

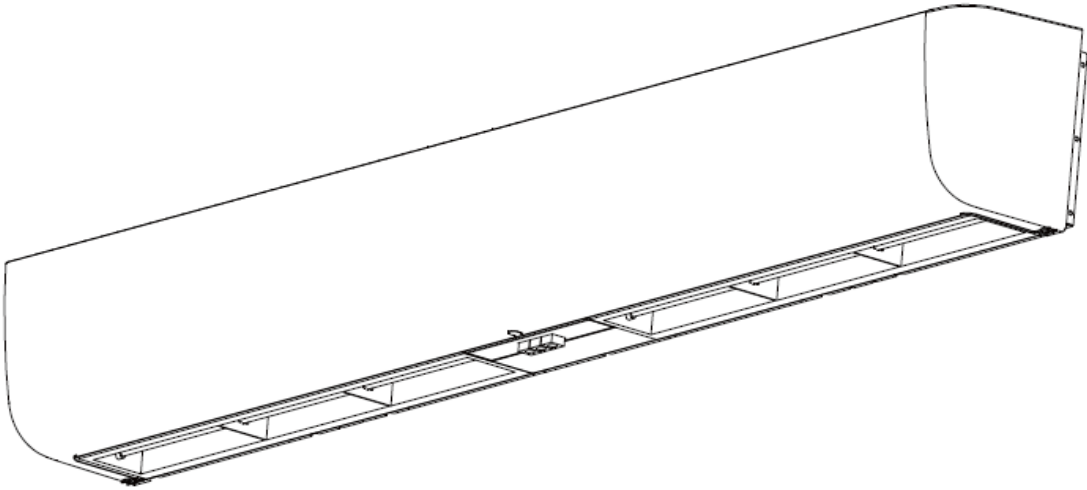
Panasonic®

Service Manual

Air Curtain


Model NO.

Basic series	FY-3009U1	FY-3012U1	FY-3015U1
	FY-4009U1	FY-4012U1	FY-4015U1
Remote control series <small>NOT AVAILABLE IN AUSTRALIA</small>	FY-3009G1	FY-3012G1	FY-3015G1
	FY-4009G1	FY-4012G1	FY-4015G1
Sensor series <small>NOT AVAILABLE IN AUSTRALIA</small>	FY-3009D1	FY-3012D1	FY-3015D1
	FY-4009D1	FY-4012D1	FY-4015D1



Safety instructions

Please observe strictly

-  This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

The following Instructions should be strictly observed in order to prevent injury to the users and other people, or damage to property.

- The degrees of injury or damage that can be occurred when the instructions are ignored and if the product is not used properly have been classified and described by the following indications.



WARNING

Those things shown in this column indicate that there is possibility of causing death or severe injury.



CAUTION

Those things shown in this column indicate that there is possibility of causing injury to the users or damage.

- Types of instructions that should be observed have been classified and described by the following pictorial symbols.



This symbol indicates the "COMPULSORY" item that must be followed without failure.



This symbol indicates the item is "PROHIBITED" to do.

Installation cautions



WARNING

- A over load protection device must be installed in the wiring when installing.



May cause fire or electric shocks.



- Any other power supply other than the rated voltage is prohibited to use.



May cause fire or damage the unit.

- Neither unauthorized inspection, modification, repair nor disassembly are allowed.



May cause unexpected accident.

- It's prohibited to install any other substances with magnetic among the diameter of 20m from gate magnetic switch for sensor series.



It may result in fault or error conditions caused by magnetic disturbance.

- Connect the product to supplied power by means of specified wire.



The connection position of terminal must be firmly fixed.

- Grounding should be connected.



May cause electric shocks.

EARTH WIRE

- All installation and maintenance shall be done by qualified persons.



Unqualified construction may cause unexpected accidents.

Installation cautions



WARNING

- Use the screws with specified quantity and diameter and fasten them when hanging the product.



Otherwise the product may fall down and it may cause injuries.

- Do not install the product as the method which is not approved in the instruction.



Improper installation may cause the product to fall off.

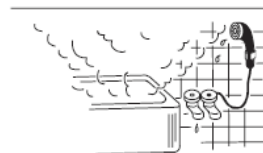
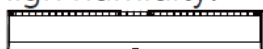
- It's prohibited to install the product in locations such as machinery, chemical plants or research facilities where it will be exposed to noxious gases containing acids, alkali, organic solvents, paint fumes, etc., to gases containing corrosive ingredients.



It could cause gas poisoning, corrosion and degradation of product that results in a fire.

- It's prohibited to install in the following locations.

Locations such as bathroom where it will produce excessive humidity or vapor with high humidity.



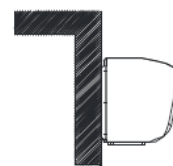
It may cause an electrical shock when condensation occurs in the product, water drop results in a short circuit.

Location with combustible gas or emission of exhaust gas.



Otherwise it may cause a fire.

Outdoor or locations that could be sprayed by water.



Indoor Outdoor



Water enters into the product that results in an electrical shock or a short circuit.



CAUTION

- Product must be installed by two persons.



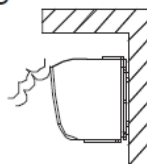
Otherwise product may drop that results in injuries.

- Dedicated components must be used for installation. (Include the accessories)



Failure to use the dedicated components that results in dropping, a fire or an electrical shock.

- Secured upon the strengthened foundations for installation. Be sure to take reinforcement measures if required for sufficient installation strength.



Improper installation may cause accident because of the falling of the product.











- The protective tools, gloves or helmet, should be worn while inspection or maintenance.



May cause injury or burn.

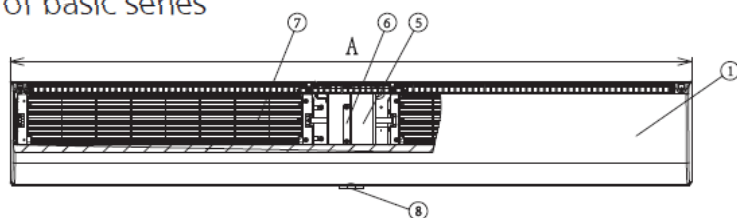
Supplied accessories

The following accessories are provided with the air curtain in the package. When you unpack, check if the accessories are all included. If any accessory is missing, please contact your dealer.

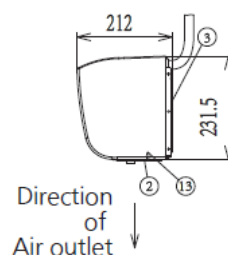
No.	Figure	Name	Quantity			No.	Figure	Name	Quantity		
			Basic series	Remote control series	Sensor series				Basic series	Remote control series	Sensor series
①		Washer	6	6	6	⑥		Operation instruction	1	1	1
②		Spring washer	6	6	6	⑦		Remote control	-	1	-
③		Nut (M8)	6	6	6	⑧		Battery (AAA battery)	-	2	-
④		Bolt M8×60L	6	6	6	⑨		Support for remote control	-	1	-
⑤		Screw	-	2	4	⑩		Gate magnetic switch	-	-	1

Parts name and dimensions

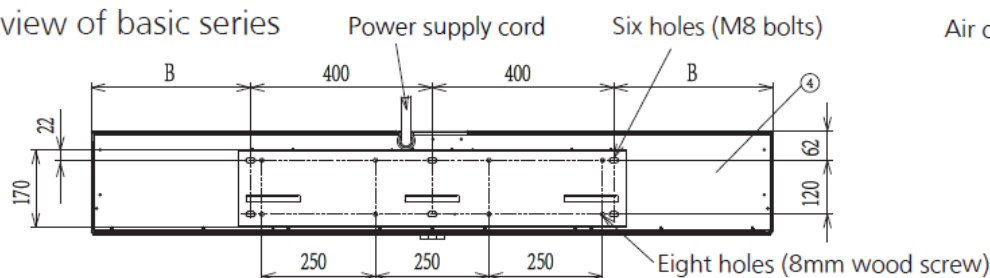
■ Front view of basic series



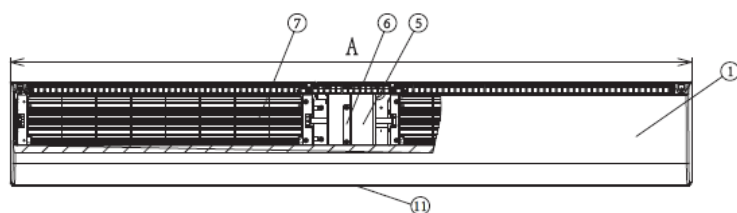
■ Right view of basic series



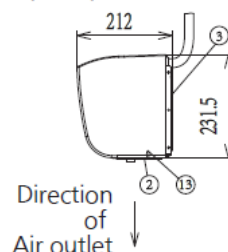
■ Back view of basic series



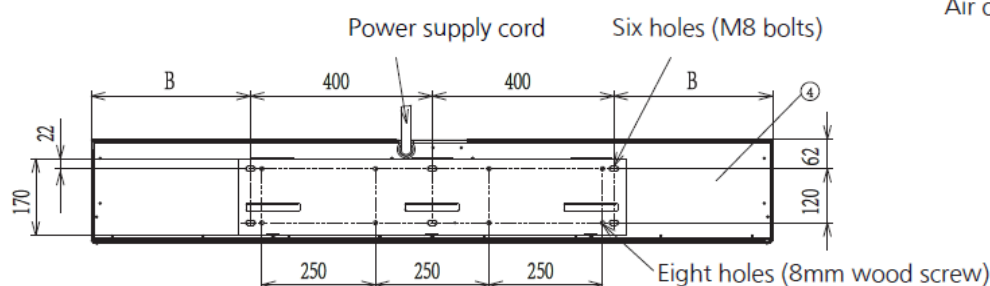
■ Front view of remote control series



■ Right view of remote control series

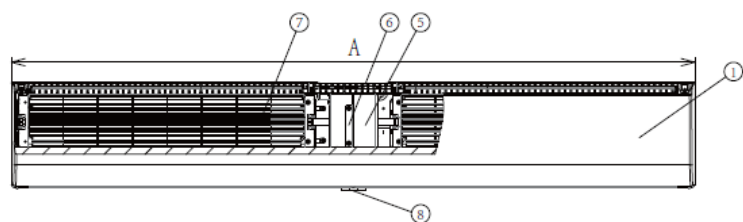


■ Back view of remote control series

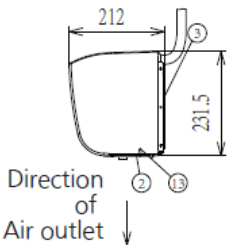


Parts name and dimensions

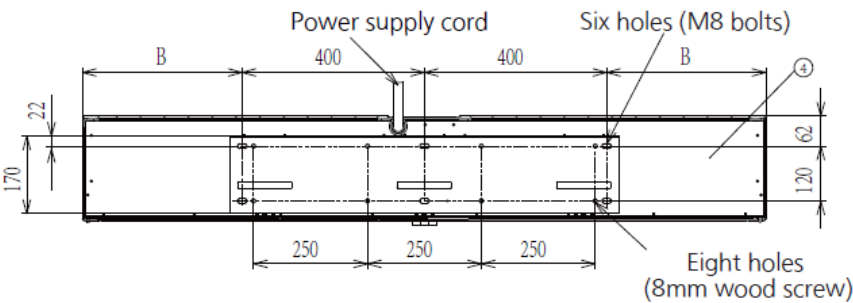
■Front view of sensor series



■Right view of sensor series



■Back view of sensor series



	Model No.	A	B
Basic series	FY-3009U1, FY-4009U1	900	50
	FY-3012U1, FY-4012U1	1200	200
	FY-3015U1, FY-4015U1	1500	350
Remote control series	FY-3009G1, FY-4009G1	900	50
	FY-3012G1, FY-4012G1	1200	200
	FY-3015G1, FY-4015G1	1500	350
Sensor series	FY-3009D1, FY-4009D1	900	50
	FY-3012D1, FY-4012D1	1200	200
	FY-3015D1, FY-4015D1	1500	350

No.	Part name	Classification	No.	Part name	Classification
1	Front panel	Resin ABS	8	Push -button switch	Assembly part
2	Air outlet	Resin ABS	9	Gate magnetic switch	Assembly part
3	Mounting plate	Steel SGCC	10	Remote control	Assembly part
4	Back panel	Steel SGCC	11	Touch switch	Assembly part
5	Motor	Assembly part	12	Support for remote control	Resin ABS
6	Motor support	Steel SGCC			
7	Cross-flow impeller	Steel plate +ResinAS +Glass fiber	13	Guide plate	Resin ABS

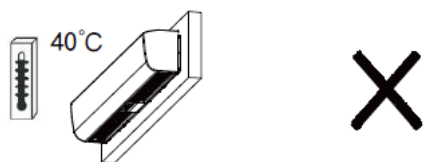
NOTE

Please refer to the table above to recycle the materials as much as possible when discarding this product.

