH					
Refrigerant Pipe Size	Gas side O.D.	mm [inch]	0.7 [23]		1.4 [45]			
	Liquid side O.D.	mm [inch]	ø15.88 [5/8F]					
Refrigerant pipe length	Height difference	ø9.52 [3/8F]						
	Length	Max. 30 m [Max.100 ft]						
Refrigerant Piping	Not Supplied							
Connection Method	Indoor/Outdoor	Flared						

NOTES : *1.Rating conditions (cooling)-Indoor : D.B. 26.7°C(80°F), W.B. 19.4°C(67°F) Outdoor : D.B. 35°C(95°F), W.B. 23.9°C(75°F)
 (heating)-Indoor : D.B. 21.1°C(70°F), W.B. 15.6°C(60°F) Outdoor : D.B. 8.3°C(47°F), W.B. 6.1°C(43°F)
 *2.Rating conditions (heating)-Indoor : D.B. 21.1°C(70°F), W.B. 15.6°C(60°F) Outdoor : D.B. -8.3°C(17°F), W.B. -9.4°C(15°F)

Operating range

		Indoor intake air temperature	Outdoor intake air temperature
Cooling	Maximum	D.B. 32°C(90°F), W.B. 23°C(73°F)	D.B. 46°C (115°F)
	Minimum	D.B. 19°C (66°F), W.B. 15°C (59°F)	'D.B. -5°C (23°F) 'D.B. -18°C (0°F)*
Heating	Maximum	D.B. 28°C (82°F)	D.B. 21°C (70°F), W.B. 15°C (59°F)
	Minimum	D.B. 10°C (50°F)	D.B. -20°C (-4°F), W.B. -20°C (-4°F)

* In case that the wind baffle is installed. (In case that the wind baffle is not installed, the minimum temperature will be -5°C(23°F)DB.)

T1-2. HYPER HEATING INVERTER

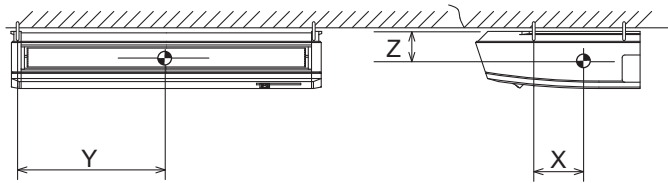
Model name		Indoor unit		PCA-AK24NL	PCA-AK30NL	PCA-AK36NL	PCA-AK42NL	
		Outdoor unit		PUZ-AK24NLHZ	PUZ-AK30NLHZ	PUZ-AK36NLHZ	PUZ-AK42NLHZ	
Cooling	at 95°F	Max. Capacity	Btu/h	24,800	31,000	37,000	43,000	
		Rated Capacity *1	Btu/h	24,000	30,000	36,000	42,000	
		Min. Capacity	Btu/h	13,100	12,300	14,400	17,200	
		Total Input	W	1,700	2,420	2,930	4,080	
		EER2	Btu/h/W	14.1	12.3	12.2	10.2	
		Moisture Removal	Pints/h	8.0	8.0	12.7	10.9	
		SHF		0.64	0.71	0.62	0.72	
		Power factor	%	95	97	96	97	
		SEER2	Btu/h/W	20.0	21.9	22.2	19.6	
Heating	at 47°F	Max. Capacity	Btu/h	28,000	35,000	40,000	54,000	
		Rated Capacity *1	Btu/h	26,000	32,000	38,000	48,000	
		Min. Capacity	Btu/h	12,800	11,500	13,000	16,100	
		Total Input	W	1,830	2,420	2,670	4,460	
		COP	W/W	4.1	3.8	4.1	3.1	
		Power factor	%	96	97	96	98	
	at 17°F	Rated Capacity *2	Btu/h	17,000	22,400	24,200	33,000	
		Total Input	W	1,800	2,400	2,500	3,950	
		COP	W/W	2.7	2.7	2.8	2.4	
		HSPF2(I/V/V)	Btu/h/W	9.2/7.6	9.4/7.9	9.5/7.7	8.6/7.4	
Power supply		Phase,Cycle,Voltage		1-phase, 60 Hz, 208/230 V				
		Breaker size	A	25	30	40		
Voltage		Indoor - Outdoor S1-S2		AC208 V / 230 V				
		Indoor - Outdoor S2-S3		DC24 V				
		Indoor - Remote controller		DC12 V				
Indoor unit	MCA	A	1	2				
	MOCP	A	15					
	Fan Motor Output	W	95	160				
	Air flow (Lo-Mid2-Mid1-Hi)	DRY(CFM)	495-530-565-635	530-565-600-670	705-775-850-920	740-810-885-955		
		WET(CFM)	530-565-600-670	565-600-635-705	775-850-920-990	810-885-955-1,025		
	External Static Pressure	in. WG [Pa]	-					
	Sound Pressure Level (Lo-Mid2-Mid1-Hi)	dB(A)	33-35-37-40	35-37-39-41	37-39-41-43	39-41-43-45		
	Dimensions	W:mm [inch]	1280 [50-3/8]			1600 [63]		
		D:mm [inch]	680 [26-3/4]					
		H:mm [inch]	230 [9-1/16]					
	Weight Unit	kg [lbs]	32 [71]	36 [79]		39 [86]		
	Field Drain pipe size	mm [inch]	ø26 [1-1/32F]					
	Refrigerant pipe size Gas	mm [inch]	ø15.88 [5/8F]					
	Refrigerant pipe size Liquid	mm [inch]	ø9.52 [3/8F]					
RemoteController		Attached in Indoor Unit						
Outdoor unit	MCA	A	24	29	35			
	MOCP	A	39	48	60			
	SCCR	kA	5					
	Inverter input	A	16	19	26			
	Fan Motor Output	W	74 × 2			200 × 2		
	Compressor	Model	MRK36FFGMC			MRK53FFJMC-L		
	Air flow	CFM	3,740			4,020		
	Refrigerant Control	Electronic Expansion Valve						
	Defrost Method	Reverse Cycle						
	Sound Pressure Level at cooling	dB(A)	52	60				
	Sound Pressure Level at heating	dB(A)	53	62				
	External Finish Color	Ivory Munsell 3Y 7.8/1.1						
	Dimensions	W: mm [inch]	1,050 [41-11/32]					
		D: mm [inch]	25 + 330 [63/64+12-63/64]					
		H: mm [inch]	1,338 [52-43/64]					
	Weight Unit	kg [lbs]	105 [231]			123 [271]		
	Refrigerant	Type	R454B					
Charge		kg [lbs,oz]	4.5 [9 lbs + 14 oz]			5.2 [11 lbs + 7 oz]		
Oil		Model	RM68EH					
Refrigerant Pipe Size		L [oz]	1.4 [45]	1.9 [60]				
	Gas side O.D.	mm [inch]	ø15.88 [5/8F]					
Refrigerant pipe length		Liquid side O.D.	mm [inch]	ø9.52 [3/8F]				
	Height difference	Max. 30 m [Max.100 ft]						
	Length	Max. 50 m [Max.165 ft]		Max. 75 m [Max.245 ft]				
Refrigerant Piping		Not Supplied						
Connection Method		Indoor/Outdoor	Flared					

NOTES : *1.Rating conditions (cooling)-Indoor : D.B. 26.7°C(80°F), W.B. 19.4°C(67°F) Outdoor : D.B. 35°C(95°F), W.B. 23.9°C(75°F)
 (heating)-Indoor : D.B. 21.1°C(70°F), W.B. 15.6°C(60°F) Outdoor : D.B. 8.3°C(47°F), W.B. 6.1°C(43°F)
 *2.Conditions (heating)-Indoor : D.B. 21.1°C(70°F), W.B. 15.6°C(60°F) Outdoor : D.B. -8.3°C(17°F), W.B. -9.4°C(15°F)
 *3.Conditions (heating)-Indoor : D.B. 21.1°C(70°F), W.B. 15.6°C(60°F) Outdoor : D.B. -15°C(5°F), W.B. -15.6°C(4°F)

Operating range

		Indoor intake air temperature	Outdoor intake air temperature
Cooling	Maximum	D.B. 32°C(90°F), W.B. 23°C(73°F)	D.B. 46°C(115°F)
	Minimum	D.B. 19°C(66°F), W.B. 15°C(59°F)	D.B. -5°C(23°F) D.B. -18°C(0°F)*
Heating	Maximum	D.B. 28°C(83°F)	D.B. 21.1°C(70°F), W.B. 15°C(59°F)
	Minimum	D.B. 10°C(50°F)	D.B. -25°C(-13°F), W.B. -25°C(-13°F)

* In case that the wind baffle is installed. (In case that the wind baffle is not installed, the minimum temperature will be -5°C(23°F)DB.)



Unit: inch (mm)

Model name	X	Y	Z
PCA-AK24NL	4-3/8 (110)	24-1/16 (610)	4-9/16 (115)
PCA-AK30NL	4-3/8 (110)	24-1/16 (610)	4-9/16 (115)
PCA-AK36NL	4-3/8 (110)	30-3/8 (770)	4-9/16 (115)
PCA-AK42NL	4-3/8 (110)	30-3/8 (770)	4-9/16 (115)

T3-1. INVERTER

T3-1-1. COOLING CAPACITY

PCA-AK24NL/PUY-AH24NL, PUZ-AH24NL

CAPACITY (Btu/h): 21,800 INPUT (kW): 1.81 SHF: 0.8

Indoor intake air D.B.(°C)	Indoor intake air D.B.(°F)	Indoor intake air W.B.(°C)	Indoor intake air W.B.(°F)	Outdoor intake air °C/°F D.B.																							
				20/68				25/77				30/86				35/95				40/104				46/115			
				CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
19	68	16	61	22,841	15,897	0.70	1.20	21,484	14,953	0.70	1.36	19,765	13,757	0.70	1.49	18,137	12,623	0.70	1.61	16,509	11,490	0.70	1.70	14,881	10,357	0.70	1.78
19	68	18	64	24,966	14,380	0.58	1.32	23,609	13,599	0.58	1.49	21,890	12,609	0.58	1.61	20,262	11,671	0.58	1.74	18,634	10,733	0.58	1.82	17,006	9,795	0.58	1.90
20	68	16	61	22,841	16,811	0.74	1.20	21,484	15,812	0.74	1.36	19,765	14,547	0.74	1.49	18,137	13,349	0.74	1.61	16,509	12,151	0.74	1.70	14,881	10,952	0.74	1.78
20	68	18	64	24,966	15,379	0.62	1.32	23,609	14,543	0.62	1.49	21,890	13,485	0.62	1.61	20,262	12,482	0.62	1.74	18,634	11,479	0.62	1.82	17,006	10,476	0.62	1.90
20	68	20	68	26,051	12,922	0.50	1.40	24,966	12,383	0.50	1.52	23,519	11,665	0.50	1.67	21,800	10,813	0.50	1.81	20,081	9,960	0.50	1.90	18,634	9,242	0.50	1.98
22	72	16	61	22,841	18,638	0.82	1.20	21,484	17,531	0.82	1.36	19,765	16,129	0.82	1.49	18,137	14,800	0.82	1.61	16,509	13,471	0.82	1.70	14,881	12,143	0.82	1.78
22	72	18	64	24,966	17,376	0.70	1.32	23,609	16,432	0.70	1.49	21,890	15,236	0.70	1.61	20,262	14,103	0.70	1.74	18,634	12,969	0.70	1.82	17,006	11,836	0.70	1.90
22	72	20	68	26,051	15,006	0.58	1.40	24,966	14,380	0.58	1.52	23,519	13,547	0.58	1.67	21,800	12,557	0.58	1.81	20,081	11,567	0.58	1.90	18,634	10,733	0.58	1.98
24	75	16	61	22,841	20,465	0.90	1.20	21,484	19,250	0.90	1.36	19,765	17,710	0.90	1.49	18,137	16,251	0.90	1.61	16,509	14,792	0.90	1.70	14,881	13,333	0.90	1.78
24	75	18	64	24,966	19,374	0.78	1.32	23,609	18,321	0.78	1.49	21,890	16,987	0.78	1.61	20,262	15,723	0.78	1.74	18,634	14,460	0.78	1.82	17,006	13,197	0.78	1.90
24	75	20	68	26,051	17,090	0.66	1.40	24,966	16,378	0.66	1.52	23,519	15,428	0.66	1.67	21,800	14,301	0.66	1.81	20,081	13,173	0.66	1.90	18,634	12,224	0.66	1.98
24	75	22	72	27,499	14,739	0.54	1.45	26,594	14,254	0.54	1.61	24,966	13,382	0.54	1.75	23,338	12,509	0.54	1.88	21,710	11,636	0.54	1.98	19,900	10,667	0.54	2.03
26	79	16	61	22,841	22,293	0.98	1.20	21,484	20,968	0.98	1.36	19,765	19,291	0.98	1.49	18,137	17,702	0.98	1.61	16,509	16,113	0.98	1.70	14,881	14,524	0.98	1.78
26	79	18	64	24,966	21,371	0.86	1.32	23,609	20,209	0.86	1.49	21,890	18,738	0.86	1.61	20,262	17,344	0.86	1.74	18,634	15,951	0.86	1.82	17,006	14,557	0.86	1.90
26	79	20	68	26,051	19,174	0.74	1.40	24,966	18,375	0.74	1.52	23,519	17,310	0.74	1.67	21,800	16,045	0.74	1.81	20,081	14,780	0.74	1.90	18,634	13,715	0.74	1.98
26	79	22	72	27,499	16,939	0.62	1.45	26,594	16,382	0.62	1.61	24,966	15,379	0.62	1.75	23,338	14,376	0.62	1.88	21,710	13,373	0.62	1.98	19,900	12,259	0.62	2.03
27	81	16	61	22,841	22,841	1.00	1.20	21,484	21,484	1.00	1.36	19,765	19,765	1.00	1.49	18,137	18,137	1.00	1.61	16,509	16,509	1.00	1.70	14,881	14,881	1.00	1.78
27	81	18	64	24,966	22,370	0.90	1.32	23,609	21,154	0.90	1.49	21,890	19,614	0.90	1.61	20,262	18,155	0.90	1.74	18,634	16,696	0.90	1.82	17,006	15,237	0.90	1.90
27	81	20	68	26,051	20,216	0.78	1.40	24,966	19,374	0.78	1.52	23,519	18,250	0.78	1.67	21,800	16,917	0.78	1.81	20,081	15,583	0.78	1.90	18,634	14,460	0.78	1.98
27	81	22	72	27,499	18,039	0.66	1.45	26,594	17,446	0.66	1.61	24,966	16,378	0.66	1.75	23,338	15,310	0.66	1.88	21,710	14,241	0.66	1.98	19,900	13,055	0.66	2.03
28	82	16	61	22,841	22,841	1.00	1.20	21,484	21,484	1.00	1.36	19,765	19,765	1.00	1.49	18,137	18,137	1.00	1.61	16,509	16,509	1.00	1.70	14,881	14,881	1.00	1.78
28	82	18	64	24,966	23,668	0.94	1.32	23,609	22,098	0.94	1.49	21,890	20,489	0.94	1.61	20,262	18,965	0.94	1.74	18,634	17,441	0.94	1.82	17,006	15,917	0.94	1.90
28	82	20	68	26,051	21,258	0.82	1.40	24,966	20,372	0.82	1.52	23,519	19,191	0.82	1.67	21,800	17,789	0.82	1.81	20,081	16,386	0.82	1.90	18,634	15,205	0.82	1.98
28	82	22	72	27,499	19,139	0.70	1.45	26,594	18,510	0.70	1.61	24,966	17,376	0.70	1.75	23,338	16,243	0.70	1.88	21,710	15,110	0.70	1.98	19,900	13,851	0.70	2.03
30	86	16	61	22,841	22,841	1.00	1.20	21,484	21,484	1.00	1.36	19,765	19,765	1.00	1.49	18,137	18,137	1.00	1.61	16,509	16,509	1.00	1.70	14,881	14,881	1.00	1.78
30	86	18	64	24,966	24,966	1.00	1.32	23,609	23,609	1.00	1.49	21,890	21,890	1.00	1.61	20,262	20,262	1.00	1.74	18,634	18,634	1.00	1.82	17,006	17,006	1.00	1.90
30	86	20	68	26,051	23,342	0.90	1.40	24,966	22,370	0.90	1.52	23,519	21,073	0.90	1.67	21,800	19,533	0.90	1.81	20,081	17,993	0.90	1.90	18,634	16,696	0.90	1.98
30	86	22	72	27,499	21,339	0.78	1.45	26,594	20,637	0.78	1.61	24,966	19,374	0.78	1.75	23,338	18,110	0.78	1.88	21,710	16,947	0.78	1.98	19,900	15,443	0.78	2.03
32	90	16	61	22,841	22,841	1.00	1.20	21,484	21,484	1.00	1.36	19,765	19,765	1.00	1.49	18,137	18,137	1.00	1.61	16,509	16,509	1.00	1.70	14,881	14,881	1.00	1.78
32	90	18	64	24,966	24,966	1.00	1.32	23,609	23,609	1.00	1.49	21,890	21,890	1.00	1.61	20,262	20,262	1.00	1.74	18,634	18,634	1.00	1.82	17,006	17,006	1.00	1.90
32	90	20	68	26,051	25,426	0.98	1.40	24,966	24,367	0.98	1.52	23,519	22,954	0.98	1.67	21,800	21,277	0.98	1.81	20,081	19,599	0.98	1.90	18,634	18,187	0.98	1.98
32	90	22	72	27,499	23,539	0.86	1.45	26,594	22,765	0.86	1.61	24,966	21,371	0.86	1.75	23,338	19,977	0.86	1.88	21,710	18,583	0.86	1.98	19,900	17,035	0.86	2.03

