

Assembly manual

EMS50



SPARE PARTS LIST + ASSEMBLING GUIDELINE

EMS 50 Fan






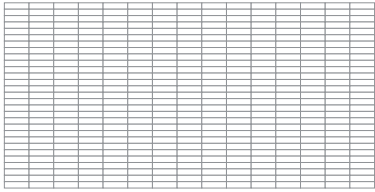

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1. SPARE PARTS LIST FOR EMS 50 FAN

Ref	Pict.	Description		Q.ty	Code
1		Bottom panel.		1	2433200
2		Side panel.		2	2434850
3		Top panel.		1	2440850
4		Venturi.		1	2443700
5		Complete propeller (available as assem- bled part only).	Stainless steel	1	2515500
			Pre-coated		2515800
			Galvanized	1	2514200
7		Safety mesh guard.		2	2252300
8		frontal mesh		1	2251900

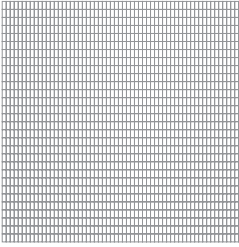
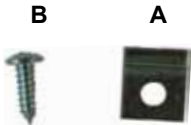
8/A		mesh support	1	2450600
9		Complete electric motor (assembled only: Motor + pulley + motor slide)	1	See table 6.1
9/A		Electric motor (not assembled).	-	See table 6.2
9/B		Motor pulley.	-	See table 6.3
9/C		Motor slide.	-	2441705
10/A		Central pulley.	1	2472700
10/B		Hub.	1	2511600
10/C		V-belt A88.	1	2246500
12		Propeller central support.	1	2473700
15/B		Short warning stickers.	1	2262600

15/C		Warning on the sutter.	2	2262095
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2. SPARE PARTS LIST FOR CE PROTECTION (OPTION)



16/A		Plastic safety protection for central pulley.	1	2267301
16/B		Plastic safety protection for belt	2	2267401
16/C		Plastic safety protection for motor pulley + fixing clip.	1	2467350
16/E		Self tapping hex screw Ø 6.3 x 19 mm.	4	2278800

2.1 SPARE PARTS LIST FOR PYRAMIDAL SHAPE MESH FOR CE PROTECTION (OPTION)

17/A		Pyramidal safety mesh.	1	2823713
17/B		A: metal clips to fix pyramidal safety mesh	6	2448600
		B: self tapping hex screw Ø 6.3 X 19 mm.	6	2278800




3. BOLTS AND NUTS DESCRIPTION

18		<p>Pop rivets Ø 6.4 x 8 mm.</p> <p>Purpose : for housing, Venturi and safety mesh support assembling.</p>	18	2271600
19		<p>A: threaded bushes M 8 short.</p> <p>Purpose : to insert on the top panel.</p>	2	2270800
		<p>B: threaded bushes M 8 long.</p> <p>Purpose : to insert on the housing.</p>	2	2271100
20		<p>A: bolts M 8 x 16 mm.</p>	2	2280200
		<p>B: washer Ø 8 x 32 mm.</p> <p>Purpose : to fix motor to the top panel.</p>	2	2277100
21		<p>A: bolts M 10 x 30 mm.</p>	4	2282000
		<p>B: washer Ø 10 mm.</p>	4	2275300
		<p>C: nuts M 10.</p>	4	2274000
		<p>D: oval plate 170 x 40 x 8 mm.</p> <p>Purpose : to fix the propeller central support to the housing.</p>	2	2263900
22		<p>Rubber grommet.</p> <p>Purpose : to avoid cable damage.</p>	1	2239600
23		<p>A: bolts M 6 x 30 mm.</p>	4	2279600
		<p>B: washer Ø 6 mm.</p>	4	2275400
		<p>C: nuts M 6 x 6 mm.</p> <p>Purpose : to fix the central pulley to the hub.</p>	4	2273400
24		<p>A: bolts M 8 x 25 mm.</p>	4	2280600
		<p>B: washers Ø 8 mm.</p>	4	2275100
		<p>C: nuts M 8.</p> <p>Purpose : to fix the propeller to the hub.</p>	4	2273700
26		<p>Waterproof distance piece Ø (ID 40 / OD 52) x 15 mm.</p> <p>Purpose : to distance the hub from the propeller central support.</p>	1	2472000
28		<p>A: nut M 25 x 10 mm.</p>	1	2273600
		<p>B: cap cover nut (only w/o CE kit).</p> <p>Purpose : to fix the hub to the propeller central support.</p>	1	2264500
32		<p>A: self tapping hex screws Ø6.3 x 19mm.</p> <p>B: washer Ø 6,7 x 24 mm.</p> <p>Purpose : for fixing the outlet safety mesh guard and plastic cover nut.</p>	A=9 B=9	2278800 2277010

