

Service Manual

AIR CURTAINS FY-08ESP, FY-08ELP FY-10ESP, FY-10ELP FY-12ESP, FY-12ELP



FY-08ESP, FY-10ESP, FY-12ESP



FY-08ELP, FY-10ELP, FY-12ELP

SPECIFICATIONS

Model No. \ Item	Length		Wheel Dia.		Weight	
	mm	inch	mm	inch	Kg	lb
FY-08ESP	900	36	117	4 1/2	11.5	25.3
FY-08ELP	1200	48	117	4 1/2	13.5	29.7
FY-10ESP	900	36	117	4 1/2	11.5	25.3
FY-10ELP	1200	48	117	4 1/2	13.5	29.7
FY-12ESP	900	36	117	4 1/2	13.0	28.6
FY-12ELP	1200	48	117	4 1/2	15.0	33.0

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I. How to Disassemble

- (1) To remove the mounting plate

Loosen the three cross recess machine screws, and pull the air curtain body upward toward you to remove it from the mounting plate. (See photo 1.)



(Photo 1)

- (2) To remove the intake inlet

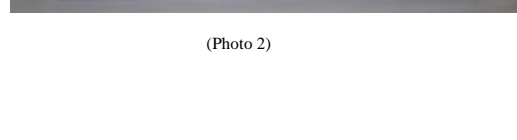
Remove the two hex. socket head cap screws, and remove the intake inlet from the air curtain body . (See photo 2.)



(Photo 2)

- (3) To remove the front panel

Remove the two cross recess machine screws, and remove the front panel from the air curtain body. (See photo 3.)



(Photo 3)

- (4) To remove the air outlet and air direction shift plate

Remove the cross recess machine screws from the discharge port side to remove the two air outlet ends, and remove the air outlet and air direction shift plate. (See photo 4.)



(Photo 4)

- (5) To remove the switch assembly, switch plate, and switch box

Remove the cross recess machine screws from the button side of the switch assembly. When the two outside screws are unscrewed, the switch box can be removed. When the two inside screws are unscrewed, the switch assembly can be removed. (See photo 4.)

- (6) To remove the fan casing and impeller

(i) Remove the cross recess machine screws which secures the fan casing to the back panel assembly, and pull the discharge port out of the fan casing from the inside panel.

(ii) Detach the four claws that secure the fan casings (L) and (R).

(iii) Remove the hexagon nut that secures the motor shaft and impeller, and pull the impeller straight out from the motor shaft. (See photo 5.)

- (7) To remove the motor assembly

After the capacitor at the tip of the lead wire of the motor assembly is disconnected from the connector, remove the cross recess machine screws and hexagon nut that secure the motor assembly and motor support and remove the motor assembly.



(Photo 4)

- (8) To remove the motor support and capacitor

Remove the three cross recess machine screws that secure the motor support and back panel assembly, and one cross recess machine screw that secures the motor support and inside panel and remove the motor support. Then, remove the capacitor from the motor support.

- (9) To remove the power supply cord assembly

Remove the connector from the tip of the power supply cord assembly, and remove the two cross recess machine screws M4 that secure the power supply cord assembly.



(Photo 5)

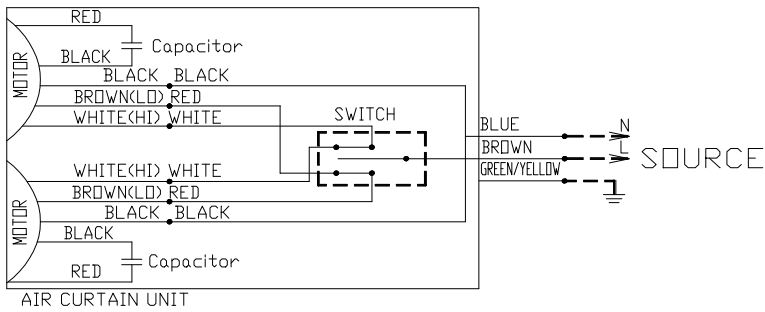
Note: The photo show models FY-08ESP, FY-10ESP, and FY-12ESP