PCA-AK30NL/PUY-AH30NL, PUZ-AH30NL

CAPACITY (Btu/h): 28,200 INPUT (kW): 2.85 SHF: 0.62

Indoor intake air D.B.(°C)	Indoor intake air D.B.(°F)	Indoor intake air W.B.(°C)	Indoor intake air W.B.(°F)	Outdoor intake air °C/°F D.B.																							
				20/68				25/77				30/86				35/95				40/104				46/115			
				CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
19	68	16	61	29,546	15,246	0.52	1.89	27,791	14,340	0.52	2.15	25,568	13,193	0.52	2.34	23,462	12,106	0.52	2.54	21,356	11,019	0.52	2.67	19,249	9,933	0.52	2.80
19	68	18	64	32,295	12,789	0.40	2.08	30,540	12,094	0.40	2.34	28,317	11,214	0.40	2.54	26,211	10,379	0.40	2.73	24,105	9,545	0.40	2.86	21,998	8,711	0.40	2.99
20	68	16	61	29,546	16,428	0.56	1.89	27,791	15,452	0.56	2.15	25,568	14,216	0.56	2.34	23,462	13,045	0.56	2.54	21,356	11,874	0.56	2.67	19,249	10,703	0.56	2.80
20	68	18	64	32,295	14,081	0.44	2.08	30,540	13,316	0.44	2.34	28,317	12,346	0.44	2.54	26,211	11,428	0.44	2.73	24,105	10,510	0.44	2.86	21,998	9,591	0.44	2.99
20	68	20	68	33,700	10,649	0.32	2.20	32,295	10,205	0.32	2.39	30,423	9,614	0.32	2.63	28,200	8,911	0.32	2.85	25,977	8,209	0.32	2.99	24,105	7,617	0.32	3.12
22	72	16	61	29,546	18,792	0.64	1.89	27,791	17,675	0.64	2.15	25,568	16,261	0.64	2.34	23,462	14,922	0.64	2.54	21,356	13,582	0.64	2.67	19,249	12,243	0.64	2.80
22	72	18	64	32,295	16,664	0.52	2.08	30,540	15,759	0.52	2.34	28,317	14,612	0.52	2.54	26,211	13,525	0.52	2.73	24,105	12,438	0.52	2.86	21,998	11,351	0.52	2.99
22	72	20	68	33,700	13,345	0.40	2.20	32,295	12,789	0.40	2.39	30,423	12,048	0.40	2.63	28,200	11,167	0.40	2.85	25,977	10,287	0.40	2.99	24,105	9,545	0.40	3.12
24	75	16	61	29,546	21,155	0.72	1.89	27,791	19,899	0.72	2.15	25,568	18,307	0.72	2.34	23,462	16,799	0.72	2.54	21,356	15,291	0.72	2.67	19,249	13,783	0.72	2.80
24	75	18	64	32,295	19,248	0.60	2.08	30,540	18,002	0.60	2.34	28,317	16,877	0.60	2.54	26,211	15,622	0.60	2.73	24,105	14,366	0.60	2.86	21,998	13,111	0.60	2.99
24	75	20	68	33,700	16,041	0.48	2.20	32,295	15,373	0.48	2.39	30,423	14,481	0.48	2.63	28,200	13,423	0.48	2.85	25,977	12,365	0.48	2.99	24,105	11,474	0.48	3.12
24	75	22	72	35,572	12,664	0.36	2.29	34,402	12,247	0.36	2.54	32,295	11,497	0.36	2.76	30,189	10,747	0.36	2.97	28,083	9,998	0.36	3.11	25,743	9,164	0.36	3.20
26	79	16	61	29,546	23,519	0.80	1.89	27,791	22,122	0.80	2.15	25,568	20,352	0.80	2.34	23,462	18,676	0.80	2.54	21,356	16,999	0.80	2.67	19,249	15,322	0.80	2.80
26	79	18	64	32,295	21,832	0.68	2.08	30,540	20,645	0.68	2.34	28,317	19,142	0.68	2.54	26,211	17,718	0.68	2.73	24,105	16,295	0.68	2.86	21,998	14,871	0.68	2.99
26	79	20	68	33,700	18,737	0.56	2.20	32,295	17,956	0.56	2.39	30,423	16,915	0.56	2.63	28,200	15,679	0.56	2.85	25,977	14,443	0.56	2.99	24,105	13,402	0.56	3.12
26	79	22	72	35,572	15,509	0.44	2.29	34,402	14,999	0.44	2.54	32,295	14,081	0.44	2.76	30,189	13,162	0.44	2.97	28,083	12,244	0.44	3.11	25,743	11,224	0.44	3.20
27	81	16	61	29,546	24,701	0.84	1.89	27,791	23,233	0.84	2.15	25,568	21,375	0.84	2.34	23,462	19,614	0.84	2.54	21,356	17,853	0.84	2.67	19,249	16,092	0.84	2.80
27	81	18	64	32,295	23,124	0.72	2.08	30,540	21,867	0.72	2.34	28,317	20,275	0.72	2.54	26,211	18,767	0.72	2.73	24,105	17,259	0.72	2.86	21,998	15,751	0.72	2.99
27	81	20	68	33,700	20,085	0.60	2.20	32,295	19,284	0.60	2.39	30,423	18,132	0.60	2.63	28,200	16,807	0.60	2.85	25,977	15,482	0.60	2.99	24,105	14,366	0.60	3.12
27	81	22	72	35,572	16,932	0.48	2.29	34,402	16,375	0.48	2.54	32,295	15,373	0.48	2.76	30,189	14,370	0.48	2.97	28,083	13,368	0.48	3.11	25,743	12,254	0.48	3.20
28	82	16	61	29,546	25,883	0.88	1.89	27,791	24,345	0.88	2.15	25,568	22,398	0.88	2.34	23,462	20,553	0.88	2.54	21,356	18,707	0.88	2.67	19,249	16,862	0.88	2.80
28	82	18	64	32,295	24,415	0.76	2.08	30,540	23,088	0.76	2.34	28,317	21,408	0.76	2.54	26,211	19,815	0.76	2.73	24,105	18,223	0.76	2.86	21,998	16,331	0.76	2.99
28	82	20	68	33,700	21,433	0.64	2.20	32,295	20,540	0.64	2.39	30,423	19,349	0.64	2.63	28,200	17,935	0.64	2.85	25,977	16,521	0.64	2.99	24,105	15,631	0.64	3.12
28	82	22	72	35,572	18,355	0.52	2.29	34,402	17,751	0.52	2.54	32,295	16,664	0.52	2.76	30,189	15,578	0.52	2.97	28,083	14,491	0.52	3.11	25,743	13,283	0.52	3.20
30	86	16	61	29,546	28,246	0.96	1.89	27,791	26,568	0.96	2.15	25,568	24,443	0.96	2.34	23,462	22,429	0.96	2.54	21,356	20,146	0.96	2.67	19,249	18,402	0.96	2.80
30	86	18	64	32,295	26,999	0.84	2.08	30,540	25,532	0.84	2.34	28,317	23,673	0.84	2.54	26,211	21,912	0.84	2.73	24,105	20,151	0.84	2.86	21,998	18,391	0.84	2.99
30	86	20	68	33,700	24,129	0.72	2.20	32,295	23,124	0.72	2.39	30,423	21,783	0.72	2.63	28,200	20,193	0.72	2.85	25,977	18,599	0.72	2.99	24,105	17,259	0.72	3.12
30	86	22	72	35,572	21,201	0.60	2.29	34,402	20,503	0.60	2.54	32,295	19,248	0.60	2.76	30,189	17,993	0.60	2.97	28,083	16,737	0.60	3.11	25,743	15,343	0.60	3.20
32	90	16	61	29,546	29,546	1.00	1.89	27,791	27,791	1.00	2.15	25,568	25,568	1.00	2.34	23,462	23,462	1.00	2.54	21,356	21,356	1.00	2.67	19,249	19,249	1.00	2.80
32	90	18	64	32,295	29,583	0.92	2.08	30,540	27,975	0.92	2.34	28,317	25,938	0.92	2.54	26,211	24,009	0.92	2.73	24,105	22,080	0.92	2.86	21,998	20,150	0.92	2.99
32	90	20	68	33,700	26,825	0.80	2.20	32,295	25,707	0.80	2.39	30,423	24,217	0.80	2.63	28,200	22,447	0.80	2.85	25,977	20,678	0.80	2.99	24,105	19,187	0.80	3.12
32	90	22	72	35,572	24,047	0.68	2.29	34,402	23,256	0.68	2.54	32,295	21,832	0.68	2.76	30,189	20,408	0.68	2.97	28,083	18,984	0.68	3.11	25,743	17,402	0.68	3.20

