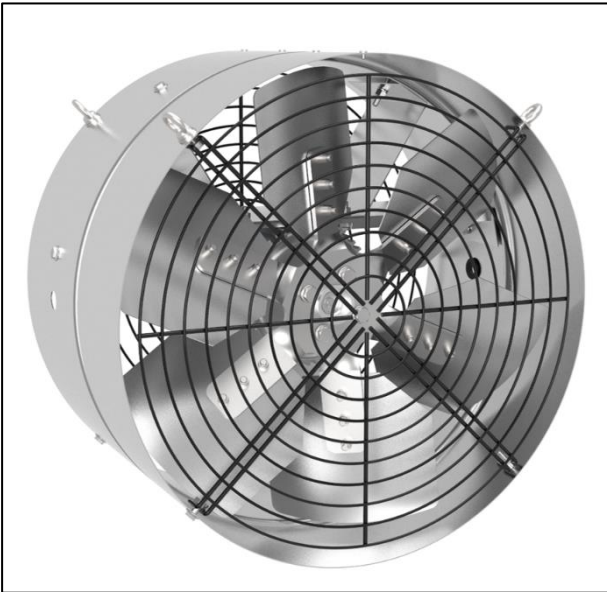


EDC
GHp

Manual for use and maintenance



Spare part list

EDC GHp

Air circulation fan

Models: EDC18 GHp - EDC24 GHp

EDC GHp

Manual for use and maintenance

Original instructions

This manual for use and maintenance is an integral part of the apparatus together with the attached technical documentation.

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Warranty

For Warranty information please refer to "General terms and condition of sale" available on https://www.munters.com/globalassets/terms-and-policies/condizioni_generali_vendita.pdf

Conditions and Limitations:

- Products and Systems involved in a warranty claim under the "General terms and condition of sale" shall have been properly installed, maintained and operated under competent supervision, according to the instructions provided by Munters;
- Malfunction or failure resulting from misuse, abuse, negligence, alteration, accident or lack of proper installation or maintenance shall not be considered a defect under the Warranty.



Declaration of conformity

Munters Italy S.p.A. with registered offices in Strada Piani 2 - 18027 Chiusavecchia (IM) - Italy (Company registration nr. 00081050080)

Declares on its own responsibility that the apparatus EDC18GHp and EDC24GHp are conform to the following provisions:

- Low Voltage Directive 2014/35/UE
- Electro-Magnetic Compatibility EMC directive 2014/30/UE
- Directive 2011/65/UE (RoHS) modification directive 2015/863/UE
- Machine Directive 2006/42/CE

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

1. INTRODUCTION

1.1 Disclaimer

Munters reserves the right to make alternations to specifications, quantities, dimensions etc. for production or other reasons, subsequent to publication. The information contained herein has been prepared by qualified experts within Munters. While we believe the information is accurate and complete, we make no warranty or representation for any particular purposes. The information is offered in good faith and with the understanding that any use of the units or accessories in breach of the directions and warnings in this document is at the sole discretion and risk of the user.

1.2 Introduction

Congratulations on your excellent choice of purchasing an EDC GHp fan!

In order to realize the full benefit from this product it is important that it is installed, commissioned and operated correctly. Before installation or using the fan, this manual should be studied carefully. It is also recommended that it is kept safely for future reference. The manual is intended as a reference for installation, commissioning and day-to-day operation of the EDC fans.

1.3 Notes

Date of release: 2020.

Munters cannot guarantee to inform users about the changes or to distribute new manuals to them.

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1.4 Disposal

Do not dispose of this product with general household waste. This product must be disposed according to the laws governing Waste Electrical and Electronic Equipment. If required, contact your local authorities for information regarding the available disposal facilities.

2. SAFETY ASPECTS

The safety of fans is assured by Munters in compliance with the safety requirements indicated by the CE label.

Safe functioning is assured only when the installation procedures and the instructions for use have been carefully followed. The following points must be stressed:

- proper transport procedure must be followed;
- do not remove the safety meshes;
- all the fans installed at a height lower than 2.7 m from ground level must be equipped by extra safety kits, which can be ordered and should be mounted on the fan side;
- there must be no obstacle neither in front or behind the fans. The outgoing airflow must be kept free at least of a length of 3-times fan diameter and the ingoing airflow must be kept free at least in a radius of 1.5 m distance in front of the fan;
- inform the maintenance operator on maintenance procedure; create an efficient ground wiring; adopt disconnecting and safety automatic devices against overloadings and short circuits.



