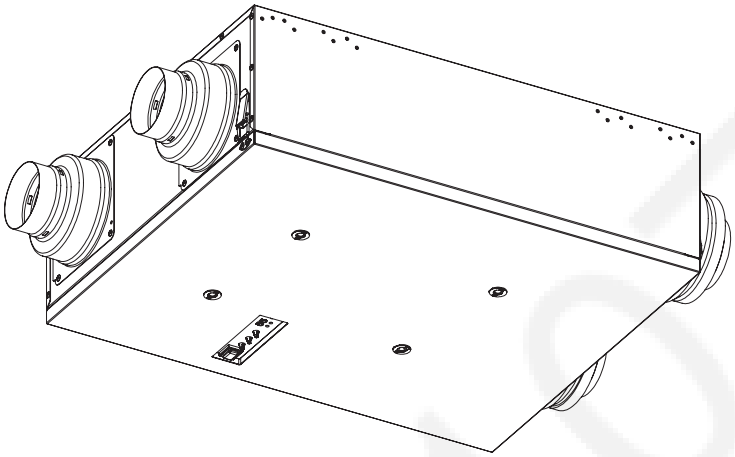
PESMX23110002CE
Version:2302

Service Manual

Energy Recovery Ventilator

FV-10VEC2



⚠ 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 individual of potential dangers in attempting to service a product. Products powered by electricity should be serviced o 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 Part List. It is essential that these critical parts are replaced with manufacturer´s specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission the manufacturer.
We suggest to handles such parts after the static electricity prevention.
It is forbidden to touch the PCB parts by bare hands during the repairing process.

CONTENTS

Panasonic®

1. Specifications

<Ventilation Performance>

Model No.	Air direction	Voltage (V)	Frequency (Hz)	Duct	Static pressure	Net air flow (CFM)		Power consumption (W)	Weight lb.(y)
						Exhaust	Supply	Fan unit	
FV-10VEC2	Exhaust & Supply	120	60	4"/6"	0.1"WG	100	100	81	50 (22.4)
					0.4"WG	100	100	90	

<Energy Performance>

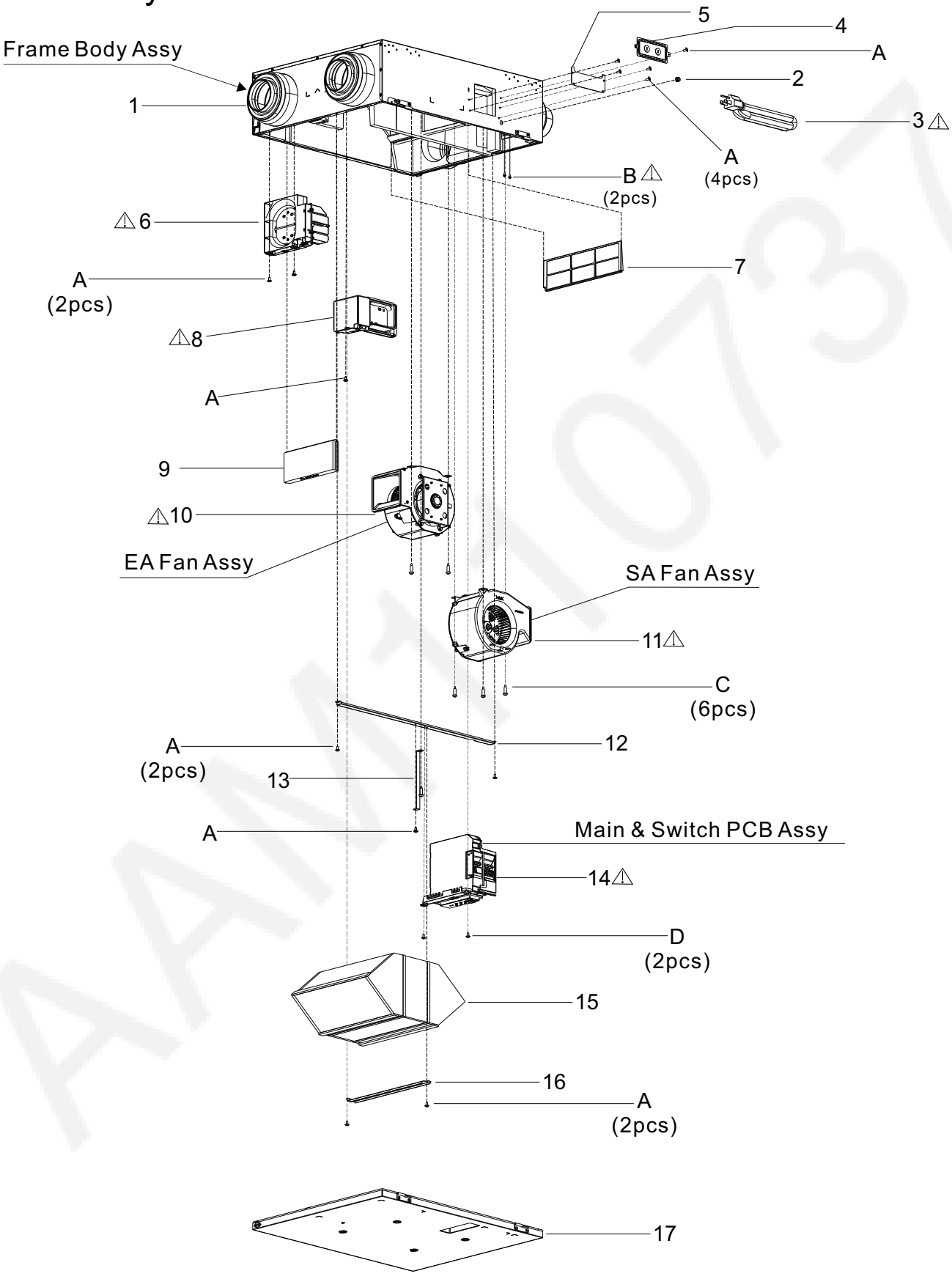
Model No.	Mode	Supply temperature		Net air flow		Power consumption (W)	Sensible recovery efficiency	Apparent sensible effectiveness	Net moisture transfer
		°F	°C	L/s	CFM				
FV-10VEC2	Heating	32	0	25	53	29	80%	83%	0.78
		32	0	31	66	39	77%	81%	0.74
		32	0	40	85	68	73%	77%	0.71
		-13	-25	27	57	77	65%	67%	0.71
		-13	-25	30	64	100	56%	60%	0.58
	Cooling						Total recovery efficiency		
		95	35	23	49	32	60%		
		95	35	31	66	42	55%		