PCA-AK36NL/PUY-AK36NL, PUZ-AK36NL

CAPACITY (Btu/h): 36,000 INPUT (kW): 2.93 SHF: 0.62

Indoor intake air D.B.(°C)	Indoor intake air D.B.(°F)	Indoor intake air W.B.(°C)	Indoor intake air W.B.(°F)	Outdoor intake air °C/°F D.B.																							
				20/68				25/77				30/86				35/95				40/104				46/115			
				CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
19	68	16	61	37,719	19,463	0.52	1.94	35,478	18,307	0.52	2.21	32,640	16,842	0.52	2.41	29,951	15,455	0.52	2.61	27,262	14,067	0.52	2.74	24,574	12,680	0.52	2.88
19	68	18	64	41,228	16,326	0.40	2.14	38,988	15,439	0.40	2.41	36,149	14,315	0.40	2.61	33,461	13,250	0.40	2.81	30,772	12,186	0.40	2.94	28,083	11,121	0.40	3.08
20	68	16	61	37,719	20,972	0.56	1.94	35,478	19,726	0.56	2.21	32,640	18,148	0.56	2.41	29,951	16,653	0.56	2.61	27,262	15,158	0.56	2.74	24,574	13,663	0.56	2.88
20	68	18	64	41,228	17,976	0.44	2.14	38,988	16,999	0.44	2.41	36,149	15,761	0.44	2.61	33,461	14,589	0.44	2.81	30,772	13,416	0.44	2.94	28,083	12,244	0.44	3.08
20	68	20	68	43,021	13,595	0.32	2.26	41,228	13,028	0.32	2.46	38,838	12,273	0.32	2.70	36,000	11,376	0.32	2.93	33,162	10,479	0.32	3.08	30,772	9,724	0.32	3.21
22	72	16	61	37,719	23,989	0.64	1.94	35,478	22,564	0.64	2.21	32,640	20,759	0.64	2.41	29,951	19,049	0.64	2.61	27,262	17,339	0.64	2.74	24,574	15,629	0.64	2.88
22	72	18	64	41,228	21,274	0.52	2.14	38,988	20,118	0.52	2.41	36,149	18,653	0.52	2.61	33,461	17,266	0.52	2.81	30,772	15,878	0.52	2.94	28,083	14,491	0.52	3.08
22	72	20	68	43,021	17,036	0.40	2.26	41,228	16,326	0.40	2.46	38,838	15,380	0.40	2.70	36,000	14,256	0.40	2.93	33,162	13,132	0.40	3.08	30,772	12,186	0.40	3.21
24	75	16	61	37,719	27,007	0.72	1.94	35,478	25,402	0.72	2.21	32,640	23,730	0.72	2.41	29,951	21,445	0.72	2.61	27,262	19,520	0.72	2.74	24,574	17,595	0.72	2.88
24	75	18	64	41,228	24,572	0.60	2.14	38,988	23,237	0.60	2.41	36,149	21,545	0.60	2.61	33,461	19,943	0.60	2.81	30,772	18,340	0.60	2.94	28,083	16,737	0.60	3.08
24	75	20	68	43,021	20,478	0.48	2.26	41,228	19,625	0.48	2.46	38,838	18,487	0.48	2.70	36,000	17,136	0.48	2.93	33,162	15,785	0.48	3.08	30,772	14,647	0.48	3.21
24	75	22	72	45,411	16,166	0.36	2.35	43,917	15,634	0.36	2.61	41,228	14,677	0.36	2.84	38,539	13,720	0.36	3.05	35,851	12,763	0.36	3.20	32,863	11,699	0.36	3.29
26	79	16	61	37,719	30,024	0.80	1.94	35,478	28,241	0.80	2.21	32,640	25,981	0.80	2.41	29,951	23,841	0.80	2.61	27,262	21,701	0.80	2.74	24,574	19,561	0.80	2.88
26	79	18	64	41,228	27,870	0.68	2.14	38,988	26,356	0.68	2.41	36,149	24,437	0.68	2.61	33,461	22,619	0.68	2.81	30,772	20,802	0.68	2.94	28,083	18,984	0.68	3.08
26	79	20	68	43,021	23,920	0.56	2.26	41,228	22,923	0.56	2.46	38,838	21,594	0.56	2.70	36,000	20,016	0.56	2.93	33,162	18,438	0.56	3.08	30,772	17,109	0.56	3.21
26	79	22	72	45,411	19,799	0.44	2.35	43,917	19,148	0.44	2.61	41,228	17,976	0.44	2.84	38,539	16,803	0.44	3.05	35,851	15,631	0.44	3.20	32,863	14,328	0.44	3.29
27	81	16	61	37,719	31,533	0.84	1.94	35,478	29,660	0.84	2.21	32,640	27,287	0.84	2.41	29,951	25,039	0.84	2.61	27,262	22,791	0.84	2.74	24,574	20,544	0.84	2.88
27	81	18	64	41,228	29,519	0.72	2.14	38,988	27,915	0.72	2.41	36,149	25,883	0.72	2.61	33,461	23,958	0.72	2.81	30,772	22,033	0.72	2.94	28,083	20,107	0.72	3.08
27	81	20	68	43,021	25,640	0.60	2.26	41,228	24,572	0.60	2.46	38,838	23,148	0.60	2.70	36,000	21,456	0.60	2.93	33,162	19,764	0.60	3.08	30,772	18,340	0.60	3.21
27	81	22	72	45,411	21,616	0.48	2.35	43,917	20,904	0.48	2.61	41,228	19,625	0.48	2.84	38,539	18,345	0.48	3.05	35,851	17,065	0.48	3.20	32,863	15,643	0.48	3.29
28	82	16	61	37,719	33,042	0.88	1.94	35,478	31,079	0.88	2.21	32,640	28,593	0.88	2.41	29,951	26,237	0.88	2.61	27,262	23,882	0.88	2.74	24,574	21,526	0.88	2.88
28	82	18	64	41,228	31,169	0.76	2.14	38,988	29,475	0.76	2.41	36,149	27,329	0.76	2.61	33,461	25,296	0.76	2.81	30,772	23,263	0.76	2.94	28,083	21,231	0.76	3.08
28	82	20	68	43,021	27,361	0.64	2.26	41,228	26,221	0.64	2.46	38,838	24,701	0.64	2.70	36,000	22,896	0.64	2.93	33,162	21,091	0.64	3.08	30,772	19,571	0.64	3.21
28	82	22	72	45,411	23,432	0.52	2.35	43,917	22,661	0.52	2.61	41,228	21,274	0.52	2.84	38,539	19,886	0.52	3.05	35,851	18,499	0.52	3.20	32,863	16,957	0.52	3.29
30	86	16	61	37,719	36,059	0.96	1.94	35,478	33,917	0.96	2.21	32,640	31,204	0.96	2.41	29,951	28,633	0.96	2.61	27,262	26,063	0.96	2.74	24,574	23,492	0.96	2.88
30	86	18	64	41,228	34,467	0.84	2.14	38,988	32,594	0.84	2.41	36,149	30,221	0.84	2.61	33,461	27,973	0.84	2.81	30,772	25,725	0.84	2.94	28,083	23,477	0.84	3.08
30	86	20	68	43,021	30,803	0.72	2.26	41,228	29,519	0.72	2.46	38,838	27,808	0.72	2.70	36,000	25,776	0.72	2.93	33,162	23,744	0.72	3.08	30,772	22,033	0.72	3.21
30	86	22	72	45,411	27,065	0.60	2.35	43,917	26,175	0.60	2.61	41,228	24,572	0.60	2.84	38,539	22,969	0.60	3.05	35,851	21,367	0.60	3.20	32,863	19,586	0.60	3.29
32	90	16	61	37,719	37,719	1.00	1.94	35,478	35,478	1.00	2.21	32,640	32,640	1.00	2.41	29,951	29,951	1.00	2.61	27,262	27,262	1.00	2.74	24,574	24,574	1.00	2.88
32	90	18	64	41,228	37,765	0.92	2.14	38,988	35,713	0.92	2.41	36,149	33,113	0.92	2.61	33,461	30,650	0.92	2.81	30,772	28,187	0.92	2.94	28,083	25,724	0.92	3.08
32	90	20	68	43,021	34,245	0.80	2.26	41,228	32,818	0.80	2.46	38,838	30,915	0.80	2.70	36,000	28,656	0.80	2.93	33,162	26,397	0.80	3.08	30,772	24,494	0.80	3.21
32	90	22	72	45,411	30,698	0.68	2.35	43,917	29,688	0.68	2.61	41,228	27,870	0.68	2.84	38,539	26,053	0.68	3.05	35,851	24,235	0.68	3.20	32,863	22,215	0.68	3.29

PCA-AK42NL/PUY-AK42NL, PUZ-AK42NL

CAPACITY (Btu/h): 42,000 INPUT (kW): 3.82 SHF: 0.6

Indoor intake air D.B.(°C)	Indoor intake air D.B.(°F)	Indoor intake air W.B.(°C)	Indoor intake air W.B.(°F)	Outdoor intake air °C/°F D.B.																											
				20/68				25/77				30/86				35/95				40/104				46/115							
				CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.				
19	68	16	61	44,005	21,827	0.50	2.53	41,391	20,530	0.50	2.88	38,080	18,888	0.50	3.14	34,943	17,332	0.50	3.40	31,806	15,776	0.50	3.58	28,669	14,220	0.50	3.75				
19	68	18	64	48,100	18,085	0.38	2.79	45,485	17,103	0.38	3.14	42,174	15,858	0.38	3.40	39,037	14,678	0.38	3.66	35,900	13,499	0.38	3.84	32,763	12,319	0.38	4.01				
20	68	16	61	44,005	23,587	0.54	2.53	41,391	22,186	0.54	2.88	38,080	20,411	0.54	3.14	34,943	18,729	0.54	3.40	31,806	17,048	0.54	3.58	28,669	15,367	0.54	3.75				
20	68	18	64	48,100	20,009	0.42	2.79	45,485	18,922	0.42	3.14	42,174	17,544	0.42	3.40	39,037	16,240	0.42	3.66	35,900	14,935	0.42	3.84	32,763	13,630	0.42	4.01				
20	68	20	68	50,191	14,856	0.30	2.95	48,100	14,237	0.30	3.21	45,311	13,412	0.30	3.52	42,000	12,432	0.30	3.82	38,689	11,452	0.30	4.01	35,900	10,627	0.30	4.19				
22	72	16	61	44,005	27,107	0.62	2.53	41,391	25,497	0.62	2.88	38,080	23,457	0.62	3.14	34,943	21,525	0.62	3.40	31,806	19,593	0.62	3.58	28,669	17,660	0.62	3.75				
22	72	18	64	48,100	23,857	0.50	2.79	45,485	22,561	0.50	3.14	42,174	20,918	0.50	3.40	39,037	19,363	0.50	3.66	35,900	17,807	0.50	3.84	32,763	16,251	0.50	4.01				
22	72	20	68	50,191	18,872	0.38	2.95	48,100	18,085	0.38	3.21	45,311	17,037	0.38	3.52	42,000	15,792	0.38	3.82	38,689	14,547	0.38	4.01	35,900	13,499	0.38	4.19				
24	75	16	61	44,005	30,728	0.70	2.53	41,391	28,808	0.70	2.88	38,080	26,504	0.70	3.14	34,943	24,320	0.70	3.40	31,806	22,137	0.70	3.58	28,669	19,954	0.70	3.75				
24	75	18	64	48,100	27,705	0.58	2.79	45,485	26,200	0.58	3.14	42,174	24,292	0.58	3.40	39,037	22,486	0.58	3.66	35,900	20,679	0.58	3.84	32,763	18,872	0.58	4.01				
24	75	20	68	50,191	22,887	0.46	2.95	48,100	21,933	0.46	3.21	45,311	20,662	0.46	3.52	42,000	19,152	0.46	3.82	38,689	17,642	0.46	4.01	35,900	16,371	0.46	4.19				
24	75	22	72	52,979	17,801	0.34	3.07	51,237	17,215	0.34	3.40	48,100	16,161	0.34	3.70	44,963	15,107	0.34	3.98	41,826	14,053	0.34	4.17	38,340	12,882	0.34	4.29				
26	79	16	61	44,005	34,148	0.78	2.53	41,391	32,120	0.78	2.88	38,080	29,550	0.78	3.14	34,943	27,116	0.78	3.40	31,806	24,682	0.78	3.58	28,669	22,247	0.78	3.75				
26	79	18	64	48,100	31,553	0.66	2.79	45,485	29,838	0.66	3.14	42,174	27,666	0.66	3.40	39,037	25,608	0.66	3.66	35,900	23,551	0.66	3.84	32,763	21,943	0.66	4.01				
26	79	20	68	50,191	26,902	0.54	2.95	48,100	25,781	0.54	3.21	45,311	24,287	0.54	3.52	42,000	22,512	0.54	3.82	38,689	20,737	0.54	4.01	35,900	19,243	0.54	4.19				
26	79	22	72	52,979	22,039	0.42	3.07	51,237	21,134	0.42	3.40	48,100	20,029	0.42	3.70	44,963	18,704	0.42	3.98	41,826	17,400	0.42	4.17	38,340	15,950	0.42	4.29				
27	81	16	61	44,005	35,908	0.82	2.53	41,391	33,775	0.82	2.88	38,080	31,073	0.82	3.14	34,943	28,514	0.82	3.40	31,806	25,954	0.82	3.58	28,669	23,394	0.82	3.75				
27	81	18	64	48,100	33,477	0.70	2.79	45,485	31,658	0.70	3.14	42,174	29,353	0.70	3.40	39,037	27,170	0.70	3.66	35,900	24,987	0.70	3.84	32,763	22,803	0.70	4.01				
27	81	20	68	50,191	28,910	0.58	2.95	48,100	27,705	0.58	3.21	45,311	26,099	0.58	3.52	42,000	24,192	0.58	3.82	38,689	22,285	0.58	4.01	35,900	20,679	0.58	4.19				
27	81	22	72	52,979	24,159	0.46	3.07	51,237	23,364	0.46	3.40	48,100	21,933	0.46	3.70	44,963	20,503	0.46	3.98	41,826	19,073	0.46	4.17	38,340	17,483	0.46	4.29				
28	82	16	61	44,005	37,669	0.86	2.53	41,391	35,431	0.86	2.88	38,080	32,596	0.86	3.14	34,943	29,911	0.86	3.40	31,806	27,226	0.86	3.58	28,669	24,541	0.86	3.75				
28	82	18	64	48,100	35,401	0.74	2.79	45,485	33,477	0.74	3.14	42,174	31,040	0.74	3.40	39,037	28,731	0.74	3.66	35,900	26,423	0.74	3.84	32,763	24,114	0.74	4.01				
28	82	20	68	50,191	30,918	0.62	2.95	48,100	29,629	0.62	3.21	45,311	27,912	0.62	3.52	42,000	25,872	0.62	3.82	38,689	23,832	0.62	4.01	35,900	22,115	0.62	4.19				
28	82	22	72	52,979	26,278	0.50	3.07	51,237	25,413	0.50	3.40	48,100	23,857	0.50	3.70	44,963	22,301	0.50	3.98	41,826	20,746	0.50	4.17	38,340	19,017	0.50	4.29				
30	86	16	61	44,005	41,189	0.94	2.53	41,391	38,742	0.94	2.88	38,080	35,643	0.94	3.14	34,943	32,707	0.94	3.40	31,806	29,771	0.94	3.58	28,669	26,834	0.94	3.75				
30	86	18	64	48,100	39,249	0.82	2.79	45,485	37,116	0.82	3.14	42,174	34,414	0.82	3.40	39,037	31,854	0.82	3.66	35,900	29,295	0.82	3.84	32,763	26,735	0.82	4.01				
30	86	20	68	50,191	34,933	0.70	2.95	48,100	33,477	0.70	3.21	45,311	31,537	0.70	3.52	42,000	29,232	0.70	3.82	38,689	26,927	0.70	4.01	35,900	24,987	0.70	4.19				
30	86	22	72	52,979	30,516	0.58	3.07	51,237	29,512	0.58	3.40	48,100	27,705	0.58	3.70	44,963	25,898	0.58	3.98	41,826	24,092	0.58	4.17	38,340	22,084	0.58	4.29				
32	90	16	61	44,005	44,005	1.00	2.53	41,391	41,391	1.00	2.88	38,080	38,080	1.00	3.14	34,943	34,943	1.00	3.40	31,806	31,806	1.00	3.58	28,669	28,669	1.00	3.75				
32	90	18	64	48,100	43,097	0.90	2.79	45,485	40,755	0.90	3.14	42,174	37,788	0.90	3.40	39,037	34,977	0.90	3.66	35,900	32,167	0.90	3.84	32,763	29,356	0.90	4.01				
32	90	20	68	50,191	38,948	0.78	2.95	48,100	37,325	0.78	3.21	45,311	35,161	0.78	3.52	42,000	32,592	0.78	3.82	38,689	30,023	0.78	4.01	35,900	27,859	0.78	4.19				
32	90	22	72	52,979	34,754	0.66	3.07	51,237	33,611	0.66	3.40	48,100	31,553	0.66	3.70	44,963	29,496	0.66	3.98	41,826	27,438	0.66	4.17	38,340	25,151	0.66	4.29				

