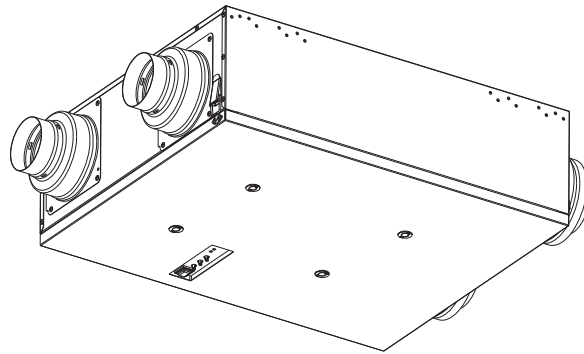


Service Manual

Energy Recovery Ventilator
(North America Market)

FV-10VEC1
FV-10VE1



⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacture. We suggest to handle such parts after the static electricity prevention. It is forbidden to touch the PCB parts by bare hands during the repairing process.

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1.Specifications	1
2.Parts Identification.....	2~11
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4.Parts List.....	13~18
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1. Specifications

<Ventilation Performance>

Model No.	Air direction	Voltage (V)	Frequency (Hz)	Duct	Static pressure	Gross air flow (CFM)		Power consumption (W)	Noise (sone)	Weight lb.(kg)
						Exhaust	Supply	Fan unit		
FV-10VEC1	Exhaust & Supply	120	60	4"/6"	0.1"WG	100	103	64	N/A	50 (22.4)
					0.4"WG	99	101	84	1.4	
FV-10VE1					0.1"WG	97	101	62	N/A	48 (21.6)
					0.4"WG	97	103	80	1.4	

<Energy Performance>

Model No.	Mode	Supply temperature		Net air flow		Power consumption (W)	Sensible recovery efficiency	Apparent sensible effectiveness	Net moisture transfer
		°F	°C	L/s	CFM				
FV-10VEC1	Heating	32	0	25	53	24	81%	88%	0.80
		32	0	31	67	34	77%	86%	0.76
		32	0	40	86	54	75%	83%	0.72
		-13	-25	27	57	66	65%	85%	0.70
		-13	-25	32	68	84	64%	80%	0.70
	Cooling	95	35	23	48	16	Total recovery efficiency		
							65%		

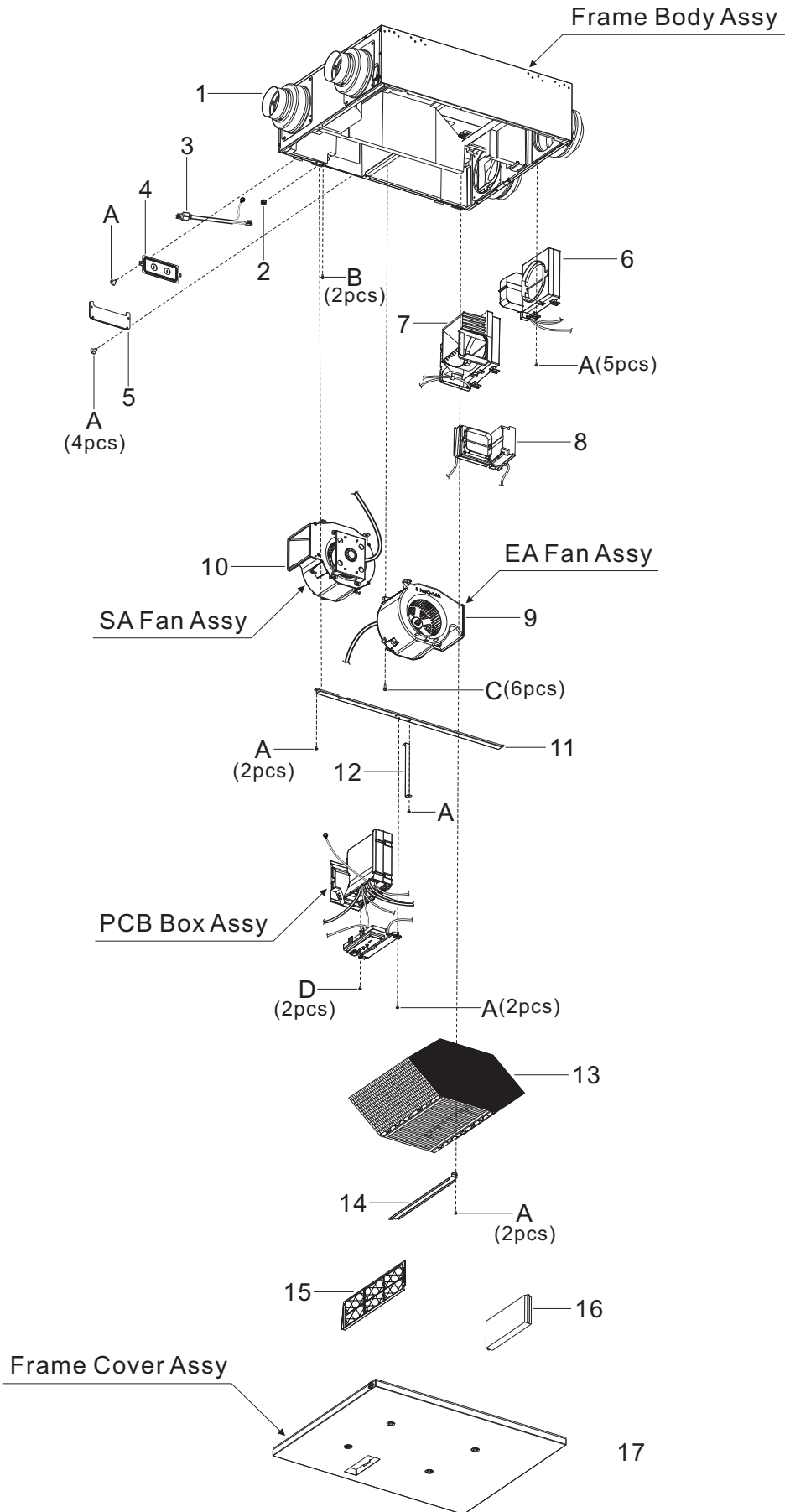
Model No.	Mode	Supply temperature		Net air flow		Power consumption (W)	Sensible recovery efficiency	Apparent sensible effectiveness	Net moisture transfer
		°F	°C	L/s	CFM				
FV-10VE1	Heating	32	0	25	54	20	79%	90%	0.76
		32	0	32	67	28	79%	88%	0.76
		32	0	41	87	46	75%	85%	0.72
	Cooling	95	35	25	52	22	Total recovery efficiency		
						73%			

- 1.The testing of the ventilation performance is in general accordance with HVI procedures 915 and 916.
- 2.The testing of the energy performance is in accordance with CSA-C439 standard.

