# EC Assembly manual Spare part list + Assembling guideline EC Air extraction fan Models: EC52 - EC50 P/N 2200127 **⊘**Munters Ag/MIT/ImEN-2712-10/24 Rev 1.3

## EC Assembly manual

Original instructions Revision 1.3

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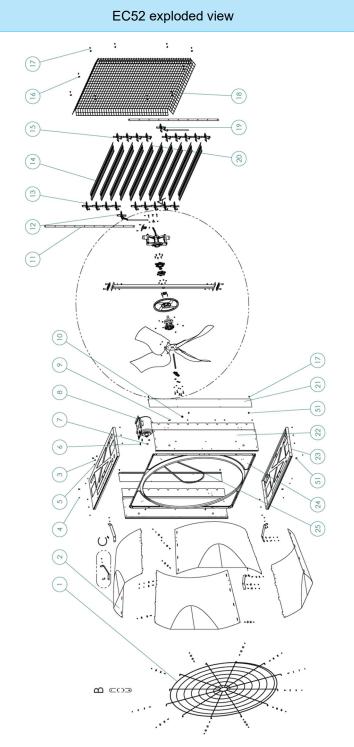
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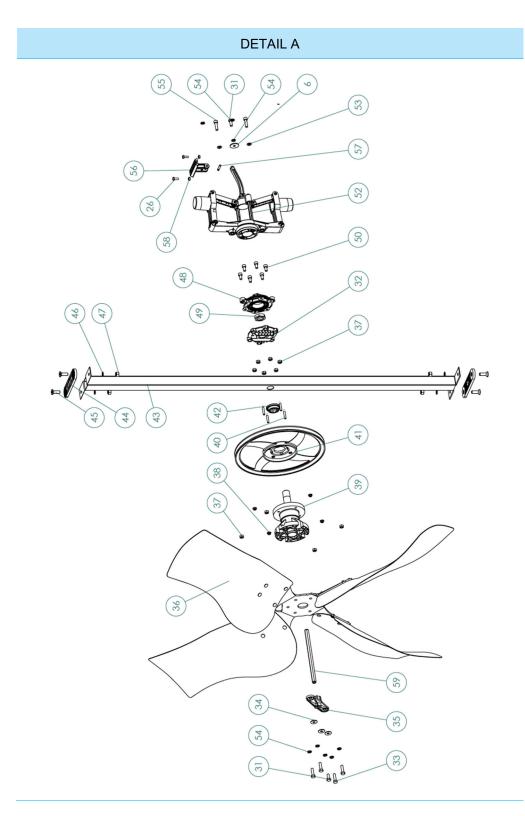
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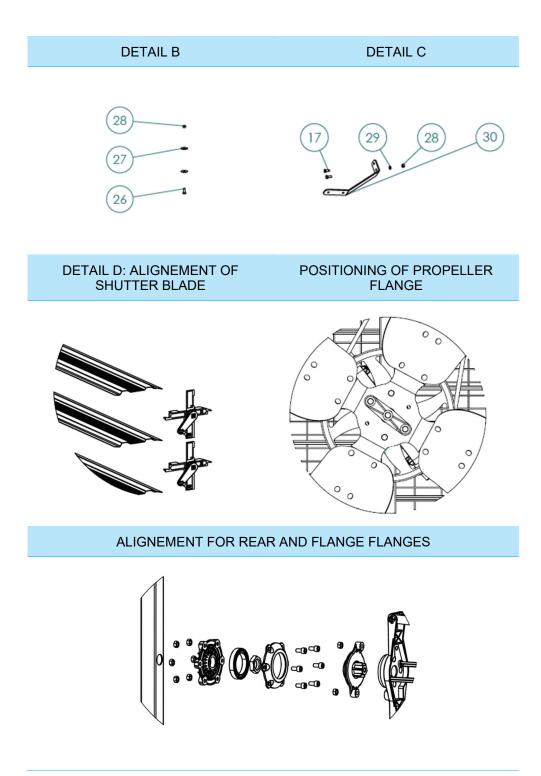


