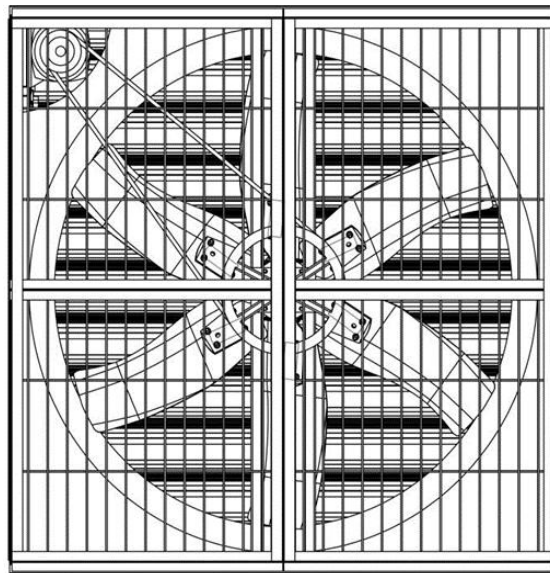




**USER MANUAL AND INSTALLATION INSTRUCTIONS**  
**INDUSTRIAL FAN**



Dear user, it is mandatory to observe and implement the provisions of this manual.

Please read and follow it carefully.

Otherwise, KOOLAK GOSTAR YAZD Company will not be responsible for potential accidents.

\*We appreciate your purchase\*

We are confident that you will be satisfied with your acquisition from **KGY**.



## INDUSTRIAL FAN

With the confirmation certificate of the European Union and four international standards, we affirm that the design and modeling of this equipment have been completed in our company. It possesses the quality and safety features authorized by the European Union.



**To ensure the proper, effective and permanent performance of the exhaust fan, as well as your safety, we sincerely ask you to read this installation pamphlet carefully and completely. Pay attention to warnings and safety instructions before installation and for the repair and maintenance of the exhaust fan.**

**The consequences of not reading the latest version of the manual are the responsibility of the customer.**

**You can always download the latest version of the user manual at [www.kgy.ir](http://www.kgy.ir)**

## Table of contents

<b>1</b>	<b>INTRODUCTION .....</b>	<b>4</b>
1-1	TARGET GROUPS .....	4
1-2	GENERAL INFORMATION.....	5
1-2-1	<i>Signs</i> .....	5
1-3	SPECIAL SAFETY INSTRUCTIONS .....	5
1-4	GENERAL SAFETY INSTRUCTIONS .....	5
1-5	ELECTRICAL EQUIPMENT .....	6
1-6	MAINTENANCE .....	6
1-7	SPARE PARTS ORDERING.....	6
1-8	RESPONSIBILITY.....	7
1-9	WARRANTY .....	7
1-10	POWER OUTAGE .....	7
1-11	FIRST AID .....	7
1-12	WASTAGE .....	8
1-13	CALL INFORMATION.....	8
<b>2</b>	<b>INTRODUCTION .....</b>	<b>9</b>
<b>3</b>	<b>TECHNICAL FEATURES.....</b>	<b>9</b>
3-1	TECHNICAL FEATURES TABLE.....	9
3-2	SYSTEM.....	10
<b>4</b>	<b>DEVICE DIMENSIONS .....</b>	<b>11</b>
<b>5</b>	<b>INSTALLATION .....</b>	<b>12</b>
5-1	INSTALLATION GUIDE .....	12
5-2	CONNECTIONS.....	13
5-3	ELECTRICITY.....	13
<b>6</b>	<b>REPAIR AND MAINTENANCE.....</b>	<b>14</b>
6-1	TROUBLESHOOTING .....	14
6-2	BELT ADJUSTMENT .....	14
<b>7</b>	<b>POTENTIAL ERRORS LIST .....</b>	<b>16</b>
<b>8</b>	<b>APPENDICES.....</b>	<b>17</b>
8-1	ACCESSORIES.....	17

## 1 Introduction

This instruction has been compiled to guide you, dear consumer, not only in learning how to install and run the KGY exhaust fans but also in understanding the general details of its electrical panel and gaining the ability to troubleshoot your system. Always keep a copy of this manual next to the exhaust fan so that the operator can comprehend the safety tips, especially if they are not familiar with the exhaust fan. Share the following tips with anyone working with the exhaust fan to prevent problems and potential injuries:

- **How to turn on and adjust the exhaust fan**
- **Safety points about operation and maintenance of the exhaust fan**

Ensure the exhaust fan is serviced by a technician once a year to guarantee its correct performance. Consult an expert to address any issues with the electric motor or burner.