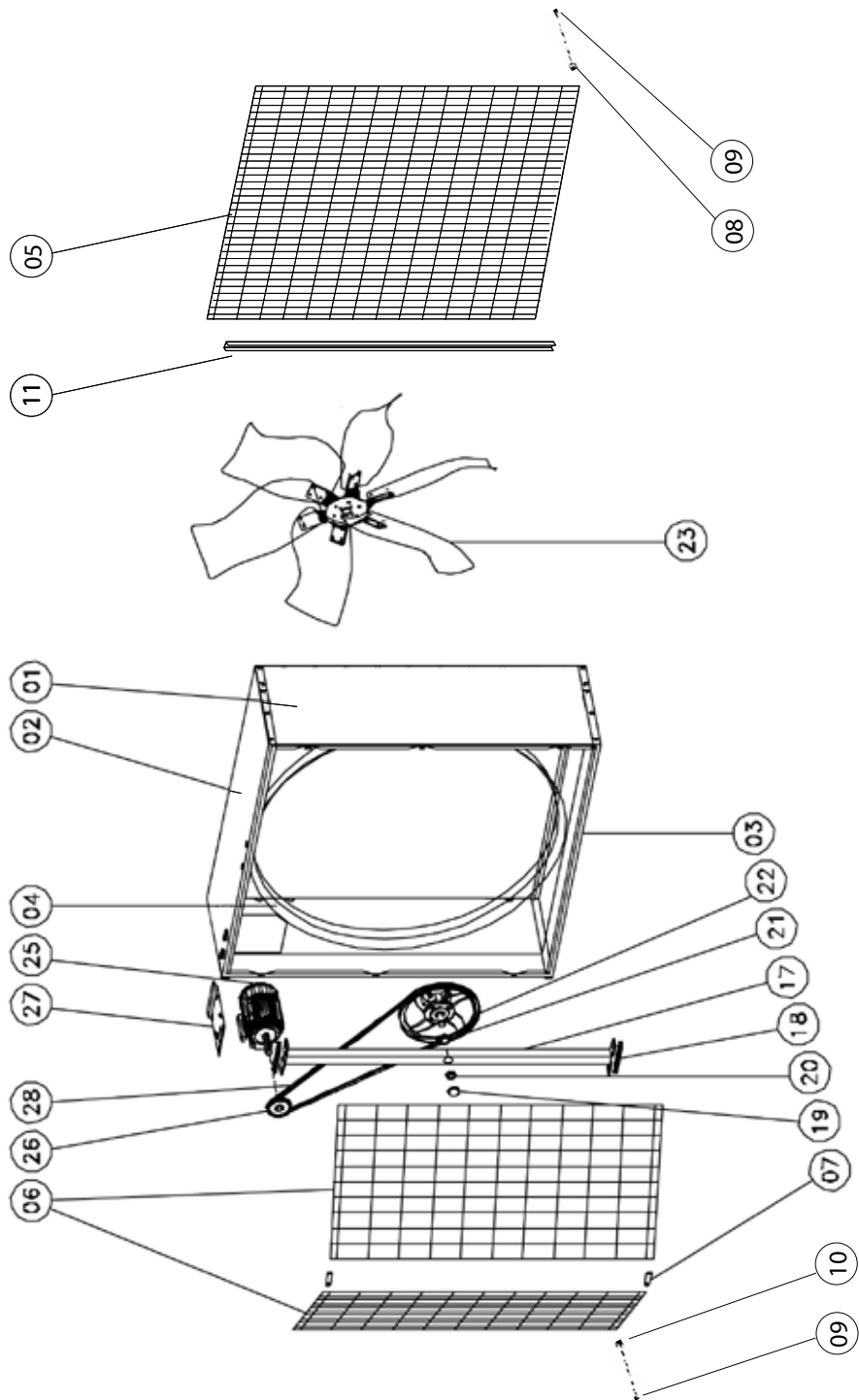
33		<p>A: Central clips for meshes B: self tapping Hex screws Ø6.3 x 19mm. Purpose : to fix the inlet safety meshes guard to the housing.</p>	<p>A=2 B=4</p>	<p>2449100 2278800</p>
33/A		<p>A: PLASTIC CLIP B: self tapping hex screws Ø 6.3 x 19. Purpose : to fix the inlet safety meshes guard to the housing.</p>	<p>6 6</p>	<p>2268110 2278800</p>