Requirement of installation

■ It's prohibited to install in the following locations.

Locations with temperature exceeding 40°C or less than -10°C.



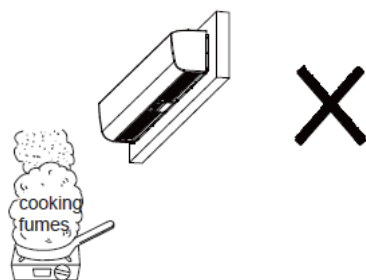
It's prohibited to install in the uneven surface. (Flatness shall be 3mm below.)

Distortion results in reducing the separation performance.

Locations where freezing could happen. (Such as refrigerators)

It may cause a fire.

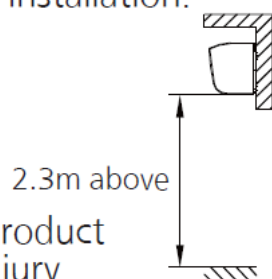
Factory, kitchen or other locations where cooking fumes is produced.



Locations with heavy sand and dust.

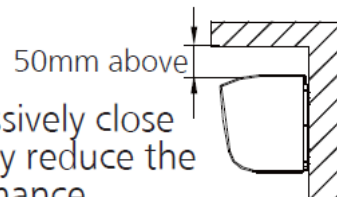
Blade deformation may be caused by sand and dust piling up in impeller may affect the performance.

■ The lowest surface of this product should be mounted above 2.3m from the floor after installation.



Touching the product may result in injury.

■ The distance between product and ceiling must be 50mm above.



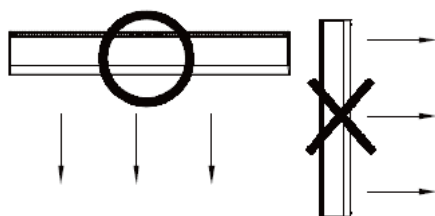
The ceiling is excessively close to air inlet that may reduce the separation performance.

■ Ensure the space among products is 20~40mm when multiple products operating in row.



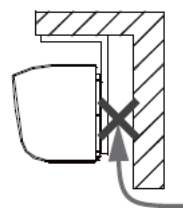
Easy for installation.

■ Please install the product horizontally, don't vertically install the product.



It could affect the performance of bearing.

■ Please block the clearance between wall and product by means of partition plate.



Prevent product from sucking out door air from clearances.

How to install

1. Fix the mounting plate

■ Mounting on concrete wall.

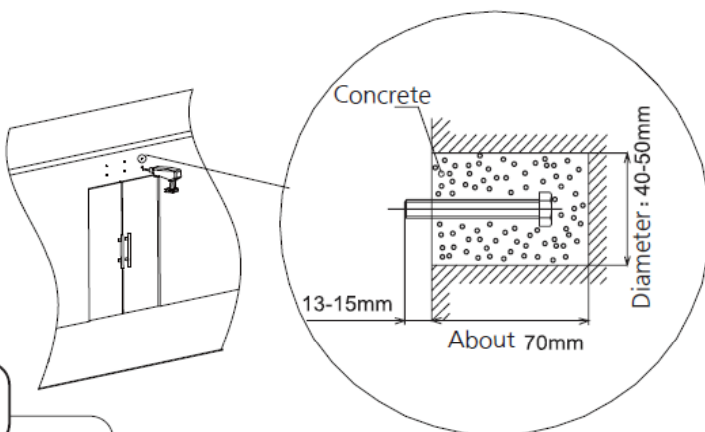
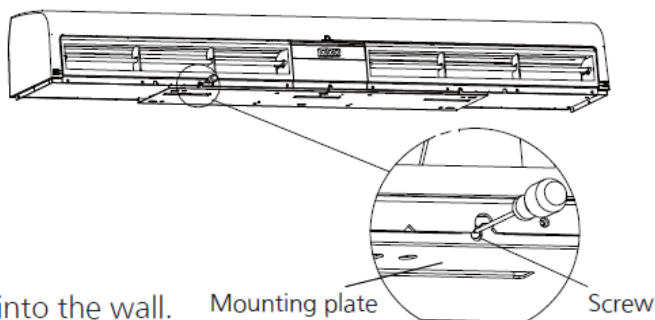
1. Remove mounting plate from product.
Taking the mounting plate by removing the screws.

2. Firmly fix the bolts in the proper position.

- Determine the position on the wall and drill into the wall.
- Fit the bolts into the holes.
- Fill the holes with concrete.
- Install the mounting plate and check, if it's secured when the concrete solidifies.

※ Distance of bolt head away from wall should be 13~15mm.

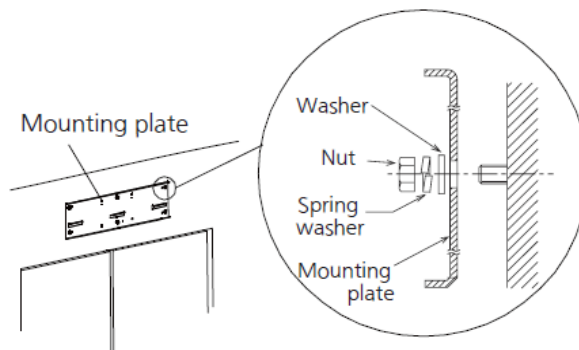
3. Fix the mounting plate with washers, spring washers and nuts.



CAUTION

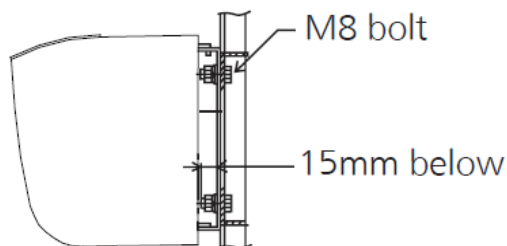
■ Please use the mounting plate provided with product to avoid the dropping caused by insufficient strength.

■ The wall should be constructed so that it can support more than 5 times of the weight of product. Ensure to reinforce the wall when withstanding strength can't be confirmed. Otherwise product may drop that results in injuries.

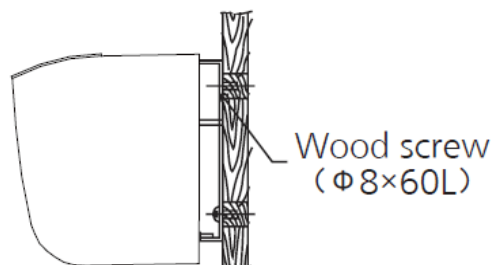


■ Other installation methods:

Mounting on steel hanger



Mounting on wooden frame



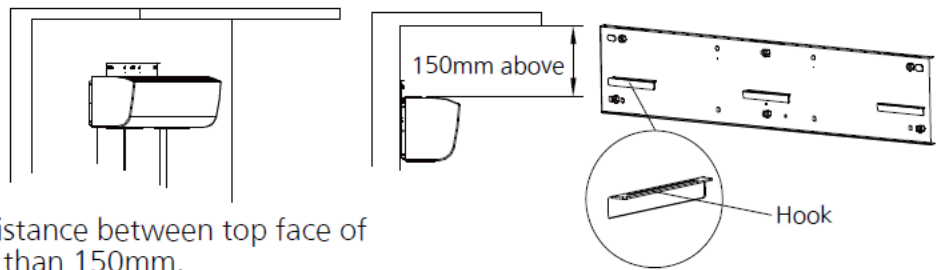
NOTE

1. It's prohibited to install the product on hollow wall, otherwise it may produce noises.
2. Conduct the necessary reinforcement, depending on the particular condition to avoid noise resonance and vibration.

How to install

2.Preparation before wiring

Hang the product on the into hook of mounting plate.



※ Carry out this step if the distance between top face of product and ceiling is less than 150mm.

3.Wiring

⚠ WARNING

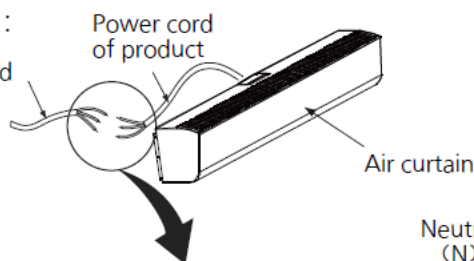
- Connect the power cord to the power supply line according to the wiring diagram and the local electrical wiring rules of fixed wiring.
- Use this product at the rated voltage and frequency indicated on the name plate. This may damage the product or result in fire.
- Do not damage the insulation paste of the power cord.
- Please follow the figure below to strip sheath of wire, too long wirestripping may cause a short circuit or a fire.
- The all connections should be accommodated in a suitable compartment.
- Use a device for disconnection from the supply, which having a contact separation of at least 3mm in all poles (switch), which must be incorporated in the fixed wiring in accordance with the local electrical wiring rules. Short circuit may result in fire.
- It is required to use terminal (not supplied) that complies IEC 60998.
- Make sure all connections are fastened firmly after wiring is finished.

■ Minimum cross-section area of power supply cord of supplied power is 1.0mm².

1. Follow the figure below to strip sheath of wire.
2. Green/yellow wire within power supply cord for product is earth wire, please confirm ground connection during construction.
3. Connect the power supply cord of product to that of supplied power as shown in figure. (Include the earth wire)

Refer to the wiring :

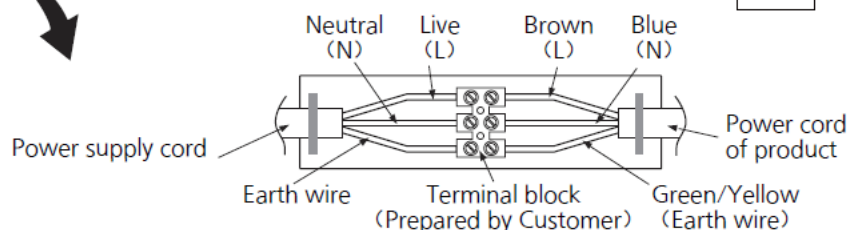
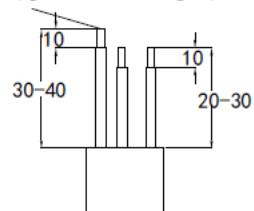
Power supply cord



Air curtain

Figure for stripping skin of wire

Earth wire Unit : mm

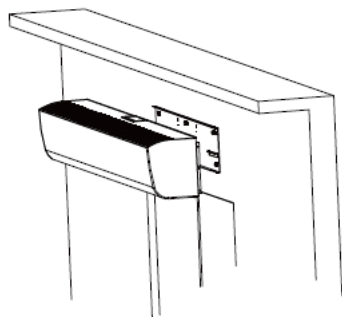


※ It's required to check if all connection is firmly fastened after completion of wiring.

How to install

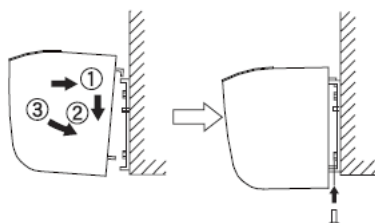
4. Installation of product

1. Place the product on the mounting plate.



2. Adjust the position of the product.
Align the groove of back panel with both sides of mounting plate. Fit the holes into the hook from mounting plate.

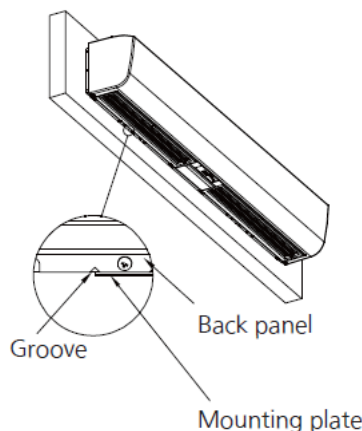
3. Fasten the screws. (3 places)
※The torque is suggested to be 1.2N•m.



⚠ CAUTION

- Product should be installed by 2 persons.

Otherwise, the product may fall down and it may cause injuries.

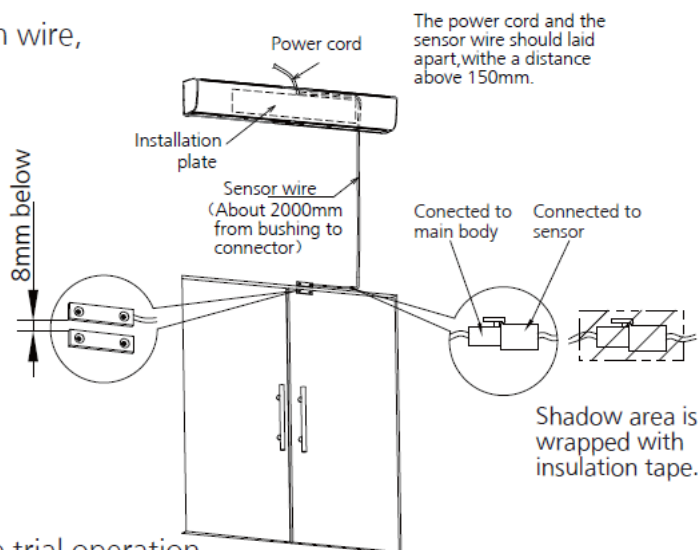


5. Installation of sensor

1. Place the sensor with wire on top of door. Fix the sensor with screws.

2. Place the other sensor under the sensor with wire, the distance between them should be 8mm below, as shown in figure. If the magnet part fixed on steel or iron doors, the distance should be 5mm below.