### 1-1 Target groups

**These instructions are intended for:**

- Installers tasked with the assembly (if applicable) and/or mechanical installation of this exhaust fan.
- Electricians tasked with the electrical installation of this exhaust fan.
- Operators tasked with the operation of this exhaust fan.
- Maintenance technicians tasked with maintenance and troubleshooting of this exhaust fan.




**Target group requirements:**

- Installers must have sufficient relevant experience or training in the installation of this type of Exhaust fans.
- Electricians must be qualified electricians.
- Operators must have sufficient relevant experience or training in operating this type of exhaust fans.
- Maintenance technicians must have sufficient relevant experience or training in maintaining and troubleshooting this type of exhaust fans.



## 1-2 General information

### 1-2-1 Signs

While reading this manual you'll face these signs:

	<b>General Hazard Warning</b>
	<b>Electrical Hazard Warning</b>
	<b>Protective Glove Use</b>

### 1-3 Special Safety Instructions

	<b>Caution</b>	<b>This sign indicates a possible hazard or unsafe practice that could injure you or damage the exhaust fan.</b>
	<b>Attention</b>	<b>Next to this sign, you will find information on how to use the exhaust fan properly and efficiently and how to create an ideal ambient condition.</b>

### 1-4 General Safety Instructions

This exhaust fan is designed for use in industrial halls, poultry farms, and greenhouses. Its use in other locations is only acceptable if approved by the company's consultants and technical experts. The producer is not liable for the consequences resulting from improper use, and the user bears full responsibility for potential incidents and damages.


- The presence of a factory-authorized serviceman is mandatory for the initiation, maintenance, and installation of the exhaust fan.
- Compliance with obligatory regulations for incident prevention, along with adherence to all other formal regulations such as occupational medicine and safety, is required.

**Caution:** This manual does not address the general hazards of fire. Call your local fire department for guidance and information.

## 1-5 Electrical Equipment


- All the matters related to the maintenance and repair of the exhaust fan must be handled by experts.
- Before initiating maintenance and repair procedures ensure the exhaust fan is unplugged.
- Prior to starting the exhaust fan, inspect all electrical wiring and make sure they are undamaged.
- Before activating the exhaust fan, have electricians identify and replace any damaged wires and components within the system.
- Covering the electro-motors may elevate the temperature and potentially leading to damage the exhaust fan and, in extreme cases, causing a fire.

## 1-6 Maintenance

	<p><b>Before performing maintenance and repairs ensure that the exhaust fan is unplugged.</b></p>
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**Caution:** For maintenance procedures on the exhaust fan, refer to the manual. Any repairs must be carried out exclusively by the authorized servicemen of the company, and they should be entrusted with the task.

**Caution:** Maintenance, repairs, and cleanliness of the exhaust fan should be conducted when the exhaust fan is turned off, and the electro-motor has been stopped. This aspect should be taken into consideration even when addressing partial deficiencies during repairs

	<p><b>If there is a possibility of hand injury, use the protective gloves.</b></p>
---	--

After the repair process, the customer should be satisfied with the results. Do not restart equipment before implementing all safety considerations.

The exact technical features of spare parts must be provided, ensuring they possess the necessary quality features. This requirement ensures the originality of the parts.

## 1-7 Spare Parts Ordering

when ordering the spare parts, consider the following points:

- Intended piece code with its description
- Bill's code of initial purchase
- Electrical features, such as 380Volt,3phase, 50 hertz

## **1-8 Responsibility**

Any change applied to the exhaust fan without the supervision of company representatives absolve our responsibility for potential damages.

