

timfog



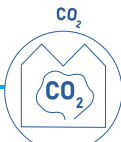
GREENHOUSE CIRCULATION FAN

GCF-50

USER MANUAL

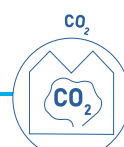


GCF-50



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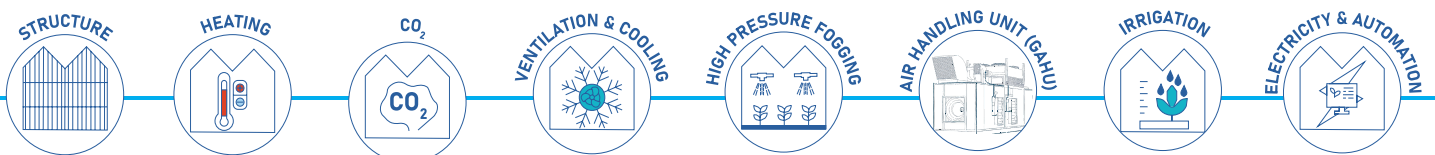
1. INTRODUCTION

1.1 Purpose of User Manual

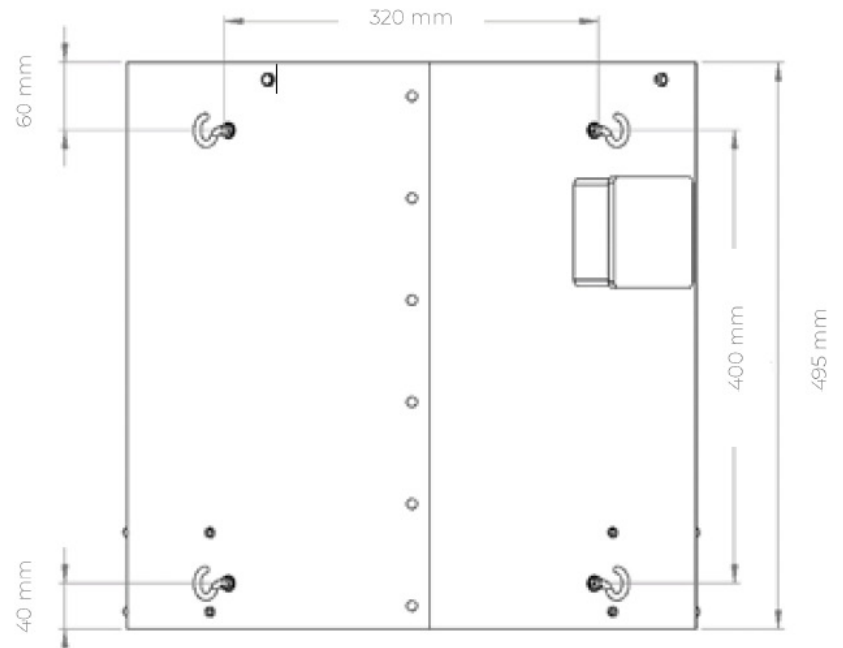
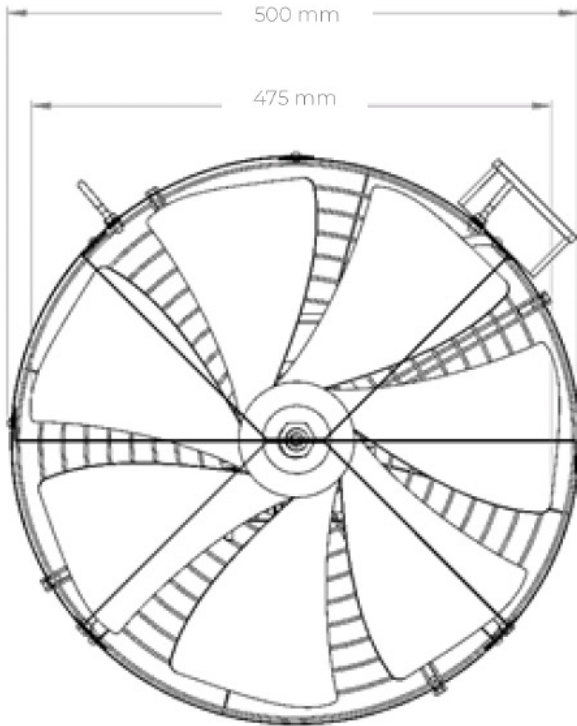
This guide is intended to provide detailed information regarding the installation and start-up (or commissioning) of a greenhouse circulation fan. Section 2, titled Installation, provides the requirements for the mechanical and electrical setup, including details on the inlet, motor, control, and cabling. Section 3, titled Commissioning, provides detailed procedures for the initial start-up, basic operation, and function testing. Other sections provide additional details, including the product’s maintenance procedure, application examples, and notes.

1.2 Product Overview

Greenhouse Circulation Fan (GCF-50). It ensures that the environment has a homogeneously distributed climate by circulating the conditioned air created by HVAC group devices and heating installations within the greenhouse. When started, the impeller initiates air movement with the drive power it receives from the electric motor. With its lightweight and specially designed impeller structure, it provides a high air flow rate with low motor power.