4. ASSEMBLING TOOLS

34		<p>Riveting machine rac 171.</p>	<p>1</p>	<p>2284310</p>
35		<p>Inserting machine kj 45</p>	<p>1</p>	<p>2284205</p>
36		<p>Pneumatic screw-driver.</p>	<p>1</p>	<p>2284400</p>
36/A		<p>17 mm spanner.</p>	<p>1</p>	<p>2284401</p>
36/B		<p>10 mm long spanner.</p>	<p>1</p>	<p>2284418</p>
36/C		<p>13 mm long spanner.</p>	<p>1</p>	<p>2284419</p>
36/E		<p>36 mm spanner.</p>	<p>1</p>	<p>2284421</p>

36/F		Philips screw head adaptor.	1	2284411 2284412
37		13 mm spanner.		2284413
41		Ratchet drive extension.	1	2284417

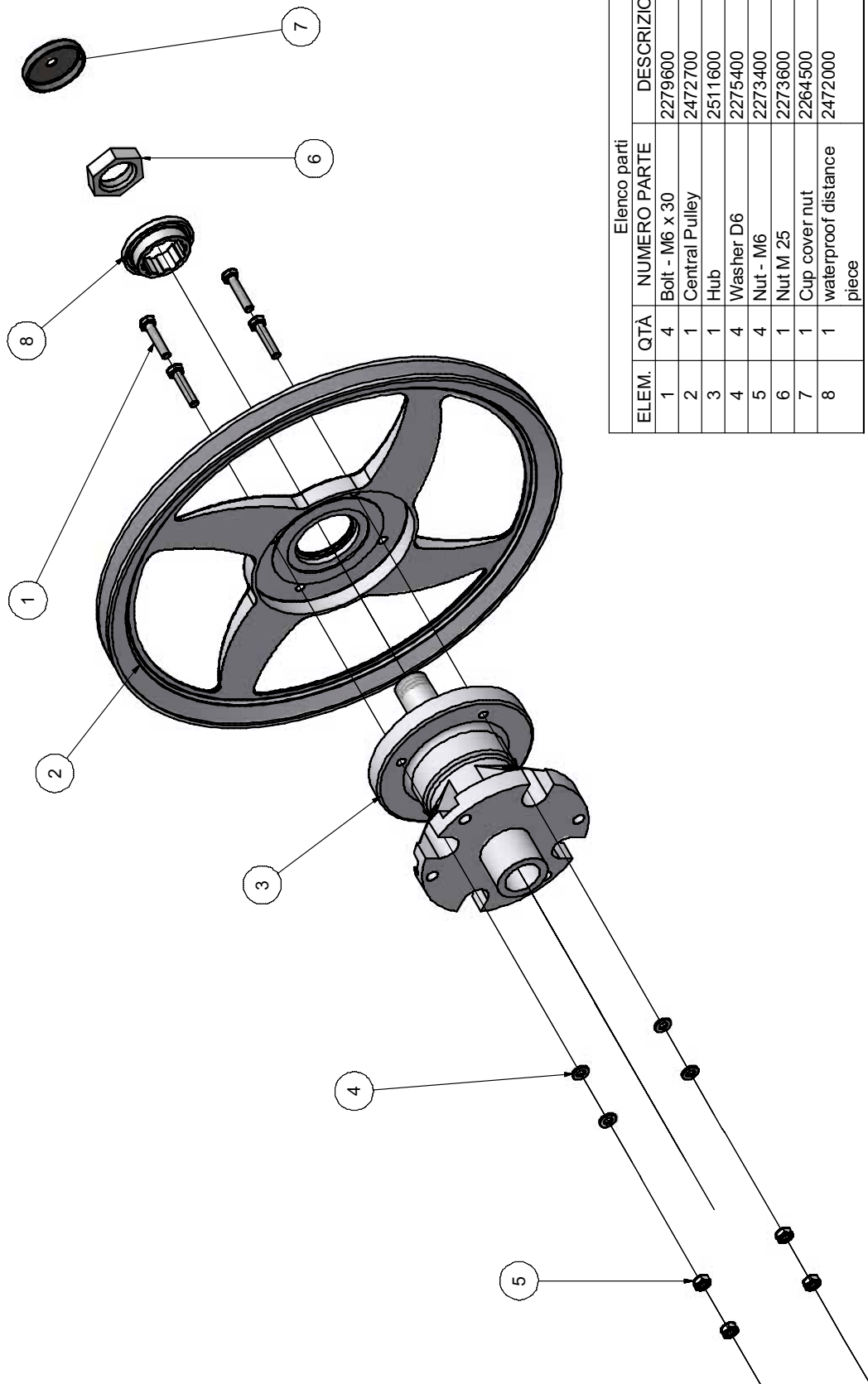
5. EXPLODED VIEW



5.1 EXPLODED VIEW - SPARE PARTS LIST

REF.	DESCRIZIONE - DESCRIPTION - DESCRIPTION	CODE	PIECES
Carrozzeria - Wallhousing - Tolerie			
01	Laterale zincato Galvanized side panel Panneau lateral	2434850	02
02	Tetto zincato Galvanized top panel Panneau inferieur	2440850	01
03	Fondo zincato Galvanized bottom panel Panneau inferieur	2433200	01
04	Convogliatore Venturi Virrole	2443700	01
05	Rete di protezione zincata Safety mesh guard Grille de protection	2251900	01
06	Reti di protezioni zincate Safety meshes guard Grilles de protection	2252300	02
07	Blocco centrale chiusura reti Central clip for meshes Moulure central	2449100	02
08	Rondella GR 6 x 24 mm Washer D 6 x 24 mm Laveuse D 6 x 24 mm	2277010	09
09	Vite autofili. 6,3 x 19 mm Self tapping screws 6,3 x 19 mm Vis autotaraudeuses 6,3 x 19 mm	2278800	19