The consequences of unstandardized adjustment of the flame formation system rest on the customer; hence, it is recommended that all matters related to installation, initiation, service, repair and adjustment of the injection system and flame formation should be handled by factory-authorized servicemen or individual trained and confirmed by KOOLAK GOSTAR YAZD.

## **1-9 Warranty**

Always keep the warranty card with you to avail yourself of the warranty and after-sales service for KOOLAK GOSTAR YAZD products. The product specification plate, located on the exhaust fan, must not be removed under any circumstances. This plate contains crucial electrical, mechanical, and identification information.

Each Exhaust fan is assigned a unique serial number, which is indicated on its respective plate. Retain the serial number for future reference.

## **1-10 Power outage**

It is recommended to install warning systems on your equipment to protect your assets, animals and plants.

In the event of power outage, an emergency power system with a voltage stabilizer regulator must be immediately activated. Contact your insurance company for more information.

## **1-11 First Aid**

First Aid box should always be available in the workplace for immediate aid provision in case of incidents. Replace any material and instrument used as soon as possible. When seeking help, provide the following information:

- Where did the incident happen?
- What happened?
- How many people are injured?
- What kind of injuries happened?
- Who is reporting the incident?

## 1-12 Wastage

After installation or repair, dispose of packing and other waste materials in appropriate places (like retrieval)

## 1-13 Call Information

Factory Address: Iman Street – Hossein Abad Rismani – Yazd – Iran

Telephone number: 035-38369990-9 / 035-38369560-1

Website: [www.kgy.ir](http://www.kgy.ir)

Fax: 035-38369505

Email: [info@kgy.ir](mailto:info@kgy.ir)



**The contents of this manual may change without prior notice.  
If you encounter any errors or incorrect information, we would appreciate being informed.  
All photos, logos, and content in this booklet belong to KGY Company and copying them without mentioning the company's name is illegal.**



## 2 Introduction

KGY industrial ventilators represent the latest advancements in fan technology, meticulously redesigned and upgraded to minimize energy consumption, increase efficiency, and reduce maintenance costs. Efficient air conditioning is crucial in environments like greenhouses, poultry farms, and mushroom growing halls, where an excess of carbon dioxide can impede product growth.

In particular, effective ventilation is vital in poultry farms and industrial halls, where the presence of elevated ammonia levels poses a threat to poultry health. KGY ventilators, available in three sizes (100, 120, and 140), address these concerns by ensuring proper ventilation in diverse industrial places, poultry houses, and greenhouses. The fans featured in this brochure utilize a belt and pulley system to connect the propeller to the electric motor.

These ventilators employ axial fans, specifically designed for locations requiring a substantial volume of airflow. Common applications include ventilation in various industrial environments, humidity reduction, smoke removal, and overall air circulation.






An added feature of KGY industrial ventilators is their compatibility with electrical and automation control panels. This capability allows for precise control over pressure, temperature, and the composition of gases within the facility. The versatility of this industrial fan extends its usage to diverse settings such as swimming pools, commercial and industrial spaces, warehouses, parking lots, garages, and agricultural facilities.