2. Parts Identification

FV-10VEC1

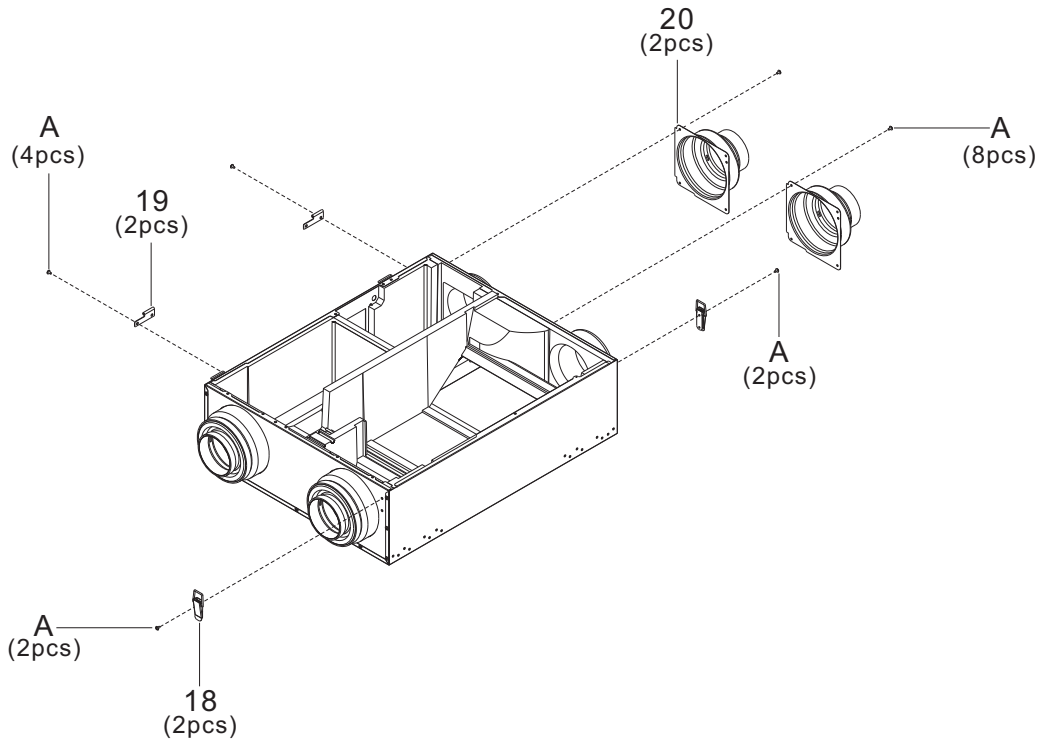
Main Body Section



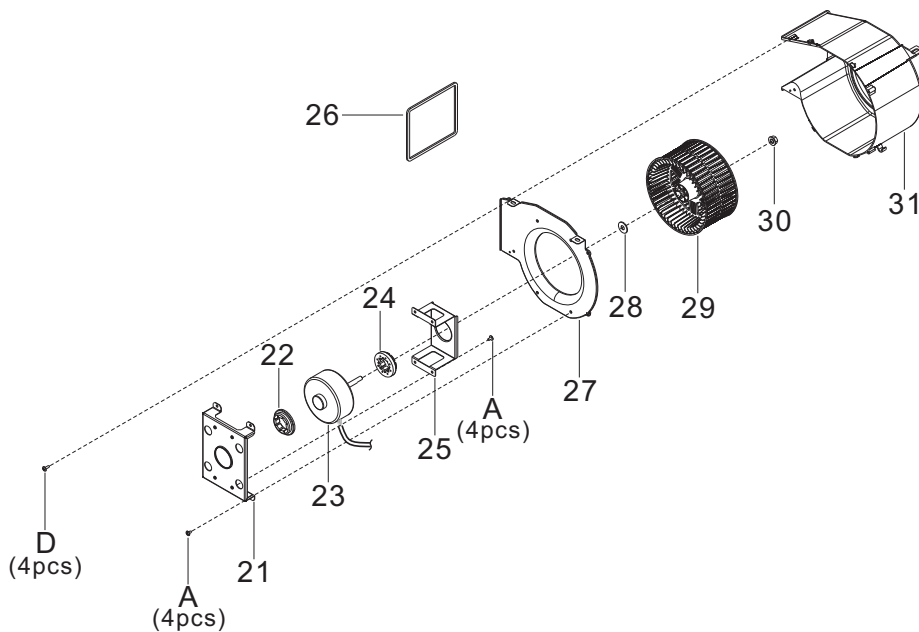
2. Parts Identification

FV-10VEC1

Frame Body Assy



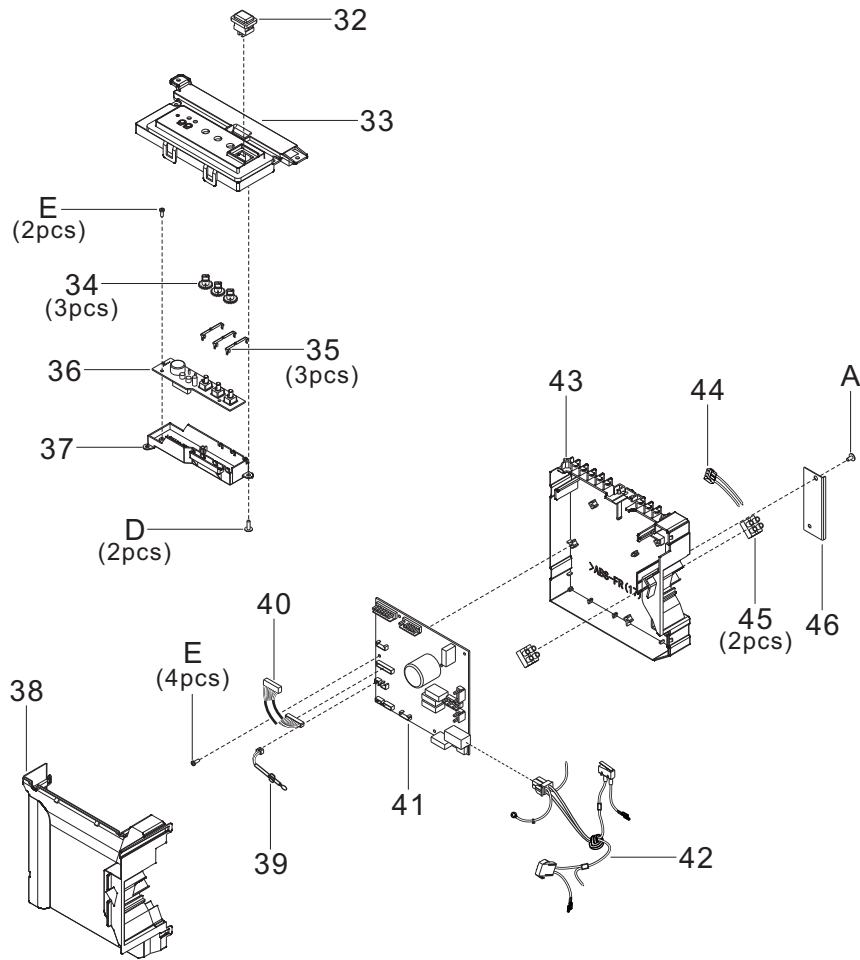
SA Fan Assy/EA Fan Assy



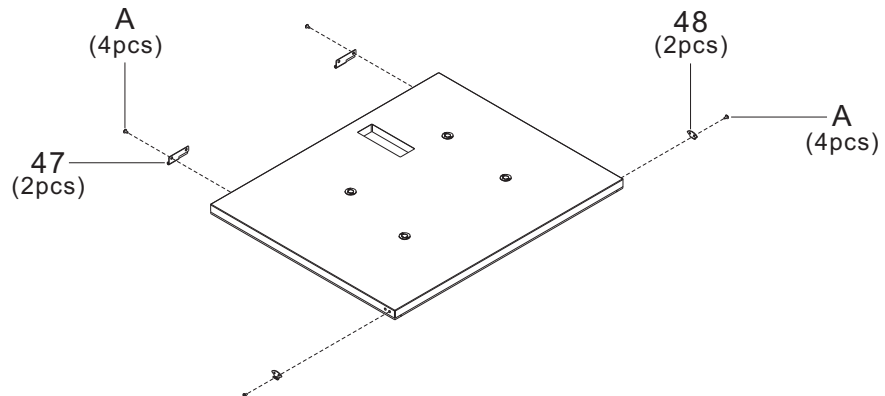
2. Parts Identification

FV-10VEC1

PCB Box Assy



Frame Cover Assy



2. Parts Identification

FV-10VEC1

Main Labels

⚠ WARNING

- ⚠ Electric shock may result. Disconnect power by switching off wall switch first, then main switch and unplug the power plug before working on unit. (Fig.1)
- ⚠ The installation direction should refer to Fig.2 (power cord upward) when wall mounting.

⚠ CAUTION

- ⚠ Routine maintenance must be performed every 2 or 3 months, clogged filters may cause condensation on the unit due to air flow reduction.
- ⚠ Please wear gloves to avoid pinching fingers during maintenance.
- ⚠ Please pay attention to dust, condensation water or parts that may drop down when the cover is opened.