T3-1-2. HEATING CAPACITY

OUTDOOR:PUZ-AK24-42NL

Model Name	Capacity Btu/h	Input kW	Indoor intake air D.B.(°C)	Indoor intake air D.B.(°F)	Outdoor intake air °C/°F W.B.											
					-10/14		-5/23		0/32		5/41		10/50		15/59	
					CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.
PCA-AK24NL	26,000	2.16	15	59	16,763	1.43	20,415	1.70	22,252	1.82	25,946	2.04	29,661	2.21	33,395	2.31
			20	68	15,853	1.55	19,542	1.81	21,398	1.93	25,104	2.12	28,771	2.27	32,356	2.38
			25	77	14,306	1.65	18,155	1.92	20,069	2.03	23,847	2.22	27,518	2.36	31,035	2.46
PCA-AK30NL	32,000	2.79	15	59	20,632	1.85	25,126	2.20	27,387	2.35	31,933	2.63	36,506	2.85	41,101	2.99
			20	68	19,511	2.00	24,052	2.34	26,336	2.49	30,898	2.74	35,411	2.94	39,823	3.07
			25	77	17,607	2.14	22,345	2.48	24,701	2.62	29,350	2.87	33,868	3.05	38,197	3.18
PCA-AK36NL	38,000	2.67	15	59	24,500	1.77	29,837	2.10	32,522	2.25	37,921	2.52	43,351	2.73	48,808	2.86
			20	68	23,169	1.91	28,562	2.24	31,273	2.38	36,691	2.62	42,050	2.81	47,290	2.94
			25	77	20,908	2.04	26,534	2.37	29,332	2.51	34,853	2.75	40,219	2.92	45,359	3.04
PCA-AK42NL	45,000	3.46	15	59	29,014	2.29	35,334	2.72	38,513	2.92	44,906	3.27	51,337	3.53	57,799	3.71
			20	68	27,437	2.48	33,823	2.90	37,034	3.09	43,450	3.40	49,796	3.64	56,002	3.81
			25	77	24,760	2.65	31,422	3.07	34,735	3.25	41,274	3.56	47,627	3.79	53,715	3.94

Note: CA : Capacity (Btu/h) P.C. : Power consumption (kW)
D.B. : Dry-bulb temperature W.B. : Wet-bulb temperature

T3-2. HYPER HEATING INVERTER

T3-2-1. COOLING CAPACITY

PCA-AK24NL/PUZ-AK24NLHZ

CAPACITY (Btu/h): 24,000 INPUT (kW): 1.7 SHF: 0.64

Indoor intake air D.B.(°C)	Indoor intake air D.B.(°F)	Indoor intake air W.B.(°C)	Indoor intake air W.B.(°F)	Outdoor intake air °C/°F D.B.																							
				20/68				25/77				30/86				35/95				40/104				46/115			
				CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
19	68	16	61	25,146	13,478	0.54	1.13	23,652	12,678	0.54	1.28	21,760	11,663	0.54	1.40	19,967	10,703	0.54	1.51	18,175	9,742	0.54	1.59	16,382	8,781	0.54	1.67
19	68	18	64	27,485	11,434	0.42	1.24	25,992	10,813	0.42	1.40	24,100	10,025	0.42	1.51	22,307	9,280	0.42	1.63	20,515	8,534	0.42	1.71	18,722	7,788	0.42	1.79
20	68	16	61	25,146	14,484	0.58	1.13	23,652	13,624	0.58	1.28	21,760	12,534	0.58	1.40	19,967	11,501	0.58	1.51	18,175	10,469	0.58	1.59	16,382	9,436	0.58	1.67
20	68	18	64	27,485	12,533	0.46	1.24	25,992	11,852	0.46	1.40	24,100	10,989	0.46	1.51	22,307	10,172	0.46	1.63	20,515	9,355	0.46	1.71	18,722	8,537	0.46	1.79
20	68	20	68	28,680	9,637	0.34	1.31	27,485	9,235	0.34	1.43	25,892	8,700	0.34	1.57	24,000	8,064	0.34	1.70	22,108	7,428	0.34	1.79	20,515	6,893	0.34	1.86
22	72	16	61	25,146	16,496	0.66	1.13	23,652	15,516	0.66	1.28	21,760	14,275	0.66	1.40	19,967	13,099	0.66	1.51	18,175	11,923	0.66	1.59	16,382	10,747	0.66	1.67
22	72	18	64	27,485	14,732	0.54	1.24	25,992	13,932	0.54	1.40	24,100	12,917	0.54	1.51	22,307	11,957	0.54	1.63	20,515	10,996	0.54	1.71	18,722	10,035	0.54	1.79
22	72	20	68	28,680	11,931	0.42	1.31	27,485	11,434	0.42	1.43	25,892	10,771	0.42	1.57	24,000	9,984	0.42	1.70	22,108	9,197	0.42	1.79	20,515	8,534	0.42	1.86
24	75	16	61	25,146	18,507	0.74	1.13	23,652	17,408	0.74	1.28	21,760	16,015	0.74	1.40	19,967	14,696	0.74	1.51	18,175	13,377	0.74	1.59	16,382	12,057	0.74	1.67
24	75	18	64	27,485	16,931	0.62	1.24	25,992	16,011	0.62	1.40	24,100	14,845	0.62	1.51	22,307	13,741	0.62	1.63	20,515	12,637	0.62	1.71	18,722	11,533	0.62	1.79
24	75	20	68	28,680	14,226	0.50	1.31	27,485	13,633	0.50	1.43	25,892	12,842	0.50	1.57	24,000	11,904	0.50	1.70	22,108	10,966	0.50	1.79	20,515	10,175	0.50	1.86
24	75	22	72	30,274	11,383	0.38	1.37	29,278	11,009	0.38	1.51	27,485	10,335	0.38	1.65	25,693	9,661	0.38	1.77	23,900	8,987	0.38	1.86	21,909	8,238	0.38	1.91
26	79	16	61	25,146	20,519	0.82	1.13	23,652	19,300	0.82	1.28	21,760	17,756	0.82	1.40	19,967	16,293	0.82	1.51	18,175	14,831	0.82	1.59	16,382	13,368	0.82	1.67
26	79	18	64	27,485	19,130	0.70	1.24	25,992	18,090	0.70	1.40	24,100	16,773	0.70	1.51	22,307	15,526	0.70	1.63	20,515	14,278	0.70	1.71	18,722	13,031	0.70	1.79
26	79	20	68	28,680	16,520	0.58	1.31	27,485	15,832	0.58	1.43	25,892	14,914	0.58	1.57	24,000	13,824	0.58	1.70	22,108	12,734	0.58	1.79	20,515	11,816	0.58	1.86
26	79	22	72	30,274	13,805	0.46	1.37	29,278	13,351	0.46	1.51	27,485	12,533	0.46	1.65	25,693	11,716	0.46	1.77	23,900	10,899	0.46	1.86	21,909	9,990	0.46	1.91
27	81	16	61	25,146	21,525	0.86	1.13	23,652	20,246	0.86	1.28	21,760	18,627	0.86	1.40	19,967	17,092	0.86	1.51	18,175	15,558	0.86	1.59	16,382	14,023	0.86	1.67
27	81	18	64	27,485	20,229	0.74	1.24	25,992	19,130	0.74	1.40	24,100	17,737	0.74	1.51	22,307	16,418	0.74	1.63	20,515	15,099	0.74	1.71	18,722	13,779	0.74	1.79
27	81	20	68	28,680	17,667	0.62	1.31	27,485	16,931	0.62	1.43	25,892	15,950	0.62	1.57	24,000	14,784	0.62	1.70	22,108	13,618	0.62	1.79	20,515	12,637	0.62	1.86
27	81	22	72	30,274	15,016	0.50	1.37	29,278	14,522	0.50	1.51	27,485	13,633	0.50	1.65	25,693	12,744	0.50	1.77	23,900	11,855	0.50	1.86	21,909	10,867	0.50	1.91
28	82	16	61	25,146	22,531	0.90	1.13	23,652	21,192	0.90	1.28	21,760	19,497	0.90	1.40	19,967	17,891	0.90	1.51	18,175	16,285	0.90	1.59	16,382	14,679	0.90	1.67
28	82	18	64	27,485	21,329	0.78	1.24	25,992	20,170	0.78	1.40	24,100	18,701	0.78	1.51	22,307	17,310	0.78	1.63	20,515	15,919	0.78	1.71	18,722	14,528	0.78	1.79
28	82	20	68	28,680	18,814	0.66	1.31	27,485	18,030	0.66	1.43	25,892	16,985	0.66	1.57	24,000	15,744	0.66	1.70	22,108	14,503	0.66	1.79	20,515	13,458	0.66	1.86
28	82	22	72	30,274	16,227	0.54	1.37	29,278	15,693	0.54	1.51	27,485	14,732	0.54	1.65	25,693	13,771	0.54	1.77	23,900	12,811	0.54	1.86	21,909	11,743	0.54	1.91
30	86	16	61	25,146	24,542	0.98	1.13	23,652	23,084	0.98	1.28	21,760	21,238	0.98	1.40	19,967	19,488	0.98	1.51	18,175	17,739	0.98	1.59	16,382	15,989	0.98	1.67
30	86	18	64	27,485	23,528	0.86	1.24	25,992	22,249	0.86	1.40	24,100	20,629	0.86	1.51	22,307	19,095	0.86	1.63	20,515	17,560	0.86	1.71	18,722	16,026	0.86	1.79
30	86	20	68	28,680	21,109	0.74	1.31	27,485	20,229	0.74	1.43	25,892	19,057	0.74	1.57	24,000	17,664	0.74	1.70	22,108	16,271	0.74	1.79	20,515	15,099	0.74	1.86
30	86	22	72	30,274	18,649	0.62	1.37	29,278	18,035	0.62	1.51	27,485	16,931	0.62	1.65	25,693	15,827	0.62	1.77	23,900	14,723	0.62	1.86	21,909	13,496	0.62	1.91
32	90	16	61	25,146	25,146	1.00	1.13	23,652	23,652	1.00	1.28	21,760	21,760	1.00	1.40	19,967	19,967	1.00	1.51	18,175	18,175	1.00	1.59	16,382	16,382	1.00	1.67
32	90	18	64	27,485	25,726	0.94	1.24	25,992	24,328	0.94	1.40	24,100	22,557	0.94	1.51	22,307	20,879	0.94	1.63	20,515	19,202	0.94	1.71	18,722	17,524	0.94	1.79
32	90	20	68	28,680	23,403	0.82	1.31	27,485	22,428	0.82	1.43	25,892	21,128	0.82	1.57	24,000	19,584	0.82	1.70	22,108	18,040	0.82	1.79	20,515	16,740	0.82	1.86
32	90	22	72	30,274	21,071	0.70	1.37	29,278	20,377	0.70	1.51	27,485	19,130	0.70	1.65	25,693	17,882	0.70	1.77	23,900	16,635	0.70	1.86	21,909	15,248	0.70	1.91