WARNING

- Do not operate the fan without having it firmly fixed to the structure or without complying with the safety regulations for the electrical connection;
- do not install the fan in places where there might be explosion hazards as described by C.E.I.64-2 rules and do not handle any material which might produce explosive powders, as stressed in the same rules;
- if used as an air extractor, the emission of polluting gases into the atmosphere must be within the limits determined by local authorities;
- fans must be installed at a safe height to leave the way free for the transit of transport and operators.



WARNING The fan can be used by people (including children) with reduced physical, sensory or mental capabilities, or lack of experience, only if adequately supervised or instructed in the safe use of the device and with the knowledge of the associated risks.

Children shall not play with the fan.



WARNING The fan must only be used if it is in perfect operating condition, by personnel, aged more than 14 years who are perfectly aware of the safety measures and possible hazards, and in strict compliance with the instructions given in this manual.

NOTE There are no components in the devices containing mercury and asbestos.

3. BEFORE USING

3.1 Packaging and transport

Fans are packed individually in cardboard wrappers according to delivery requirements.



WARNING Always wear protective clothing and gloves during fans handling.

3.2 Structure

Air Circulators consists of the following components:

- sheet body riveted, without welding spots, in galvanised or precoated or stainless steel 304;
- six blades propeller in stainless steel 430 or galvanised or precoated EDC24;
- blades fixed with aeronautical rivets;
- asynchronous three-phases electric motor, 50, IP55 protection class, fixed speed;
- flow straightener;
- one or two safety meshes.

4. OPERATING CONDITIONS

Air circulators are designed to create air circulation inside farms and greenhouses and meant to maintain both the environment temperature and humidity constant and uniform.

Working ambient temperature limits are -15°C to +40°C. Maximum altitude is 1000 m above sea level. If a fan is required to operate at a higher altitude, the loss in mass flow (heat removing capacity) due to lower air density should be taken into consideration.

5. INSTALLATION

Circulators are delivered fully assembled. The fan is supplied without a control box; the installer shall provide a suitable control box in compliance with the requirements specified by the EN 60439-1 standard.

Circulators are designed and built for hanging installation and have therefore eyebolts to be hung.



WARNING Always check up if cable and chain dimensions are suitable to hold up the fans weight and if they have the proper length to distribute the strain uniformly (fig.1).

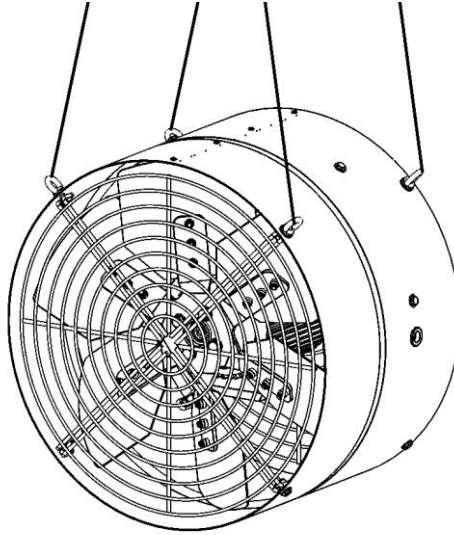






fig. 1

5.1 Connection to the electrical system

The fan is supplied without a command and control circuit, but with all the internal electrical connections already made.

At the fitting stage, the installer must set up a control panel in compliance with the requirements of standard IEC EN 60439-1, and arrange the wiring of the fan in accordance with the instructions in standards IEC EN 60204-1 and IEC 60364.