MAINTENANCE PROCEDURE

1. Open the frame cover by unlocking the latches. If not convenient for maintenance you also can turn the lock plate 90° and remove the frame cover. (Fig.3)
2. Remove OA filter and RA filter to clean with vacuum cleaner. (Fig.4)
3. Clean energy recovery core with vacuum cleaner. (Fig.5)
4. Install OA filter and RA filter. Make sure the RA filter should match to the convex and the direction of arrow on OA filter should be same with air flow direction that display on the nearby label. (Fig.6)
5. Install and close frame cover by locking the latches then reset the lock plate. (Fig.7)
6. Connect power, press filter reset button with sound of "Pl-", then filter indicator and buzzer sound will be off. (Fig.8)

⚠ MISES EN GARDE

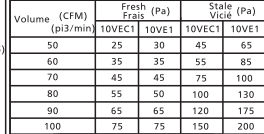
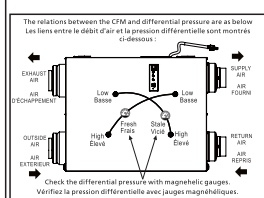
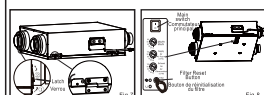
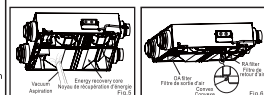
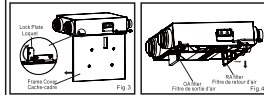
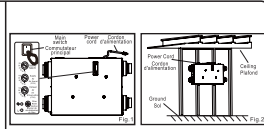
- ⚠ Un choc électrique risque de se produire. Coupez l'alimentation en désactivant en premier l'interrupteur mural, puis l'interrupteur principal et débranchez la fiche d'alimentation avant d'utiliser l'appareil. (Fig.1)
- ⚠ Le sens d'installation doit se rapporter à la Fig.2 (cordon d'alimentation orienté vers le haut) lors de la fixation murale.

⚠ ATTENTION

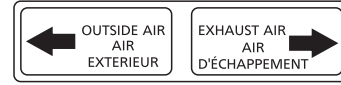
- ⚠ Une maintenance périodique doit être réalisée tous les 2 à 3 mois, car des filtres obstrués peuvent entraîner de la condensation dans l'unité à cause de la réduction du flux d'air.
- ⚠ Veuillez porter des gants pour éviter de vous pincer les doigts pendant la maintenance.
- ⚠ Veuillez faire attention à la poussière, à la condensation ou aux pièces qui pourraient tomber lorsque vous ouvrez le couvercle.

PROCÉDURE DE MAINTENANCE

1. Ouvrez le couvercle du cadre en déverrouillant les verrous. Si cela n'est pas pratique pour la maintenance, vous pouvez également tourner le loquet à 90° et retirer le couvercle. (Fig.3)
2. Enlevez les filtres de sortie et de retour d'air et nettoyez-les avec un aspirateur. (Fig.4)
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5. Réinstallez le cache-cadre puis verrouillez les verrous et réinitialisez la plaque de verrouillage. (Fig.7)
6. Branchez l'appareil, appuyez sur le bouton de réinitialisation avec le son "Pl-", le voyant du filtre et le son seront désactivés. (Fig.8)



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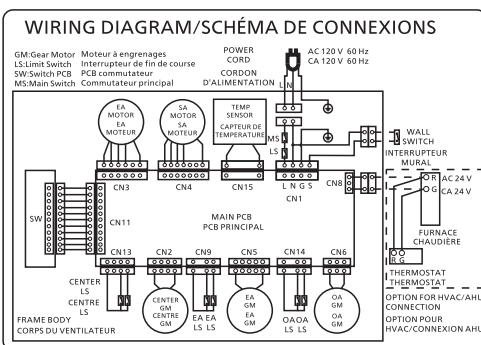
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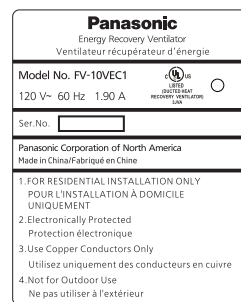
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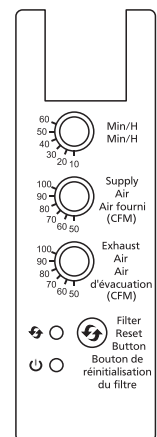
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WARNING ELECTRICAL CORDS CAN BE HAZARDOUS

1. Misuse Can Result in Fire or Death;
2. Cord Shall be Secured Out of the Way;
3. Avoid Overheating. Uncoil Cord and Do Not Cover It With Any Material;
4. Do not Walk on Cord;

AVERTISSEMENT LES CORDONS ELECTRIQUES PEUVENT ETRE DANGEREUX

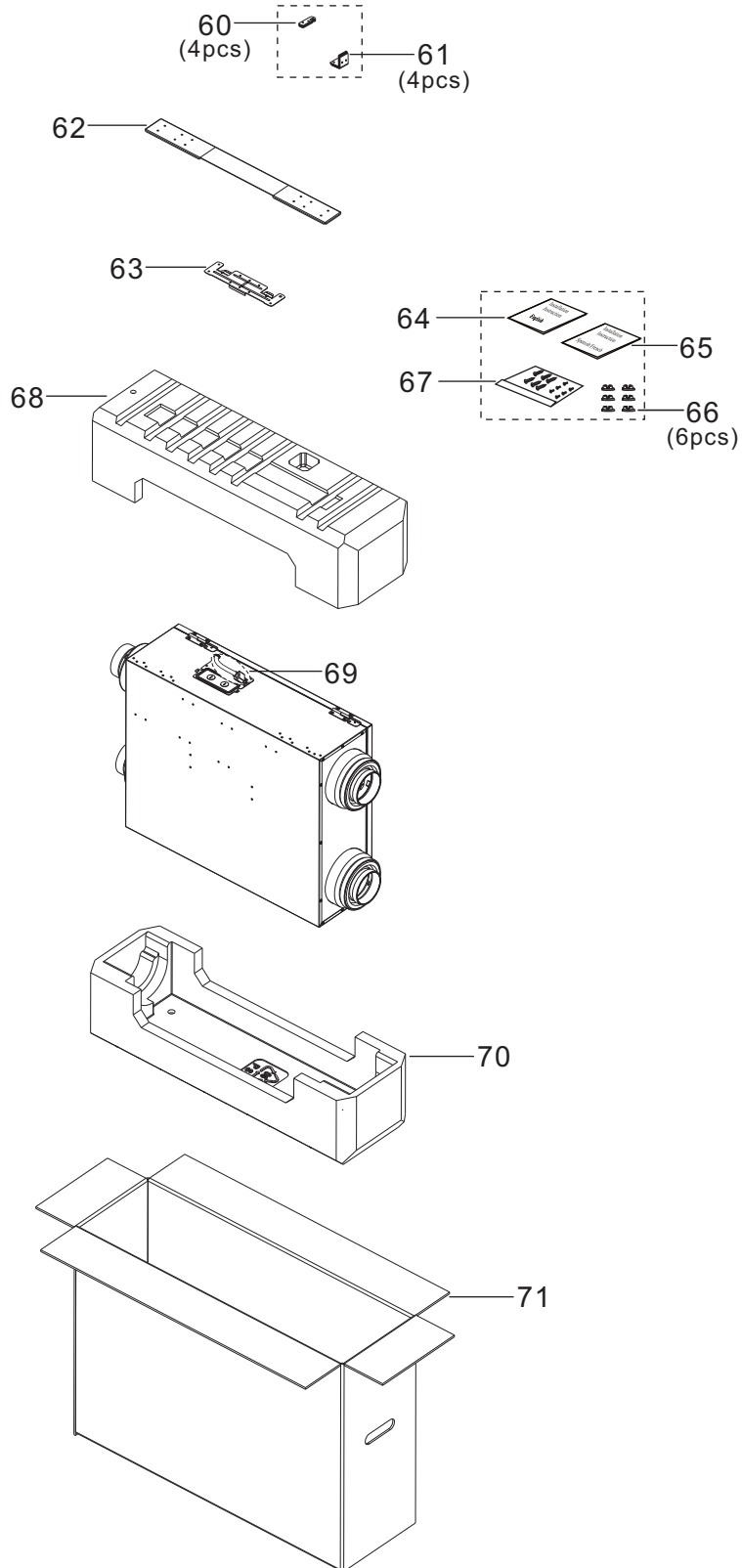
1. Une mauvaise utilisation peut causer un incendie ou la mort;
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2. Parts Identification