## 3 Technical Features

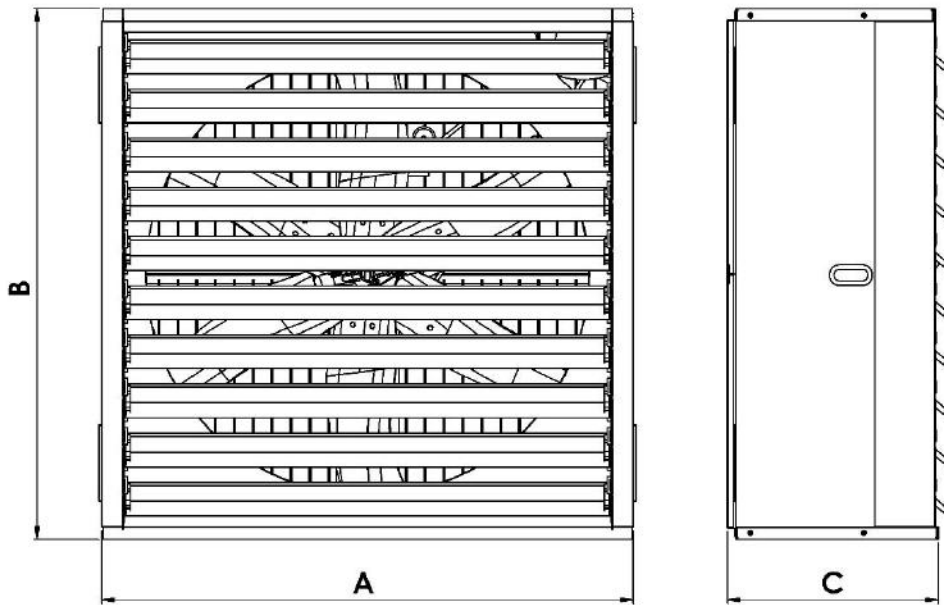
### 3-1 Technical Features Table

<b>Technical Features</b>	<b>EF100</b>	<b>EF120</b>	<b>EF140</b>
Power supply (Ph-V-Hz)	3-380-50	3-380-50	3-380-50
Weight (Kg)	75	100	126
Dimensions (cm) (height×width×length)	98×56×98	121×54×121	141×55×141
Suction Power (m <sup>3</sup> /h)	23000	36000	46000
Electric Motor (kW)	0.75	1.1	1.5
Fan Speed (rpm)	700	525	459
Propeller Diameter (cm)	90	95	117
Bearing	UCF 206	UCF 206	UCF 206
Electric Current (A)	2	4.3	5.4

### 3-2 System

<p><b>Propeller:</b> The propeller features an exclusive design by KGY, crafted from high-quality galvanized alloy. It boasts a specialized dynamic balance of 6 mm solar -like to move air with minimal noise and maximum pressure.</p>	
<p><b>Body:</b> The solid, fully galvanized body is meticulously manufactured using CNC cutting, punching, and bending devices. This process ensures the highest precision and minimal vibration.</p>	
<p><b>Automatic clutch damper:</b> Automatic clutch dampers have been used in model 140 and 120 fans. Easy opening and closing, minimal friction with exhaust air, preventing hot air leakage outside the hall when the fan is off, and preventing dust and vermin from entering the hall when the fan is off is some of the most important advantages of using automatic dampers.</p>	
<p><b>Electromotor:</b> The three-phase electric motor provides the necessary torque to turn the propeller using alternating current. The design strategically places the electric motor within the device, avoiding an increase in width. The distance between the fan axis and the electric motor allows for the use of a long belt, effectively maintaining belt coolness during operation.</p>	
<p><b>Shaft and bearing:</b> The material of the shaft is 45CK anti-wear steel, which in addition to its high strength, does not change shape or vibrate due to continuous work. The usage of two high-quality UCF bearings guarantees the smooth and silent movement of the shaft and maintenance of the balance of the fan.</p>	