10	Clip in plastica Plastic clip clip en plastique	2268110	06
REF.	DESCRIZIONE - DESCRIPTION - DESCRIPTION	CODE	PIECES
Puleggia centrale completa - Complete central pulley - Poulie centrale			
17	Supporto centrale zincato Galvanized propeller central support Central support	2473700	01
18	Staffa 2 fori Distance piece Plaque entretoise	2263900	02
19	Calotta copri dado Carotte cover nut Bouchon plastique	2264500	01
20	Dado M25x10 mm Nut M25x10 mm Ecrou M25x10 mm	270529	01
21	Distanziale paraspruzzi Ø40/52x15 mm Waterproof distance piece Ø40/52x15 mm Entretoise de protection d'eau Ø40/52x15 mm	2472000	01
22	Puleggia centrale completa Complete central pulley Poulie centrale	2517200	01
Ventola - Fan propeller - Helice			
	Ventola zincata Galvanized propeller Helice galvanise	2514200	01
23	Ventola preveniciata Precoated propeller Helice prelaque	2515800	01
	Ventola inox Stainless steel propeller Helice acier inox	2515500	01
Massa completa - Complete centrifugal system - Systeme centrifuge			
24	Massa completa Complete centrifugal system Systeme centrifuge	single speed 2511100 multi speed 2510800	01
Motore - Motor - Moteur			
25	Motore elettrico Electric motor Moteur electrique	-	01
26	Puleggia motore Motor pulley Poulie moteur	-	01
27	Slitta motore zincata Galvanized sliding plate for motor Plaque support moteur	2446302	01
28	Cinghia scanalata sezione AX Notched belt section AX Courroie de transmission	-	01