PCA-AK30NL/PUZ-AK30NLHZ

CAPACITY (Btu/h): 30,000 INPUT (kW): 2.42 SHF: 0.71

Indoor intake air D.B.(°C)	Indoor intake air D.B.(°F)	Indoor intake air W.B.(°C)	Indoor intake air W.B.(°F)	Outdoor intake air °C/°F D.B.																							
				20/68				25/77				30/86				35/95				40/104				46/115			
				CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
19	68	16	61	31,432	19,048	0.61	1.60	29,565	17,916	0.61	1.82	27,200	16,483	0.61	1.99	24,959	15,125	0.61	2.16	22,719	13,768	0.61	2.27	20,478	12,410	0.61	2.38
19	68	18	64	34,357	16,697	0.49	1.77	32,490	15,790	0.49	1.99	30,124	14,640	0.49	2.15	27,884	13,552	0.49	2.32	25,643	12,463	0.49	2.43	23,402	11,374	0.49	2.54
20	68	16	61	31,432	20,305	0.65	1.60	29,565	19,099	0.65	1.82	27,200	17,571	0.65	1.99	24,959	16,124	0.65	2.16	22,719	14,676	0.65	2.27	20,478	13,229	0.65	2.38
20	68	18	64	34,357	18,072	0.53	1.77	32,490	17,090	0.53	1.99	30,124	15,845	0.53	2.15	27,884	14,667	0.53	2.32	25,643	13,488	0.53	2.43	23,402	12,310	0.53	2.54
20	68	20	68	35,851	14,555	0.41	1.87	34,357	13,949	0.41	2.03	32,365	13,140	0.41	2.23	30,000	12,180	0.41	2.42	27,635	11,220	0.41	2.54	25,643	10,411	0.41	2.65
22	72	16	61	31,432	22,820	0.73	1.60	29,565	21,464	0.73	1.82	27,200	19,747	0.73	1.99	24,959	18,120	0.73	2.16	22,719	16,494	0.73	2.27	20,478	14,867	0.73	2.38
22	72	18	64	34,357	20,820	0.61	1.77	32,490	19,689	0.61	1.99	30,124	18,255	0.61	2.15	27,884	16,898	0.61	2.32	25,643	15,540	0.61	2.43	23,402	14,182	0.61	2.54
22	72	20	68	35,851	17,423	0.49	1.87	34,357	16,697	0.49	2.03	32,365	15,729	0.49	2.23	30,000	14,580	0.49	2.42	27,635	13,431	0.49	2.54	25,643	12,463	0.49	2.65
24	75	16	61	31,432	25,334	0.81	1.60	29,565	23,830	0.81	1.82	27,200	21,923	0.81	1.99	24,959	20,117	0.81	2.16	22,719	18,311	0.81	2.27	20,478	16,505	0.81	2.38
24	75	18	64	34,357	23,569	0.69	1.77	32,490	22,288	0.69	1.99	30,124	20,665	0.69	2.15	27,884	19,128	0.69	2.32	25,643	17,591	0.69	2.43	23,402	16,054	0.69	2.54
24	75	20	68	35,851	20,291	0.57	1.87	34,357	19,446	0.57	2.03	32,365	18,319	0.57	2.23	30,000	16,980	0.57	2.42	27,635	15,641	0.57	2.54	25,643	14,514	0.57	2.65
24	75	22	72	37,842	16,878	0.45	1.94	36,598	16,322	0.45	2.15	34,357	15,323	0.45	2.34	32,116	14,324	0.45	2.52	29,876	13,324	0.45	2.64	27,386	12,214	0.45	2.72
26	79	16	61	31,432	27,849	0.89	1.60	29,565	26,195	0.89	1.82	27,200	24,099	0.89	1.99	24,959	22,114	0.89	2.16	22,719	20,129	0.89	2.27	20,478	18,144	0.89	2.38
26	79	18	64	34,357	26,317	0.77	1.77	32,490	24,887	0.77	1.99	30,124	23,075	0.77	2.15	27,884	21,359	0.77	2.32	25,643	19,643	0.77	2.43	23,402	17,926	0.77	2.54
26	79	20	68	35,851	23,160	0.65	1.87	34,357	22,195	0.65	2.03	32,365	20,908	0.65	2.23	30,000	19,380	0.65	2.42	27,635	17,852	0.65	2.54	25,643	16,565	0.65	2.65
26	79	22	72	37,842	19,905	0.53	1.94	36,598	19,250	0.53	2.15	34,357	18,072	0.53	2.34	32,116	16,893	0.53	2.52	29,876	15,715	0.53	2.64	27,386	14,405	0.53	2.72
27	81	16	61	31,432	29,106	0.93	1.60	29,565	27,377	0.93	1.82	27,200	25,187	0.93	1.99	24,959	23,112	0.93	2.16	22,719	21,037	0.93	2.27	20,478	18,963	0.93	2.38
27	81	18	64	34,357	27,692	0.81	1.77	32,490	26,187	0.81	1.99	30,124	24,280	0.81	2.15	27,884	22,474	0.81	2.32	25,643	20,668	0.81	2.43	23,402	18,862	0.81	2.54
27	81	20	68	35,851	24,494	0.69	1.87	34,357	23,569	0.69	2.03	32,365	22,202	0.69	2.23	30,000	20,580	0.69	2.42	27,635	18,958	0.69	2.54	25,643	17,591	0.69	2.65
27	81	22	72	37,842	21,419	0.57	1.94	36,598	20,714	0.57	2.15	34,357	19,446	0.57	2.34	32,116	18,178	0.57	2.52	29,876	16,910	0.57	2.64	27,386	15,500	0.57	2.72
28	82	16	61	31,432	30,364	0.97	1.60	29,565	28,560	0.97	1.82	27,200	26,275	0.97	1.99	24,959	24,111	0.97	2.16	22,719	21,946	0.97	2.27	20,478	19,782	0.97	2.38
28	82	18	64	34,357	29,066	0.85	1.77	32,490	27,486	0.85	1.99	30,124	25,485	0.85	2.15	27,884	23,590	0.85	2.32	25,643	21,694	0.85	2.43	23,402	19,799	0.85	2.54
28	82	20	68	35,851	26,028	0.73	1.87	34,357	24,943	0.73	2.03	32,365	23,497	0.73	2.23	30,000	21,780	0.73	2.42	27,635	20,063	0.73	2.54	25,643	18,617	0.73	2.65
28	82	22	72	37,842	22,932	0.61	1.94	36,598	22,178	0.61	2.15	34,357	20,820	0.61	2.34	32,116	19,462	0.61	2.52	29,876	18,105	0.61	2.64	27,386	16,596	0.61	2.72
30	86	16	61	31,432	31,432	1.00	1.60	29,565	29,565	1.00	1.82	27,200	27,200	1.00	1.99	24,959	24,959	1.00	2.16	22,719	22,719	1.00	2.27	20,478	20,478	1.00	2.38
30	86	18	64	34,357	31,814	0.93	1.77	32,490	30,085	0.93	1.99	30,124	27,895	0.93	2.15	27,884	25,820	0.93	2.32	25,643	23,746	0.93	2.43	23,402	21,671	0.93	2.54
30	86	20	68	35,851	28,896	0.81	1.87	34,357	27,692	0.81	2.03	32,365	26,086	0.81	2.23	30,000	24,180	0.81	2.42	27,635	22,274	0.81	2.54	25,643	20,668	0.81	2.65
30	86	22	72	37,842	25,960	0.69	1.94	36,598	25,106	0.69	2.15	34,357	23,569	0.69	2.34	32,116	22,032	0.69	2.52	29,876	20,495	0.69	2.64	27,386	18,787	0.69	2.72
32	90	16	61	31,432	31,432	1.00	1.60	29,565	29,565	1.00	1.82	27,200	27,200	1.00	1.99	24,959	24,959	1.00	2.16	22,719	22,719	1.00	2.27	20,478	20,478	1.00	2.38
32	90	18	64	34,357	34,357	1.00	1.77	32,490	32,490	1.00	1.99	30,124	30,124	1.00	2.15	27,884	27,884	1.00	2.32	25,643	25,643	1.00	2.43	23,402	23,402	1.00	2.54
32	90	20	68	35,851	31,764	0.89	1.87	34,357	30,440	0.89	2.03	32,365	28,676	0.89	2.23	30,000	26,580	0.89	2.42	27,635	24,484	0.89	2.54	25,643	22,720	0.89	2.65
32	90	22	72	37,842	28,987	0.77	1.94	36,598	28,034	0.77	2.15	34,357	26,317	0.77	2.34	32,116	24,601	0.77	2.52	29,876	22,885	0.77	2.64	27,386	20,978	0.77	2.72

PCA-AK36NL/PUZ-AK36NLHZ

CAPACITY (Btu/h): 36,000 INPUT (kW): 2.93 SHF: 0.62

Indoor intake air D.B.(°C)	Indoor intake air D.B.(°F)	Indoor intake air W.B.(°C)	Indoor intake air W.B.(°F)	Outdoor intake air °C/°F D.B.																							
				20/68				25/77				30/86				35/95				40/104				46/115			
				CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
19	68	16	61	37,719	19,463	0.52	1.94	35,478	18,307	0.52	2.21	32,640	16,842	0.52	2.41	29,951	15,455	0.52	2.61	27,262	14,067	0.52	2.74	24,574	12,680	0.52	2.88
19	68	18	64	41,228	16,326	0.40	2.14	38,988	15,439	0.40	2.41	36,149	14,315	0.40	2.61	33,461	13,250	0.40	2.81	30,772	12,186	0.40	2.94	28,083	11,121	0.40	3.08
20	68	16	61	37,719	20,972	0.56	1.94	35,478	19,726	0.56	2.21	32,640	18,148	0.56	2.41	29,951	16,653	0.56	2.61	27,262	15,158	0.56	2.74	24,574	13,663	0.56	2.88
20	68	18	64	41,228	17,976	0.44	2.14	38,988	16,999	0.44	2.41	36,149	15,761	0.44	2.61	33,461	14,589	0.44	2.81	30,772	13,416	0.44	2.94	28,083	12,244	0.44	3.08
20	68	20	68	43,021	13,595	0.32	2.26	41,228	13,028	0.32	2.46	38,838	12,273	0.32	2.70	36,000	11,376	0.32	2.93	33,162	10,479	0.32	3.08	30,772	9,724	0.32	3.21
22	72	16	61	37,719	23,989	0.64	1.94	35,478	22,564	0.64	2.21	32,640	20,759	0.64	2.41	29,951	19,049	0.64	2.61	27,262	17,339	0.64	2.74	24,574	15,629	0.64	2.88
22	72	18	64	41,228	21,274	0.52	2.14	38,988	20,118	0.52	2.41	36,149	18,653	0.52	2.61	33,461	17,266	0.52	2.81	30,772	15,878	0.52	2.94	28,083	14,491	0.52	3.08
22	72	20	68	43,021	17,036	0.40	2.26	41,228	16,326	0.40	2.46	38,838	15,380	0.40	2.70	36,000	14,256	0.40	2.93	33,162	13,132	0.40	3.08	30,772	12,186	0.40	3.21
24	75	16	61	37,719	27,007	0.72	1.94	35,478	25,402	0.72	2.21	32,640	23,302	0.72	2.41	29,951	21,445	0.72	2.61	27,262	19,520	0.72	2.74	24,574	17,595	0.72	2.88
24	75	18	64	41,228	24,572	0.60	2.14	38,988	23,237	0.60	2.41	36,149	21,545	0.60	2.61	33,461	19,943	0.60	2.81	30,772	18,340	0.60	2.94	28,083	16,737	0.60	3.08
24	75	20	68	43,021	20,478	0.48	2.26	41,228	19,625	0.48	2.46	38,838	18,487	0.48	2.70	36,000	17,136	0.48	2.93	33,162	15,785	0.48	3.08	30,772	14,647	0.48	3.21
24	75	22	72	45,411	16,166	0.36	2.35	43,917	15,634	0.36	2.61	41,228	14,677	0.36	2.84	38,539	13,720	0.36	3.05	35,851	12,763	0.36	3.20	32,863	11,699	0.36	3.29
26	79	16	61	37,719	30,024	0.80	1.94	35,478	28,241	0.80	2.21	32,640	25,981	0.80	2.41	29,951	23,841	0.80	2.61	27,262	21,701	0.80	2.74	24,574	19,561	0.80	2.88
26	79	18	64	41,228	27,870	0.68	2.14	38,988	26,356	0.68	2.41	36,149	24,937	0.68	2.61	33,461	22,619	0.68	2.81	30,772	20,802	0.68	2.94	28,083	18,984	0.68	3.08
26	79	20	68	43,021	23,920	0.56	2.26	41,228	22,923	0.56	2.46	38,838	21,594	0.56	2.70	36,000	20,016	0.56	2.93	33,162	18,438	0.56	3.08	30,772	17,109	0.56	3.21
26	79	22	72	45,411	19,799	0.44	2.35	43,917	19,148	0.44	2.61	41,228	17,976	0.44	2.84	38,539	16,803	0.44	3.05	35,851	15,631	0.44	3.20	32,863	14,328	0.44	3.29
27	81	16	61	37,719	31,533	0.84	1.94	35,478	29,660	0.84	2.21	32,640	27,287	0.84	2.41	29,951	25,039	0.84	2.61	27,262	22,791	0.84	2.74	24,574	20,544	0.84	2.88
27	81	18	64	41,228	29,519	0.72	2.14	38,988	27,915	0.72	2.41	36,149	25,883	0.72	2.61	33,461	23,958	0.72	2.81	30,772	22,033	0.72	2.94	28,083	20,107	0.72	3.08
27	81	20	68	43,021	25,640	0.60	2.26	41,228	24,572	0.60	2.46	38,838	23,148	0.60	2.70	36,000	21,456	0.60	2.93	33,162	19,764	0.60	3.08	30,772	18,340	0.60	3.21
27	81	22	72	45,411	21,616	0.48	2.35	43,917	20,904	0.48	2.61	41,228	19,625	0.48	2.84	38,539	18,345	0.48	3.05	35,851	17,065	0.48	3.20	32,863	15,643	0.48	3.29
28	82	16	61	37,719	33,042	0.88	1.94	35,478	31,079	0.88	2.21	32,640	28,593	0.88	2.41	29,951	26,237	0.88	2.61	27,262	23,882	0.88	2.74	24,574	21,526	0.88	2.88
28	82	18	64	41,228	31,169	0.76	2.14	38,988	29,475	0.76	2.41	36,149	27,329	0.76	2.61	33,461	25,296	0.76	2.81	30,772	23,263	0.76	2.94	28,083	21,231	0.76	3.08
28	82	20	68	43,021	27,361	0.64	2.26	41,228	26,221	0.64	2.46	38,838	24,701	0.64	2.70	36,000	22,896	0.64	2.93	33,162	21,091	0.64	3.08	30,772	19,571	0.64	3.21
28	82	22	72	45,411	23,432	0.52	2.35	43,917	22,661	0.52	2.61	41,228	21,274	0.52	2.84	38,539	19,886	0.52	3.05	35,851	18,499	0.52	3.20	32,863	16,957	0.52	3.29
30	86	16	61	37,719	36,059	0.96	1.94	35,478	33,917	0.96	2.21	32,640	31,204	0.96	2.41	29,951	28,633	0.96	2.61	27,262	26,033	0.96	2.74	24,574	23,492	0.96	2.88
30	86	18	64	41,228	34,467	0.84	2.14	38,988	32,594	0.84	2.41	36,149	30,221	0.84	2.61	33,461	27,973	0.84	2.81	30,772	25,725	0.84	2.94	28,083	23,477	0.84	3.08
30	86	20	68	43,021	30,803	0.72	2.26	41,228	29,519	0.72	2.46	38,838	27,808	0.72	2.70	36,000	25,776	0.72	2.93	33,162	23,744	0.72	3.08	30,772	22,033	0.72	3.21
30	86	22	72	45,411	27,065	0.60	2.35	43,917	26,175	0.60	2.61	41,228	24,572	0.60	2.84	38,539	22,969	0.60	3.05	35,851	21,367	0.60	3.20	32,863	19,586	0.60	3.29
32	90	16	61	37,719	37,719	1.00	1.94	35,478	35,478	1.00	2.21	32,640	32,640	1.00	2.41	29,951	29,951	1.00	2.61	27,262	27,262	1.00	2.74	24,574	24,574	1.00	2.88
32	90	18	64	41,228	37,765	0.92	2.14	38,988	35,713	0.92	2.41	36,149	33,113	0.92	2.61	33,461	30,650	0.92	2.81	30,772	28,187	0.92	2.94	28,083	25,724	0.92	3.08
32	90	20	68	43,021	34,245	0.80	2.26	41,228	32,818	0.80	2.46	38,838	30,915	0.80	2.70	36,000	28,656	0.80	2.93	33,162	26,397	0.80	3.08	30,772	24,494	0.80	3.21
32	90	22	72	45,411	30,698	0.68	2.35	43,917	29,688	0.68	2.61	41,228	27,970	0.68	2.84	38,539	26,053	0.68	3.05	35,851	24,235	0.68	3.20	32,863	22,215	0.68	3.29