#### 4 Device dimensions



(cm)	KG 100	KG 120	KG 140
A	98	121	141
B	98	121	141
C	56	54	55

**Table 3: Geometric dimensions of KG series ventilators**

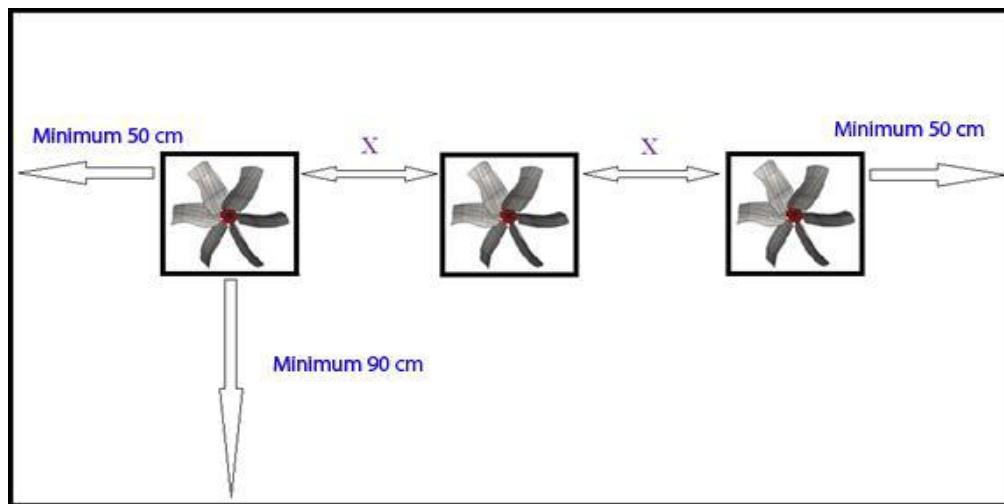
## 5 Installation

### 5-1 Installation Guide

Note: The number of required devices depends on factors such as the size and shape of the desired space, the target temperature, and local weather conditions. For personalized advice and guidance, please contact the company's experts

- Maintain a distance of at least 90 cm between the fan floor and the ground, and a minimum distance of 50 cm from the side wall


If installing multiple fans on one side (wall), ensure they are at equal distances from each other while adhering to the previously mentioned limits.




- The surface beneath the fan should be completely flat and level. An uneven surface may cause the propeller to be unbalanced, potentially leading to damage to the damper and shaft.
- Securely affix the device to the wall to eliminate any possibility of vibration or movement
- A portion of the damper should extend outside the wall, and the surrounding area should remain uncovered. The precise location of the damper, indicated by a warning label, is marked on the device
- For effective hall ventilation, position the mesh part inside and the damper part outside the hall. This configuration directs air from inside the hall to the outside.
- The amount of air entering the hall must be accurately calculated and provided based on the number and type of ventilators to prevent damage to the device.

**Note: Ensure the movement of the damper blades is smooth after installation. To do this, manually move the middle blade up and down, verifying that all blades align smoothly with the main blade.**

### 5-2 Connections

	<p><b>Any task done to the exhaust fan, including the installation, repair and adjustment of the gas input conversion and connection to the natural electricity and gas system, should be done through the company's experienced servicemen and using high-quality and standard connections. During installation, you must pay attention to the rules of the electricity and gas companies in your area.</b></p>
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### 5-3 Electricity

	<p><b>Be sure to use the appropriate fuse, phase control and circuit breakers in the input power path.</b></p>
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- The input power for the KGY ventilator is stabilized three-phase alternating with a frequency of 50 Hz and a voltage between the lines of 380 V.
- Ensure the connection wire of the device's body (earth) is properly connected.
- The correct order of the input phase is crucial for starting the device. Incorrect phase sequencing may result in the fan propeller rotating in the opposite direction specified on the device, leading to potential accidents. Therefore, it is imperative to incorporate phase control in the input power path.
- When starting, use a suitable miniature fuse (16 amps).
- The starting method can be manual, semi-automatic (12 A contactor), or drive
- To safeguard the electromotor against overload and short circuits, utilize appropriate fuses and non-metals (4-6 amps).

**Determining the type of protective equipment and installing and controlling them must be done by the company's authorized servicemen.**