5.2 COMPLETE CENTRAL PULLEY - EXPLODED VIEW



Elenco parti			
ELEM.	QTA	NUMERO PARTE	DESCRIZIONE
1	4	Bolt - M6 x 30	2279600
2	1	Central Pulley	2472700
3	1	Hub	2511600
4	4	Washer D6	2275400
5	4	Nut - M6	2273400
6	1	Nut M 25	2273600
7	1	Cup cover nut	2264500
8	1	waterproof distance piece	2472000

6. ASSEMBLING GUIDELINE

6.1 HOUSING ASSEMBLING



Take the bottom panel (ref. 1), the side panels (ref. 2) and place these taking care that embossing for fixing the central support are placed upward.



Before fixing the bottom and the side panels make sure that these pieces are in the right position as shown in the picture.



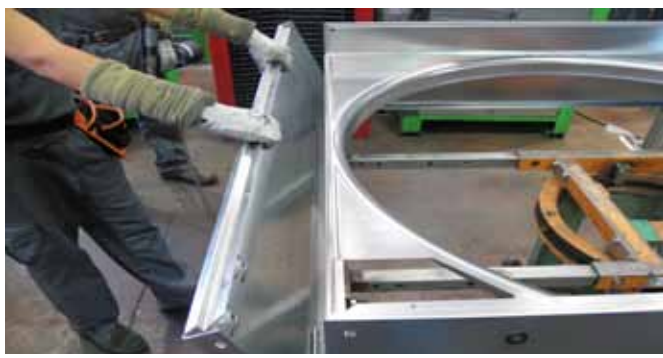
Join bottom panel to side panels and fix qty. 1 pop rivets (ref. 18) for each edge by using riveting machine (ref. 34).



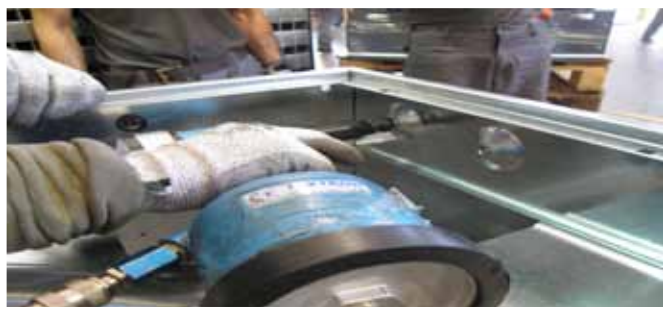
Insert Venturi (ref. 4) into the housing on the right side as shown in the picture.



Fix Venturi to bottom panel and then to side panels with qty. 3 rivets pop rivets for each side.



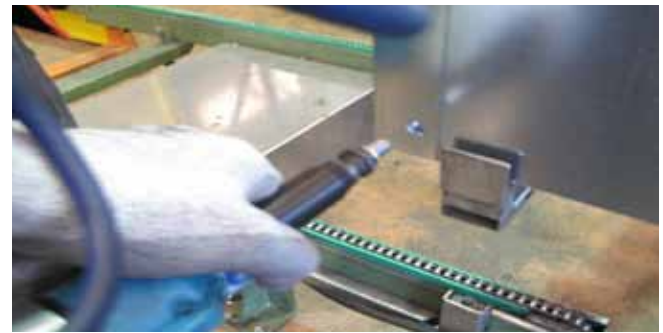
Place the top panel (ref. 3) with motor support in correspondence with motor slot on the Venturi. Then fix it to side panels with qty. 1 pop rivet for side and to Venturi with qty. 3 pop rivets.



Place the qty. 2 short threaded bushes (ref. 19/a) on the top panel by using inserting machine (ref. 35).