**WARNING** All the components and spare parts MUST be storaged in dry and clean environment.

## 1. SPARE PART LIST EC52







6 © Munters AB

#### Spare parts EC52

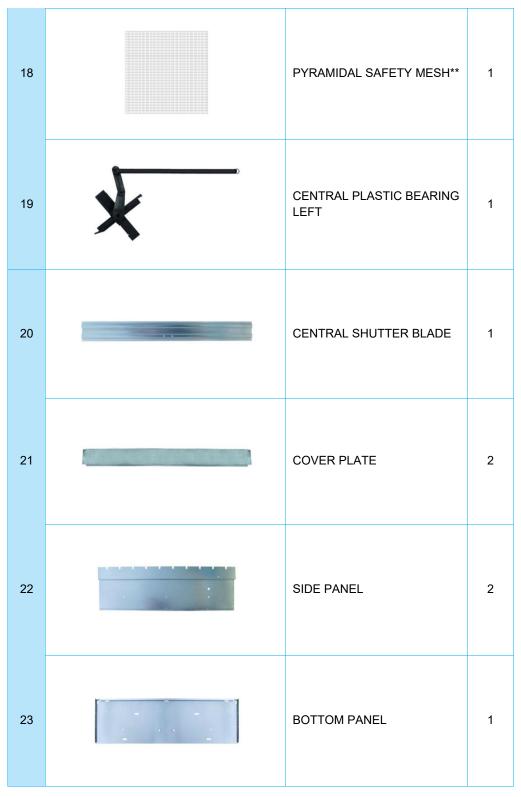
Ref	Picture	Description	Q.ty
1		ROUND SAFETY MESH	1
2		CONE SECTOR	4
3		THREADED BUSH M8X12.5	2
4		POP UP RIVET 6.4X8	AC MOTOR 28 E-LINE MOTOR 29
5		TOP PANEL	1

6		Ø8X32 WASHER	3
7		HEX SCREW M8X16	2
8		MOTOR	1
9	¢.	HOOK FOR SPRING	2
10	C	RUBBER FOR CABLE	AC MOTOR 1 E-LINE MOTOR 2
11		 PLASTIC TIE ROD	2

8 © Munters AB

12	×	CENTRAL PLASTIC BEARING RIGHT	1
13		PLASTIC BEARING RIGHT	9
14		SHUTTER BLADE	9
15		PLASTIC BEARING LEFT	9
16		METAL CLIP FOR MESH	10
17	(	Ø6,3×19 SELF-TAPPING SCREW	18

9 © Munters AB



10 © Munters AB

24		CONVEYOR	1
25		V-BELT	1
26		M6X16 HEX SCREW	30
27	0	Ø6×24 WASHER	40
28		M6 HEX NUT THICK	28
29	0	Ø6 SPRING WASHER	12

11 © Munters AB

30		CONE BRACKETS	4
31	In the second seco	HEXAGON SCREW M8X20	2
32		REAR FIXED FLANGE W/BUSH	1
33		HEX SCREW M8X30	4
34		PLAIN WASHER D8X24	3
35		PROPELLER FLANGE W/ BUSHES	1

12 © Munters AB

36	PROPELLER	1
37	M8 HEX NUT	10
38	HEX NUT M6 WITH FLANGE	4
39	HUB WITH AXLE	1
40	M6×30 HEX SCREW	4
41	CENTRAL PULLEY	1

13 © Munters AB

42		WATERPROOF DISTANCE PIECE	1
43		CENTRAL SUPPORT	1
44		PLASTIC OVAL PLATE	2
45		M10×30 SCREW	4
46	0	EXT TOOTHED WASHER D10.5X18	4
47		M10 HEX NUT	4

14 © Munters AB

48		FRONT FLANGE	1
49		M25 HEX NUT	1
50		HEX SOCKET HEAD CAP SCREW M8X16	6
51		THREADED BUSH M8X17.5	8
52		CENTRIFUGAL SYSTEM	1
53	O	PLAIN WASHER D8X16	2

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54	O	SPRING WASHER D8	8
55		HEX SOCKET HEAD CAP SCREW M8X30	2
56		PLASTIC FORK	1
57		BRASS PIN	1
58		M6 HEX NUT	2
59		HEXAGONAL AXLE	1