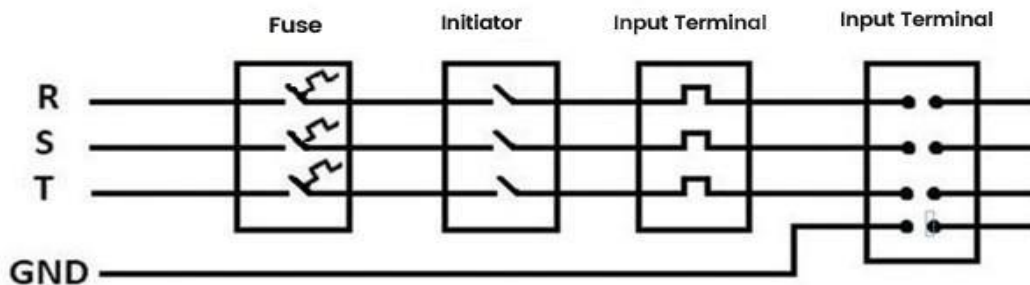



Figure2

## 6 Repair and Maintenance

### 6-1 Troubleshooting

	<p><b>Do not use water to clean the fan.</b></p> <p><b>Improper cleaning can damage the fan.</b></p>
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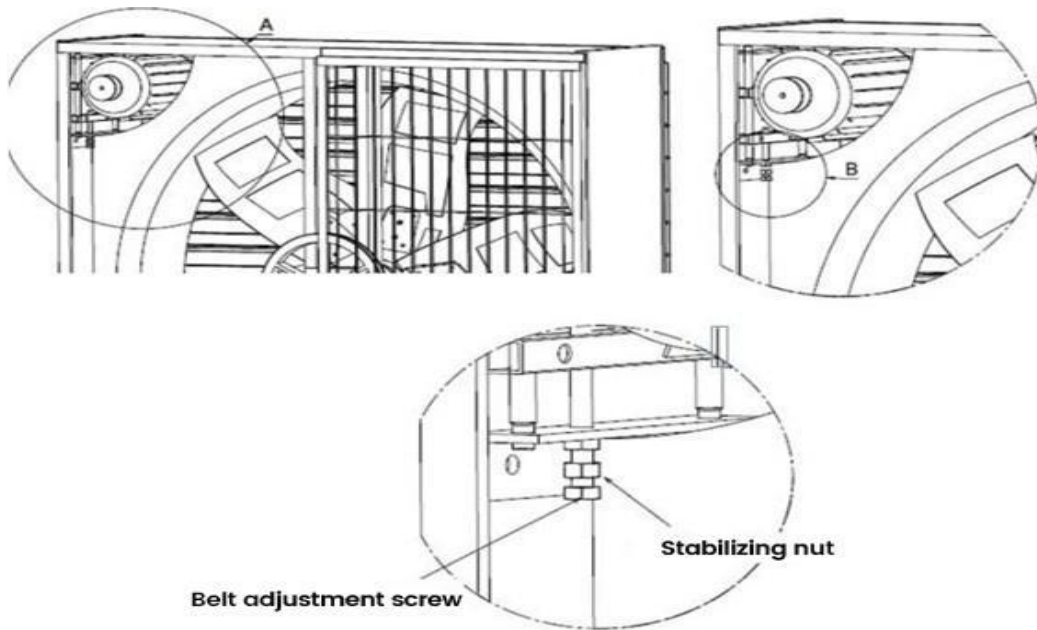
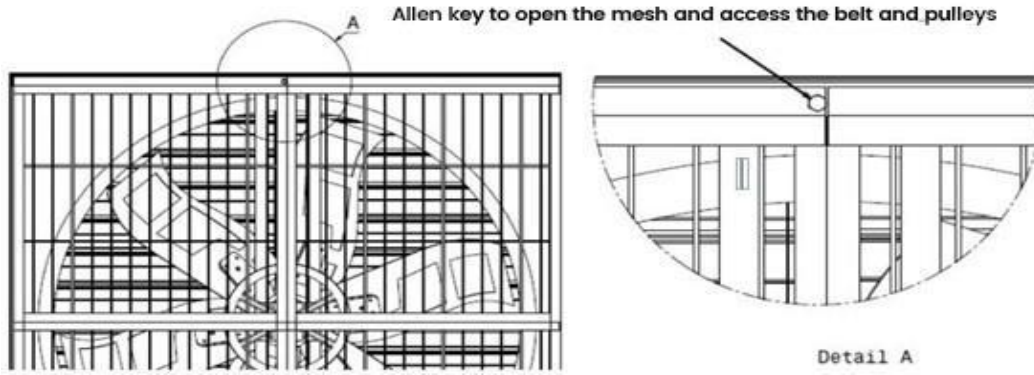
**Note:** This device should be checked and adjusted by a specialist at least annually. In appropriate intervals, the service and dust of the device should be taken completely. Do not use water in this process. Clean the device using an air compressor.