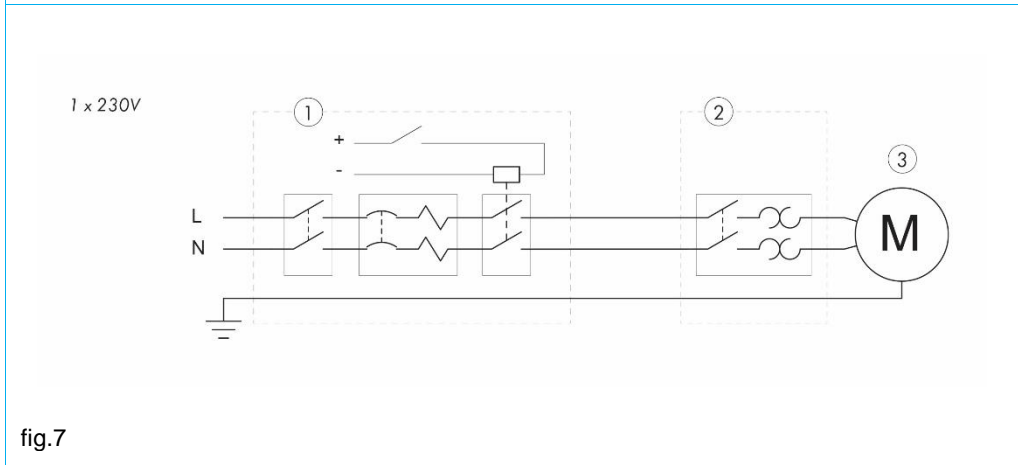
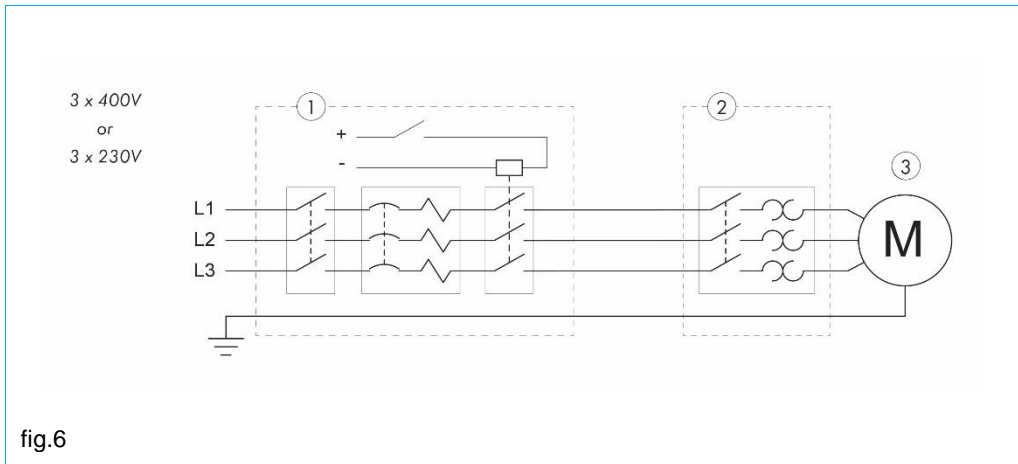
The electrical panel of the fan must generally be equipped with the following devices (bearing EC marking as per directive 2006/95/EC):

 <p>fig.2</p>	<p>Lockable isolating switch.</p>
 <p>fig.3</p>	<p>Magnetothermic switch (chosen to suit the power of the motor). The need to fit a switch of differential type depends on the configuration of the electrical system supplying the fan: it is the installer's responsibility to make this assessment in accordance with the instructions in standard IEC 60364.</p>
 <p>fig.4</p>	<p>Red emergency stop button, mushroom type, provided with mechanical locking and release by turning (in compliance with UNI EN ISO 13850). Operating the button must bring about the electromechanical isolation of the power supply to the electric motor (category 0/1 according to IEC EN 60204-1).</p>
 <p>fig. 5</p>	<p>Start/stop selector switch (with characteristics compatible with the nominal current of the motor), or main panel for managing the equipment, with control devices which act on the electrical supply to the fan.</p>



WARNING Do not supply power to the fan during installation stage.

Installer must issue a declaration of correct installation in accordance with applicable legislation in the country of use.



- 1 = Overload protection switch
- 2 = Circuit breaker
- 3 = Fan motor



WARNING The rating plate data of the electric motor and the instructions given in the attached technical documentation must be used for sizing the power supply cable.