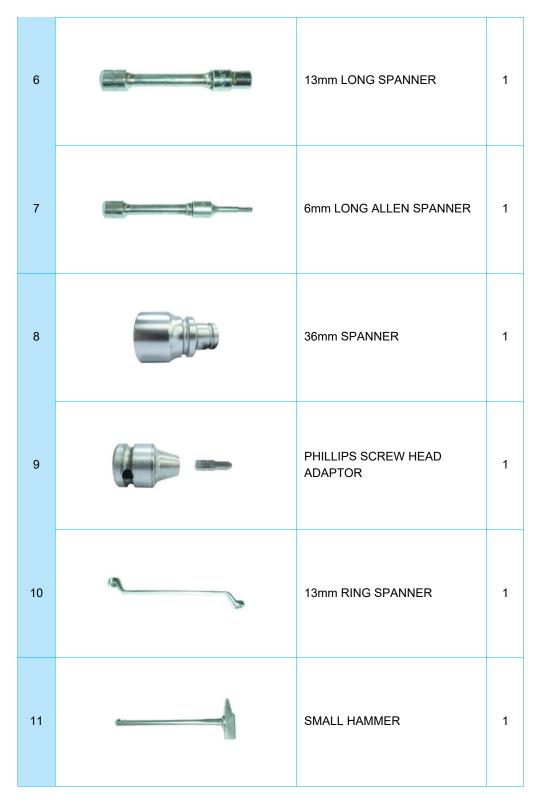
16 © Munters AB

60*		WARNING STICKER A-1997 35X210	1
61*		WARNING STICKER B-1997 70X105	1
62*	Image: Second	PRODUCT LABEL G-1998 95X115	1
63*	WARNING: NOG HERSSURE CLEARING ON THE ENCLUE!	NO HIGH PRESSURE STICKER 42X118	2
64*	MUNTERS PROTECT THE BARRIER AGAINST CORROSION	MUNTERS PROTECT STICKER 70X46	1
65 * Refere	ences not appearing in the exploded view.	CABLE HOLDER CLIP	e-line motor 1

\*\* Mandatory in EU under 2.7 m.

## 2. ASSEMBLING TOOLS

Ref.	Picture	Description	Q.ty
1		RIVETING MACHINE RAC171	1
2		INSERTING MACHINE KJ 45	1
3		PNEUMATIC SCREWDRIVER	1
4		17mm SPANNER	1
5		10mm LONG SPANNER	1



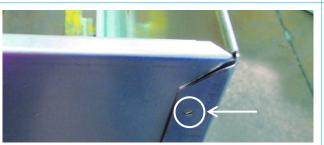
19 © Munters AB



## **3. ASSEMBLING GUIDELINES**

#### HOUSING ASSEMBLING





Before fixing the bottom and the side panels make sure that these pieces are in the right position as in the picture (place the edge of the bottom panel outside the side panel).



Join bottom panel with side panels and fix qty. 3 pop rivets (*ref. 4*) for each edge by using riveting machine (*ref. 1/Assembling tools*). To make the mounting of the Venturi (*ref. 24*) easy take care to fix the signed pop rivet after the Venturi assembling (see arrow in the previous picture).



Insert Venturi into the housing on the right side as in the picture. Fix Venturi to bottom panel with qty. 4 pop rivets (*ref. 4*). Then fix Venturi to each side panels with qty. 4 pop rivets (*ref. 4*).

	Place the top panel ( <i>ref. 5</i> ) as in the picture (place the edge of the top panel outside the side panel). Fix it to side panels with qty. 3 pop rivets for side.
	Fix it to Venturi with qty. 4 pop rivets ( <i>ref. 4</i> ).
<image/>	Place the threaded bushes ( <i>ref. 60</i> ) in correspondence of proper holes around the housing. Qty. 2 threaded bushes for each panel.



The propeller central support (ref. 43) shall be fixed to housing by means of qty. 4 screws M10x30 (ref. 45), qty. 2 oval plates (ref. 44), qty. 4 external toothed washers D10.5x18 (ref. 46) and qty. 4 hexagonal nuts M10 (ref. 47).



Place the oval plates between propeller central support and panels. The conic surface of the holes shall face the metal panels (top and bottom).