The testing of the ventilation performance and the energy performance is in accordance with CSA-C439 standard.

2. Parts Identification

FV-10VEC2

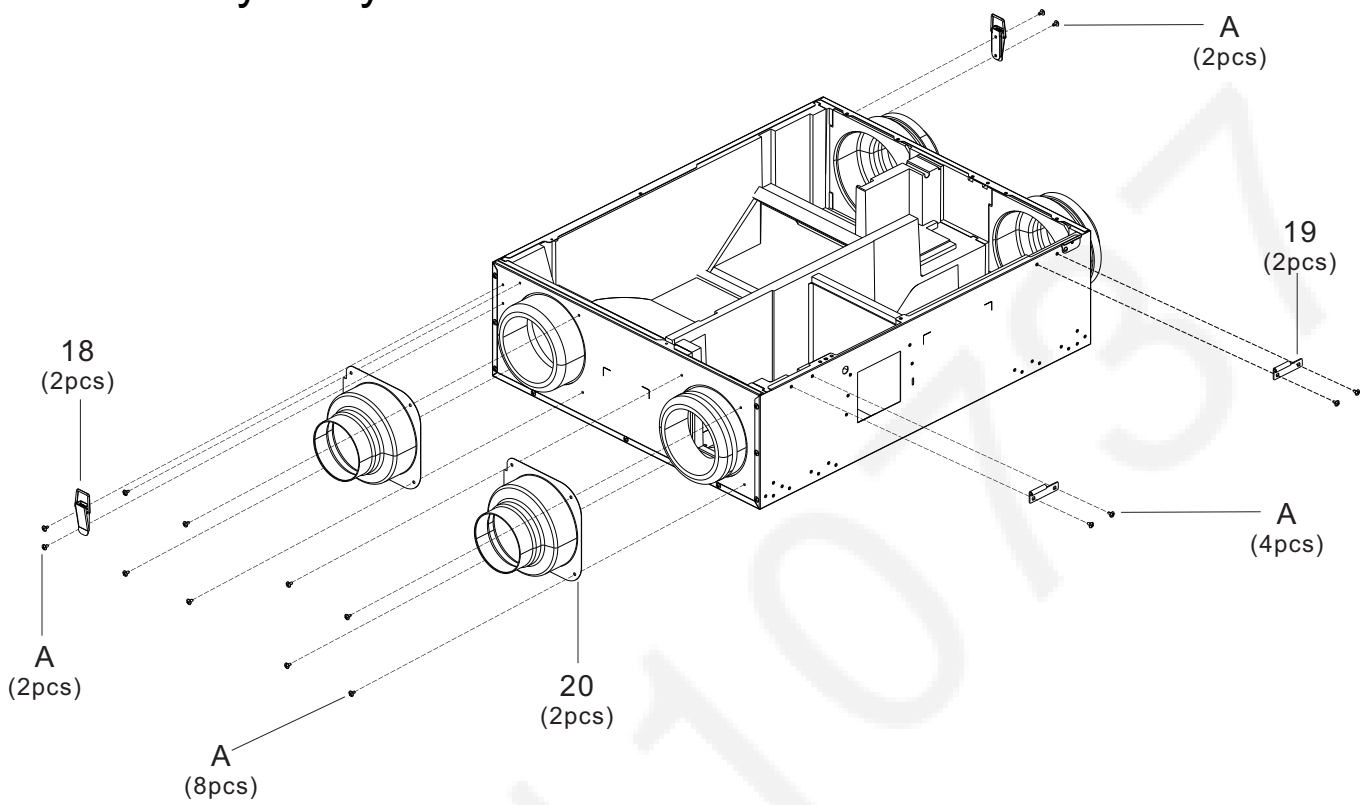
Main Body



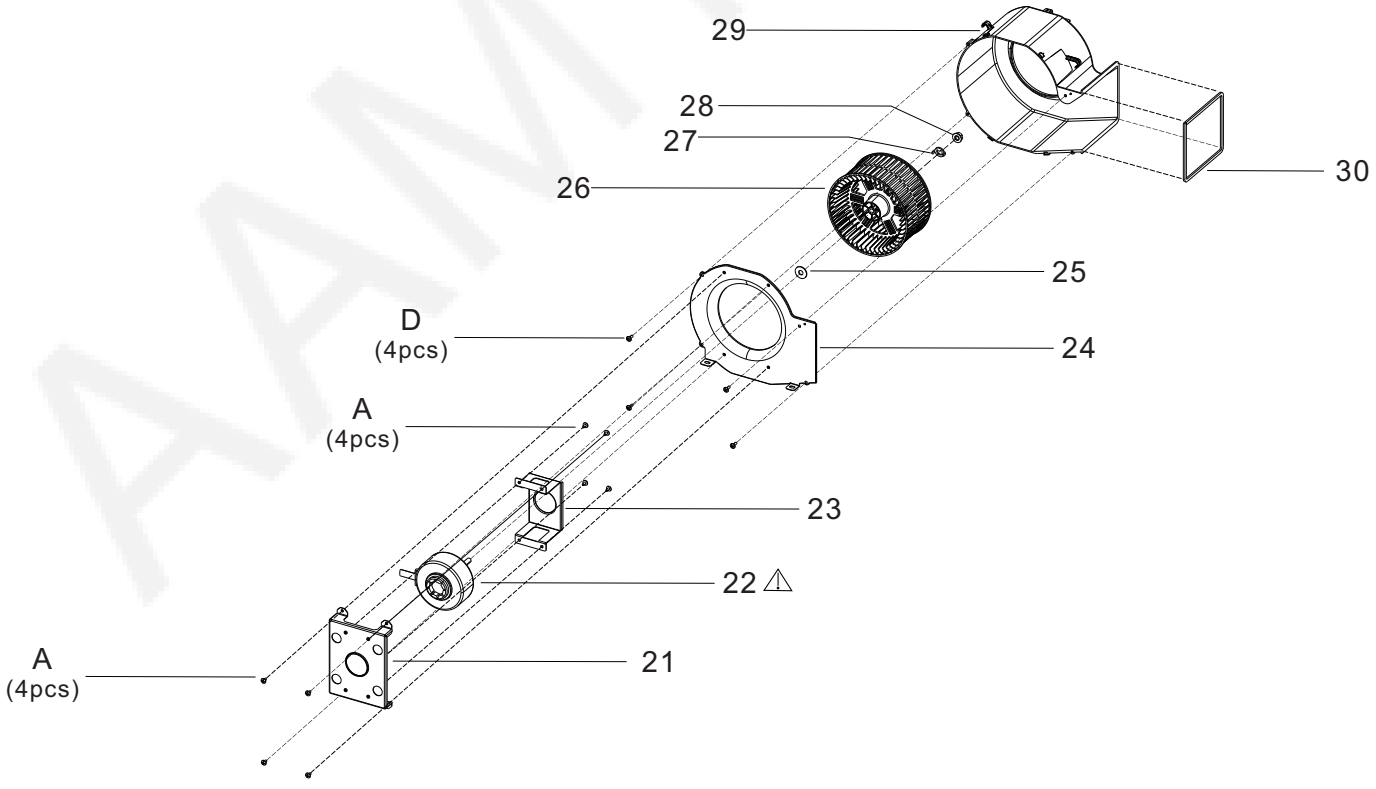
2. Parts Identification

FV-10VEC2

Frame Body Assy



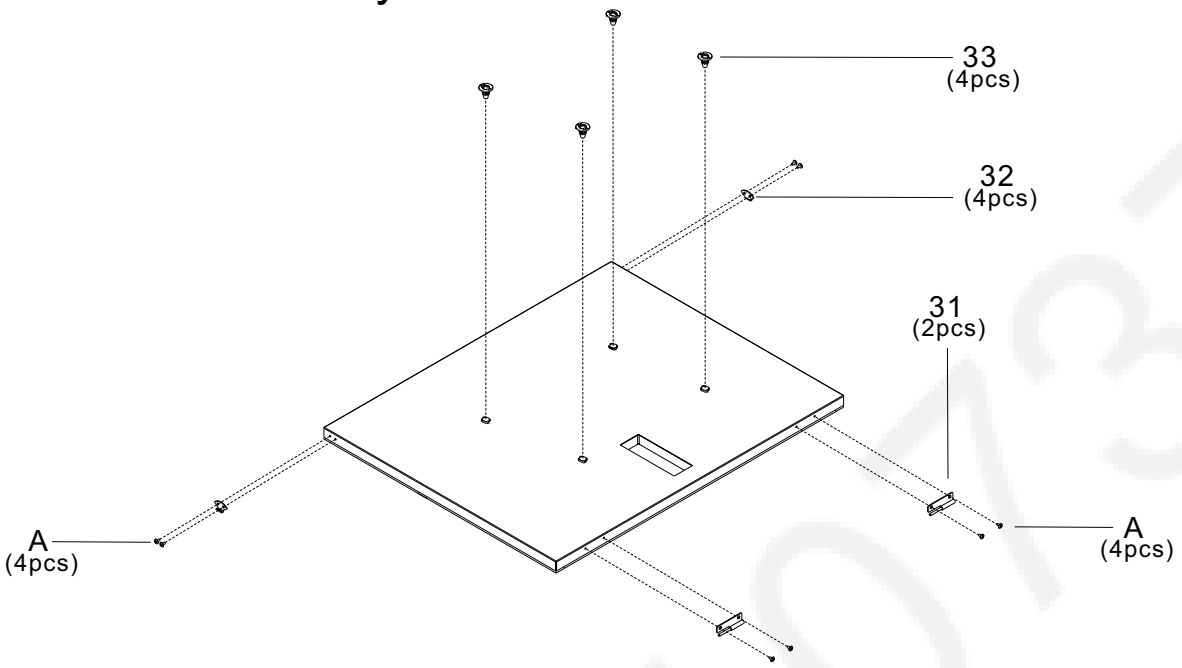
SA Fan Assy / EA Fan Assy



2. Parts Identification

FV-10VEC2

Frame Cover Assy



2. Parts Identification

FV-10VEC2

Packing Accessories

CAUTION

- Electric shock may result. Disconnect power by switching off main switch first, then unplug before working on unit when it is in default mode. (Fig.1)
- Electric shock may result. Disconnect power by switching off wall switch first, then main switch and unplug before working on unit when replacing the jumper cable with wall switch.
- The installation direction should refer to Fig.2 when wall mounting.
- 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

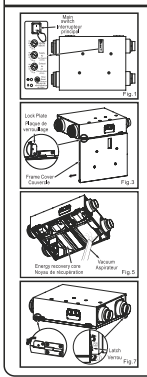
1. Open the frame cover by unlocking the latches. If not convenient for maintenance you also can turn the lock plate 90° and remove the frame cover. (Fig.3)
2. Remove OA filter and RA filter to clean with vacuum cleaner. (Fig.4)
3. Clean energy recovery core with vacuum cleaner. (Fig.5)
4. Replace the OA and RA filters. Make sure the RA filter adapts to the convex and the direction of the arrow on the OA filter is in the same direction as the air flow displayed on the nearby label. (Fig.6)
5. Reinstall 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 "beep" then filter indicator and buzzer sound will be off. (Fig.8)