II. Troubleshooting guide

No.	Condition	Trouble	Inspection and remedy
1	No rotation	<ul style="list-style-type: none"> - No power - Poor switch contact - Stator Wiring disconnection - Capacitor short-circuit - Stator burned - Fuse breakage - Main-unit distorted - Mis-connection - Disconnected connection 	<ul style="list-style-type: none"> - Determine cause and restore power. - Adjust or replace. - Replace the stator or motor assembly. - Replace the capacitor. - Replace the stator or motor assembly. - Replace the fuse or motor assembly. - Adjust the motor part or impeller. - Correct the connection. - Connect the connector.
2	Reduced rotation	<ul style="list-style-type: none"> - Reduced voltage - Insufficient grease or deterioration - Main unit distorted ("heavy" rotation) 	<ul style="list-style-type: none"> - Determine cause and restore normal voltage. - Replace the bearing or motor assembly. - Adjust the motor part or impeller.
3	Mechanical noise	<ul style="list-style-type: none"> - Corrosion of bearing - Blade damage - Vibration due to loose screws, etc. - Foreign material intake - Cracked parts 	<ul style="list-style-type: none"> - Replace the bearing or motor assembly. - Replace impeller. - Tighten screws. - Remove foreign material. - Replace the parts.
4	Abnormal vibration	<ul style="list-style-type: none"> - Loose screw - Deformed blades - Deformed motor shaft - Weak mounting surface (foundation) 	<ul style="list-style-type: none"> - Retighten. - Replace impeller. - Replace the rotor shaft or motor assembly. - Reinforce.

II. Wiring Diagram

■ WIRING DIAGRAM



Parts List (FY-08ESP, FY-10ESP)

Ref No.	Part Name	FY-08ESP			FY-10ESP		
		Part No.	Q'ty/Set		Part No.	Q'ty/Set	
1	Front panel	F E C 0 3 7 H 0 2 1 E	1		F E C 0 3 7 H 0 2 1 E	1	
2	Intake inlet	F E C 1 0 1 H 0 1 4 E	1		F E C 1 0 1 H 0 1 4 E	1	
3	Air outlet	F E C 0 7 6 H 0 0 1 E	1		F E C 0 7 6 H 0 0 1 E	1	
4	Mounting plate	F E C 0 5 0 H 0 1 8 E	1		F E C 0 5 0 H 0 1 8 E	1	
5	Back panel ass'y	F E C 0 7 7 H 0 0 1 E	1		F E C 0 7 7 H 0 0 1 E	1	
6	Inside panel	F E C 0 7 8 H 0 0 1 E	1		F E C 0 7 8 H 0 0 1 E	1	
7	Single shaft motor ass'y (UA:110-127V)	F E C 0 0 1 H 0 7 6 E	1		F E C 0 0 1 H 0 8 0 E	1	
(7)	Single shaft motor ass'y (NA:220-240V)	F E C 0 0 1 H 0 7 8 E	(1)		F E C 0 0 1 H 0 8 2 E	(1)	
8	Double shaft motor ass'y (UA:110-127V)	F E C 0 0 1 H 0 7 7 E	1		F E C 0 0 1 H 0 8 1 E	1	
(8)	Double shaft motor ass'y (NA:220-240V)	F E C 0 0 1 H 0 7 9 E	(1)		F E C 0 0 1 H 0 8 3 E	(1)	
9	Capacitor 2.5µ F 250VAC (110-127V/single shaft)	F E C 0 1 0 H 0 4 1 E	1		F E C 0 1 0 H 0 4 1 E	1	
(9)	Capacitor 0.6µ F 450VAC (220-240V/single shaft)	F E C 0 1 0 H 0 4 3 E	(1)		F E C 0 1 0 H 0 4 3 E	(1)	
10	Capacitor 5µ F 250VAC (110-127V/double shaft)	F E C 0 1 0 H 0 4 2 E	1		F E C 0 1 0 H 0 4 2 E	1	
(10)	Capacitor 1.2µ F 450VAC (220-240V/double shaft)	F E C 0 1 0 H 0 4 4 E	(1)		F E C 0 1 0 H 0 4 4 E	(1)	
11	Motor support	F E C 0 7 9 H 0 0 1 E	2		F E C 0 7 9 H 0 0 1 E	2	
12	Impeller	F E C 0 2 0 H 0 1 9 E	3		F E C 0 2 0 H 0 1 9 E	3	
13	Fan casing (L)	F E C 1 0 0 H 0 1 1 E	3		F E C 1 0 0 H 0 1 1 E	3	
14	Fan casing (R)	F E C 1 0 0 H 0 1 2 E	3		F E C 1 0 0 H 0 1 2 E	3	
15	Air direction shift plate	F E C 0 3 4 H 0 1 5 E	1		F E C 0 3 4 H 0 1 5 E	1	
16	Air outlet end	F E C 0 8 2 H 0 0 1 E	2		F E C 0 8 2 H 0 0 1 E	2	
17	Switch ass'y	F E C 0 2 7 H 0 1 7 E	1		F E C 0 2 7 H 0 1 7 E	1	
18	Switch plate	F E C 0 7 5 H 0 0 1 E	1		F E C 0 7 5 H 0 0 1 E	1	
19	Switch box	F E C 0 2 9 H 0 0 6 E	1		F E C 0 2 9 H 0 0 6 E	1	
20	Power supply cord ass'y	F E C 0 7 0 H 0 0 8 E	1		F E C 0 7 0 H 0 0 8 E	1	
21	Accessories	F E C 0 6 0 H 0 0 4 E	1		F E C 0 6 0 H 0 0 4 E	1	
22	Instruction manual	F E C 1 1 7 H 0 0 2 E	1		F E C 1 1 7 H 0 0 2 E	1	