Place the central support over the oval plates. Put the toothed washers and start to screw the nuts. Tighten by using pneumatic screwdriver (ref. 3/Assembling tools) in order to fix the central support to the top and bottom panels.



Place the qty. 2 threaded bushes (ref. 3) on the top panel by using inserting machine (ref.2/ Assembling Tools).



Insert the electric motor (*ref.*  $\vartheta$ ) into its slot taking care to fix it over proper track on the top side.

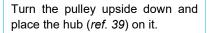


Fix motor slide to top panel by means qty. 2 screws M8x16 (*ref. 7*) and qty. 2 washers D8x32 (*ref. 6*). Tighten screws by using 13mm spanner (ref. 10/Assembling tools).

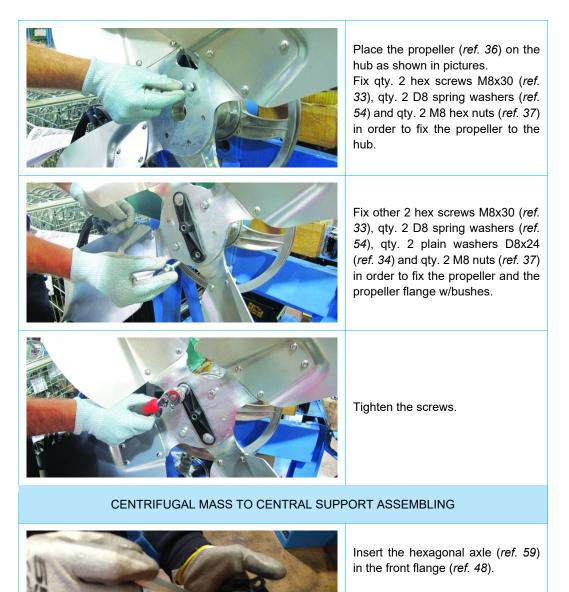
#### CENTRIFUGAL SYSTEM AND PULLEY TO PROPELLER ASSEMBLING



Take the pulley (*ref. 41*) and insert qty. 4 M6x30 screws (*ref. 40*) on external part of it.

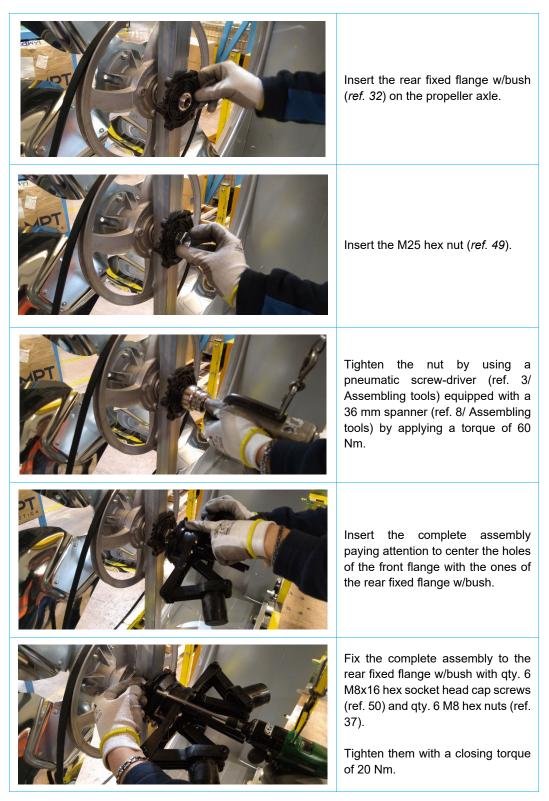


Insert and fix qty. 4 M6 hex nuts with flange ( <i>ref. 38</i> ) over the bolts.
Tighten the nuts by using pneumatic screw-driver ( <i>ref. 3/Assembling tools</i> ).
Place the waterproof distance piece ( <i>ref. 42</i> ) on the axle and then place the axle on a support.
Place the v-belt ( <i>ref. 25</i> ) on the central pulley.
Before assembling the propeller make sure that the hub is oriented as shown in the picture. The 4 highlighted holes are used to fix the propeller to the hub.



This operation will be easier if the hexagonal axle surface will be lubricated with silicon or spray lubricant.