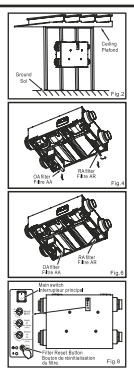
ATTENTION

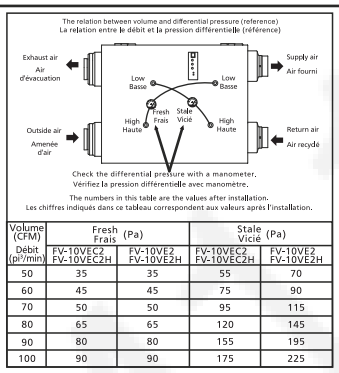
- Risque de choc électrique. Coupez l'alimentation avec l'interrupteur principal d'abord, puis débranchez avant de travailler sur l'appareil lorsqu'il est en mode par défaut. (Fig.1)
- Risque de choc électrique. Coupez l'alimentation avec l'interrupteur mural d'abord, puis l'interrupteur principal et débranchez avant de travailler sur l'appareil pour remplacer la connexion temporaire par un interrupteur mural.
- Le sens d'installation doit se rapporter à la Fig.2 lors de la fixation murale.
- Une maintenance périodique doit être réalisée tous les 2 à 3 mois, car des filtres obstrués peuvent entrainer 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 en déverrouillant les verrous. Si cela n'est pas pratique pour la maintenance, vous pouvez également tourner la plaque de verrouillage à 90°et retirer le couvercle. (Fig.3)
2. Enlevez les filtres AA et AR pour les nettoyer avec un aspirateur. (Fig.4)
3. Nettoyez le noyau de récupération avec un aspirateur. (Fig.5)
4. Replacez les filtres AA et AR. Assurez-vous que le filtre AR s'adapte au convexe et que le sens de la flèche sur le filtre AA est dans la direction du flux d'air affiché sur l'étiquette juste à côté. (Fig.6)
5. Réinstallez le couvercle puis verrouillez les verrous et fermez la plaque de verrouillage. (Fig.7)
6. Branchez l'appareil, appuyez sur le bouton de réinitialisation, un bip "beep" se fait entendre. le voyant du filtre et le son sont désactivés. (Fig.8)







The numbers in this table are the values after installation.
Les chiffres indiqués dans ce tableau correspondent aux valeurs après l'installation.

Volume (CFM) Débit (pi³/min)	Fresh Frais (Pa) FV-10VEC2 FV-10VEC2H	Fresh Frais (Pa) FV-10VE2 FV-10VE2H	Stale Vicié (Pa) FV-10VEC2 FV-10VEC2H	Stale Vicié (Pa) FV-10VE2 FV-10VE2H
50	35	35	55	70
60	45	45	75	90
70	50	50	95	115
80	65	65	120	145
90	80	80	155	195
100	90	90	175	225

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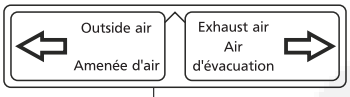

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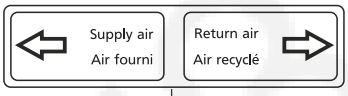

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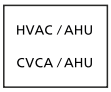

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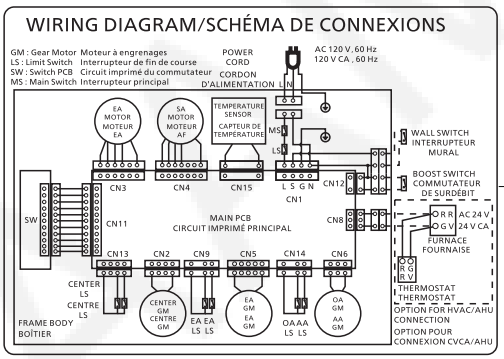

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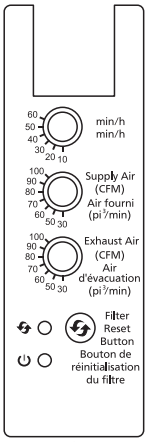

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WARNING ELECTRICAL CORDS CAN BE HAZARDOUS	AVERTISSEMENT LES CORDONS ELECTRIQUES PEUVENT ETRE DANGEREUX
1. Misuse Can Result in Fire or Death; 2. Cord Shall be Secured Out of the Way; 3. Avoid Overheating. Uncoil Cord and Do Not Cover It With Any Material; 4. Do not Walk on Cord;	1. Une mauvaise utilisation peut causer un incendie ou la mort ; 2. Le cordon doit être bien fixé à l'abri du passage ; 3. Évitez la surchauffe. Déroulez le cordon et ne le couvrez pas avec d'autres matériaux ; 4. Ne marchez pas sur le cordon ;