WARNING In the event of installations that do not comply with the directions given in this chapter, the manufacturer's liability ceases, along with the validity of the CE Declaration of Conformity.

The electrical lines must be laid in accordance with requirements of the laws applying in the place of installation, and in any event:

- they must be laid with cables of adequate section for the power of the fan and the length of the line itself;
- they must make an effective earth connection;
- they must have isolating devices and automatic protection against overload and short circuits.

Before activating the electrical supply to the machine by turning the isolator switch to position On, a series of checks must be made:

- check that the voltage and frequency of the power source correspond to those indicated in the equipment technical data and electrical diagram;
- check that the supply cables and the conductor providing external protection are correctly connected;
- check that the connections in the control and power circuits are properly tight;
- check that the intensity of the short-circuit expected at the connection terminals is compatible with the breaking power of the protection switch upstream of the electrical panel;
- check that the protection devices (fuses, magnetothermic switches) are correctly sized, and that the phases are connected in the correct order.

5.2 Use



WARNING

- Fans should not be installed in places where children aged 14 years or less are present;
- It is forbidden to remove the safety meshes until all people are clear of the fans.

Risks connected to moving parts

All the moving parts are protected by a case or placed inside the body. Even in case of breakings (fan, blades,...)

there are no risks of injury for people.

Switching on and switching off

Switching on and switching off operations pass through not supplied equipments.

Operating conditions

Looking at the airflow rectifier, the propeller should turn counterclockwise (*fig.8*).

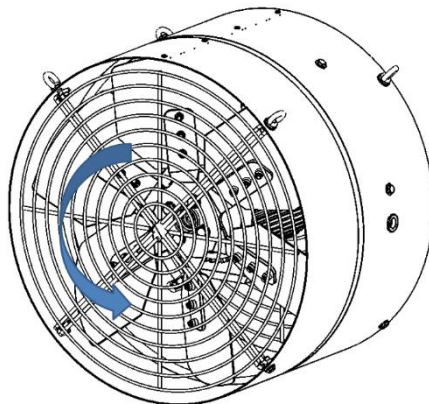


fig. 8

Emissions in the atmosphere

If used as an air extractor, the user should carry out the checks and fulfilments in compliance with the regulations about the inflow of polluting substances into the atmosphere.

Cleaning

During cleaning operations the power switch must be in the off position and locked by a padlock. It is necessary to perform periodic cleaning of safety meshes, airflow rectifier and blades using brushes or compressed air.



WARNING In order to avoid any damage, cleaning the motor directly with water jets must be avoided.

6. COMMISSIONING

After installation, follow the steps mentioned below to verify that the fan is working properly:

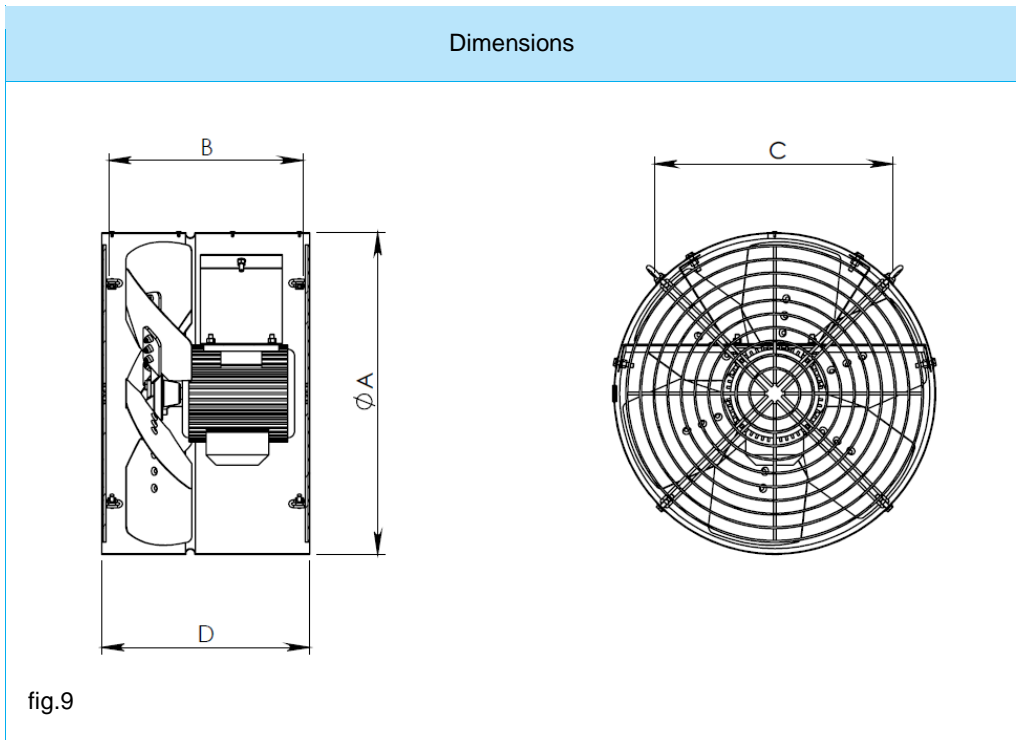
1. check if all the fans are secured tightly to the suspension;
2. ensure that all the necessary safety equipment is fitted to the fans;
3. ensure that all electrical connections are done properly and comply with local regulations;
4. note in which direction the propellers are supposed to turn;
5. remove all obstacles from the front and back sides of the fan;
6. ensure that all people and animals are standing clear of the fan;
7. turn the electrical power to the fans on;
8. observe the direction in which the propeller of each of the fans is turning;
9. turn the electrical power to the fans off.