Insert qty. 1 plain washer D8x24 ( <i>ref. 34</i> ), qty. 1 D8 spring washer ( <i>ref. 54</i> ) and qty. 1 M8x20 hex screw ( <i>ref. 31</i> ) and screw it on thread present on hexagonal axle.
Tighten the screws by means of a 13mm ring spanner (ref. 10/Assembling tools).
Place the rubber grommet ( <i>ref. 10</i> ) on the left side panel for electric cable protection. For the E-Line version only, place the second rubber cable gland in the lower hole
Fix the cable holder clip ( <i>ref. 65</i> ) to the side panel with qty. 1 pop rivets ( <i>ref. 4</i> ) to hold the signal cable.

#### SHUTTER BLADES ASSEMBLING



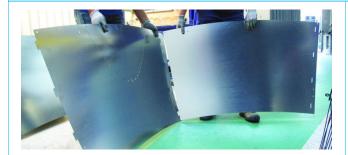
Fit the assembled central shutter blade on the central slot (fifth position from the top) of the housing.
Insert the spring hooks ( <i>ref. 9</i> ) in the holes of the side panels ( <i>ref. 22</i> ).
Insert the free terminal of the spring on the hook.
Connect the centrifugal system to the fork of the central shutter blade with the knurled brass pin ( <i>ref.</i> 57). To insert the pin use a small hammer ( <i>ref.</i> 11/ Assembling tools).
Insert qty. 9 shutter blades ( <i>ref.</i> <i>14</i> ) in the free slots of the housing and then place the fan horizontally.





Place v-belt on the pulley and then rotate the propeller clockwise in order to tighten the vbelt on the pulley. Check tensioning: right tensioning is obtained when tension over the vbelt corresponds to a resonance frequency of 35-41 Hz measured by a v-belt tension meter like the "Trummy 2" manufactured by Fag or the "Ten-Sit" manufactured by Sit.

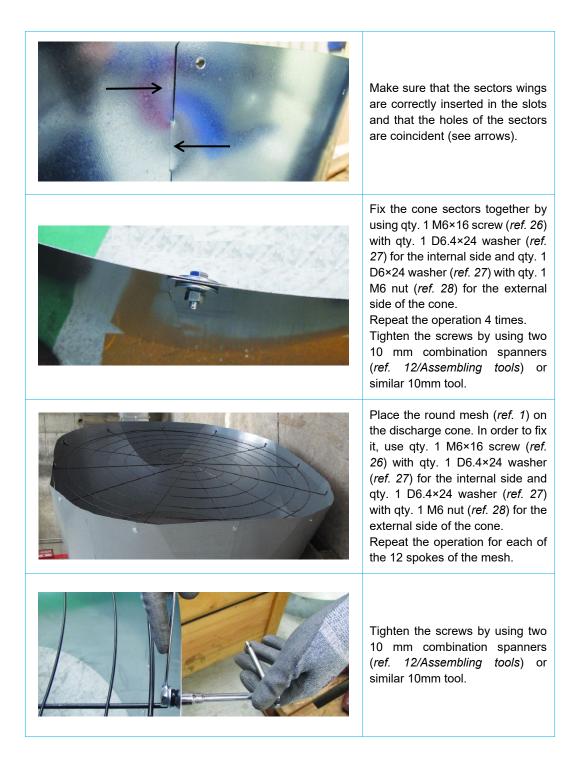
#### EC52 CONE DISCHARGE ASSEMBLING

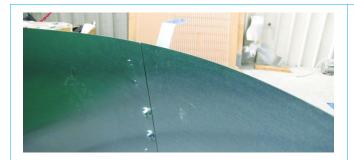




Assemble the cone sectors (*ref.* 2) as shown in the pictures, inserting the wings of the first sector in the slots of the second one. Repeat the operation for all four sectors.

To obtain the discharge cone join the first sector with the last one.





Fix the cone bracket (*ref. 30*) to the discharge cone by using qty. 1 M6x16 screw (ref. 26) with qty. 1 D6x24 washer (ref. 27) for the internal side and qty. 1 D6 spring washer (*ref. 29*) with qty. 1 M6 nut (*ref. 28*) for the external side of the cone.