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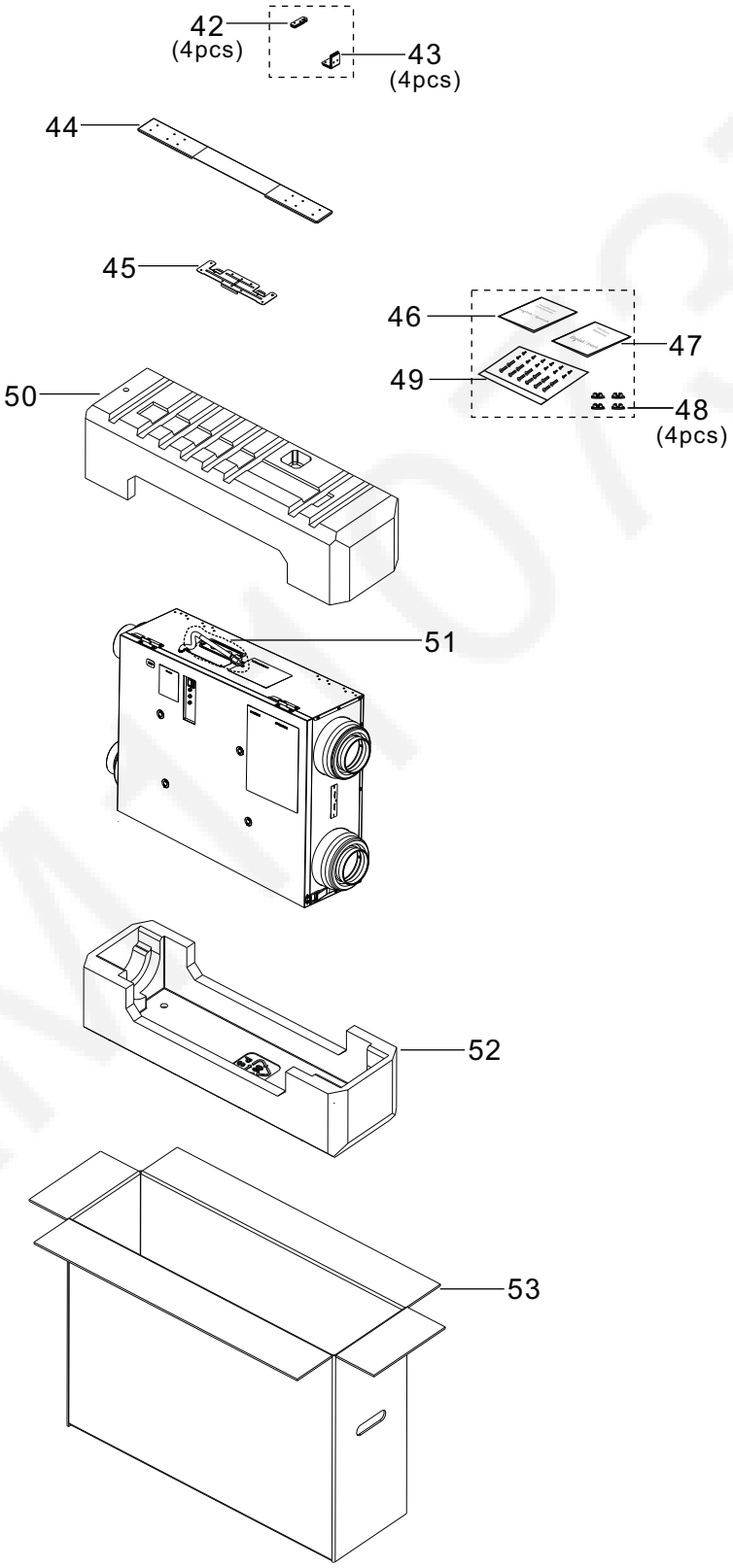
2. Parts Identification