WARNING Do not attempt to correct any problem observed during the above mentioned steps while the fan is in operation. Wait until the electrical power has been switched off and the fan has come to a complete stand still. Lock the electrical switch in the off position with a pad lock while working on the fan.

7. TECHNICAL DATA

7.1 Dimensions



A	B	C	D
EDC24 GHp			
620	275	580	305
EDC18 GHp			
470	275	350	305

7.2 Motor specifications

Model	Nominal Power		Phases	Speed	Frequency	Voltage	Current	Rpm	Poles
	[W]	[Hp]			[Hz]	[V]	[A]		
EDC18GHp	240	0.33	3	single	50	240/415	1.7/1	1400	4
EDC18GHp	370	0.5	3	single	50	240/415	2.3/1.3	1400	4
EDC24GHp	370	0.5	3	single	50	240/415	2.3/1.3	1400	6

7.3 Technical specifications

		EDC18 GHp 0.33 hp	EDC18 GHp 0.5 hp	EDC24 GHp 0.5 hp
Weight of fully equipped air circulator*	kg	14	14	20
Nominal propeller speed	rpm	1400	1400	900
Airflow at 0 Pa*	m ³ /h [cfm]	3950 [2325]	5260 [3095]	7800 [4590]
Specific performance at 0 Pa*	m ³ /Wh [cfm/W]	9.2 [5.4]	8.5 [5.0]	17 [10]
Propeller diameter	mm [inch]	450 [18]	450 [18]	600 [24]
Number of blades		6	6	6
IEC protective class of electric motor		IP55	IP55	IP55
Electric motor winding insulation grade		F	F	F
Max noise level at 1.95 m		75.8	75.5	76.5

* The value refers to 3 phases 50Hz single speed motors.

Note: airflow data are measured at standard conditions (20°C, 1,013hPa)

8. MAINTENANCE

Maintenance of circulators only consists in regular cleaning, as they do not contain parts needing periodic lubrication: all the moving parts are either manufactured from self lubricating materials or are sealed with lifetime lubrication.

Maintenance operations must only be carried out by qualified personnel, as:

- mechanical operator or assembler (for mechanical parts);
- electrician (for the electrical equipment).

All the maintenance operations must be carried out with:

- the power switch in the off position and locked by a padlock;
- the fan removed from work position after unhooking chains or cables;
- the propeller at a complete stand still before removal of protections;
- the use of ladders complying with the safety regulations in case of fans installed at a certain height;
- a suitable equipment for maintenance operations.

Replacement of the propeller

If damage occurs, it is necessary to replace the whole propeller.