3. Connect the sensor and main body and wrap it with insulation tape.



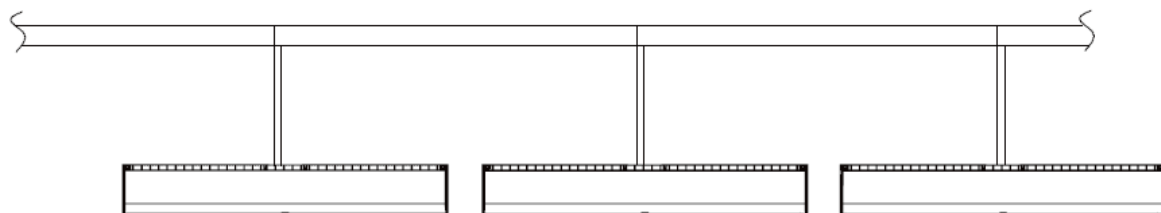
NOTE

1. When connection is complete, please do the trial operation.
If it works normally, follow the next step. If sensors still don't work, adjust the distance to work normally.
2. After the trial operation, fix the wire with groove or cord clip to make sure the wire is fastened so that it will not be damaged by door movement.
3. For sliding door, the door with sensor should keep over 10mm from the door at the same side to protect against the damage.
4. For glass door, stick the sensor with double adhesive tape.

Multiple products operation in group

Wiring for operation of multiple products in parallel

Power supply cord



⚠ WARNING

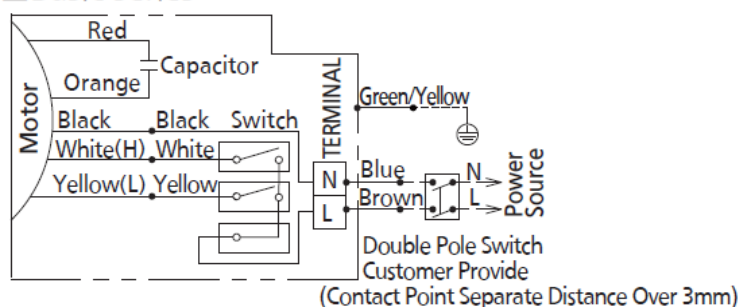
- Please select the switch of whose capacity has 1.2~1.5 times of power supply cord. When multiple products operate.
- Earth leakage breaker protector should be equipped, otherwise it may cause an electrical shock.
- The number of interlocking operation is not more than 6.

- Please purchase necessary parts following with local electrical requirements.

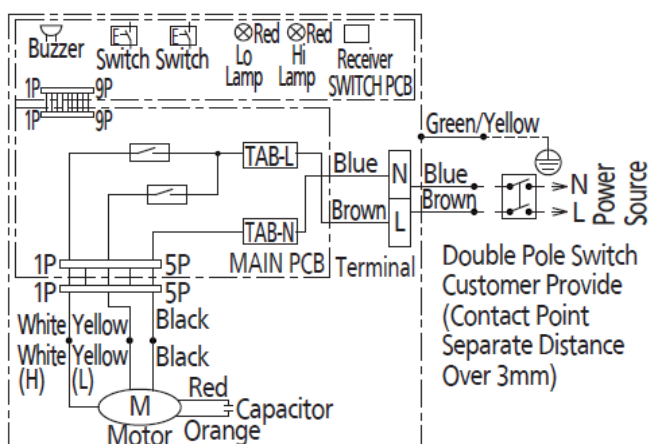
Wiring diagram

- Please follow with below figures to conduct the wiring.

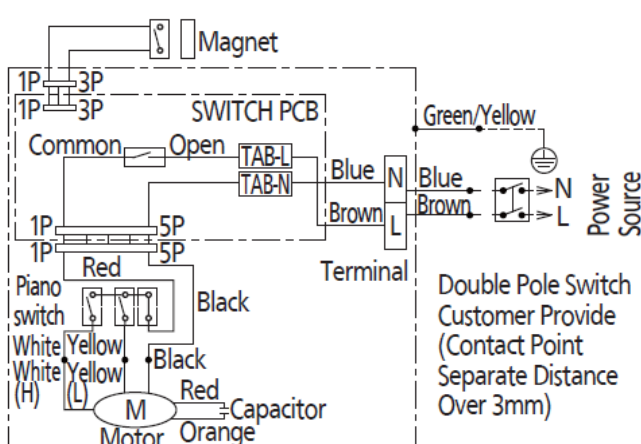
■ Basic series



■ Remote control series



■ Sensor series

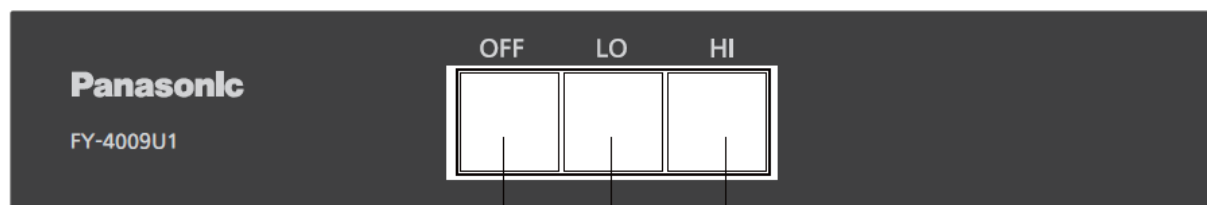


Operation methods

Operation of Control panel

■ Basic series

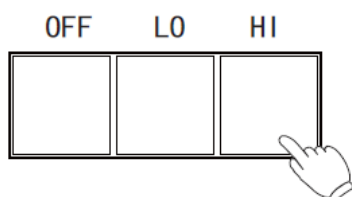
■ Sensor series



※ Representative model

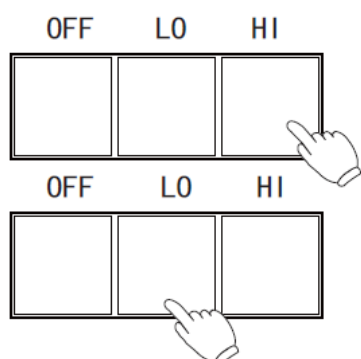
OFF LOW HIGH

1 Start to operate



Press "HI" or "LO" button to start the product as shown in left figure.

2 Select the mode of operation



Press "HI" button if high air velocity is required.

Press "LO" button if quiet operation and low velocity is required.

※ Interlocking operation of gate magnetic switch

Sensor series are controlled to operate or stop by magnetic switch.

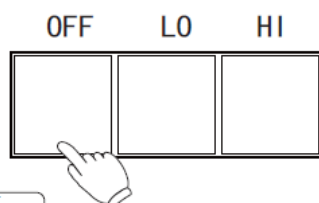
The gate magnetic switch works only when "HI" or "LO" are pressed.

Product will operate when both magnetic switch are separated.

Product will stop when both magnetic switch are within specific distance.

After 10 seconds of delay operation.

3 Stop operating



Press "OFF" button to stop the product.

NOTE

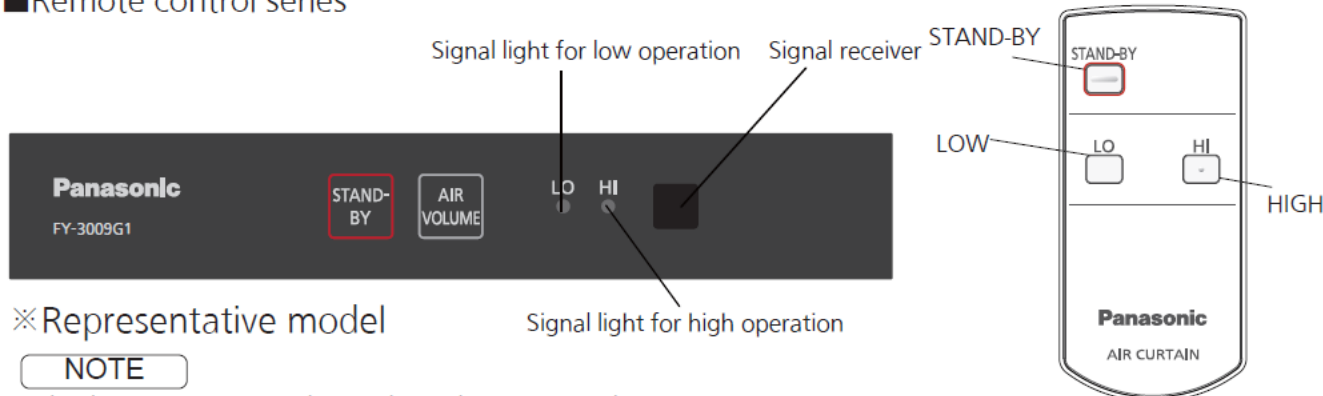
The product is in stand-by mode after pressing the "OFF".

Operation methods

Operation of Control panel

Operation of Remote control

■ Remote control series



※ Representative model

NOTE

The button in control panel can be operated for emergency in case if remote control is not available. Please operate with fingers other than sharp or hard substances. Pay attention to the dangers while operation in high level.

※ Press "HI" or "LO" button to start.

1 Start to operate

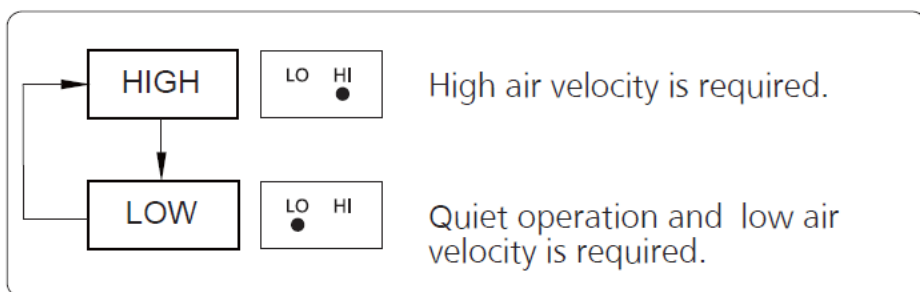


Press "AIR VOLUME " button to start the product as shown in left figure.

2 Select the mode of operation



Press the "AIR VOLUME " to shift air volume.



3 Stop operating



The signal light for air volume turns off.

Press "STAND-BY" button to stop the product.

NOTE

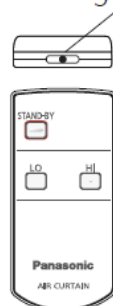
The product is in stand-by mode after pressing "STAND-BY" button, at this moment, it's still connected with power.

Operation methods

Operation of remote control

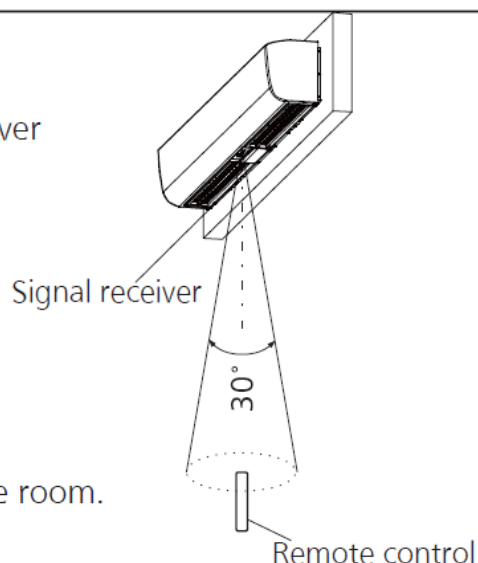
Please hold the remote control toward the signal receiver and use it within 5m from the signal receiver at angle of 30° as shown below.

Signal transmitter



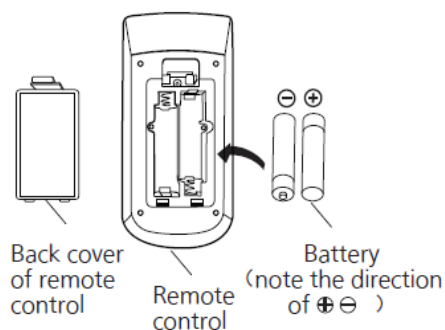
NOTE

The remote control should be used with product in same room.

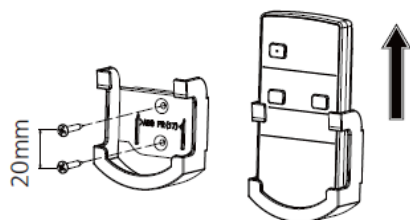


Setting of battery for remote control

1. Open the back cover.
2. Put the 2 batteries provided into remote control.
3. Close the back cover.



Fix the support for remote control at 1.5m height away from the ground, and put the remote control into the support. (only applied to remote control series)



NOTE

- Don't reverse the direction of + - .
- Don't mix old battery with new one.
- Remove batteries if they are not to be used for a long time.