FV-10VEC2

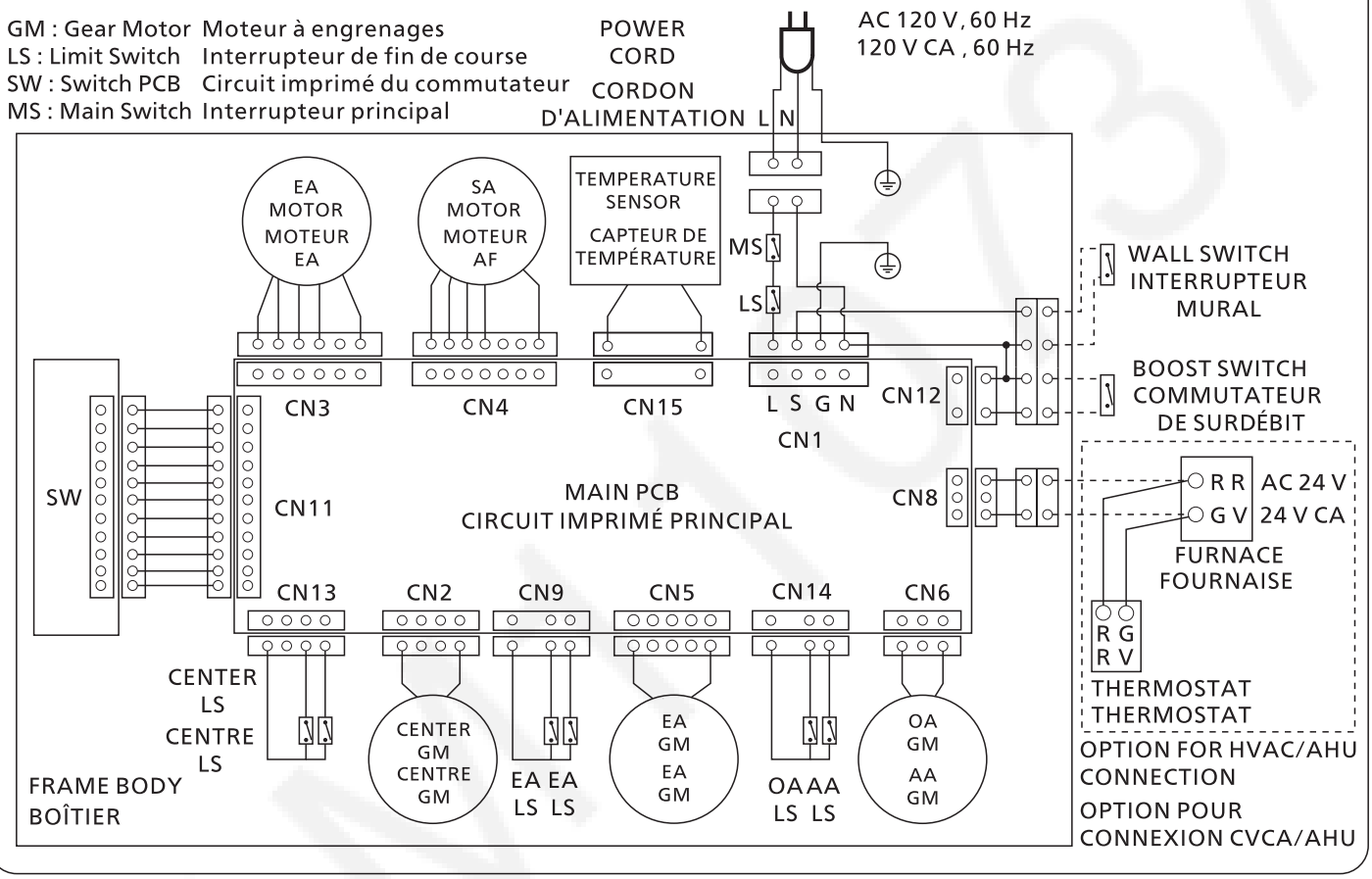
Packing Case



3. Wiring diagram

FV-10VEC2

WIRING DIAGRAM/SCHÉMA DE CONNEXIONS



4. Troubleshooting

If a problem is encountered, please investigate it by going through the following items.
If the problem still persists, please disconnect the power and contact the dealer for repair.

Problem	Display		Action
	Running indicator (Green)	Filter indicator (Red)	
1.The ERV doesn't work.	Off	Off	■ Check the power cord is connected. ■ Check the frame cover is closed. ■ Check the main switch in product body is on. ■ Check if the spring on the inside of frame cover is damaged or deformed.
	On	Off	■ ERV running interval according to the ASHRAE time setting. ■ When outdoor temperature is low (-22 ° F (-30 ° C), ERV stops operating automatically. ■ Damper may be frozen shut, please wait for maximum 24 hours for defrosting.
2.The HVAC/AHU doesn't work when ERV works.	On	Off	■ Please disconnect the power and contact the dealer to check the HVAC/AHU wiring connect.
3.Buzzer sound (10 sec in a hour) and ERV works.	On	On	■ The RA filter and OA filter need to be maintained. If you do not want the buzzer notification, please long press the filter reset button for 3 sec to cancel it.
4.Buzzer sound (30 sec in a hour) and ERV doesn't work.	Blink* (0.5 s)	Off	■ SA motor error, please disconnect the power and contact the dealer for repair.
	Blink* (2 s)	Off	■ EA motor error, please disconnect the power and contact the dealer for repair.
	Off	Blink* (0.5 s)	■ OA damper error, please disconnect the power and contact the dealer for repair.
	Off	Blink* (2 s)	■ EA damper error, please disconnect the power and contact the dealer for repair.
	Off	Blink* (4 s)	■ Center damper error, please disconnect the power and contact the dealer for repair.
	Blink* (0.5 s)	On	■ Temperature sensor error, please disconnect the power and contact the dealer for repair.
	On	Blink* (0.5 s)	■ PCB board error, please disconnect the power and contact the dealer for repair.
5.ERV doesn't work base on the setting air volume.	On	Off	■ When product runs in circulation mode for defrosting, the air volume will be more than setting and sound will be slightly louder than normal operation. ■ When outdoor temperature is less than 14 ° F (-10 ° C), the product will restrict air volume automatically to protect energy recovery core.