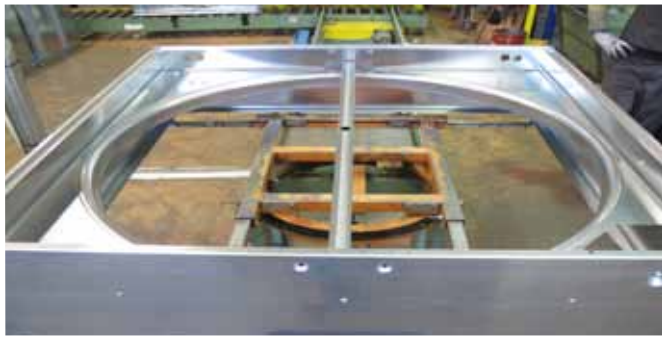
Place long threaded bushes (ref. 19/b) in correspondence of proper holes around the housing. Qty. 2 long threaded bushes for each corner.



Make sure that the top and bottom panels are joined to the side panels by the long threaded bushes.



Place the rubber grommet (ref. 22) for electric cable protection on the side panel in correspondence with the motor slot.



The propeller central support (ref. 12) shall be fixed to housing by means of qty. 4 bolts (ref. 21/a), qty. 4 washes (ref.21/b), qty. 4 nuts (ref.21/c) and qty. 2 oval plates (ref. 21/d).



Place the oval plates between propeller central support and panels.



Place the oval plate over support frame and then start to screw the nuts.



Tighten the nuts with pneumatic screw-driver (ref. 36/a) in order to fix the propeller central support to the top and bottom panels.



For mounting of electric motor (ref. 9) insert this into its slot taking care to fix it over proper track fixed on the top side.



Fix motor slide to top panel by mean of qty. 2 bolts (ref. 20) and qty. 2 washers (ref. 20). Tighten bolts by using 13 mm spanner (ref. 37).

6.2 CENTRIFUGAL SYSTEM AND PULLEY TO PROPELLER ASSEMBLING



Take the pulley (ref. 10/a) and insert the bolts (ref. 23/a) from the external side of it. Turn the pulley up side down and place the hub (ref. 10/b) on it.



Insert the washers (ref. 23/b) and fix the nuts (ref. 23/c) over the bolts. Tighten the nuts by using pneumatic screw-driver (ref. 36/b).



Place the waterproof distance piece (ref. 24) on the axle and then place the axle on a support. After that place the v-belt (ref. 10/c) on the central pulley.



Place the propeller (ref. 5) on the central pulley assembly. Fix the bolts (ref. 24/a), the washers (ref. 24/b) and nuts (ref. 24/c) in order to fix the propeller.



Tighten the nuts by using pneumatic screw-driver (ref. 36/c).



Place the complete assembly you have obtained on the fan, inserting the axle trough the central support hole.



Place M 25 nut (ref.28/a) on the axle and then tighten it by mean of pneumatic screw-driver (ref. 36/e).



Put cap cover nut (ref. 28/b) over M 25 nut (only for fan without CE kit). Place v-belt on the pulley and then rotate the propeller clock-wise in order to tighten the v-belt on the pulley.

CHECK TENSIONING :
right tensioning is obtained when maximum deflexion on one side only (half-way from motor and central pulley) is about 15 mm.

6.4 SAFETY MESHES GUARD ASSEMBLING



Fix the safety mesh support to top and bottom panels by means of Q.ty 2 rivets.



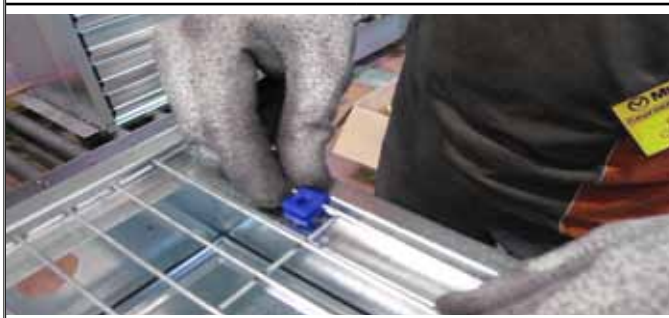
Place the safety mesh guard on the outlet side of the fan. Fix it by mean of q.ty 8 washer and q.ty 8 screws.



Turn the fan up-side down and insert the electric cable into the proper hole placed on the side panel.



Put the qty. 2 safety meshes guard (ref. 7) on the inlet side of the fan.