Related safety cautions concerning the use of battery

Wrong use of battery could result in liquid leakage, heating or breakage which results in injuries or malfunction of product, please comply with the following items.

! WARNING

- Wash immediately thoroughly with large amount of water without rubbing if alkaline liquid enters into your eyes and then get medical treatment. Otherwise it could lead to blindness.
- Battery should not be placed in position where infants and young children could reach. Once swallowed, please get medical treatment immediately.
- Don't discard the battery into fire, and heating, decomposition or self-transformation is also prohibited. It could lead to liquid leakage, heating or breakage if damaging the insulation substances or exhaust valve.

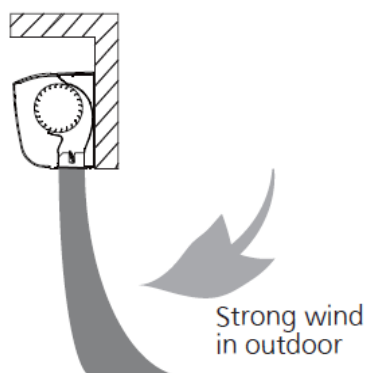
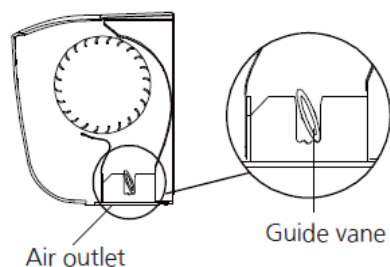
! CAUTION

- Don't tear the outer packing of battery.

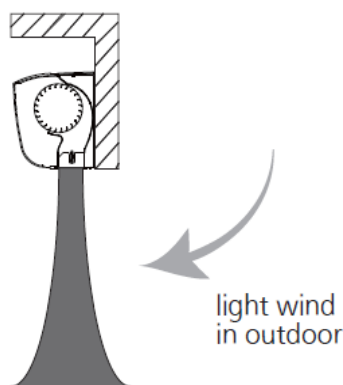
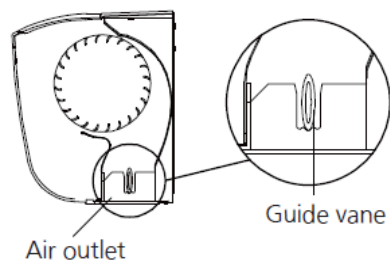
Operation methods

■ Guide vane in air outlet can be adjusted according to service environment to reach the ideal separation performance.

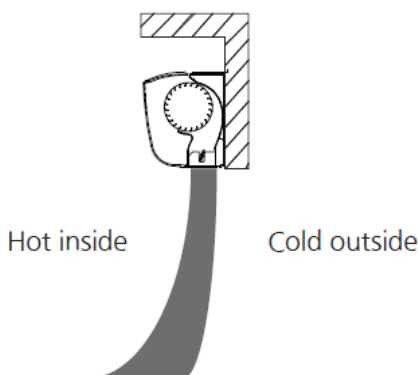
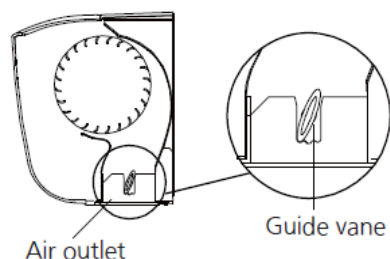
1 While Strong wind in outdoor



2 While light wind in outdoor

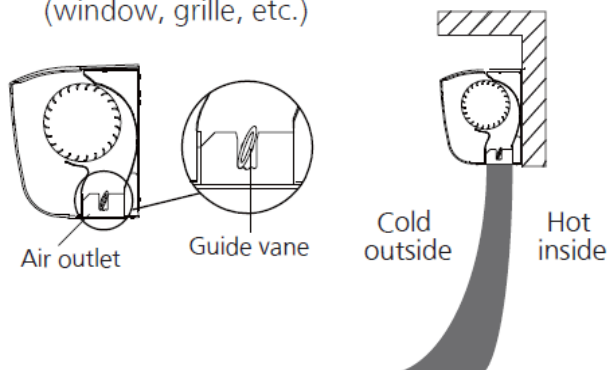


3 Heating

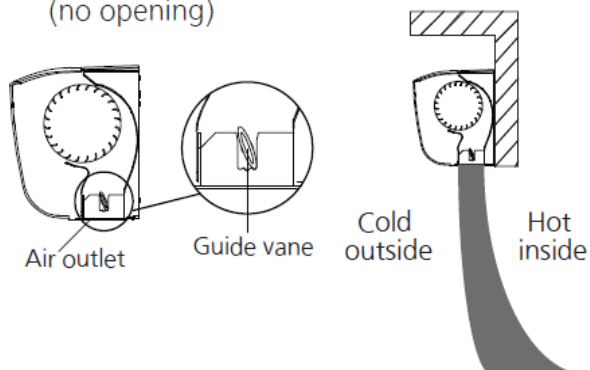


4 Cooling

1. Room has opening (window, grille, etc.)



2. Room is air tight (no opening)



Routine maintenance



WARNING

- Before touching this product, ensure that the power switch connected to this product is turned off.



This may result in electric shock.

- Be sure to uninstall the product if it will not be used any longer.



The product may fall off.

- Please contact entrusted distributor where you purchased or qualified persons to service the product.



Otherwise it may cause injuries or an electrical shock.

- In case of gas leakage, do not turn on /off this product.



This may generate electric spark and lead to an explosion.

- It's prohibited to insert fingers or sticks into the product, air inlet or outlet.



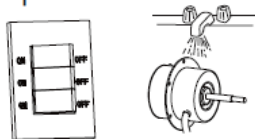
Impeller at high speed rotation may cause injuries.

- Don't turn on or off the power with wet hands.



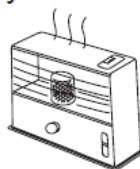
It may cause a electrical shock.

- Don't be wetted or watered. (electrical component such as motor and switch)



It may cause short circuit or electrical shock.

- It's prohibited to place the burning appliances in a position where product directly blows.



It may result in carbon monoxide poisoning caused by incomplete combustion.



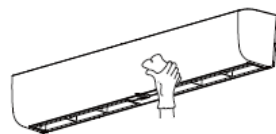
CAUTION

- Immediately stop to wait for repair if abnormalities happen (noise, vibration, smell).



It may cause the unexpeted accidents.

- Please wear the gloves during maintenance.



Otherwise it may result in injuries.

- It's forbidden to hang anything on the product.



Product may drop due to the increased weight.

- It's prohibited to directly spray the product with water or any other liquids.



It may cause short circuit or electrical shock.

Routine maintenance



CAUTION

- If the supply cord is damaged, it must be replaced by manufacturer, its service agent or similarly qualified



persons in order to avoid a hazard.

- Please don't place the substances near to the air outlet or inlet grille.



It may result in personal injuries due to blowing out or sucking in.

- The strong air from air curtain may cause the sand and dust.



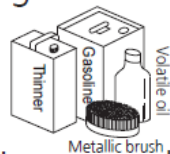
It may result in personal injuries.

- Two persons are required to conduct the maintenance.



Otherwise product may drop results in injuries.

- It's prohibited to wash with the chemical agent and detergent as shown in the following.



Otherwise dropping caused by corrosion of product may result in personal injuries.

- Eyes should not be faced to the outlet opening (specially when the fan starts up).



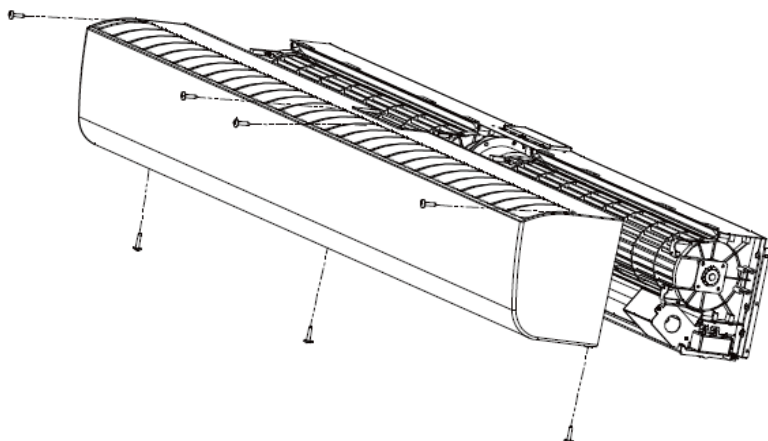
Any flying substance may get into the eyes.

NOTE

- Please ensure to disconnect from supply mains by the double pole switch before cleaning and maintaining the product, otherwise it may cause electrical shock.



- Disassembly of part
This part can be easily taken out by removal of seven bolts as indicated in the following.



Routine maintenance

To safely use the product in a long time, please follow these items below.

- 1)Note that all screws don't work loose. It tends to cause vibration, dropping or a fire.
- 2)Motor is intended to use for about 20000 hours. But the actual life of motor may vary depending on service environment.
- 3)Maintenance should be done by entrusted distributor or repair shop to service the product.

Please refer to the table below to maintain the product. (The service life may be shorter depending on service environment)

Routine maintenance can keep the efficiency of operation, may prevent increase of energy loss and extend the service life of product.

■Routine Maintenance

Check point	Maintenance period				Remarks
	Every day	Every month	Every half year	Every year	
Situation of operation.	●				Mainly note the noise and vibration.
Abnormal noise or vibration.		●			Mainly maintain the motor and impeller.
Parts work loose such as terminal block or screws.			●		Fasten screws.
Rust or corrode of metal parts such as motor, screw, etc..				●	Conduct the replacement.

■Maintenance period

△Maintenance ●Cleaning ○Replacement.											
Part	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year	9th year	10th year	Maintenance key points
Front panel	△	△	● △	△	△	● △	△	△	● △	● △	Remove dirt.
Impeller	● △	● △	● △	● △	● △	● △	● △	● △	● △	● △	Remove check dirt, noise and vibration.
Motor	△	△	△	△	△	○	△	△	△	△	Noise, vibration.
Gate magnetic switch	● △	● △	● △	● △	● △	● △	● △	● △	● △	● △	Remove dirt.

NOTE

- 1.Maintenance period is affected by service time and service environment.
- 2.Generally service time :10 hours for a day, 300 days for a year, 3000 hours in total.
- 3.Please contact with the distributor or repair shop regarding to cleaning, replacement.

Trouble shooting guide

Firstly check the following items, if malfunction still can't be solved, please disconnect from supply mains and contact with distributor and repair shop.

	Condition	1st Possible reason	2nd Possible reason	3rd Possible reason
Primary Period	Can't operate.	Check the voltage.	Wiring is not correct.	The remote control don't equip with battery.
	With large noise or significant vibration.	Installed not properly.		
	Poor separation performance.	Not suitable model.	Guide vane is not in proper position.	Product is installed vertically.
	Magnetic switch doesn't work.	Wiring is not properly connected.	Any other magnetic substances near to gate magnetic switch.	
During operation	Can't operate.	Wiring is not fixed.	Double pole switch became off.	
	Poor separation performance.	Air inlet grille is blocked.		
	With large noise or significant vibration.	Dust piles up in impeller.	Any other substances fell into the product.	Motor is abnormal.
	Magnetic switch doesn't work.	Wiring is not properly connected.	Double pole switch became off.	Any other magnetic substances near to gate magnetic switch.