* The time under "Blink" means the frequency of blink.

4. Parts List

FV-10VEC2

Main Body

No.	Part No.	Part Name	Q´ty	Remark
1	FFV10VC2M9	Frame Body Assy	1	
2	FFV0720012S	Cord Bushing	1	
3	FFV4620115S	Power Cord	1	⚠
4	FFV6710047M	Wiring Cover	1	
5	FFV3740038M	Maintenance Plate	1	
6	FFV10VC2M50	OA Damper Assy	1	⚠
7	FFV6730102S	RA Filter	1	
8	FFV10VC2M70	Center Damper Assy	1	⚠
9	FFV4300152M	OA Filter M8	1	Merv 8
10	FFV10VC2M12	EA Fan Assy	1	⚠
11	FFV10VC2M11	SA Fan Assy	1	⚠
12	FFV10VC2M98	Frame Bracket	1	
13	FFV1600154M	Frame Bracket Hook	1	
14	FFV10VC2M4	Main & Switch PCB Assy	1	⚠
15	FFV3402190M	Element Assy	1	
16	FFV3402191M	Element Holder	1	
17	FFV10VC2967	Frame Cover Assy	1	
A	FFV7000074S	Truss Tap Screw	13	
B	FFV7030008S	Pan Screw	2	
C	FFV7000224S	PS Screw	6	
D	FFV7000089S	Truss Tap Screw	2	

Frame Body

No.	Part No.	Part Name	Q´ty	Remark
18	FFV3440021S	Latch	2	
19	FFV2220075M	Hinge B	2	
20	FFV0000163M	Adapter	2	
A	FFV7000074S	Truss Tap Screw	16	

4. Parts List

SA Fan Assy/EA Fan Assy

No.	Part No.	Part Name	Q´ty	Remark
21	FFV3730129M	Motor Base	1	
22	FFV10VE2M2	EA Motor Set	1	⚠
(22)	FFV10VE2M3	SA Motor Set	1	⚠
23	FFV3730127M	Motor Holder Plate	1	
24	FFV10VC2943	Motor Holder	1	
25	FFV7010055S	Washer	1	
26	FFV10VC2948	Blade	1	
27	FFV10VC2R9	Fix Plate	1	
28	FFV7020022S	Nut	1	
29	FFVVC2M942	Casing	1	
30	FFV4710408M	Casing Packing	1	
A	FFV7000074S	Truss Tap Screw	8	
D	FFV7000089S	Truss Tap Screw	4	

Frame Cover Assy

No.	Part No.	Part Name	Q´ty	Remark
31	FFV2220076M	Hinge A	2	
32	FFV3440022M	Latch Base	2	
33	FFV4620133S	Pressure Plug	4	
A	FFV7000074S	Truss Tap Screw	8	

Main Labels

No.	Part No.	Part Name	Q´ty	Remark
34	FFVVC2M060	Maintenance Label	1	
35	FFVVC2M051	EA OA Adapter Label	1	
36	FFVVC2M052	RA SA Adapter Label	1	
37	FFV5580031M	Wall Switch Label	1	
38	FFV0000189M	AHU Label	1	
39	FFVVE2M054	Wiring Label	1	
40	FFV5580022M	Switch Label	1	
41	FFV4690029M	Power Cord Label	1	

4. Parts List

Packing Case Assy

No.	Part No.	Part Name	Q´ty	Remark
42	FFV4710410M	Ceiling Inst. Plate	4	
43	FFV3440023M	L Plate	4	
44	FFV6710049M	Wall Install Bracket	1	
45	FFV2220077M	Hanger	1	
46	FFVVC2M450	Install. Instructions (ES)	1	English/Spanish,For USA Market.
47	FFVVC2M451	Install. Instructions (EF)	1	English/French,For CA Market.
48	FFV5580023S	Screw Cover	4	
49	FFV0010253M	Accessory For Screws	1	
50	FFV4710411M	Packing Pad Top	1	
51	FFV4650038M	Poly Cover	1	
52	FFV4710412M	Packing Pad Bottom	1	
53	FFVVC2M420	Packing Case Assy	1	