PCA-AK42NL/PUZ-AK42NLHZ

CAPACITY (Btu/h): 42,000 INPUT (kW): 4.08 SHF: 0.72

Indoor intake air D.B.(°C)	Indoor intake air D.B.(°F)	Indoor intake air W.B.(°C)	Indoor intake air W.B.(°F)	Outdoor intake air °C/°F D.B.																							
				20/68				25/77				30/86				35/95				40/104				46/115			
				CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
19	68	16	61	44,005	27,107	0.62	2.70	41,391	25,497	0.62	3.07	38,080	23,457	0.62	3.36	34,943	21,525	0.62	3.63	31,806	19,593	0.62	3.82	28,669	17,660	0.62	4.01
19	68	18	64	48,100	23,857	0.50	2.98	45,485	22,561	0.50	3.35	42,174	20,918	0.50	3.63	39,037	19,363	0.50	3.91	35,900	17,807	0.50	4.10	32,763	16,251	0.50	4.28
20	68	16	61	44,005	28,867	0.66	2.70	41,391	27,153	0.66	3.07	38,080	24,980	0.66	3.36	34,943	22,923	0.66	3.63	31,806	20,865	0.66	3.82	28,669	18,807	0.66	4.01
20	68	18	64	48,100	25,781	0.54	2.98	45,485	24,380	0.54	3.35	42,174	22,605	0.54	3.63	39,037	20,924	0.54	3.91	35,900	19,243	0.54	4.10	32,763	17,561	0.54	4.28
20	68	20	68	50,191	20,879	0.42	3.15	48,100	20,009	0.42	3.43	45,311	18,849	0.42	3.76	42,000	17,472	0.42	4.08	38,689	16,095	0.42	4.28	35,900	14,935	0.42	4.47
22	72	16	61	44,005	32,388	0.74	2.70	41,391	30,464	0.74	3.07	38,080	28,027	0.74	3.36	34,943	25,718	0.74	3.63	31,806	23,409	0.74	3.82	28,669	21,101	0.74	4.01
22	72	18	64	48,100	29,629	0.62	2.98	45,485	28,019	0.62	3.35	42,174	25,979	0.62	3.63	39,037	24,047	0.62	3.91	35,900	22,115	0.62	4.10	32,763	20,182	0.62	4.28
22	72	20	68	50,191	24,895	0.50	3.15	48,100	23,857	0.50	3.43	45,311	22,474	0.50	3.76	42,000	20,832	0.50	4.08	38,689	19,190	0.50	4.28	35,900	17,807	0.50	4.47
24	75	16	61	44,005	35,908	0.82	2.70	41,391	33,775	0.82	3.07	38,080	31,073	0.82	3.36	34,943	28,514	0.82	3.63	31,806	25,954	0.82	3.82	28,669	23,394	0.82	4.01
24	75	18	64	48,100	33,477	0.70	2.98	45,485	31,658	0.70	3.35	42,174	29,353	0.70	3.63	39,037	27,170	0.70	3.91	35,900	24,987	0.70	4.10	32,763	22,803	0.70	4.28
24	75	20	68	50,191	28,910	0.58	3.15	48,100	27,705	0.58	3.43	45,311	26,099	0.58	3.76	42,000	24,192	0.58	4.08	38,689	22,285	0.58	4.28	35,900	20,679	0.58	4.47
24	75	22	72	52,979	24,159	0.46	3.28	51,237	23,364	0.46	3.63	48,100	21,933	0.46	3.95	44,963	20,503	0.46	4.25	41,826	19,073	0.46	4.45	38,340	17,483	0.46	4.58
26	79	16	61	44,005	39,429	0.90	2.70	41,391	37,087	0.90	3.07	38,080	34,120	0.90	3.36	34,943	31,309	0.90	3.63	31,806	28,498	0.90	3.82	28,669	25,688	0.90	4.01
26	79	18	64	48,100	37,325	0.78	2.98	45,485	35,297	0.78	3.35	42,174	32,727	0.78	3.63	39,037	30,293	0.78	3.91	35,900	27,859	0.78	4.10	32,763	25,424	0.78	4.28
26	79	20	68	50,191	32,925	0.66	3.15	48,100	31,553	0.66	3.43	45,311	29,724	0.66	3.76	42,000	27,552	0.66	4.08	38,689	25,380	0.66	4.28	35,900	23,551	0.66	4.47
26	79	22	72	52,979	28,397	0.54	3.28	51,237	27,463	0.54	3.63	48,100	25,781	0.54	3.95	44,963	24,100	0.54	4.25	41,826	22,419	0.54	4.45	38,340	20,550	0.54	4.58
27	81	16	61	44,005	41,189	0.94	2.70	41,391	38,742	0.94	3.07	38,080	35,643	0.94	3.36	34,943	32,707	0.94	3.63	31,806	29,771	0.94	3.82	28,669	26,834	0.94	4.01
27	81	18	64	48,100	39,249	0.82	2.98	45,485	37,116	0.82	3.35	42,174	34,414	0.82	3.63	39,037	31,854	0.82	3.91	35,900	29,295	0.82	4.10	32,763	26,735	0.82	4.28
27	81	20	68	50,191	34,933	0.70	3.15	48,100	33,477	0.70	3.43	45,311	31,537	0.70	3.76	42,000	29,232	0.70	4.08	38,689	26,927	0.70	4.28	35,900	24,987	0.70	4.47
27	81	22	72	52,979	30,516	0.58	3.28	51,237	29,512	0.58	3.63	48,100	27,705	0.58	3.95	44,963	25,898	0.58	4.25	41,826	24,092	0.58	4.45	38,340	22,084	0.58	4.58
28	82	16	61	44,005	42,949	0.98	2.70	41,391	40,398	0.98	3.07	38,080	37,166	0.98	3.36	34,943	34,104	0.98	3.63	31,806	31,043	0.98	3.82	28,669	27,981	0.98	4.01
28	82	18	64	48,100	41,173	0.86	2.98	45,485	38,936	0.86	3.35	42,174	36,101	0.86	3.63	39,037	33,416	0.86	3.91	35,900	30,731	0.86	4.10	32,763	28,046	0.86	4.28
28	82	20	68	50,191	36,940	0.74	3.15	48,100	35,401	0.74	3.43	45,311	33,349	0.74	3.76	42,000	30,912	0.74	4.08	38,689	28,475	0.74	4.28	35,900	26,423	0.74	4.47
28	82	22	72	52,979	32,635	0.62	3.28	51,237	31,562	0.62	3.63	48,100	29,629	0.62	3.95	44,963	27,697	0.62	4.25	41,826	25,765	0.62	4.45	38,340	23,618	0.62	4.58
30	86	16	61	44,005	44,005	1.00	2.70	41,391	41,391	1.00	3.07	38,080	38,080	1.00	3.36	34,943	34,943	1.00	3.63	31,806	31,806	1.00	3.82	28,669	28,669	1.00	4.01
30	86	18	64	48,100	45,021	0.94	2.98	45,485	42,574	0.94	3.35	42,174	39,475	0.94	3.63	39,037	36,539	0.94	3.91	35,900	33,603	0.94	4.10	32,763	30,667	0.94	4.28
30	86	20	68	50,191	40,956	0.82	3.15	48,100	39,249	0.82	3.43	45,311	36,974	0.82	3.76	42,000	34,272	0.82	4.08	38,689	31,570	0.82	4.28	35,900	29,295	0.82	4.47
30	86	22	72	52,979	36,874	0.70	3.28	51,237	35,661	0.70	3.63	48,100	33,477	0.70	3.95	44,963	31,294	0.70	4.25	41,826	29,111	0.70	4.45	38,340	26,685	0.70	4.58
32	90	16	61	44,005	44,005	1.00	2.70	41,391	41,391	1.00	3.07	38,080	38,080	1.00	3.36	34,943	34,943	1.00	3.63	31,806	31,806	1.00	3.82	28,669	28,669	1.00	4.01
32	90	18	64	48,100	48,100	1.00	2.98	45,485	45,485	1.00	3.35	42,174	42,174	1.00	3.63	39,037	39,037	1.00	3.91	35,900	35,900	1.00	4.10	32,763	32,763	1.00	4.28
32	90	20	68	50,191	44,971	0.90	3.15	48,100	43,097	0.90	3.43	45,311	40,599	0.90	3.76	42,000	37,632	0.90	4.08	38,689	34,665	0.90	4.28	35,900	32,167	0.90	4.47
32	90	22	72	52,979	41,112	0.78	3.28	51,237	39,760	0.78	3.63	48,100	37,325	0.78	3.95	44,963	34,891	0.78	4.25	41,826	32,457	0.78	4.45	38,340	29,752	0.78	4.58

Note: CA : Capacity (Btu/h) SHC : Sensible heat capacity (Btu/h) SHF : Sensible heat factor P.C. : Power consumption (kW)
D.B. : Dry-bulb temperature W.B. : Wet-bulb temperature

T3-2-2. HEATING CAPACITY

OUTDOOR:PUZ-24-42NLHZ

Model Name	Capacity Btu/h	Input kW	Indoor intake air D.B.(°C)	Indoor intake air D.B.(°F)	Outdoor intake air WB C / F											
					-10 / 14		-5 / 23		0 / 32		5 / 41		10 / 50		15 / 59	
					CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.	CA	P.C.
PCA-AK24NL	26,000	1.83	15	59	16,763	1.21	20,415	1.44	22,252	1.54	25,946	1.73	29,661	1.87	33,395	1.96
			20	68	15,853	1.31	19,542	1.54	21,398	1.63	25,104	1.80	28,771	1.93	32,356	2.01
			25	77	14,306	1.40	18,155	1.62	20,069	1.72	23,847	1.88	27,518	2.00	31,035	2.08
PCA-AK30NL	32,000	2.42	15	59	20,632	1.60	25,126	1.90	27,387	2.04	31,933	2.28	36,506	2.47	41,101	2.59
			20	68	19,511	1.74	24,052	2.03	26,336	2.16	30,898	2.38	35,411	2.55	39,823	2.66
			25	77	17,607	1.85	22,345	2.15	24,701	2.28	29,350	2.49	33,868	2.65	38,197	2.75
PCA-AK36NL	38,000	2.67	15	59	24,500	1.77	29,837	2.10	32,522	2.25	37,921	2.52	43,351	2.73	48,808	2.86
			20	68	23,169	1.91	28,562	2.24	31,273	2.38	36,691	2.62	42,050	2.81	47,290	2.94
			25	77	20,908	2.04	26,534	2.37	29,332	2.51	34,853	2.75	40,219	2.92	45,359	3.04
PCA-AK42NL	48,000	4.46	15	59	30,948	2.95	37,689	3.51	41,081	3.76	47,900	4.21	54,759	4.56	61,652	4.78
			20	68	29,266	3.20	36,078	3.74	39,503	3.98	46,347	4.38	53,116	4.69	59,735	4.91
			25	77	26,411	3.41	33,517	3.96	37,051	4.19	44,025	4.59	50,802	4.88	57,296	5.08

T4-1. OUTLET AIR SPEED AND COVERAGE RANGE

		PCA-AK24NL	PCA-AK30NL	PCA-AK36NL	PCA-AK42NL
Airflow	CFM	670	705	990	1025
Air speed	ft/sec.(m/sec.)	10.2(3.1)	10.5(3.2)	11.8(3.6)	12.1(3.7)
Coverage range	ft(m)	32(9.6)	33(10.1)	41(12.5)	42(12.9)

The air coverage range is the distance to which the 0.8 ft/sec. air can reach, when air is blown out horizontally from the unit at the High notch position.

The coverage range should be used only as a general guideline since it varies according to the size of the room and the furniture inside the room.

T4-2. TEMPERATURE AND AIRFLOW DISTRIBUTIONS

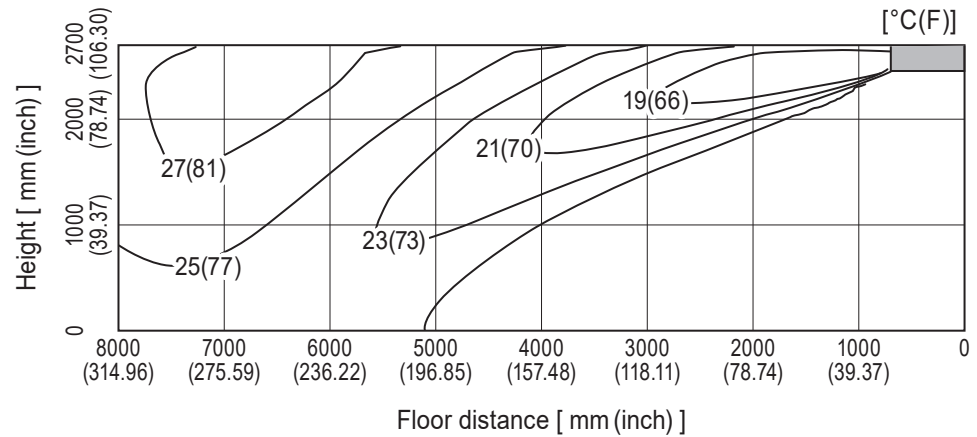
PCA-AK24NL

Temperature distribution

<Cooling mode>

Air volume: high

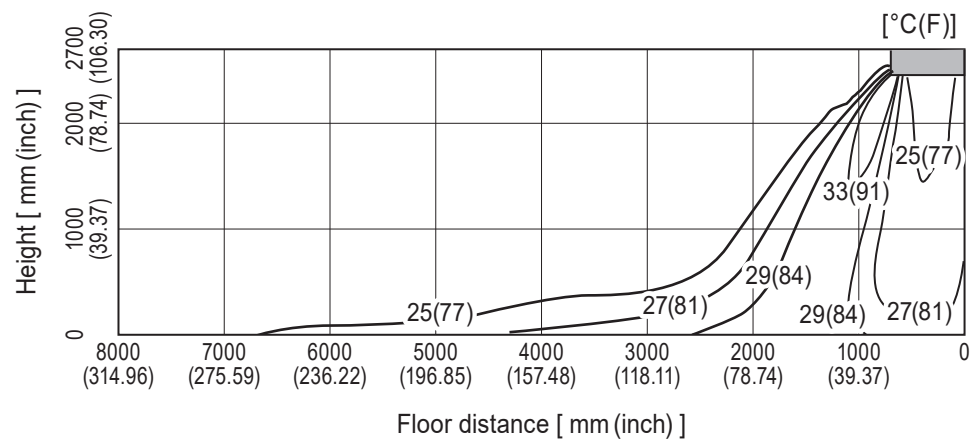
Air direction: auto (upward airflow)