	<p><b>Turn off the main power.</b></p>
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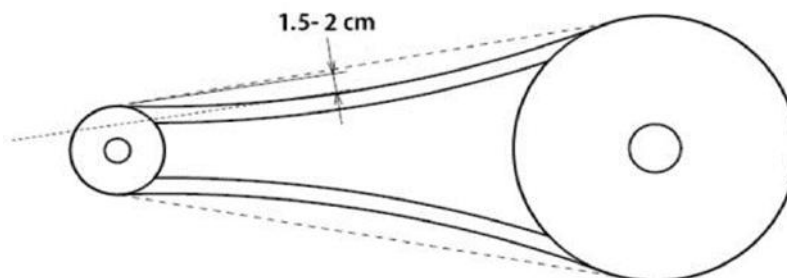
- For smooth and noiseless operation of the bearings, check and lubricate them monthly. For doing this connect the grease pump hose to the grease outlet of the bearing and pump it. Perform this procedure for both bearings.
- If the propeller is out of balance for any reason, the device will vibrate, and the sound during operation will change. Continuing to operate in this state not only exerts excessive pressure on the electric motor but also increases the risk of propeller breakage, shaft corrosion, and damage to the bearings and belt. If you notice such changes in the ventilator's performance, consult the company's experts promptly.
- Check the belts every two months and replace them if you see rot or scratches.

### 6-2 Belt Adjustment

- Two screws located at the top and bottom of the ventilation net allow access to the motor, pulley, and belt by opening the net in a book-like manner (Figure 3).
- Use the adjustment screw under the motor base to regulate the belt's looseness and tightness. Tightening this screw makes the belt tighter. Be cautious as excessive tightness adds load to the electric motor and bearings. After adjusting the belt, secure it by tightening the stabilizer nut to prevent disruptions (Figure 4).




- When fastening the belts, ensure they are neither too loose nor too tight. Excessive tightness places additional force on the bearings and the motor, while excessive looseness leads to noise in the system. Follow the figure below for proper belt adjustment.



- Check the belt monthly and replace it if you see any scratches or rot. Always have an extra belt to be sure.
- Always check the screws, the place where the blades connect to the propeller and the screws on the bearings and always make sure that all the connections and screws are tight.