Parts List (FY-12ESP)

Ref No.	Part Name	FY-12ESP		
		Part No.	Q'ty/Set	
1	Front panel	F E C 0 3 7 H 0 2 1 E	1	
2	Intake inlet	F E C 1 0 1 H 0 1 4 E	1	
3	Air outlet	F E C 0 7 6 H 0 0 1 E	1	
4	Mounting plate	F E C 0 5 0 H 0 1 8 E	1	
5	Back panel ass'y	F E C 0 7 7 H 0 0 1 E	1	
6	Inside panel	F E C 0 7 8 H 0 0 1 E	1	
7	Single shaft motor ass'y (UA:110-127V)	F E C 0 0 1 H 0 8 4 E	1	
(7)	Single shaft motor ass'y (NA:220-240V)	F E C 0 0 1 H 0 8 6 E	(1)	
8	Double shaft motor ass'y (UA:110-127V)	F E C 0 0 1 H 0 8 5 E	1	
(8)	Double shaft motor ass'y (NA:220-240V)	F E C 0 0 1 H 0 8 7 E	(1)	
9	Capacitor 4µ F 250VAC (110-127V/single shaft)	F E C 0 1 0 H 0 4 5 E	1	
(9)	Capacitor 1µ F 500VAC (220-240V/single shaft)	F E C 0 1 0 H 0 4 7 E	(1)	
10	Capacitor 8µ F 250VAC (110-127V/double shaft)	F E C 0 1 0 H 0 4 6 E	1	
(10)	Capacitor 2µ F 500VAC (220-240V/double shaft)	F E C 0 1 0 H 0 4 8 E	(1)	
11	Motor support	F E C 0 7 9 H 0 0 1 E	2	
12	Impeller	F E C 0 2 0 H 0 1 9 E	3	
13	Fan casing (L)	F E C 1 0 0 H 0 1 1 E	3	
14	Fan casing (R)	F E C 1 0 0 H 0 1 2 E	3	
15	Air direction shift plate	F E C 0 3 4 H 0 1 5 E	1	
16	Air outlet end	F E C 0 8 2 H 0 0 1 E	2	
17	Switch ass'y	F E C 0 2 7 H 0 1 7 E	1	
18	Switch plate	F E C 0 7 5 H 0 0 1 E	1	
19	Switch box	F E C 0 2 9 H 0 0 6 E	1	
20	Power supply cord ass'y	F E C 0 7 0 H 0 0 8 E	1	
21	Accessories	F E C 0 6 0 H 0 0 4 E	1	
22	Instruction manual	F E C 1 1 7 H 0 0 2 E	1	

Parts List (FY-08ELP, FY-10ELP)