FV-10VEC1

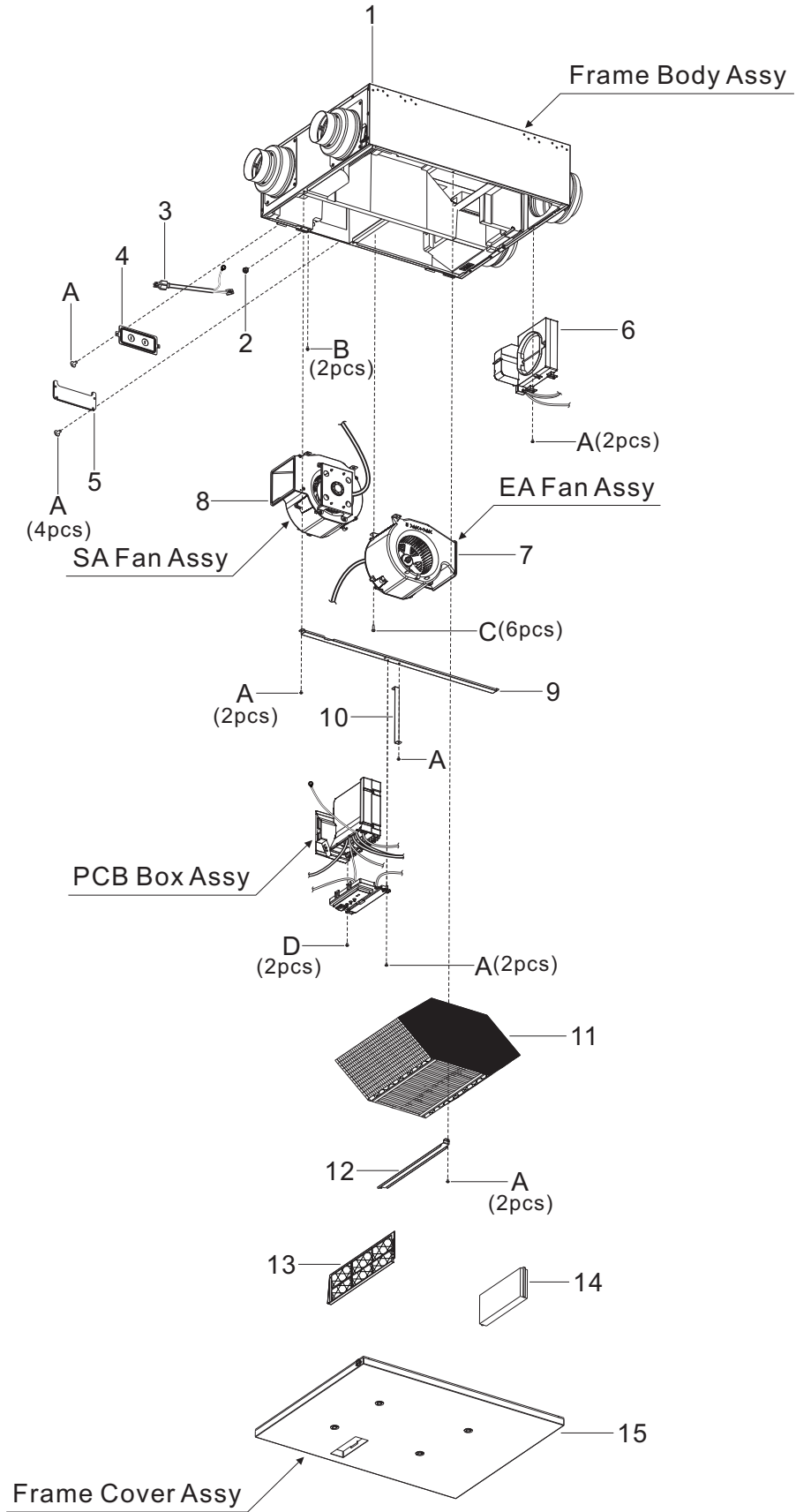
Packing Case Assy



2. Parts Identification

FV-10VE1

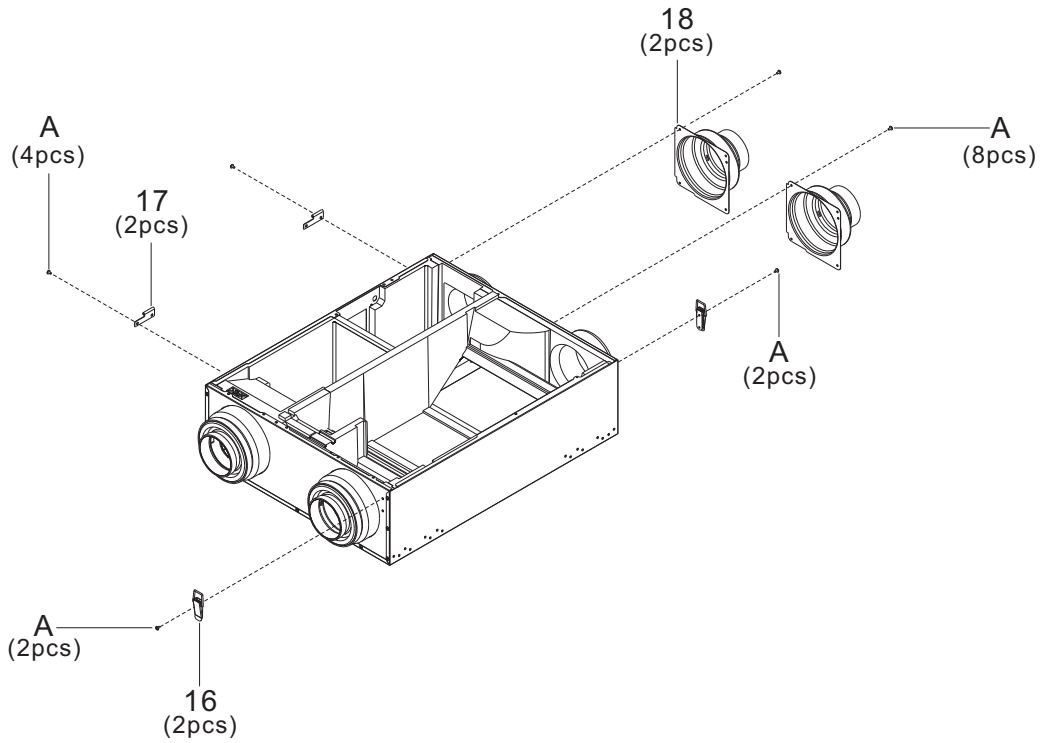
Main Body Section



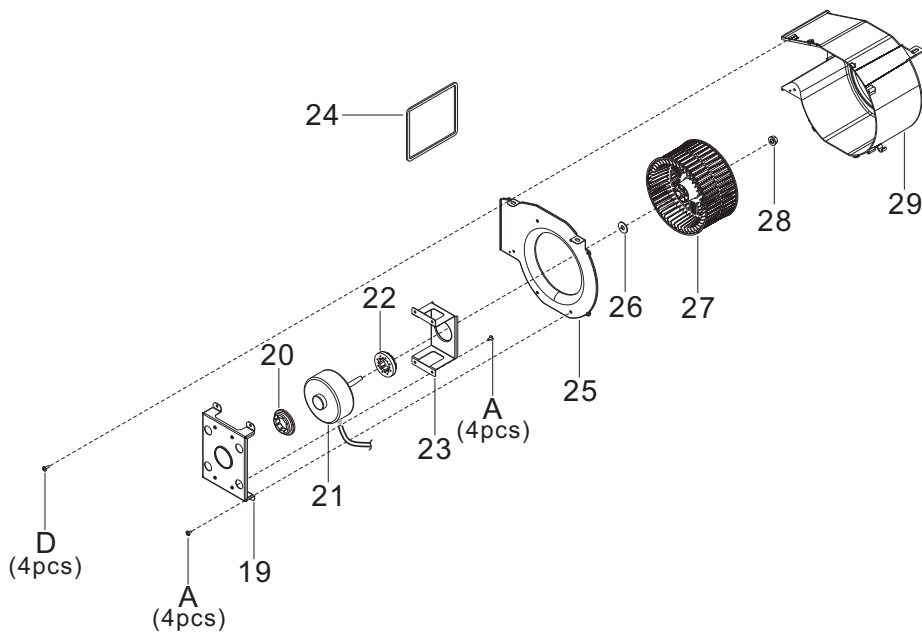
2. Parts Identification

FV-10VE1

Frame Body Assy



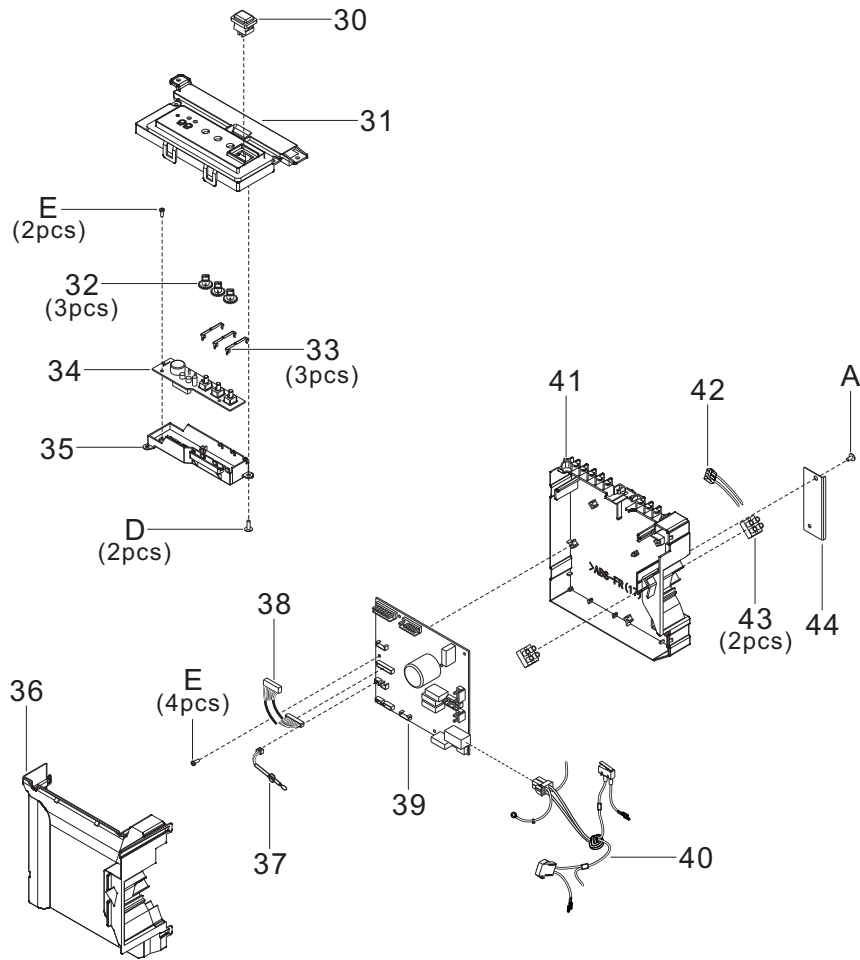
SA Fan Assy/EA Fan Assy



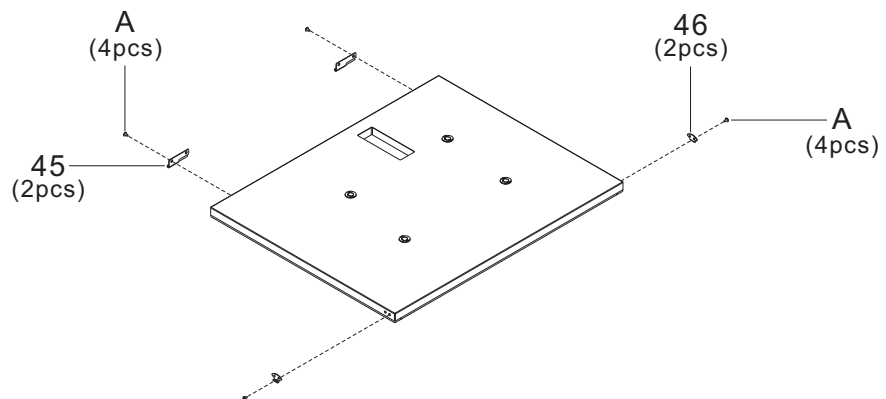
2. Parts Identification

FV-10VE1

PCB Box Assy



Frame Cover Assy



2. Parts Identification

FV-10VE1

Main Labels

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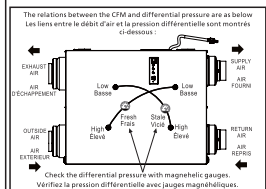
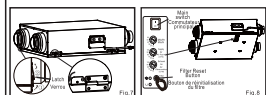
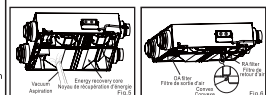
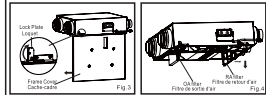
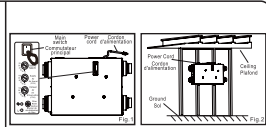
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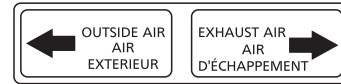
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6. Branchez l'appareil, appuyez sur le bouton de réinitialisation avec le son "Pl-", le voyant du filtre et le son seront désactivés. (Fig.8)



Volume (CFM) (pi³/min)	Fresh (Pa) Frais		Stale (Pa) Vicié	