<Heating mode>

Air volume: high

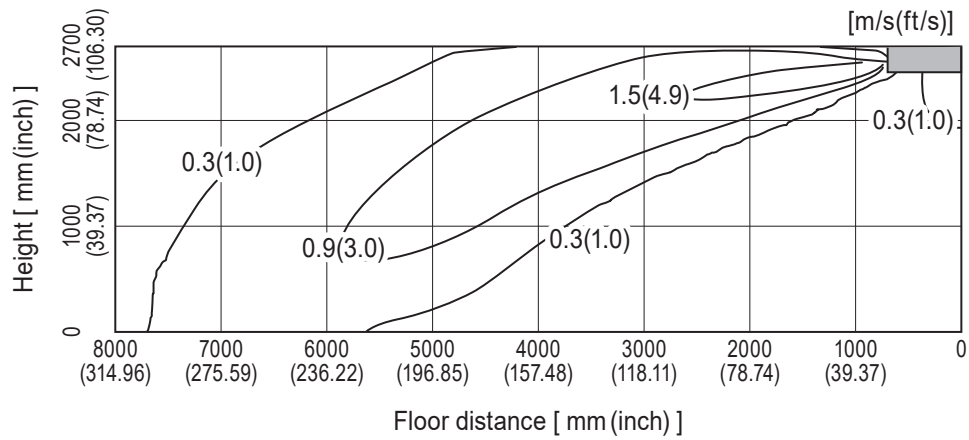
Air direction: auto (downward airflow)



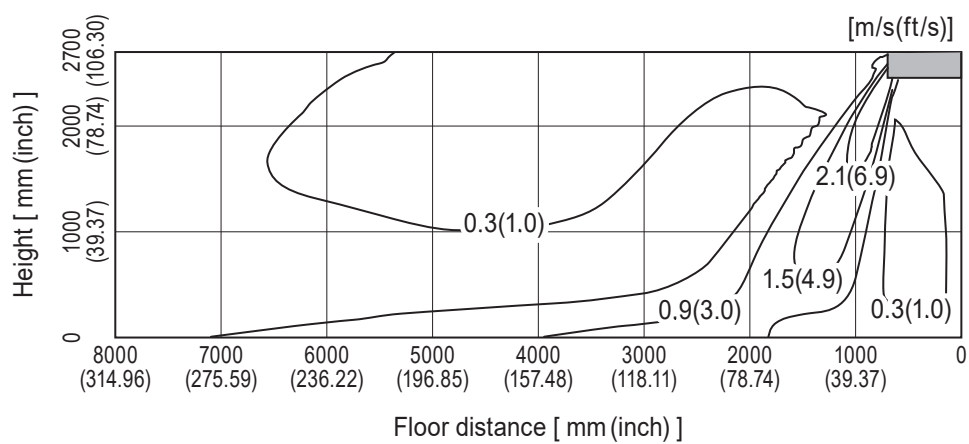
PCA-AK24NL

Airflow distribution

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 Air direction: auto (upward airflow)



<Heating mode> Air volume: high
 Air direction: auto (downward airflow)



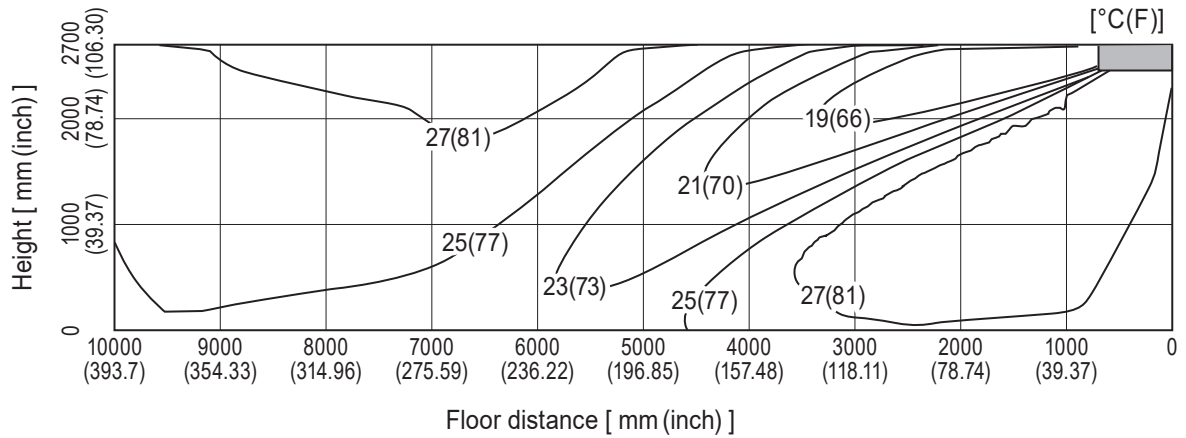
PCA-AK30NL

Temperature distribution

<Cooling mode>

Air volume: high

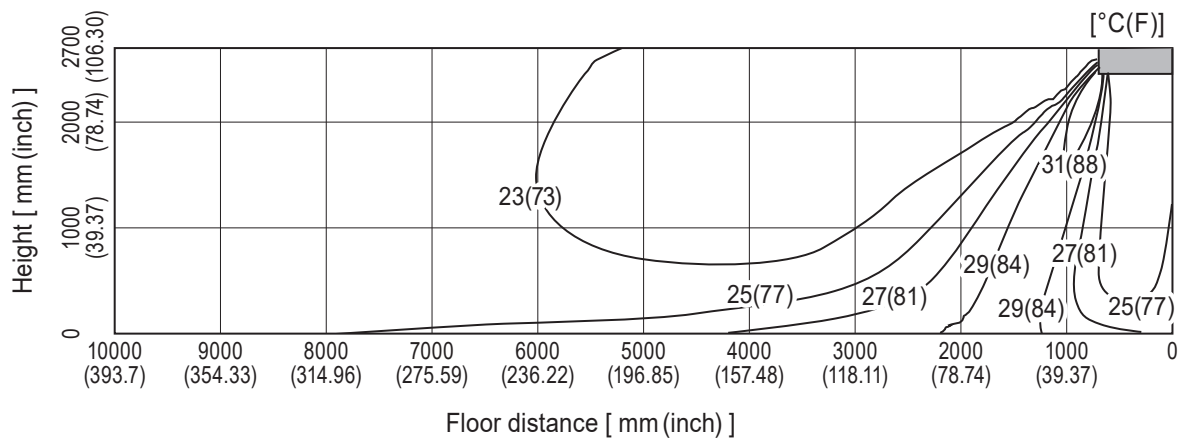
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<Heating mode>

Air volume: high

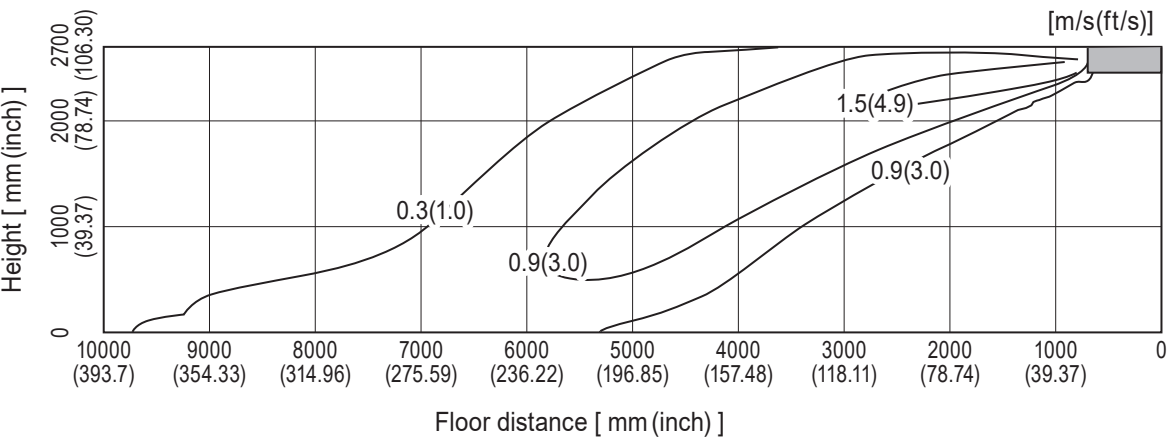
Air direction: auto (downward airflow)



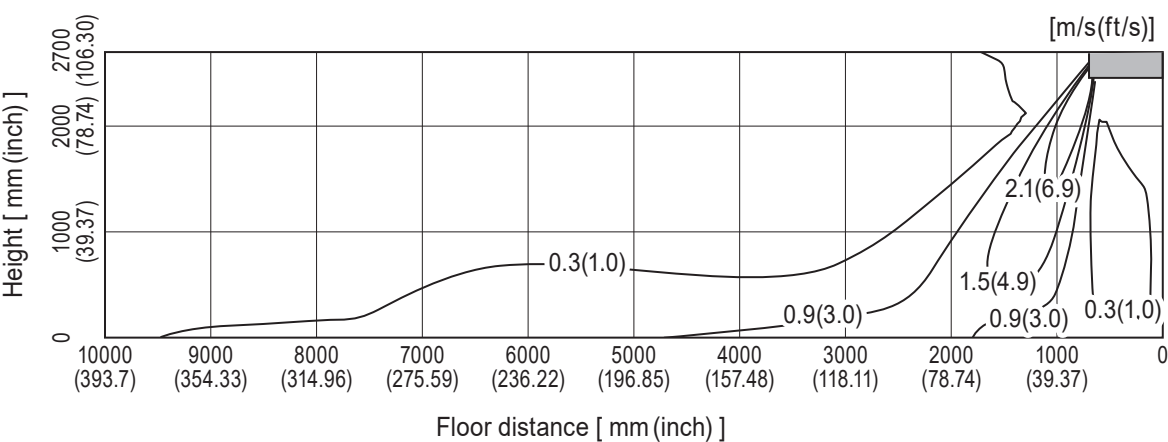
PCA-AK30NL

Airflow distribution

<Cooling mode> Air volume: high
 Air direction: auto (upward airflow)



<Heating mode> Air volume: high
 Air direction: auto (downward airflow)



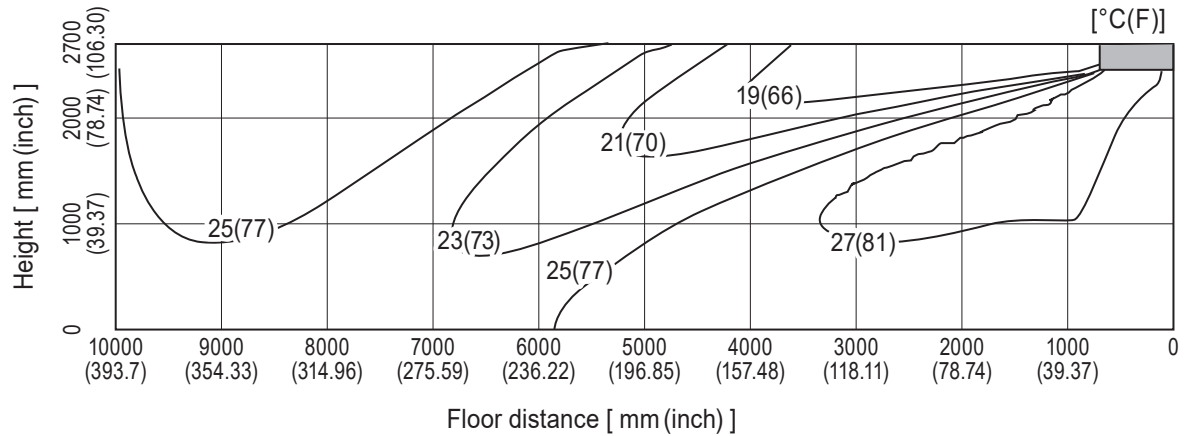
PCA-AK36NL

Temperature distribution

<Cooling mode>

Air volume: high

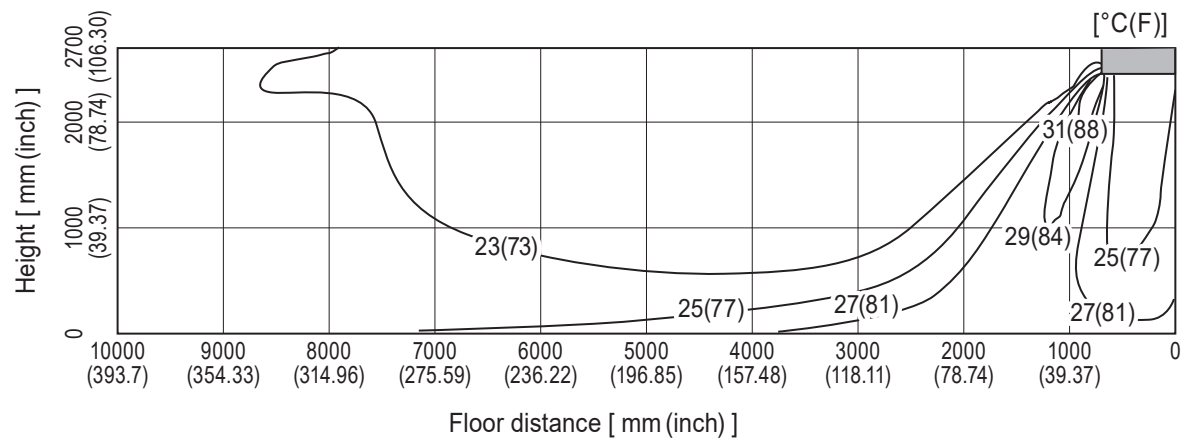
Air direction: auto (upward airflow)