Replacement procedures of the propeller group in the EDC GHp model (see Chapter 9, fig. 10):

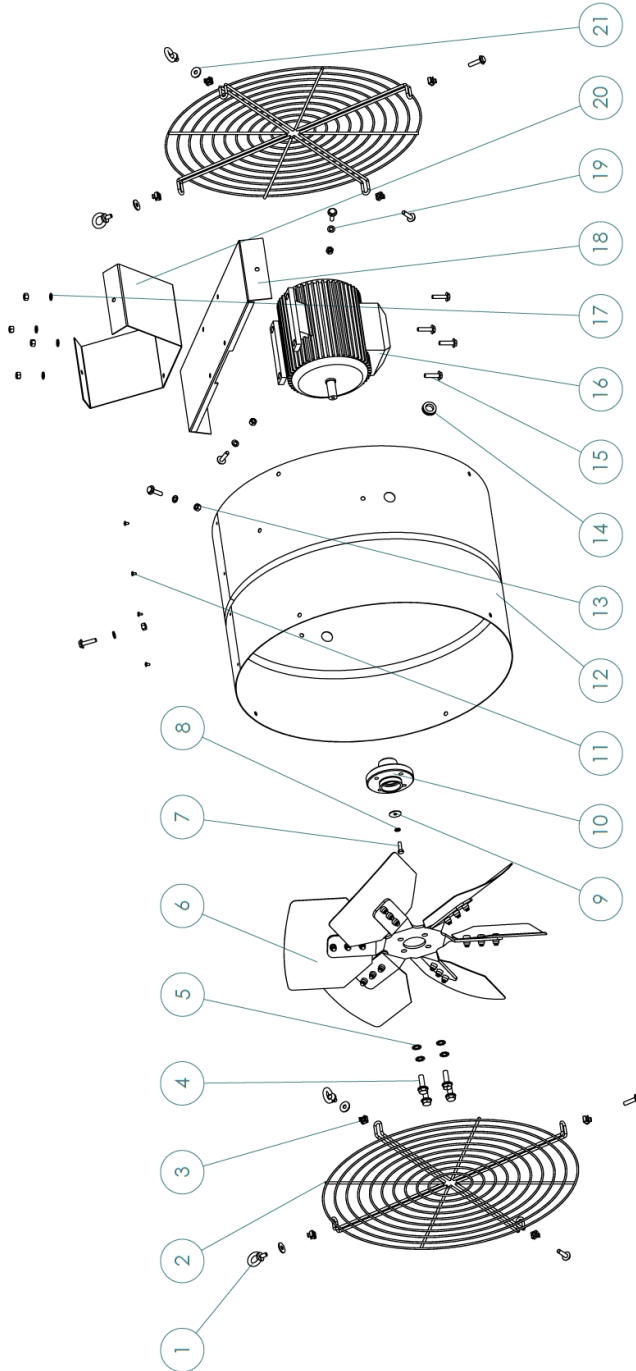
- loosen the fixing screws and remove the safety mesh;
- unscrew the bolts fixing the motor bracket to the body;
- pull the motor/propeller group out of the body and replace the damaged propeller;
- reassemble the circulator following the reverse procedure.

Functionality check of the thermo-magnetic switch:

- open the electrical control panel;
- check the absence of electrical continuity between the terminals upstream and downstream the thermo-magnetic switch; in case of electrical continuity replace the switch;
- close the electrical control panel;
- switch on the fan.