	10VECT1	10VE1	10VECT1	10VE1
50	25	30	45	65
60	35	35	55	85
70	45	45	75	100
80	55	50	100 </td <td>130</td>	130
90	65	65	120	175
100	75	75	150	200

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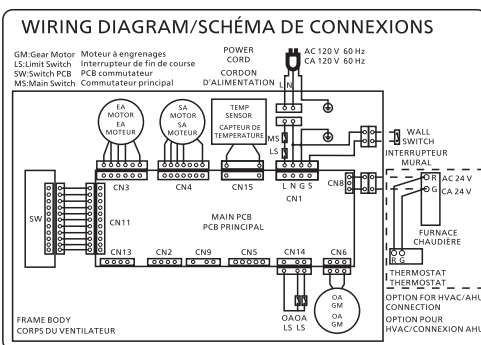
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Panasonic
Energy Recovery Ventilator
Ventilateur récupérateur d'énergie

Model No. FV-10VE1
120 V- 60 Hz 1.50 A

Ser. No. _____

Panasonic Corporation of North America
Made in China/Fabrique en Chine

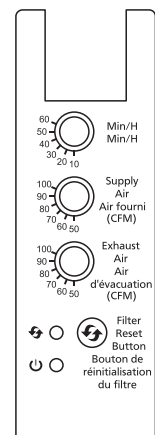
1. FOR RESIDENTIAL INSTALLATION ONLY
POUR L'INSTALLATION À DOMICILE
UNIQUEMENT

2. Electronically Protected
Protection électronique

3. Use Copper Conductors Only
Utilisez uniquement des conducteurs en cuivre

4. Not for Outdoor Use
Ne pas utiliser à l'extérieur

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⚠ WARNING ELECTRICAL CORDS CAN BE HAZARDOUS

1. Misuse Can Result in Fire or Death;
2. Cord Shall be Secured Out of the Way;
3. Avoid Overheating. Uncoil Cord and Do Not Cover It With Any Material;
4. Do not Walk on Cord;