Fix the qty. 6 screws (ref.32/a) and q.ty 6 plastic clip on the fan side (qty. 3 for each are required).



Fix the screws (ref. 32/a) with the central clips (ref.33) in correspondence of the propeller central support on the top panel and the bottom panel.



Fix the screw (ref. 32/a) with the washer (ref. 32/b) into the central pulley axle. Fix all the components by using the pneumatic screw-driver (ref. 36/f).

6.5 CE KIT ASSEMBLING



Before assembling the safety meshes complete the CE kit. Join the plastic safety protection for central pulley (ref.16/a) with plastic safety protection for the v-belt (ref.16/b)



Place the plastic safety protection for the motor pulley in the motor corner. (make sure that the plastic square pins are inserted in the proper housing holes).



Join the plastic safety protection for the motor pulley.



Put the assembled CE plastic kit protection as shown in the picture (make sure that the groove of the plastic safety protection for the v-belt are centered along the v-belt)



Follow the safety mesh guard assembling procedures and then fix the complete assembled you have obtained by mean of qty.1 screw(ref. 32/a).

7. ORDERING CODE

7.1 ASSEMBLED MOTORS CODES TABLE

Nominal Power [W] [hp]		Type phases	Speed	Frequency [Hz]	Voltage [V]	Current [A]	Rpm	Motor code
735	1,0	1	single	50	230	5	1380	2523700
735	1,0	1	multi	50	230	5	1380	2523700
735	1,0	1	single	60	220-240	5,7	1700	2523800
735	1,0	3	single	50	230/400	3,5/2	1400	2523200
735	1,0	3	single	60	230/400	3,5/2	1700	2522700
880	1,2	3	multi	50	230/400	4,3/2,5	1380	2523300
880	1,2	3	multi	60	230/400	4,3/2,5	1600	2523302
1100	1,5	1	single	50	230	7,3	1400	2523900
1100	1,5	1	single	60	220-240	7,3	1700	2524000
1100	1,5	3	single	50	230/400	5,2/3	1400	2523500
1100	1,5	3	multi	50	230/400	5,2/3	1380	2523400
1100	1,5	3	single	60	230/400	5,2/3	1700	2522900
1100	1,5	3	multi	60	230/400	5,2/3	1670	2523401

7.2 MOTORS CODES TABLE

Nominal Power [W] [hp]		Type phases	Speed	Frequency [Hz]	Voltage [V]	Current [A]	Rpm	Motor code
735	1,0	1	single	50	230	5	1380	2202805
735	1,0	1	multi	50	230	5	1380	2202805
735	1,0	1	single	60	220-240	5,7	1700	2202905
735	1,0	3	single	50/60	230/400	3,5/2	1400/1700	2206300
880	1,2	3	multi	50/60	230/400	4,3/2,5	1380/1670	2203005
1100	1,5	1	single	50	230	7,3	1400	2203505
1100	1,5	1	single	60	220-240	7,3	1700	2203705
1100	1,5	3	single	50/60	230/400	5,2/3	1400/1700	2206815
1100	1,5	3	multi	50/60	230/400	5,2/3	1380/1670	2203905

7.3 PULLEY CODES TABLE

Nominal Power [W] [hp]		Frequency [hz]	Type phases	Speed	Pulley P description	Pulley code
735 or 880	1	50	3	single	DP85 M41 F19 C6	2247010
735 or 880	1,2	50	3	multi	DP80 M41 F19 C6	2247050
735 or 880	1	50	1	single or multi	DP80 M41 F19 C6	2247050
735 or 880	1	60	3	single	DP70 M41 F19 C6	2248810
735 or 880	1,2	60	3	multi	DP65 M41 F19 C6	2248850
735 or 880	1	60	1	single or multi	DP65 M41 F19 C6	2248850
1100	1,5	50	3 s	single	DP100 M51 F24 C8	2249000
1100	1,5	50	3 m	multi	DP95 M51 F24 C8	2249050
1100	1,5	50	1	single or multi	DP95 M51 F24 C8	2249050
1100	1,5	60	3 or 1	single or multi	DP80 M51 F24 C8	2248900

EMS 50 is developed and produced by Munters S.p.A, Italy



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