Specification

Voltage: 1 phase 220V Frequency: 50Hz

Model			Outlet Velocity m/s		Power Consumption W		Current A		Air Volume m³/h		Noise dB(A)		Insulation Class	Length mm	Weight kg	Installation height (m)
			High	Low	High	Low	High	Low	High	Low	High	Low				
FY-3009U1	FY-3009D1	FY-3009G1	10.5	8.5	76	70	0.35	0.32	1100	920	48.5	45	B	900	12.5	3m
FY-4009U1	FY-4009D1	FY-4009G1	12	10	110	94	0.5	0.43	1340	1190	54.5	51	B	900	13.5	4m
FY-3012U1	FY-3012D1	FY-3012G1	9.5	8	94	85	0.43	0.4	1400	1270	48.5	44.5	B	1200	15	3m
FY-4012U1	FY-4012D1	FY-4012G1	12	10	126	105	0.59	0.49	1700	1530	52.5	48.5	B	1200	16	4m
FY-3015U1	FY-3015D1	FY-3015G1	10.5	9.5	131	110	0.59	0.5	2000	1800	51.5	48	B	1500	18.5	3m
FY-4015U1	FY-4015D1	FY-4015G1	13	10	177	147	0.81	0.68	2450	2000	56	52	F	1500	18.5	4m

Voltage: 1 phase 220V Frequency: 60Hz

Model			Outlet Velocity m/s		Power Consumption W		Current A		Air Volume m³/h		Noise dB(A)		Insulation Class	Length mm	Weight kg	Installation height (m)
			High	Low	High	Low	High	Low	High	Low	High	Low				
FY-3009U1	FY-3009D1	FY-3009G1	10.5	8.5	92	78	0.42	0.36	1100	900	49.5	45	B	900	12.5	3m
FY-4009U1	FY-4009D1	FY-4009G1	12	10	141	111	0.64	0.51	1340	1100	55.5	51	B	900	13.5	4m
FY-3012U1	FY-3012D1	FY-3012G1	9.5	8	109	94	0.51	0.46	1400	1250	48.5	44.5	B	1200	15	3m
FY-4012U1	FY-4012D1	FY-4012G1	12	10	153	118	0.7	0.55	1700	1450	52.5	48.5	B	1200	16	4m
FY-3015U1	FY-3015D1	FY-3015G1	10.5	9.5	150	118	0.68	0.54	2000	1750	51.5	48	B	1500	18.5	3m
FY-4015U1	FY-4015D1	FY-4015G1	13	9.5	220	160	1.01	0.74	2300	1780	56	52	F	1500	18.5	4m

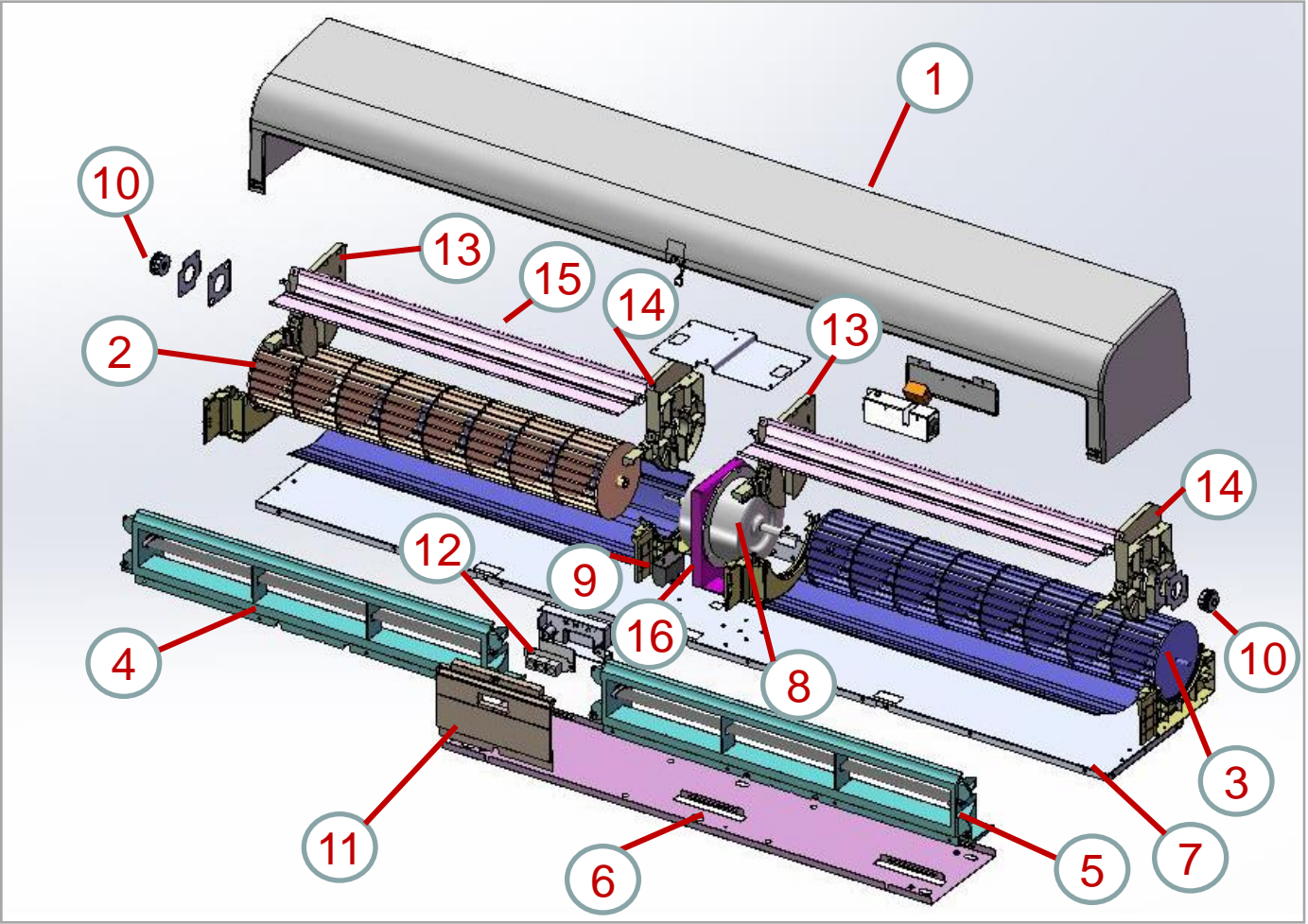
Voltage: 1 phase 240V Frequency: 50Hz

Model			Outlet Velocity m/s		Power Consumption W		Current A		Air Volume m³/h		Noise dB(A)		Insulation Class	Length mm	Weight kg	Installation height (m)
			High	Low	High	Low	High	Low	High	Low	High	Low				
FY-3009U1	FY-3009D1	FY-3009G1	10.5	9	86	80	0.37	0.35	1150	960	50.5	47.5	B	900	12.5	3m
FY-4009U1	FY-4009D1	FY-4009G1	12.5	10.5	122	100	0.51	0.43	1360	1200	56.5	53.5	B	900	13.5	4m
FY-3012U1	FY-3012D1	FY-3012G1	10	8.5	107	95	0.46	0.43	1500	1320	50.5	47	B	1200	15	3m
FY-4012U1	FY-4012D1	FY-4012G1	12.5	10.5	139	110	0.6	0.49	1800	1580	54.5	51	B	1200	16	4m
FY-3015U1	FY-3015D1	FY-3015G1	11	10	145	115	0.6	0.5	2100	1850	53.5	50.5	B	1500	18.5	3m
FY-4015U1	FY-4015D1	FY-4015G1	13.5	10.5	200	160	0.86	0.68	2500	2050	58	54.5	F	1500	18.5	4m

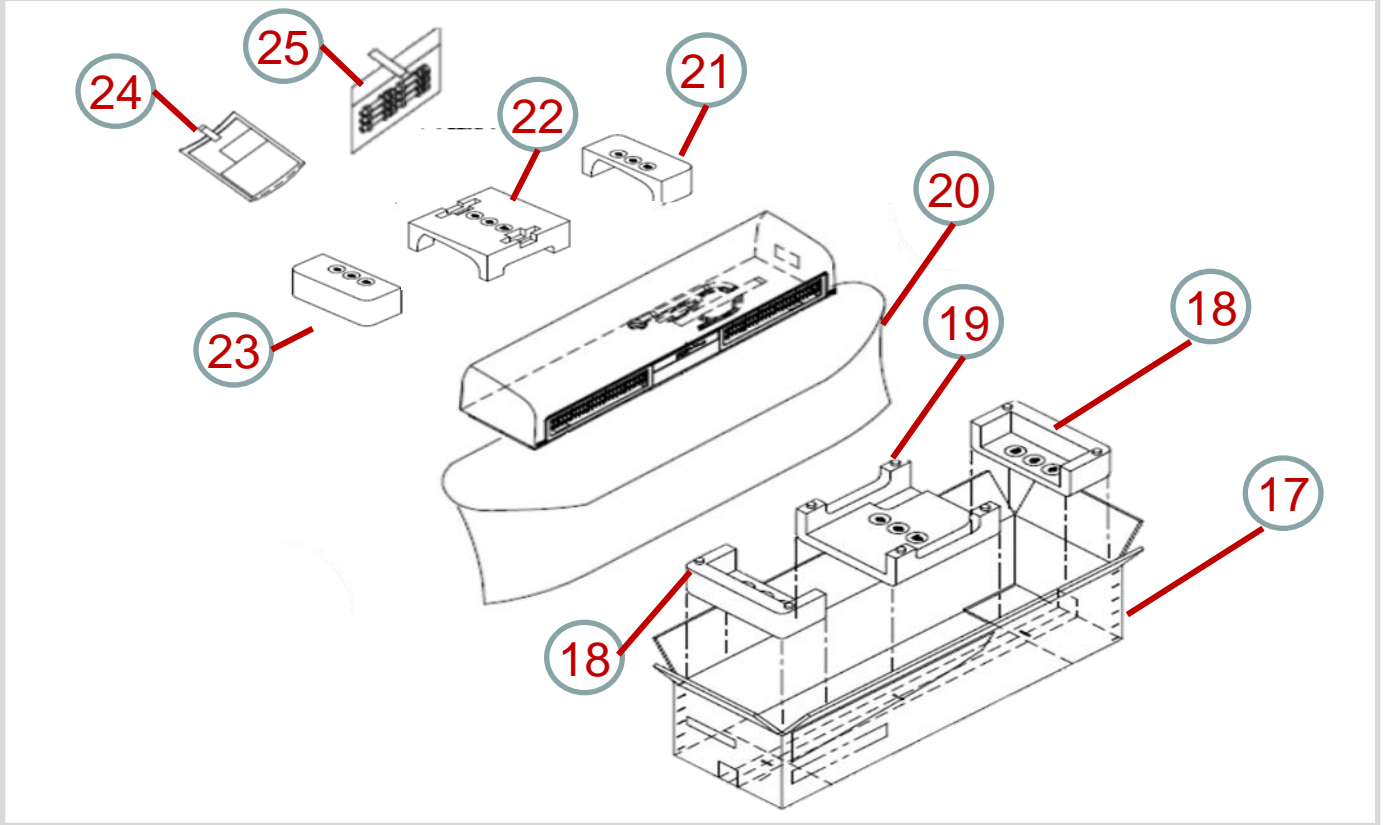
NOTE

- 1.The parameters as shown in above table are measured at ambient temperature of 20°C.
- 2.The noise value is measured 1.5m far from the product at angle of 45° below the air outlet.
The air outlet is the maximum value.
- 3.Because the above-mentioned velocity is measured in test laboratory where it's empty, without air flow and obstacle, after actual installation the velocity may vary depends on different service environment.