⚠ AVERTISSEMENT LES CORDONS ÉLECTRIQUES PEUVENT ÊTRE DANGEREUX

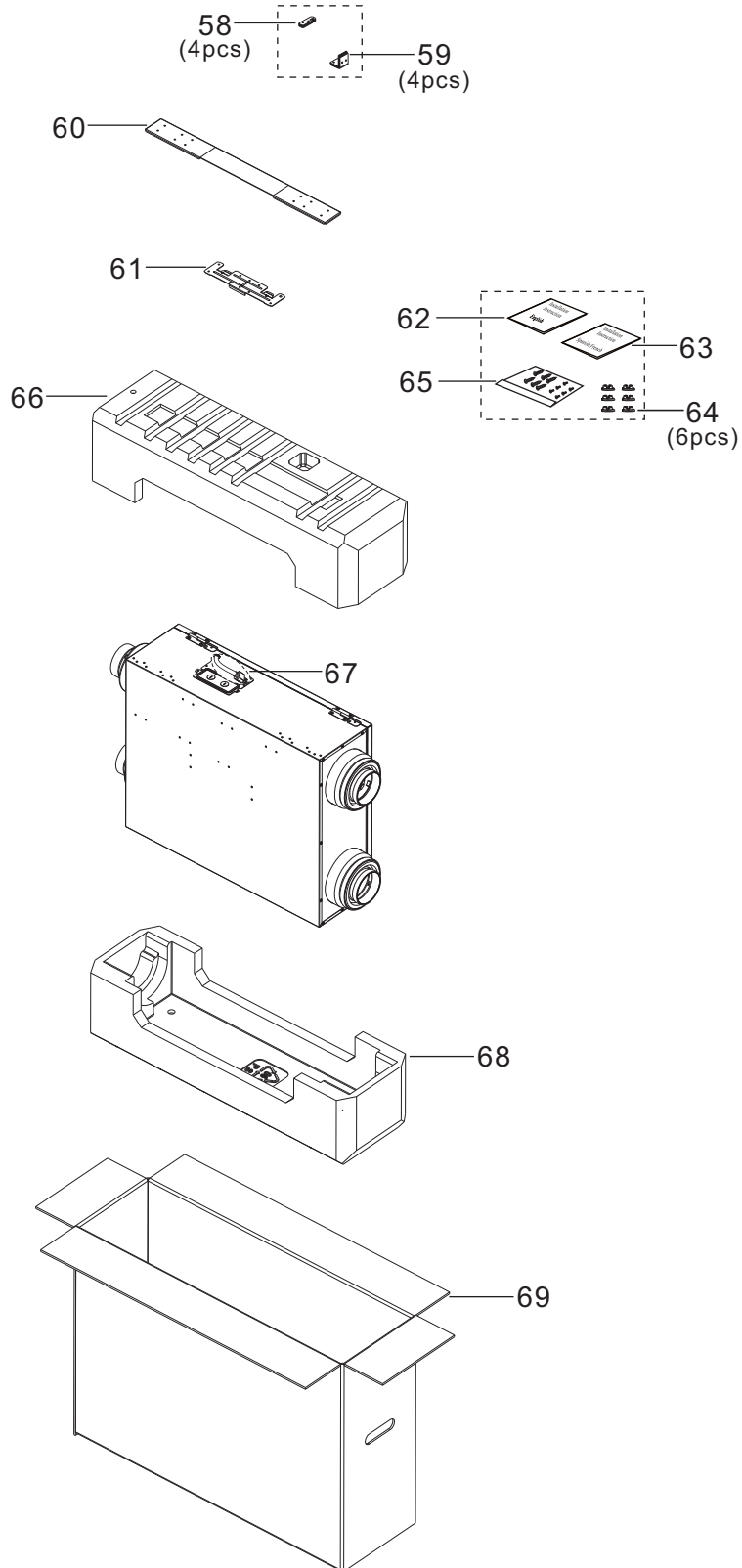
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2. Parts Identification