Place qty. 4 cone sectors (ref. 2)

Join one by one by means of qty. 2 M6x16 screw (*ref.* 26), qty. 2 D6

spring washer (ref. 29) and qty. 2

on the ground.

#### EC50 CONE DISCHARGE ASSEMBLING



 M6 nut (ref. 28).

 Place the bolts and nuts as in the picture.

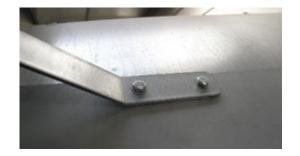
 To obtain the discharge cone join the first sector with the last one.

 Put the safety mesh guard (ref. 1) into the discharge cone.

 In order to fix it, use qty. 1 M6×16

the first sector with the last one. Put the safety mesh guard (*ref.* 1) into the discharge cone. In order to fix it, use qty. 1 M6×16 screw (*ref.* 26) with qty. 1 D6.4×24 washer (*ref.* 27) for the internal side and qty. 1 D6.4×24 washer (*ref.* 27), qty. 1 D6 spring washer (*ref.* 29) with qty. 1 M6 nut (*ref.* 28) for the external side of the cone.

Repeat the operation for each of the 12 spokes of the mesh.



Fix the cone bracket (*ref. 30*) to the discharge cone by using qty. 1 M6x16 screw (ref. 26) and qty. 1 M6 nut (*ref. 28*)



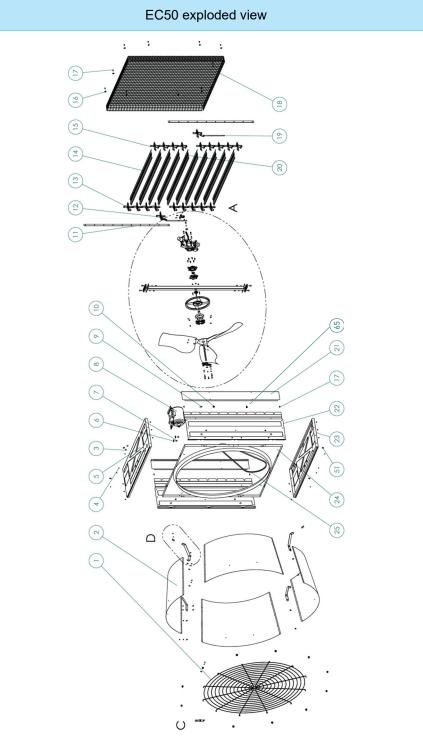
#### OPTIONAL PYRAMIDAL SHAPE MESH ASSEMBLING

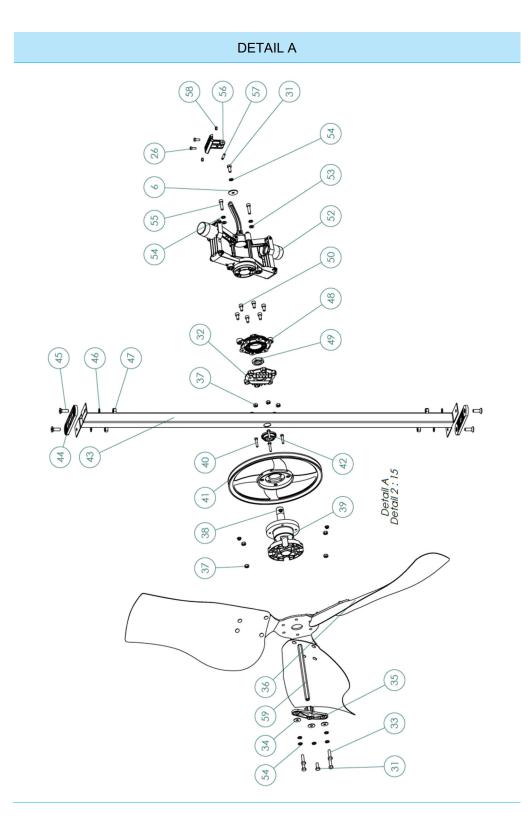


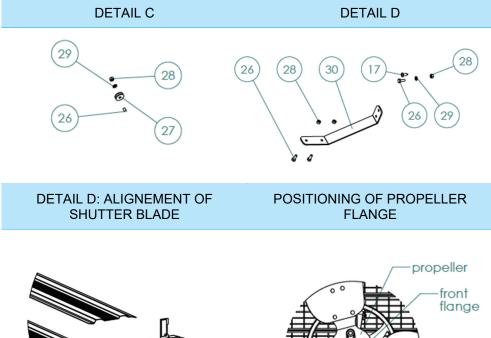
Put the pyramidal shape mesh (*ref. 18*) on the fan as in the picture. The rectangular holes must have the long side in horizontal position.