Exploded drawing for basic series



Exploded drawing for packing of basic series



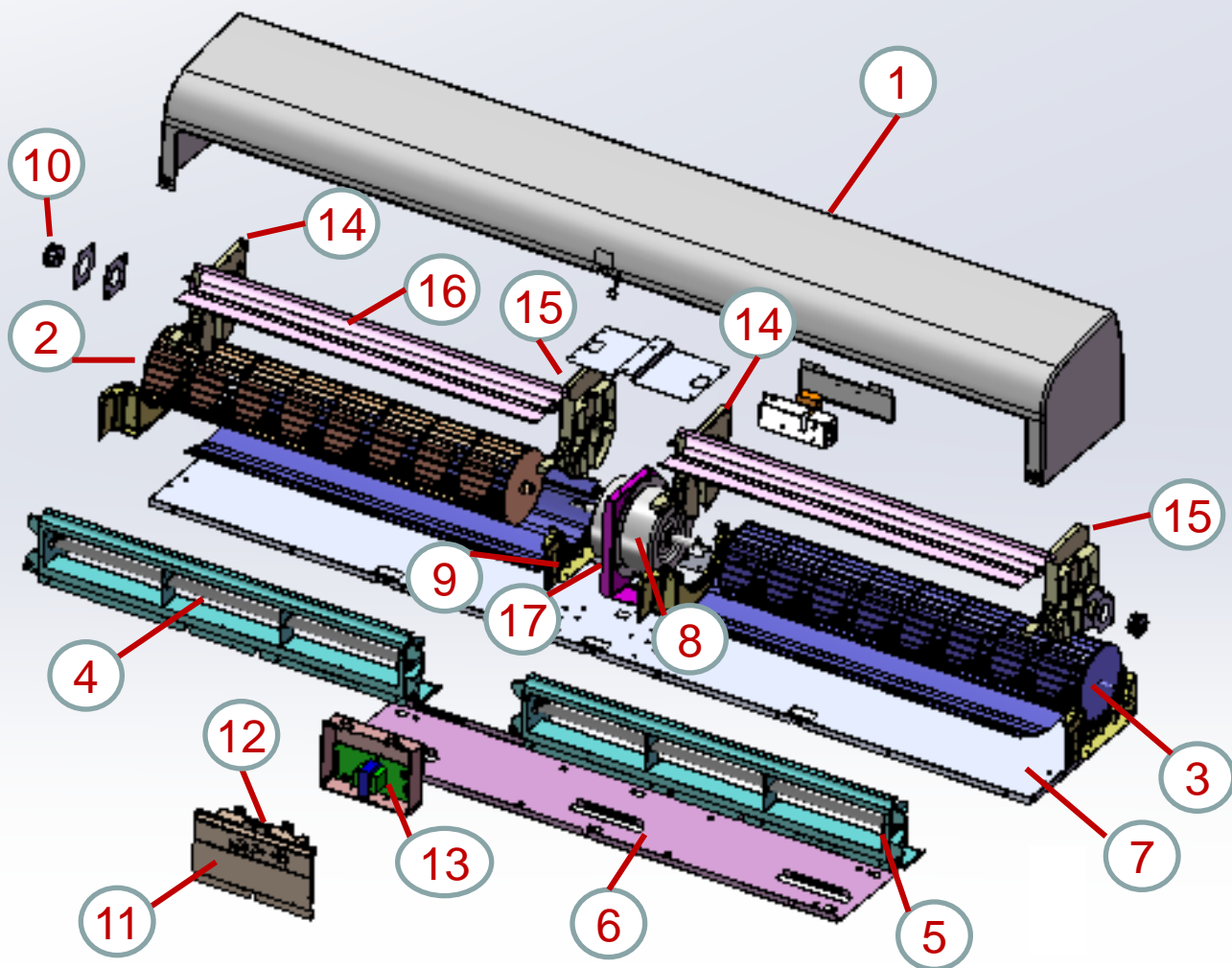
Part list for basic series

序号	部件名称	FY-3009U1	FY-3012U1	FY-3015U1	FY-4009U1	FY-4012U1	FY-4015U1
1	FRONT PANEL	ACU10001	ACU10002	ACU10003	ACU10001	ACU10002	ACU10003
2	IMPELLE R (L)	ACU10004	ACU10005	ACU10006	ACU10004	ACU10005	ACU10006
3	IMPELLE R (R)	ACU10007	ACU10008	ACU10009	ACU10007	ACU10008	ACU10009
4	LOUVER ASSY (L)	ACU10010	ACU10011	ACU10012	ACU10010	ACU10011	ACU10012
5	LOUVER ASSY (R)	ACU10013	ACU10014	ACU10015	ACU10013	ACU10014	ACU10015
6	PLATE	FEC050H018E	FEC050H018E	FEC050H018E	FEC050H018E	FEC050H018E	FEC050H018E
7	BACK PLATE ASSY	ACU10016	ACU10017	ACU10018	ACU10016	ACU10017	ACU10018
8	MOTOR	ACU10019	ACU10020	ACU10021	ACU10022	ACU10023	ACU10024
9	CAPACIT OR	ACU10025	ACU10026	ACU10027	ACU10026	ACU10026	ACU10028
10	BEARIN G ASSY	ACU10029	ACU10029	ACU10029	ACU10029	ACU10029	ACU10029
11	PCB COVER	ACU10030	ACU10030	ACU10030	ACU10030	ACU10030	ACU10030
12	SWITCH KUMI	ACU10031	ACU10031	ACU10031	ACU10031	ACU10031	ACU10031
13	SIDE COVER L UPPER	ACU10032	ACU10032	ACU10032	ACU10032	ACU10032	ACU10032
14	SIDE COVER R UPPER	ACU10033	ACU10033	ACU10033	ACU10033	ACU10033	ACU10033

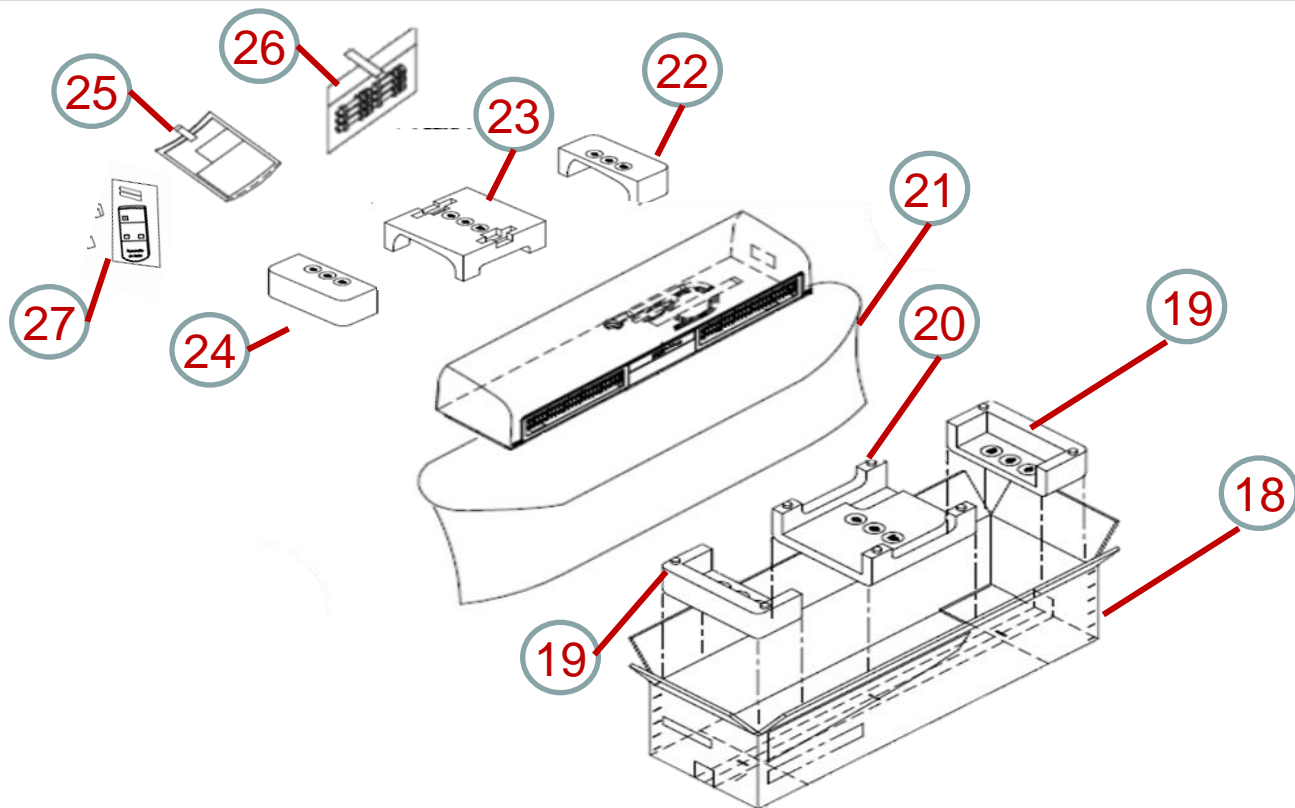
Part list for basic series

序号	部件名称	FY-3009U1	FY-3012U1	FY-3015U1	FY-4009U1	FY-4012U1	FY-4015U1
15	REAR GUIDER A	ACU10034	ACU10035	ACU10036	ACU10034	ACU10035	ACU10036
16	MOTOR SUPPOR T	ACU10037	ACU10037	ACU10038	ACU10038	ACU10038	ACU10038
17	PACKAG E	ACU10039	ACU10040	ACU10041	ACU10042	ACU10043	ACU10044
18	BOTTOM PAD B	ACU10045	ACU10046	ACU10046	ACU10045	ACU10046	ACU10046
19	BOTTOM PAD A	ACU10047	ACU10047	ACU10047	ACU10047	ACU10047	ACU10047
20	POLY COVER	ACU10051	ACU10052	ACU10053	ACU10051	ACU10052	ACU10053
21	TOP PAD R	ACU10048	ACU10048	ACU10048	ACU10048	ACU10048	ACU10048
22	TOP PAD	ACU10049	ACU10049	ACU10049	ACU10049	ACU10049	ACU10049
23	TOP PAD L	ACU10050	ACU10050	ACU10050	ACU10050	ACU10050	ACU10050
24	INSTRUC TION	ACU10054	ACU10054	ACU10054	ACU10054	ACU10054	ACU10054
25	ACCESS ORIES	FEC060H004E	FEC060H004E	FEC060H004E	FEC060H004E	FEC060H004E	FEC060H004E

Exploded drawing for remote control series



Exploded drawing for packing of remote control series



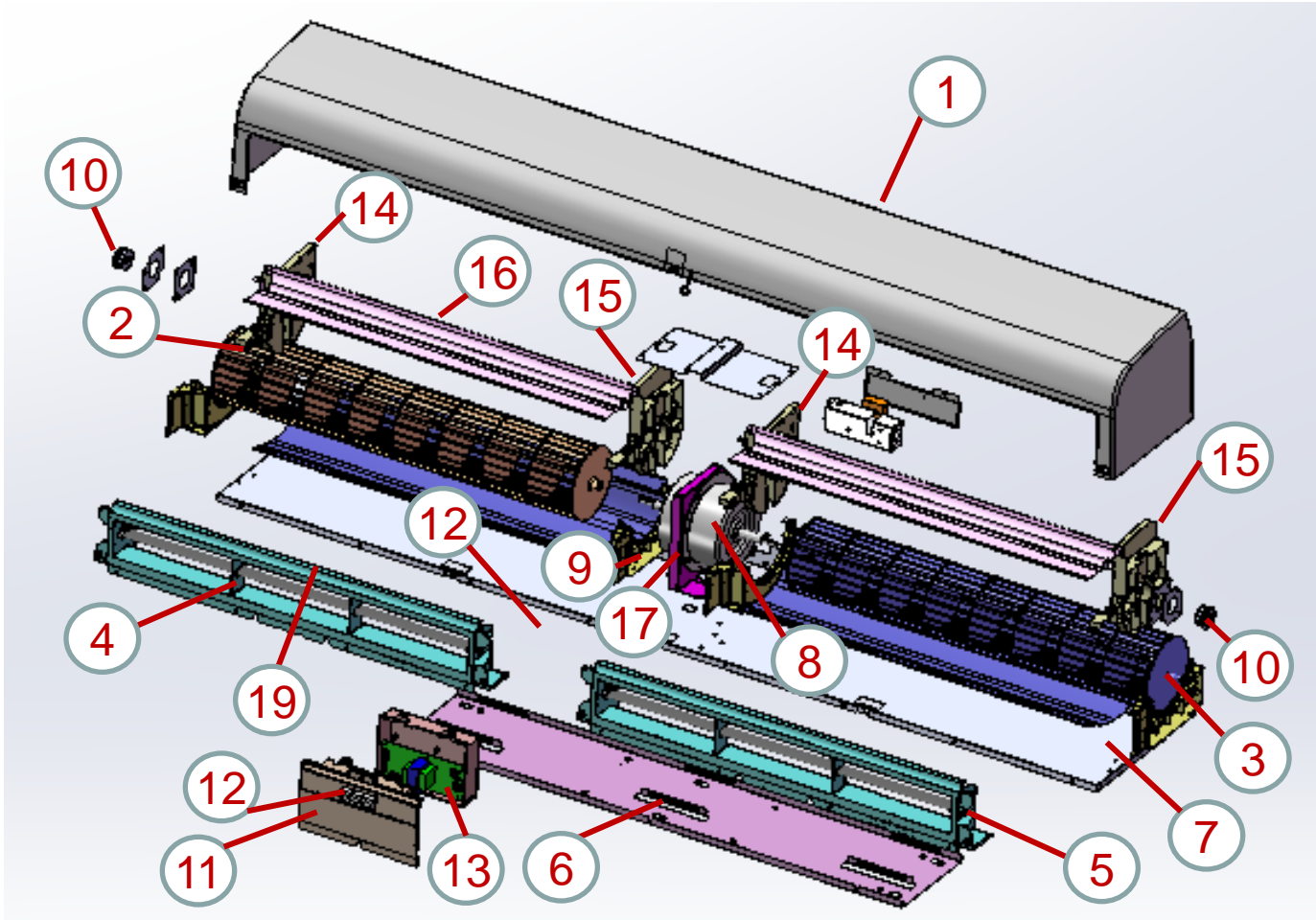
Part list for remote control series

序号	部件名称	FY-3009G1	FY-3012G1	FY-3015G1	FY-4009G1	FY-4012G1	FY-4015G1
1	FRONT PANEL	ACU10001	ACU10002	ACU10003	ACU10001	ACU10002	ACU10003
2	IMPELLE R (L)	ACU10004	ACU10005	ACU10006	ACU10004	ACU10005	ACU10006
3	IMPELLE R (R)	ACU10007	ACU10008	ACU10009	ACU10007	ACU10008	ACU10009
4	LOUVER ASSY (L)	ACU10010	ACU10011	ACU10012	ACU10010	ACU10011	ACU10012
5	LOUVER ASSY (R)	ACU10013	ACU10014	ACU10015	ACU10013	ACU10014	ACU10015
6	PLATE	FEC050H018E	FEC050H018E	FEC050H018E	FEC050H018E	FEC050H018E	FEC050H018E
7	BACK PLATE ASSY	ACU10016	ACU10017	ACU10018	ACU10016	ACU10017	ACU10018
8	MOTOR	ACU10019	ACU10020	ACU10021	ACU10022	ACU10023	ACU10024
9	CAPACIT OR	ACU10025	ACU10026	ACU10027	ACU10026	ACU10026	ACU10028
10	BEARIN G ASSY	ACU10029	ACU10029	ACU10029	ACU10029	ACU10029	ACU10029
11	PCB COVER	ACG10030	ACG10030	ACG10030	ACG10030	ACG10030	ACG10030
12	PCB	ACG10055	ACG10055	ACG10055	ACG10055	ACG10055	ACG10055
13	PCB	ACG10056	ACG10056	ACG10056	ACG10056	ACG10056	ACG10056
14	SIDE COVER L UPPER	ACU10032	ACU10032	ACU10032	ACU10032	ACU10032	ACU10032