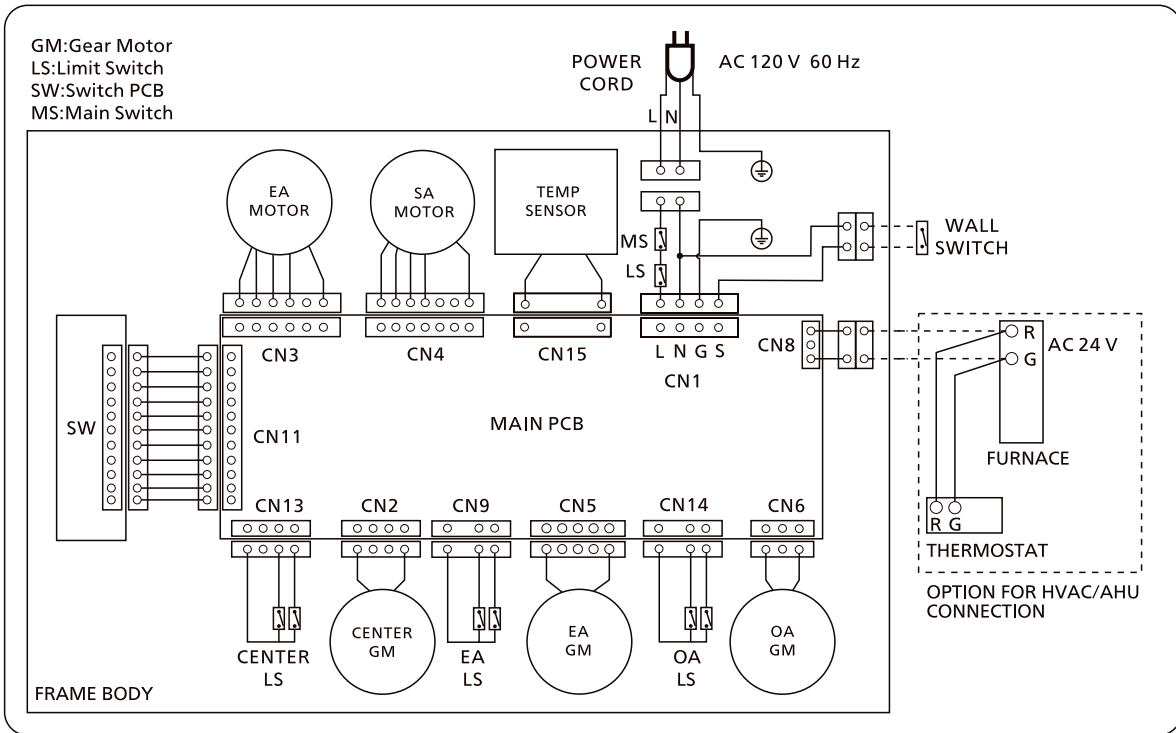
FV-10VE1

Packing Case Assy

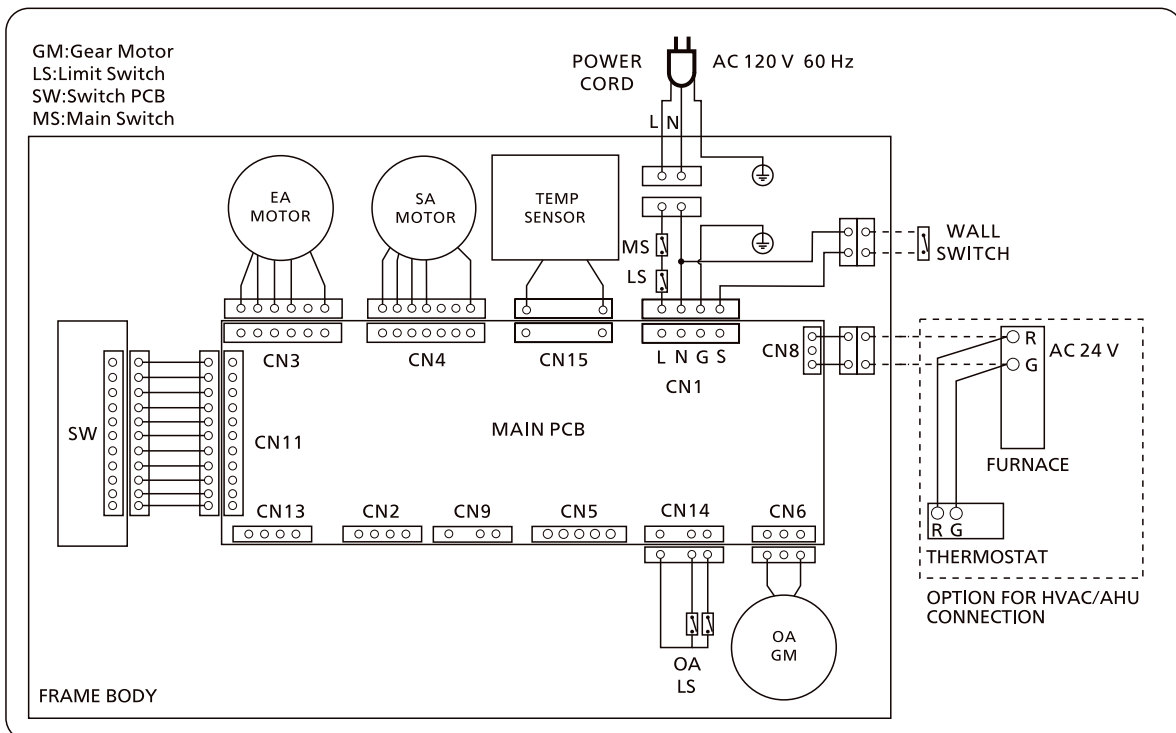


3. Wiring diagram

FV-10VEC1



FV-10VE1



4. Parts List

FV-10VEC1

Main Body Section

No.	Part No.	Part Name	Q'ty	Remark
1	FFV1600152S	Frame Body Assy	1	
2	FFV0720012S	Cord Bushing	1	
3	FFV4620115S	Power Cord	1	⚠
4	FFV6710047S	Wiring Cover	1	
5	FFV3740038S	Maintenance Plate	1	
6	FFV4300151S	OA Damper Assy	1	Include Temperature Sensor ⚠
7	FFV3402188S	EA Damper Assy	1	⚠
8	FFV4710407S	Center Damper Assy	1	⚠
9	FFV3402189S	EA Fan Assy	1	⚠
10	FFV3702280S	SA Fan Assy	1	⚠
11	FFV1600153S	Frame Bracket Assy	1	
12	FFV1600154S	Frame Bracket Hook	1	
13	FFV3402190S	Element Assy	1	
14	FFV3402191S	Element Holder	1	
15	FFV6730102S	RA Filter	1	
16	FFV4300152S	OA Filter M8	1	
17	FFV1600155S	Frame Cover Assy	1	
A	FFV7000074S	Truss Tap Screw	17	
B	FFV7030008S	Pan Screw	2	⚠
C	FFV7000224S	PS Screw	6	
D	FFV7000089S	Truss Tap Screw	2	

Frame Body Assy

No.	Part No.	Part Name	Q'ty	Remark
18	FFV3440021S	Latch	2	
19	FFV2220075S	Hinge B	2	
20	FFV0000163S	Adapter	2	
A	FFV7000074S	Truss Tap Screw	16	

SA Fan Assy/EA Fan Assy

No.	Part No.	Part Name	Q'ty	Remark
21	FFV3730127S	Motor Holder Plate	1	
22	FFV2230022S	Holder Gum(B)	1	
23	FFV3402192S	EA Motor Assy	1	⚠
(23)	FFV3702281S	SA Motor Assy	1	⚠
24	FFV2230023S	Holder Gum(A)	1	
25	FFV3730128S	Motor Holder	1	
26	FFV4710408S	Casing Packing	1	
27	FFV3730129S	Motor Base	1	
28	FFV7010055S	Washer	1	

4. Parts List

FV-10VEC1

SA Fan Assy/EA Fan Assy

No.	Part No.	Part Name	Q'ty	Remark
29	FFV1610079S	Fan Assy	1	
30	FFV7020022S	Nut	1	
31	FFV4710409S	Casing	1	
A	FFV7000074S	Truss Tap Screw	8	
D	FFV7000089S	Truss Tap Screw	4	

PCB Box Assy

No.	Part No.	Part Name	Q'ty	Remark
32	FFV5580017S	Switch Assy	1	⚠
33	FFV5580016S	Switch PCB Cover Assy	1	
34	FFV5580010S	Switch Knob	3	
35	FFV5580011S	Switch Spring	3	
36	FFV5580018S	Switch PCB Assy	1	⚠
37	FFV5580019S	Switch PCB Box Assy	1	
38	FFV4690025S	PCB Cover	1	
39	FFV5820037S	Temperature Sensor	1	⚠
40	FFV5580020S	Switch PCB Wire	1	⚠
41	FFV3740039S	Main PCB Assy	1	⚠
42	FFV4690026S	Power Connect Wire	1	⚠
43	FFV4690027S	PCB Box	1	
44	FFV0000164S	AHU Wire	1	⚠
45	FFV5820038S	Terminal	2	⚠
46	FFV4690028S	Partition Plate	1	
A	FFV7000074S	Truss Tap Screw	1	
D	FFV7000089S	Truss Tap Screw	2	
E	FFV7000102S	Pan Tap Screw	6	

Frame Cover Assy

No.	Part No.	Part Name	Q'ty	Remark
47	FFV2220076S	Hinge A	2	
48	FFV3440022S	Latch Base	2	
A	FFV7000074S	Truss Tap Screw	8	

Main Labels

No.	Part No.	Part Name	Q'ty	Remark
49	FFV3740040S	Maintenance Label	1	
50	FFV3402193S	EA OA Adapter Label	1	
51	FFV6730103S	RA SA Adapter Label	1	
52	FFV5580021S	Wall Switch Label	1	

4. Parts List

FFV-10VEC1

Main Labels

No.	Part No.	Part Name	Q'ty	Remark
53	FFV0000165S	AHU Label	1	
54	FFV3402194S	Earth Label	1	
55	FFV0020003S	Air Flow Arrow	1	
56	FFV6710048S	Wiring Label	1	
57	FFV4020861S	Name Plate	1	
58	FFV5580022S	Switch Label	1	
59	FFV4690029S	Power Cord Label	1	

Packing Case Assy

No.	Part No.	Part Name	Q'ty	Remark
60	FFV4710410S	Ceiling Inst. Plate	4	
61	FFV3440023S	L Plate	4	
62	FFV6710049S	Wall Install Bracket	1	
63	FFV2220077S	Hanger	1	
64	FFV2540201S	Installation Instructions	1	English,
65	FFV2540202S	Installation Instructions	1	Spanish,For USA Market.
(65)	FFV2540203S	Installation Instructions	1	French,For CA Market.
66	FFV5580023S	Screw Cover	6	
67	FFV0010253S	Accessory For Screws	1	
68	FFV4710411S	Packing Pad Top	1	
69	FFV4650038S	Poly Cover	1	
70	FFV4710412S	Packing Pad Bottom	1	
71	FFV9001227S	Packing Case Assy	1	