Fix it to the panels by means of qty. 10 metal clips (*ref.* 16) and qty. 10 D6.3x19 screws (*ref.* 17). Fix it by using a pneumatic screwdriver (*ref.* 3/ Assembling tools) and its proper adapter (*ref.* 9/ Assembling tools).

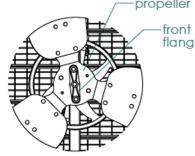
## 4. SPARE PART LIST EC50



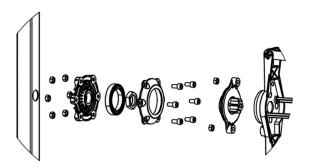








ALIGNEMENT OF REAR AND FRONT FLANGES



#### Spare parts EC50

REF.	DESCRIPTION	QUANTITY
1	ROUND CONE SAFETY MESH	1
2	CONE SECTOR	4
3	THREADED BUSH M8X12.5	2
4	POP UP RIVET 6.4X8 (FOR E-LINE VERSION)	28(29)
5	TOP PANEL	1
6	Ø8X32 WASHER	3
7	HEX SCREW M8X16	2
8	MOTOR*	1
9	HOOK FOR SPRING	2
10	RUBBER FOR CABLE (FOR E-LINE VERSION)	1(2)
11	PLASTIC TIE ROD	2
12	CENTRAL PLASTIC BEARING RIGHT	1
13	PLASTIC BEARING RIGHT	9
14	SHUTTER BLADE	9
15	PLASTIC BEARING LEFT	9
16	METAL CLIP FOR MESH	10
17	Ø6.3×19 SELF-TAPPING SCREW	18
18	PYRAMIDAL SAFETY MESH	1
19	CENTRAL PLASTIC BEARING LEFT	1
20	CENTRAL SHUTTER BLADE	1
21	COVER PLATE	2

22	SIDE PANEL	2
23	BOTTOM PANEL	1
24	CONVEYOR	1
25	V-BELT*	1
26	M6X16 HEX SCREW	30
27	Ø6×24 WASHER	40
28	M6 HEX NUT THICK	28
29	Ø6 SPRING WASHER	12
30	CONE BRACKETS	4
31	HEXAGON SCREW M8X20	2
32	REAR FIXED FLANGE W/BUSH	1
33	HEX SCREW M8X30	4
34	PLAIN WASHER D8X24	3
35	PROPELLER FLANGE W/ BUSHES	1
36	PROPELLER*	1
37	M8 HEX NUT	10
38	HEX NUT M6 WITH FLANGE	4
39	HUB WITH AXLE	1
40	M6×30 HEX SCREW	4
41	CENTRAL PULLEY	1
42	WATERPROOF DISTANCE PIECE	1
43	CENTRAL SUPPORT	1
44	PLASTIC OVAL PLATE	2

45	M10×30 SCREW	4
46	EXT TOOTHED WASHER D10,5X18	4
47	M10 HEX NUT	4
48	FRONT DRIVER FLANGE	1
49	M25 HEX NUT	1
50	M8X16 HEX SOCKET CAP SCREW	6
51	THREADED BUSH M8X17.5	8
52	CENTRIFUGAL SYSTEM	1
53	PLAIN WASHER D8X16	2
54	SPRING WASHER D8	8
55	M8X30 HEX SOCKET CAP SCREW	2
56	PLASTIC FORK	1
57	BRASS PIN	1
58	HEX NUT M6	2
59	HEXAGONAL AXLE	1
65	CABLE HOLDER CLIP FOR E-LINE VERSION	1

\* References change depending on the configuration utilized.

Munters EC extraction fans are developed and produced by Munters Italy S.p.A., Italy



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