SPARE PART LIST

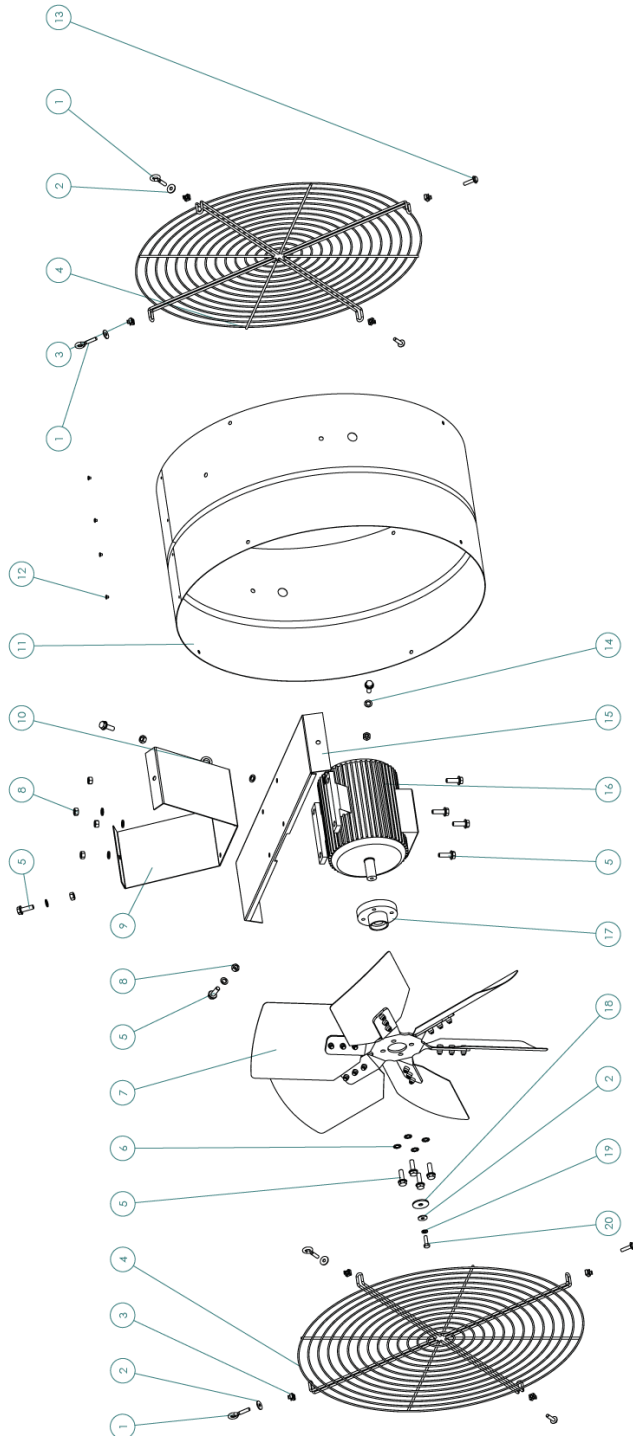
Exploded view - EDC18 GHp



Spare parts - EDC18 GHp

REF.	DESCRIPTION	QUANTITY
1	EYEBOLT M6	4
2	SAFETY MESH	2
3	CAGE NUT M6	8
4	M8x25 HEX SCREW W/FLANGE	4
5	D8 EXT TOOTHED WASHER	4
6	PROPELLER	1
7	M5x16 HEX SCREW	4
8	D5 SPRING WASHER	1
9	D5x20 PLAIN WASHER	1
10	HUB	1
11	POP UP RIVET D3.9x7 ALU	4
12	HOUSING	1
13	M6 HEX NUT	8
14	RUBBER FOR CABLE	1
15	M6x25 HEX SCREW W/FLANGE	12
16	MOTOR	1
17	D6 SPRING WASHER	4
18	MOTOR PLATE	1
19	D6 SPRING WASHER	4
20	MOTOR PLATE SUPPORT	1
21	D6x18 PLAIN WASHER	4

Exploded view - EDC24 GHp



Spare parts - EDC24 GHp

REF.	DESCRIPTION	QUANTITY
1	EYEBOLT M6	4
2	WASHER D6x18	5
3	CAGE NUT M6	8
4	SAFETY MESH	2
5	M8x25 HEX SCREW W/FLANGE	12
6	D8 EXT TOOTHED WASHER	4
7	PROPELLER	1
8	M8 HEX NUT	8
9	MOTOR PLATE SUPPORT	1
10	RUBBER FOR CABLE	1
11	HOUSING	1
12	POP UP RIVET D3.9x7 ALU	4
13	M6x25 HEX SCREW W/FLANGE	4
14	D8 SPRING WASHER	8
15	MOTOR PLATE	1
16	MOTOR	1
17	ALUMINIUM HUB	1
18	WASHER D8X32	1
19	D6 SPRING WASHER	1
20	M6X20 HEX SCREW	1

Munters EDC GHp circulation fan is developed and produced by Munters Italy S.p.A., Italy



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