<Heating mode>

Air volume: high

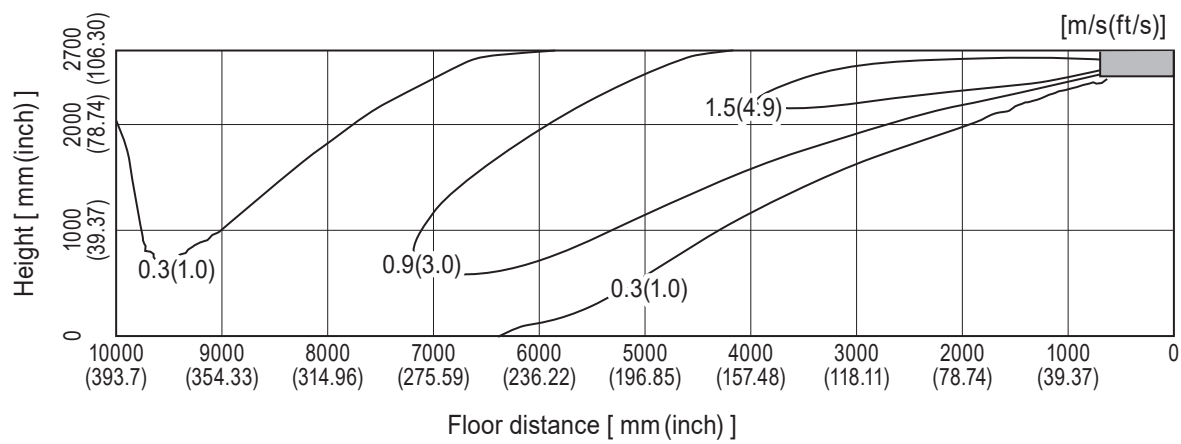
Air direction: auto (downward airflow)



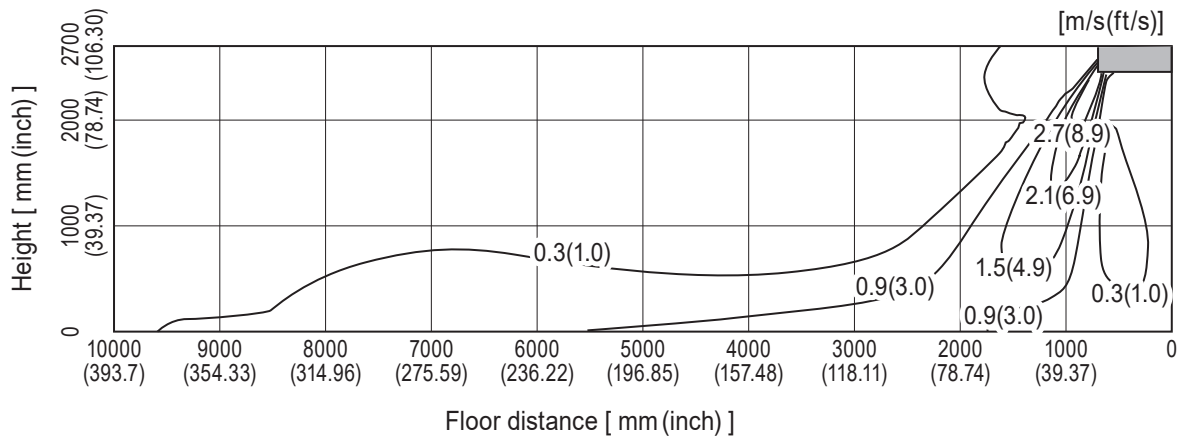
PCA-AK36NL

Airflow distribution

<Cooling mode> Air volume: high
 Air direction: auto (upward airflow)



<Heating mode> Air volume: high
 Air direction: auto (downward airflow)



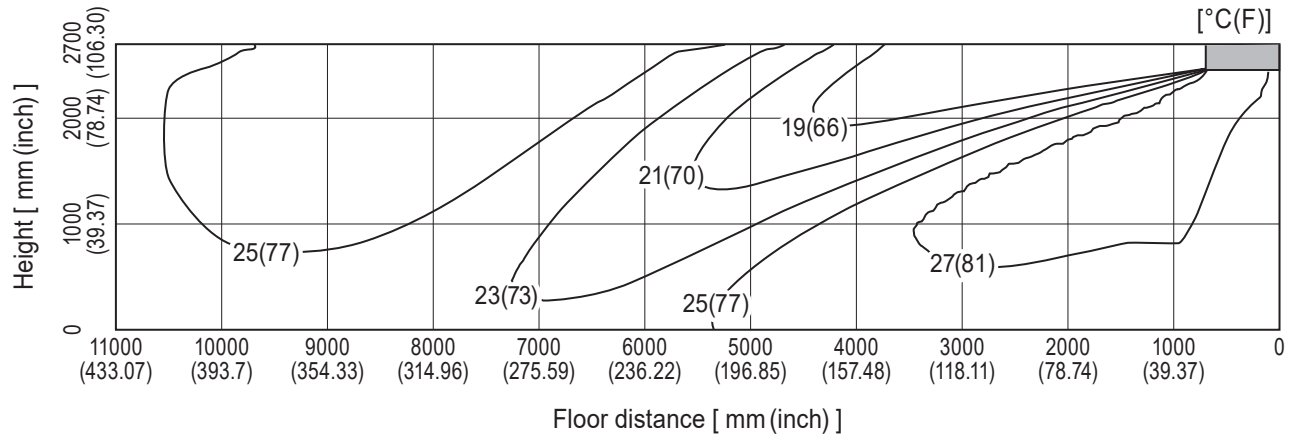
PCA-AK42NL

Temperature distribution

<Cooling mode>

Air volume: high

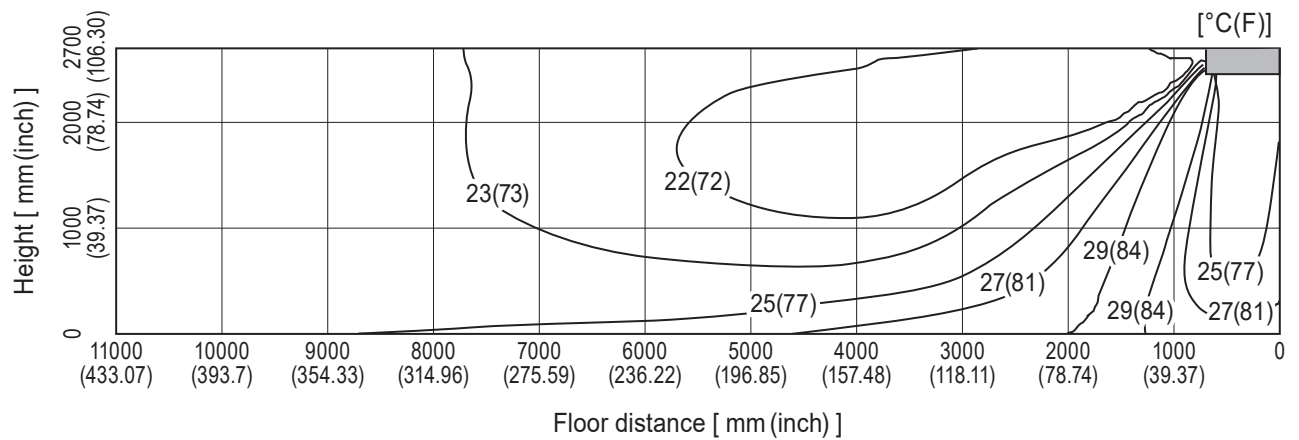
Air direction: auto (upward airflow)



<Heating mode>

Air volume: high

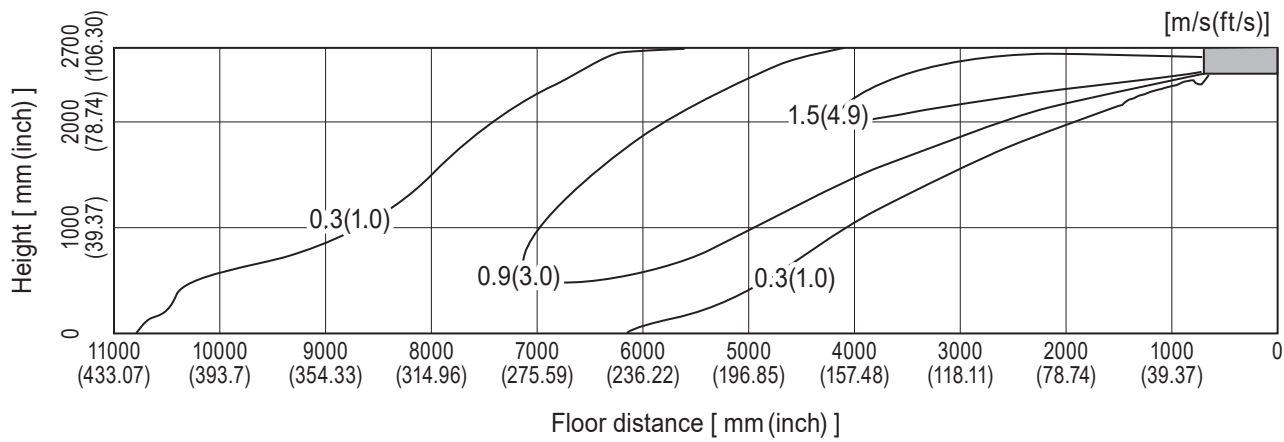
Air direction: auto (downward airflow)



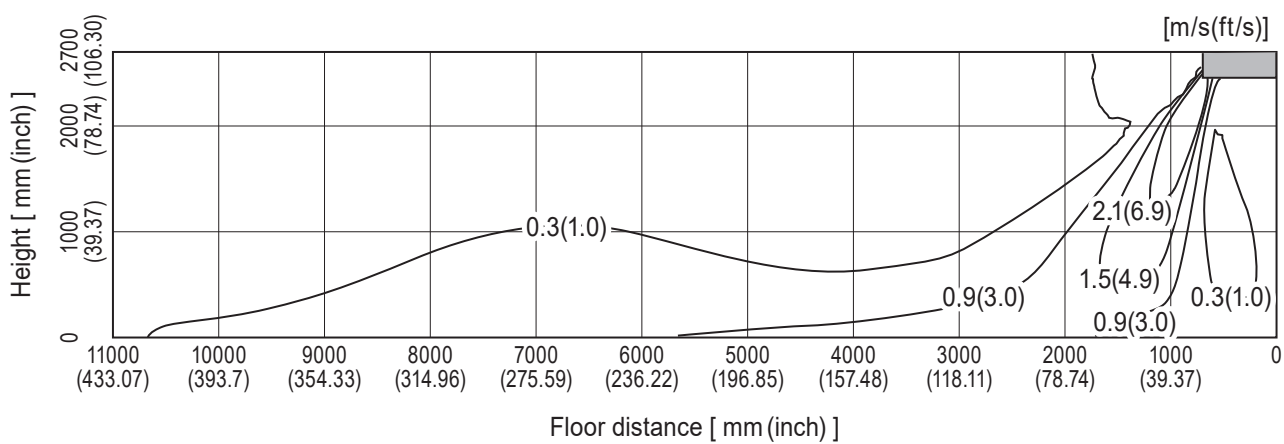
PCA-AK42NL

Airflow distribution

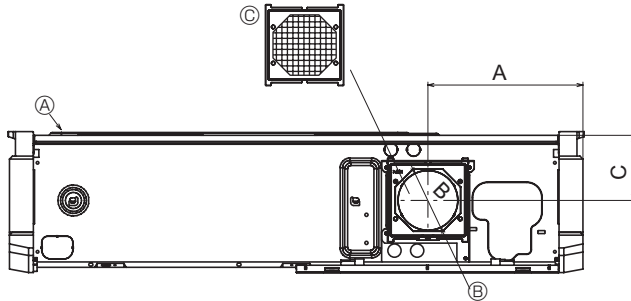
<Cooling mode> Air volume: high
 Air direction: auto (upward airflow)



<Heating mode> Air volume: high
 Air direction: auto (downward airflow)



17-3. FRESH AIR INTAKE AMOUNT & STATIC PRESSURE CHARACTERISTICS



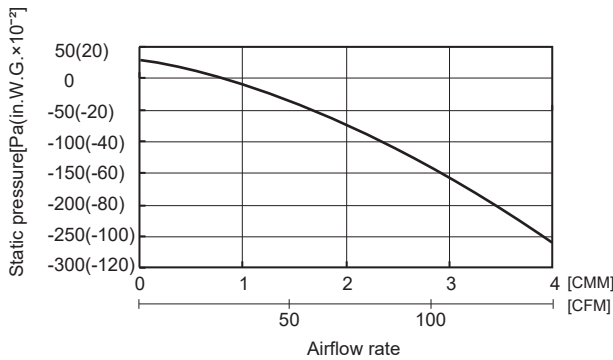
Fresh air intake hole

At the time of installation, use the duct holes (knock out) located at the positions shown in the left diagram, as and when required.

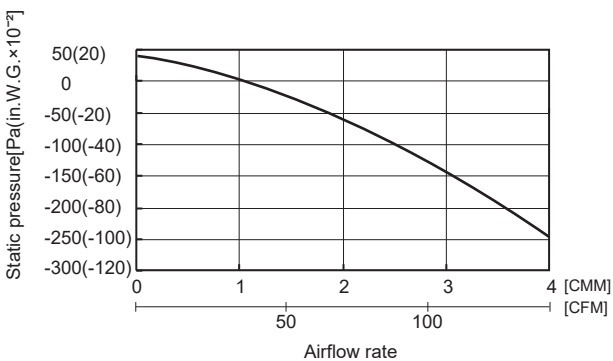
- (A) Indoor unit
- (B) Fresh air intake hole (knock out hole)
- (C) Filter

in. (mm)		
A	B	C
10-3/16 (259.5)	ø 3-15/16 (ø 100)	4-5/16 (109)

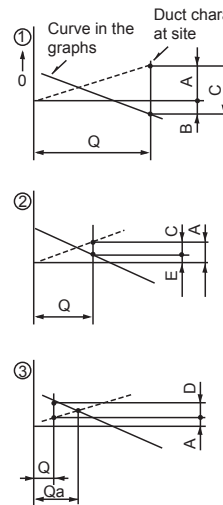
PCA-AK24/30NL



PCA-AK36/42NL



How to read curves



- Q...Designed amount of fresh air intake
<CMM(CFM)>
- A...Static pressure loss of fresh air
intake duct system with airflow
amount Q <Pa(in.W.G.x10⁻²)>
- B...Forced static pressure at air
conditioner inlet with airflow amount Q
<Pa(in.W.G.x10⁻²)>
- C...Static pressure of booster fan with
airflow amount Q <Pa(in.W.G.x10⁻²)>
- D...Static pressure loss increase amount
of fresh air intake duct system for
airflow amount Q <Pa(in.W.G.x10⁻²)>
- E...Static pressure of indoor unit with
airflow amount Q <Pa(in.W.G.x10⁻²)>
- Qa...Estimated amount of fresh air
intake without D <CMM(CFM)>

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