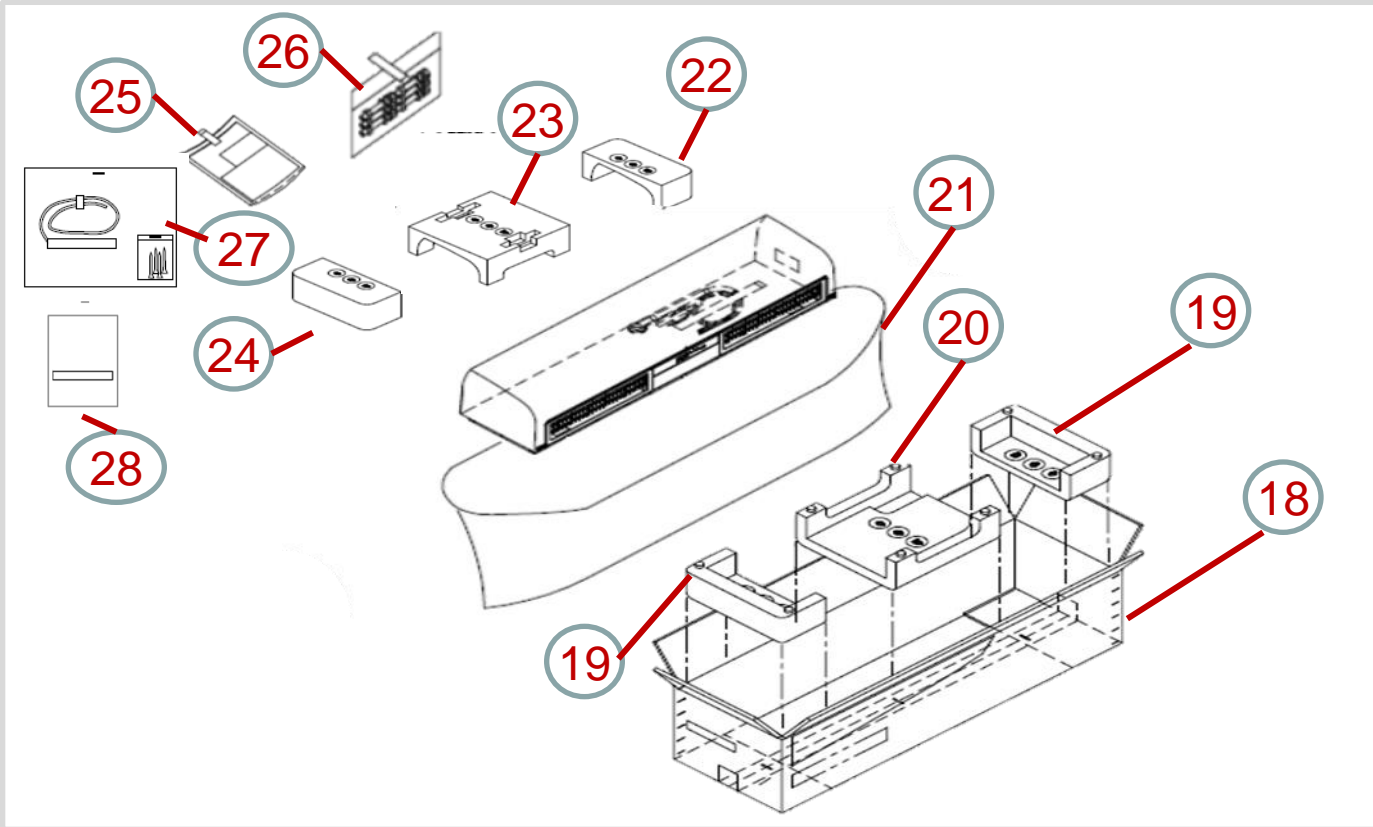
Part list for remote control series

序号	部件名称	FY-3009G1	FY-3012G1	FY-3015G1	FY-4009G1	FY-4012G1	FY-4015G1
15	SIDE COVER UPPER	ACU10033	ACU10033	ACU10033	ACU10033	ACU10033	ACU10033
16	REAR GUIDER A	ACU10034	ACU10035	ACU10036	ACU10034	ACU10035	ACU10036
17	MOTOR SUPPORT	ACU10037	ACU10037	ACU10038	ACU10038	ACU10038	ACU10038
18	PACKAGE	ACG10039	ACG10040	ACG10041	ACG10042	ACG10043	ACG10044
19	BOTTOM PAD B	ACU10045	ACU10046	ACU10046	ACU10045	ACU10046	ACU10046
20	BOTTOM PAD A	ACU10047	ACU10047	ACU10047	ACU10047	ACU10047	ACU10047
21	POLY COVER	ACU10051	ACU10052	ACU10053	ACU10051	ACU10052	ACU10053
22	TOP PAD R	ACU10048	ACU10048	ACU10048	ACU10048	ACU10048	ACU10048
23	TOP PAD	ACU10049	ACU10049	ACU10049	ACU10049	ACU10049	ACU10049
24	TOP PAD L	ACU10050	ACU10050	ACU10050	ACU10050	ACU10050	ACU10050
25	INSTRUCTION	ACU10054	ACU10054	ACU10054	ACU10054	ACU10054	ACU10054
26	ACCESSORIES	FEC060H004E	FEC060H004E	FEC060H004E	FEC060H004E	FEC060H004E	FEC060H004E
27	Remote control	ACG10057	ACG10057	ACG10057	ACG10057	ACG10057	ACG10057

Exploded drawing for sensor series



Exploded drawing for packing of sensor series



Part list for sensor series

序号	部件名称	FY-3009D1	FY-3012D1	FY-3015D1	FY-4009D1	FY-4012D1	FY-4015D1
1	FRONT PANEL	ACU10001	ACU10002	ACU10003	ACU10001	ACU10002	ACU10003
2	IMPELLE R (L)	ACU10004	ACU10005	ACU10006	ACU10004	ACU10005	ACU10006
3	IMPELLE R (R)	ACU10007	ACU10008	ACU10009	ACU10007	ACU10008	ACU10009
4	LOUVER ASSY (L)	ACU10010	ACU10011	ACU10012	ACU10010	ACU10011	ACU10012
5	LOUVER ASSY (R)	ACU10013	ACU10014	ACU10015	ACU10013	ACU10014	ACU10015
6	PLATE	FEC050H018E	FEC050H018E	FEC050H018E	FEC050H018E	FEC050H018E	FEC050H018E
7	BACK PLATE ASSY	ACU10016	ACU10017	ACU10018	ACU10016	ACU10017	ACU10018
8	MOTOR	ACU10019	ACU10020	ACU10021	ACU10022	ACU10023	ACU10024
9	CAPACIT OR	ACU10025	ACU10026	ACU10027	ACU10026	ACU10026	ACU10028
10	BEARIN G ASSY	ACU10029	ACU10029	ACU10029	ACU10029	ACU10029	ACU10029
11	PCB COVER	ACD10030	ACD10030	ACD10030	ACD10030	ACD10030	ACD10030
12	SWITCH KUMI	ACD10031	ACD10031	ACD10031	ACD10031	ACD10031	ACD10031
13	PCB	ACD10056	ACD10056	ACD10056	ACD10056	ACD10056	ACD10056
14	SIDE COVER L UPPER	ACU10032	ACU10032	ACU10032	ACU10032	ACU10032	ACU10032

Part list for sensor series

序号	部件名称	FY-3009D1	FY-3012D1	FY-3015D1	FY-4009D1	FY-4012D1	FY-4015D1
15	SIDE COVER UPPER	ACU10033	ACU10033	ACU10033	ACU10033	ACU10033	ACU10033
16	REAR GUIDER A	ACU10034	ACU10035	ACU10036	ACU10034	ACU10035	ACU10036
17	MOTOR SUPPORT	ACU10037	ACU10037	ACU10038	ACU10038	ACU10038	ACU10038
18	PACKAGE	ACDA0039	ACDA0040	ACDA0041	ACDA0042	ACDA0043	ACDA0044
19	BOTTOM PAD B	ACU10045	ACU10046	ACU10046	ACU10045	ACU10046	ACU10046
20	BOTTOM PAD A	ACU10047	ACU10047	ACU10047	ACU10047	ACU10047	ACU10047
21	POLY COVER	ACU10051	ACU10052	ACU10053	ACU10051	ACU10052	ACU10053
22	TOP PAD R	ACU10048	ACU10048	ACU10048	ACU10048	ACU10048	ACU10048
23	TOP PAD	ACU10049	ACU10049	ACU10049	ACU10049	ACU10049	ACU10049
24	TOP PAD L	ACU10050	ACU10050	ACU10050	ACU10050	ACU10050	ACU10050
25	INSTRUCTION	ACUA0054	ACUA0054	ACUA0054	ACUA0054	ACUA0054	ACUA0054
26	ACCESSORIES	FEC060H004E	FEC060H004E	FEC060H004E	FEC060H004E	FEC060H004E	FEC060H004E
27	GATE MAGNETIC SWITCH	ACD10058	ACD10058	ACD10058	ACD10058	ACD10058	ACD10058
28	MAGNETIC	ACD10059	ACD10059	ACD10059	ACD10059	ACD10059	ACD10059

Routine maintenance for basic series

◆ Name plate is affixed on right side of unit, indicating model No. and product No..

◆ Safety precaution:

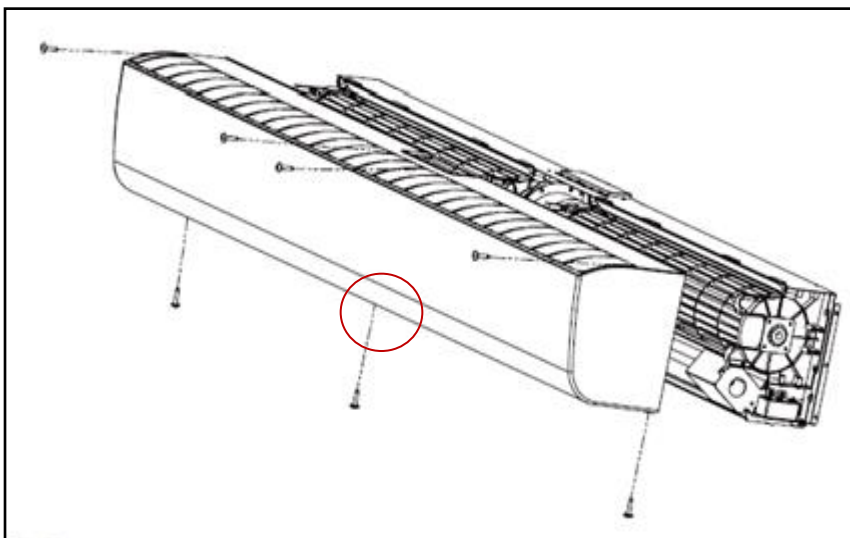
- Make sure to disconnect the power source before maintenance.
- Don't impair the related part in maintenance.
- Initial operation after maintenance shall be done while few people around because large amount of dust could be caused.



Cleaning the impeller

◆ Removal of front cover

Note: you should pull out the cap as shown in figure below before releasing the screw marked with red circle in right figure, and this screw have the different type from others, don't mix up.



◆ remove the front cover by releasing the screws.



◆ clean the impeller with brush.

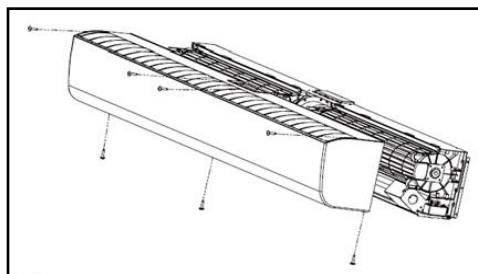
Trouble shooting guide for basic series

◆ Safety precaution:

- make sure to disconnect the power source before maintenance.
- don't damage the related part in maintenance
- wear the protection equipment in maintenance



Replace the front cover



◆ remove the front cover by releasing the screws.



◆ pull out the cap as shown in figure above before releasing the screw in middle, and this screw have the different type from others, don't mix up.