Ref No.	Part Name	FY-08ELP			FY-10ELP		
		Part No.	Q'ty/Set		Part No.	Q'ty/Set	
1	Front panel	F E C 0 3 7 H 0 2 2 E	1		F E C 0 3 7 H 0 2 2 E	1	
2	Intake inlet	F E C 1 0 1 H 0 1 5 E	1		F E C 1 0 1 H 0 1 5 E	1	
3	Air outlet	F E C 0 7 6 H 0 0 2 E	1		F E C 0 7 6 H 0 0 2 E	1	
4	Mounting plate	F E C 0 5 0 H 0 1 8 E	1		F E C 0 5 0 H 0 1 8 E	1	
5	Back panel ass'y	F E C 0 7 7 H 0 0 2 E	1		F E C 0 7 7 H 0 0 2 E	1	
6	Inside panel	F E C 0 7 8 H 0 0 2 E	1		F E C 0 7 8 H 0 0 2 E	1	
7	Double shaft motor ass'y (UA:110-127V)	F E C 0 0 1 H 0 7 7 E	2		F E C 0 0 1 H 0 8 1 E	2	
(7)	Double shaft motor ass'y (NA:220-240V)	F E C 0 0 1 H 0 7 9 E	(2)		F E C 0 0 1 H 0 8 3 E	(2)	
8	Capacitor 5 μ F 250VAC (110-127V/double shaft)	F E C 0 1 0 H 0 4 2 E	2		F E C 0 1 0 H 0 4 2 E	2	
(8)	Capacitor 1.2 μ F 450VAC (220-240V/double shaft)	F E C 0 1 0 H 0 4 4 E	(2)		F E C 0 1 0 H 0 4 4 E	(2)	
9	Motor support	F E C 0 7 9 H 0 0 1 E	2		F E C 0 7 9 H 0 0 1 E	2	
10	Impeller	F E C 0 2 0 H 0 1 9 E	4		F E C 0 2 0 H 0 1 9 E	4	
11	Fan casing (L)	F E C 1 0 0 H 0 1 1 E	4		F E C 1 0 0 H 0 1 1 E	4	
12	Fan casing (R)	F E C 1 0 0 H 0 1 2 E	4		F E C 1 0 0 H 0 1 2 E	4	
13	Air direction shift plate	F E C 0 3 4 H 0 1 6 E	1		F E C 0 3 4 H 0 1 6 E	1	
14	Air outlet end	F E C 0 8 2 H 0 0 1 E	2		F E C 0 8 2 H 0 0 1 E	2	
15	Switch ass'y	F E C 0 2 7 H 0 1 7 E	1		F E C 0 2 7 H 0 1 7 E	1	
16	Switch plate	F E C 0 7 5 H 0 0 1 E	1		F E C 0 7 5 H 0 0 1 E	1	
17	Switch box	F E C 0 2 9 H 0 0 6 E	1		F E C 0 2 9 H 0 0 6 E	1	
18	Power supply cord ass'y	F E C 0 7 0 H 0 0 8 E	1		F E C 0 7 0 H 0 0 8 E	1	
19	Accessories	F E C 0 6 0 H 0 0 4 E	1		F E C 0 6 0 H 0 0 4 E	1	
20	Instruction manual	F E C 1 1 7 H 0 0 2 E	1		F E C 1 1 7 H 0 0 2 E	1	

Parts List (FY-12ELP)

Ref No.	Part Name	FY-12ELP		
		Part No.	Q'ty/Set	
1	Front panel	F E C 0 3 7 H 0 2 2 E	1	
2	Intake inlet	F E C 1 0 1 H 0 1 5 E	1	
3	Air outlet	F E C 0 7 6 H 0 0 2 E	1	
4	Mounting plate	F E C 0 5 0 H 0 1 8 E	1	
5	Back panel ass'y	F E C 0 7 7 H 0 0 2 E	1	
6	Inside panel	F E C 0 7 8 H 0 0 2 E	1	
7	Double shaft motor ass'y (UA:110-127V)	F E C 0 0 1 H 0 8 5 E	2	
(7)	Double shaft motor ass'y (NA:220-240V)	F E C 0 0 1 H 0 8 7 E	(2)	
8	Capacitor 8 μ F 250VAC (110-127V/double shaft)	F E C 0 1 0 H 0 4 6 E	2	
(8)	Capacitor 2 μ F 500VAC (220-240V/double shaft)	F E C 0 1 0 H 0 4 8 E	(2)	
9	Motor support	F E C 0 7 9 H 0 0 1 E	2	
10	Impeller	F E C 0 2 0 H 0 1 9 E	4	
11	Fan casing (L)	F E C 1 0 0 H 0 1 1 E	4	
12	Fan casing (R)	F E C 1 0 0 H 0 1 2 E	4	
13	Air direction shift plate	F E C 0 3 4 H 0 1 6 E	1	
14	Air outlet end	F E C 0 8 2 H 0 0 1 E	2	
15	Switch ass'y	F E C 0 2 7 H 0 1 7 E	1	
16	Switch plate	F E C 0 7 5 H 0 0 1 E	1	
17	Switch box	F E C 0 2 9 H 0 0 6 E	1	
18	Power supply cord ass'y	F E C 0 7 0 H 0 0 8 E	1	
19	Accessories	F E C 0 6 0 H 0 0 4 E	1	
20	Instruction manual	F E C 1 1 7 H 0 0 2 E	1	