4. Parts List

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Main Body Section

No.	Part No.	Part Name	Q'ty	Remark
1	FFV1600156S	Frame Body Assy	1	
2	FFV0720012S	Cord Bushing	1	
3	FFV4620115S	Power Cord	1	⚠
4	FFV6710047S	Wiring Cover	1	
5	FFV3740038S	Maintenance Plate	1	
6	FFV4300151S	OA Damper Assy	1	Include Temperature Sensor ⚠
7	FFV3402189S	EA Fan Assy	1	⚠
8	FFV3702280S	SA Fan Assy	1	⚠
9	FFV1600153S	Frame Bracket Assy	1	
10	FFV1600154S	Frame Bracket Hook	1	
11	FFV3402190S	Element Assy	1	
12	FFV3402191S	Element Holder	1	
13	FFV6730102S	RA Filter	1	
14	FFV4300152S	OA Filter M8	1	
15	FFV1600155S	Frame Cover Assy	1	
A	FFV7000074S	Truss Tap Screw	14	
B	FFV7030008S	Pan Screw	2	⚠
C	FFV7000224S	PS Screw	6	
D	FFV7000089S	Truss Tap Screw	2	

Frame Body Assy

No.	Part No.	Part Name	Q'ty	Remark
16	FFV3440021S	Latch	2	
17	FFV2220075S	Hinge B	2	
18	FFV0000163S	Adapter	2	
A	FFV7000074S	Truss Tap Screw	16	

SA Fan Assy/EA Fan Assy

No.	Part No.	Part Name	Q'ty	Remark
19	FFV3730127S	Motor Holder Plate	1	
20	FFV2230022S	Holder Gum(B)	1	
21	FFV3402192S	EA Motor Assy	1	⚠
(21)	FFV3702281S	SA Motor Assy	1	⚠
22	FFV2230023S	Holder Gum(A)	1	
23	FFV3730128S	Motor Holder	1	
24	FFV4710408S	Casing Packing	1	
25	FFV3730129S	Motor Base	1	
26	FFV7010055S	Washer	1	
27	FFV1610079S	Fan Assy	1	
28	FFV7020022S	Nut	1	

4. Parts List

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SA Fan Assy/EA Fan Assy

No.	Part No.	Part Name	Q'ty	Remark
29	FFV4710409S	Casing	1	
A	FFV7000074S	Truss Tap Screw	8	
D	FFV7000089S	Truss Tap Screw	4	

PCB Box Assy

No.	Part No.	Part Name	Q'ty	Remark
30	FFV5580017S	Switch Assy	1	⚠
31	FFV5580016S	Switch PCB Cover Assy	1	
32	FFV5580010S	Switch Knob	3	
33	FFV5580011S	Switch Spring	3	
34	FFV5580018S	Switch PCB Assy	1	⚠
35	FFV5580019S	Switch PCB Box Assy	1	
36	FFV4690025S	PCB Cover	1	
37	FFV5820037S	Temperature Sensor	1	⚠
38	FFV5580020S	Switch PCB Wire	1	⚠
39	FFV3740039S	Main PCB Assy	1	⚠
40	FFV4690026S	Power Connect Wire	1	⚠
41	FFV4690027S	PCB Box	1	
42	FFV0000164S	AHU Wire	1	⚠
43	FFV5820038S	Terminal	2	⚠
44	FFV4690028S	Partition Plate	1	
A	FFV7000074S	Truss Tap Screw	1	
D	FFV7000089S	Truss Tap Screw	2	
E	FFV7000102S	Pan Tap Screw	6	

Frame Cover Assy

No.	Part No.	Part Name	Q'ty	Remark
45	FFV2220076S	Hinge A	2	
46	FFV3440022S	Latch Base	2	
A	FFV7000074S	Truss Tap Screw	8	

Main Labels

No.	Part No.	Part Name	Q'ty	Remark
47	FFV3740040S	Maintenance Label	1	
48	FFV3402193S	EA OA Adapter Label	1	
49	FFV6730103S	RA SA Adapter Label	1	
50	FFV5580021S	Wall Switch Label	1	
51	FFV0000165S	AHU Label	1	
52	FFV3402194S	Earth Label	1	

4. Parts List

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Main Labels

No.	Part No.	Part Name	Q'ty	Remark
53	FFV0020003S	Air Flow Arrow	1	
54	FFV6710050S	Wiring Label	1	
55	FFV4020862S	Name Plate	1	
56	FFV5580022S	Switch Label	1	
57	FFV4690029S	Power Cord Label	1	

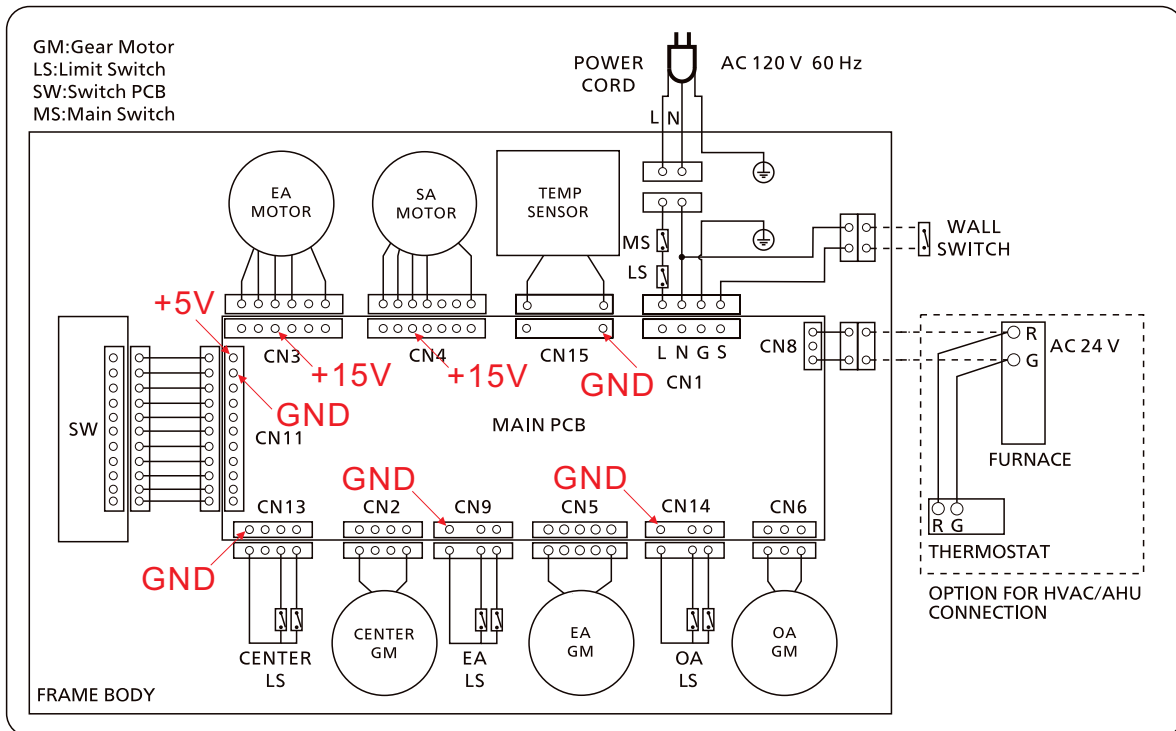
Packing Case Assy

No.	Part No.	Part Name	Q'ty	Remark
58	FFV4710410S	Ceiling Inst. Plate	4	
59	FFV3440023S	L Plate	4	
60	FFV6710049S	Wall Install Bracket	1	
61	FFV2220077S	Hanger	1	
62	FFV2540201S	Installation Instructions	1	English,
63	FFV2540202S	Installation Instructions	1	Spanish,For USA Market.
(63)	FFV2540203S	Installation Instructions	1	French,For CA Market.
64	FFV5580023S	Screw Cover	6	
65	FFV0010253S	Accessory For Screws	1	
66	FFV4710411S	Packing Pad Top	1	
67	FFV4650038S	Poly Cover	1	
68	FFV4710412S	Packing Pad Bottom	1	
69	FFV9001228S	Packing Case Assy	1	

5. Troubleshooting Guide

FV-10VEC1

The output voltage of the circuit assy terminal is used for checking when machine detected.



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