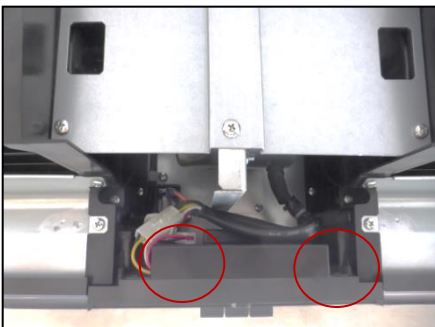


◆ you can replace the front cover after removing.

Replace the push-button switch



◆ release the screw as indicated above.



◆ release the screw as indicated above.



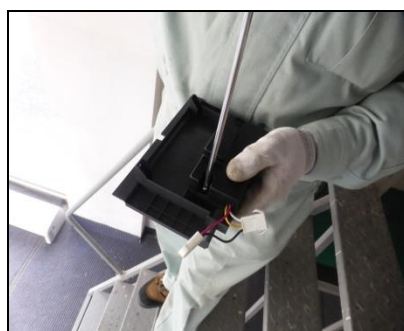
◆ remove switch board (note it's still connected with supply mains)



◆ disconnect the connector used for linking push-button switch with motor.



◆ completely remove switch board.

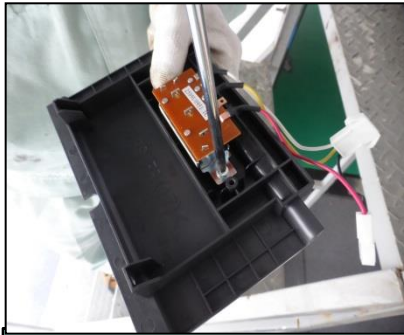


◆ release the screw as indicated above

Trouble shooting guide for basic series



◆ open the cover of push-button switch.



◆ release the screw as indicated above



◆ you can replace the push-button switch.

Caution :

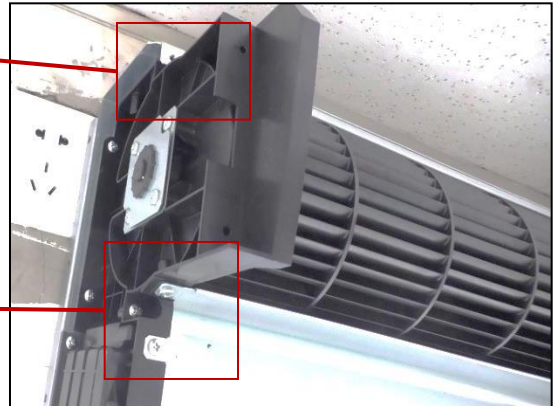
- don't impair the cord while replacing the push-button switch
- firmly connect the connector after replacement
- pay attention to not get push-button switch stuck in switch board (confirm the push-button switch is in bounce)



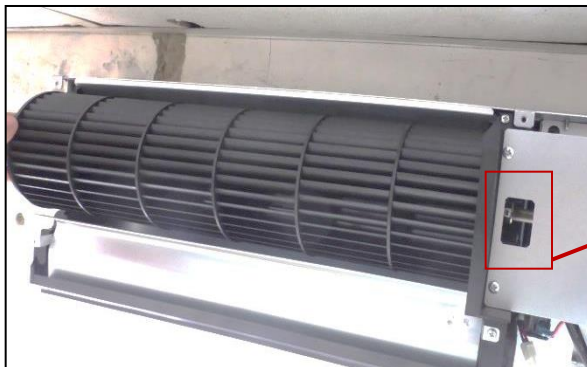
Replace the impeller

<take the left impeller for example>

◆ as shown in right figure, remove the impeller by releasing the screw.

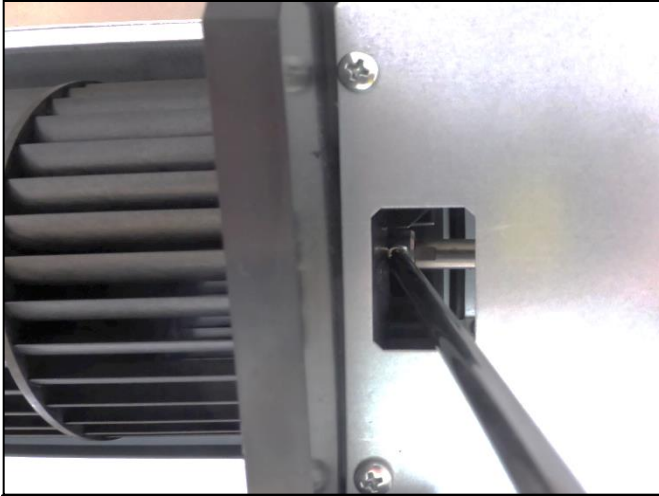


◆ remove the left side plate



◆ adjust the direction of impeller to align jbscrew with the hole as indicated above

Trouble shooting guide for basic series



◆ loosen the jbk screw used for fixing impeller with cross screwdriver (only loosen)



◆ replace the impeller after removing

Caution for replacing the impeller:

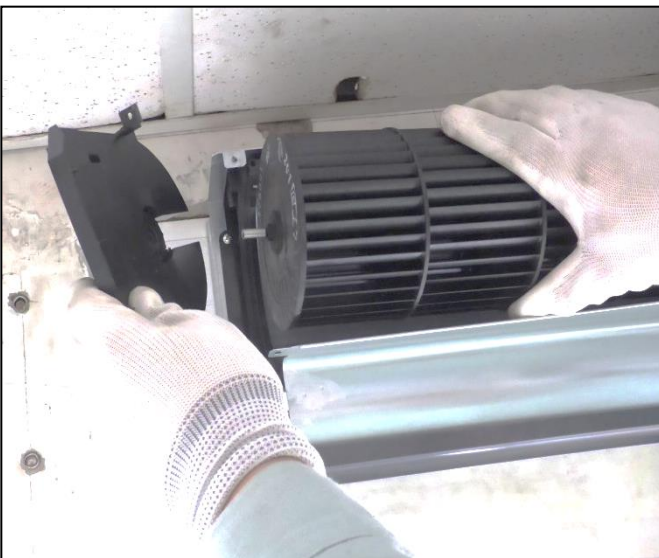
- replace the right impeller with same method
- there's indication of position on the side of impeller (refer to right figure), don't reverse the position.
- check impeller is running normally with power on after assembly.

LEFT

RIGHT



Replace the shaft



◆ refer to the steps for replacing impeller to remove the side plate.



◆ release the screws.

Trouble shooting guide for basic series

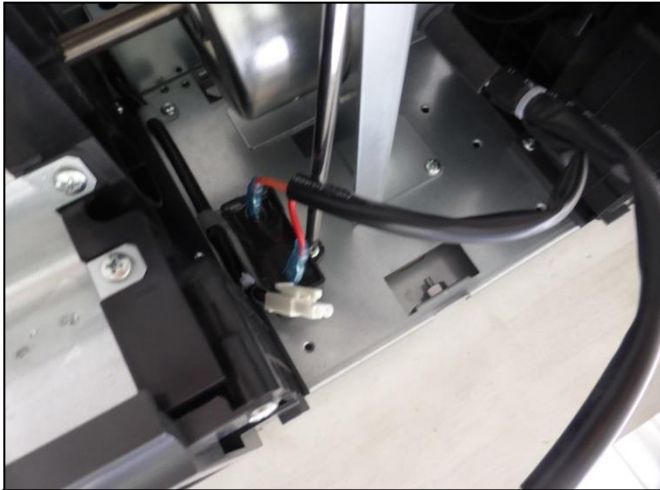


◆ remove the metal plate



◆ then you can replace the shaft after removing.

Replace the capacitor

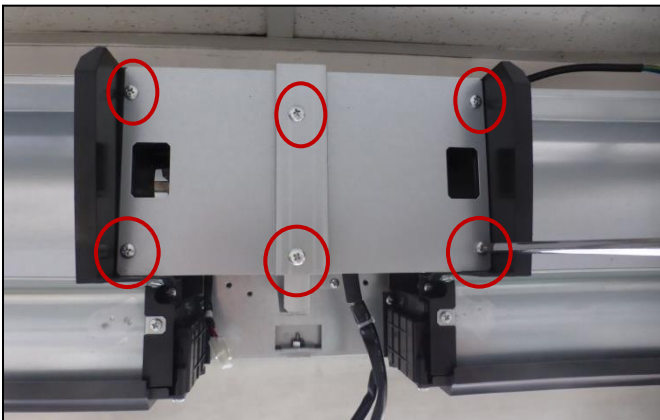


◆ release the screws.



◆ then you can replace the capacitor after removing.

Replace the motor



◆ release the screws used for fixing the motor as indicated above



◆ remove the metal part, there's a risk of dropping

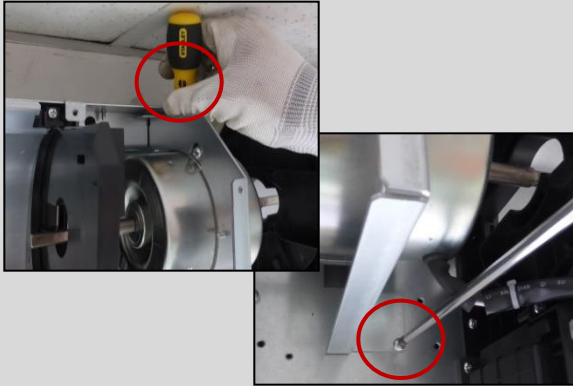
Trouble shooting guide for basic series



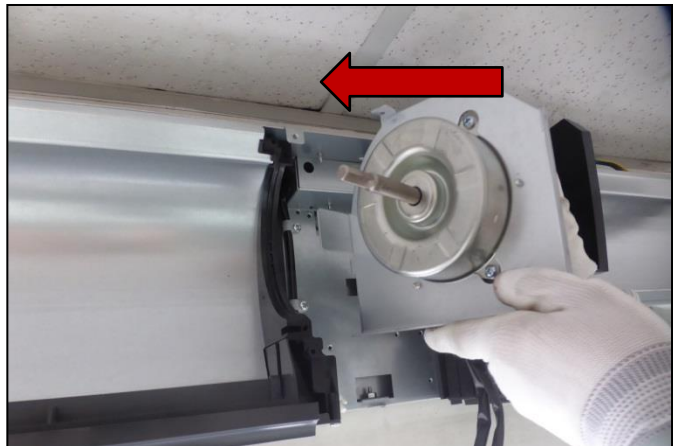
◆ release the screws fixed on side plate near to motor



◆ remove the side plate



◆ release the screws used for fixing the motor bracket.



◆ move to left side and remove the motor assembly



◆ then you can replace the motor after removing

Caution for replacing the motor:

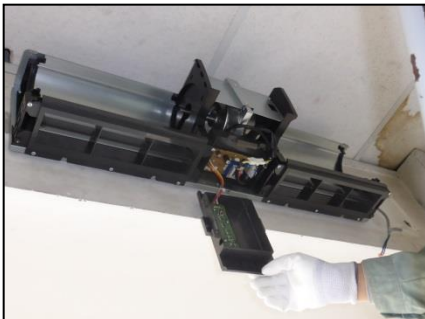
- don't impair the cord during replacement;
- refer to the direction of assembly for motor as shown in left figure (direction of motor penetrating motor bracket)

Trouble shooting guide for remote control series

Note:

- maintenance step for remote control series is same as basic series.
- structure difference between them : compared to basic series, remote control is added two PCB board (power board and control board)without push-button switch
special description is given to introduce the steps for replacing the two PCB boards below,
further more steps please refer the steps for basic series.

Replace the control board



◆ remove the front cove referring to steps for basic series



◆ disconnect the connector used for linking power board with control board

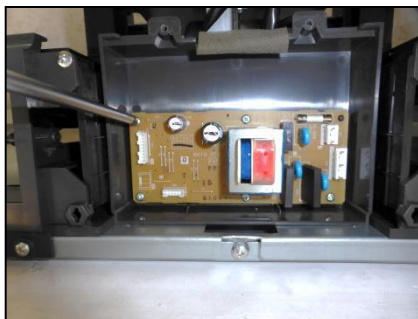


◆ you can replace the control board after removing

Replace the power board



◆ disconnect the connector used for linking with power cord



◆ you can replace the power board after removing

Caution for replacing the power board and control board:

- make sure to disconnect the power source before maintenance
- wear antistatic gloves while replacing PCB board to prevent it from breakdown
- be careful not apply with too much strength to the connector in order to protect part from being damaged.

Trouble shooting guide for sensor series

Note:

- ◆ maintenance step for sensor series is same as basic series.
- ◆ structure difference between them : compared to basic series, sensor series is added a power

board(same as remote control series) , maintenance step is given in the following:

- for front panel, push-button switch, impeller, shaft, motor , capacitor please refer to maintenance of basic series.
- for power board, please refer to maintenance of basic series.

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