## 7 Potential Errors List

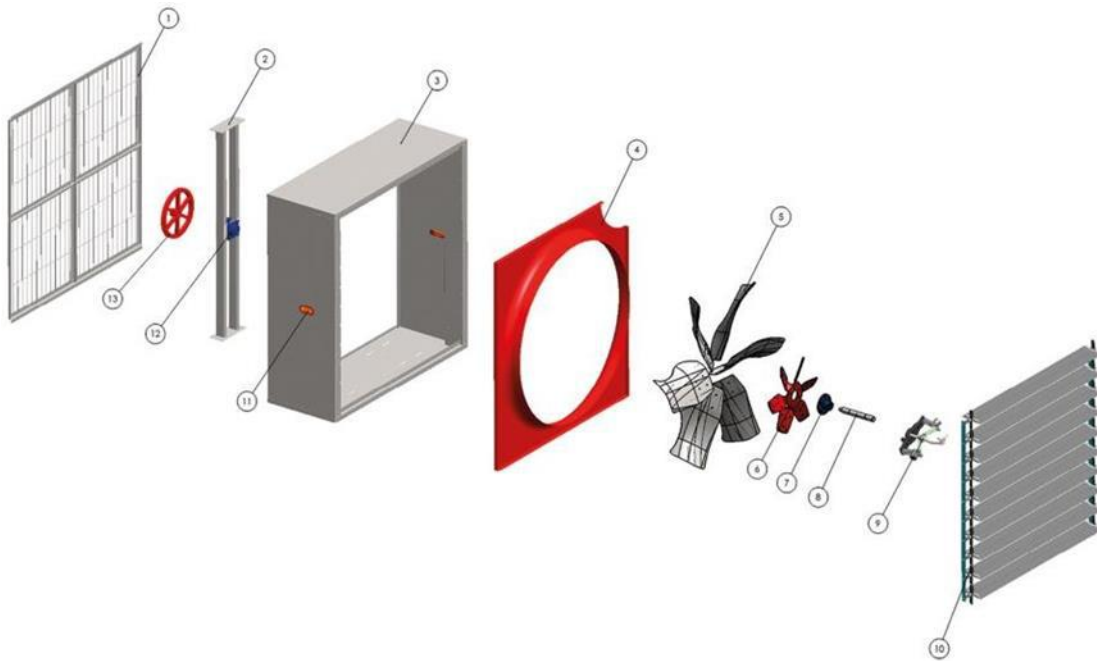
Error	Cause	Troubleshooting
<b>Extensive vibration</b>	The device is not securely in place	Fix the device on the wall to prevent movement
<b>Extensive vibration</b>	The propeller is not balanced (dirty)	Clean the propeller
	The propeller is not balanced (damaged)	Replace the propeller
<b>Motor fan overheating</b>	The fan is overloaded	-Check the fan system for overload. - Check the tightness of the belt
<b>Motor fan overheating</b>	The voltage source is either too low or too high	Check the power supply.
<b>High power consumption</b>	The fan is overloaded, or the fan speed is too high	Check the fan system for overload, input frequency, and voltage.
<b>Damper opening and closing problem.</b>	Damper clutch damage	Repair or replace the clutch if necessary.
<b>Loud noise when operating the device</b>	Non-operation of smooth bearings	Grease the bearings.
<b>Loud noise when operating the device</b>	Belt too loose.	Adjust the belt according to the manual
<b>Decreased fan speed.</b>	Too much looseness of the belt (the belt is not adjusted, or the belt has decay and scratches).	Check the belt and adjust or replace it according to the problem

	<p><b>In all the above cases, it is necessary to diagnose and fix the fault with the help of authorized servicemen.</b></p>
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## 8 Appendices

### 8-1 Accessories

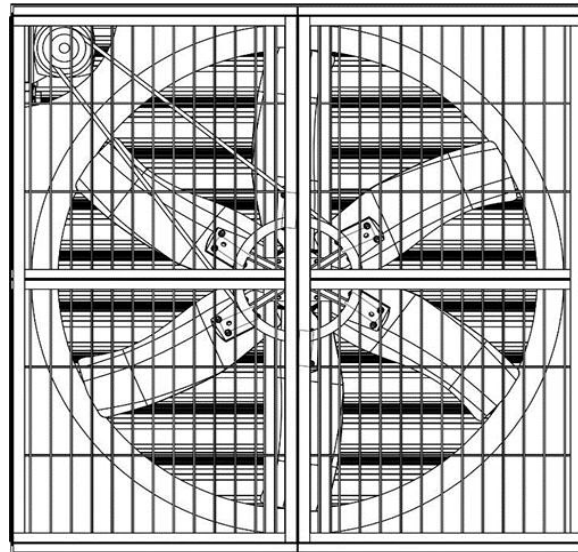


Number	Component Name	Material	No
1	Mesh	wire/galvanized	1
2	Support base	oily steel	1
3	Body	galvanized	1
4	Hosing	oily steel	1
5	Fan Blade	galvanized	6
6	Sun-like	oily steel	1
7	Navel-like	cast iron	1
8	Shaft	CK45	1
9	Damper Clutch	ABS	1
10	Damper	galvanized	1
11	Handle	ABS	2
12	Bearing	galvanized	2
13	Fan Pulley	Aluminum / Cast Iron	1



# **KOOLAK GOSTAR YAZD**

## **USER MANUAL AND INSTALLATION INSTRUCTIONS**



# **Industrial Fan**

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