1.3 Product Dimensions

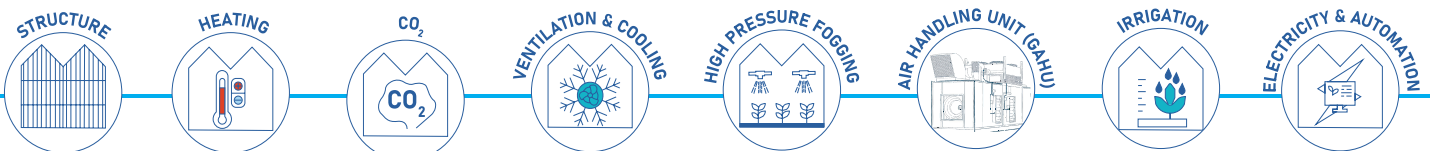


1.4 Box Contents

- GCF-50 Greenhouse Circulation Fans (1Unit)
- Fan Suspension Chain (2 Pcs)
- User Manual

1.5 Certificates

CE EAC



2.SETUP

2.1 Installation Site Checklist

- The GCF-50 circulation fan operates in a greenhouse environment; ensure that the ambient air temperature adheres to the limits specified in the technical data sheet for optimal operation.
- The greenhouse structure from which the GCF-50 fan will be suspended must have sufficient strength (or load-bearing capacity) to support the fan. Observe and evaluate the construction.
- Keep the internal components of the GCF-50 fan free from dust and dirt. Ensure the components remain as clean as possible. Use a protective covering in a construction environment.
- Pay attention to the warnings on the GCF-50 fan’s packaging (box); carry out shipping and handling with these warnings in mind.
- Keep the manual, drawings, and diagrams readily available for detailed installation and operating instructions. It is important that the manual is located where equipment operators can access it.
- Check the contents of the package during the assembly of the GCF-50 fan. Before installation, ensure the adequacy of accessories such as chains, etc.

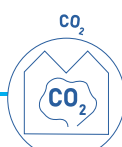
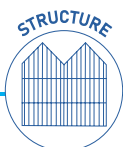
2.2 Mechanical Assembly

After receiving the fan, check the condition of the shipment and the package (or box). If you detect any inconsistency or damage to the product, immediately no-



ATTENTION

The installation (or assembly) of the fan must be performed by specialist personnel (or qualified personnel) to prevent equipment damage or personal injury resulting from incorrect installation.



The assembly (or installation) of the fan must be performed according to the following stages (or phases):;

- Positioning and securing the fan,
- Connection to the mains electrical supply,
- Operational testing and commissioning.

2.2.1 Carriage of Fan

- Check the weight of the product to determine a safe lifting method.
- Ensure the lifting device is suitable for the task.
- If necessary, plan to use a lift, crane, or forklift with sufficient capacity (or strength) to handle the unit.
- For the lifting operation, use the lifting lugs (or lifting eyes) on the unit, if pre-

2.2.2 Positioning and Fixing the Fan

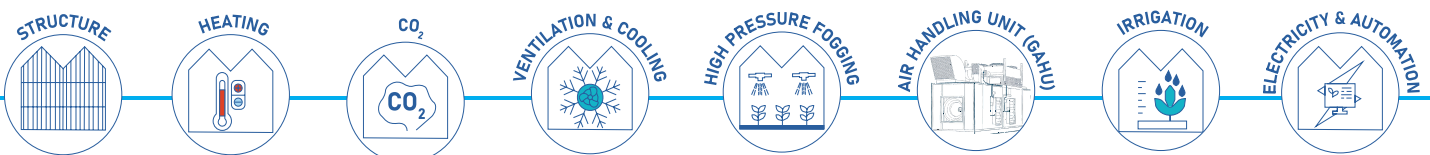
GCF-50 circulation fans are designed and manufactured to be mounted using chains on the roof construction of greenhouses. For this reason, there are 4 suspension bolts on the fan for installation.

WARNING: Always check whether the chains provided in the box are of a size capable of supporting the fan's weight and have the appropriate length to distribute the fan load evenly

2.3 Electrical Installation

2.3.1 Requirements

The GCF-50 Circulation Fan is delivered without the command and control circuit, but all internal electrical connections are complete. During the assembly phase, the installer must install a control panel that complies with the requirements of the IEC EN 60439-7 standard. Always check that the chain lengths are appropriate to ensure even distribution of the fan load.



The fan cables must also be arranged (or routed) according to the instructions in the IEC EN 60204-7 and IEC 60364 standards.

The fan's electrical panel is generally equipped with the following devices (or equipment):



Lockable Switch



Fuse
(Appropriate to Engine Power)



Emergency Stop Button



On/Off Selector Switch



ATTENTION

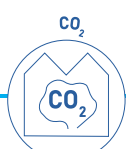
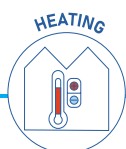
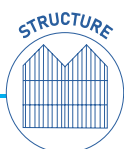
Do not supply power to the fan during the installation phase (or assembly phase). The installer must issue an installation declaration in accordance with the applicable legislation in the country where the installation is performed.



ATTENTION

The power supply cable must be selected taking into account the information plate, the electric motor data, and the specifications presented in the accompanying data sheet.

- The electrical lines must be laid (or wired) according to the requirements of the laws applicable at the installation site.
- The power supply must be provided with cables of sufficient cross-section, taking into account the fan's power and the length of the line.
- An effective earthing connection (or grounding connection) must be established.
- They must have isolation switches (or isolator switches) and an automatic fuse to protect against overload and short circuits.
- Necessary checks must be performed before activating the electrical supply to the machine by setting the isolator switch to the "On" position.
- Check that the voltage and frequency of the power supply match those specified in the product's data sheet and electrical diagrams.



2.3.2 Potential Grounding and Wiring Protection

To establish effective protection against the risk of electric shock, the external protective conductor must be connected to the PE terminal within the electrical panel. The requirements specified in the IEC EN 60204-7 standard must be checked for the correct sizing of the protective conductor.

2.4 Tests and Checks Before Commissioning

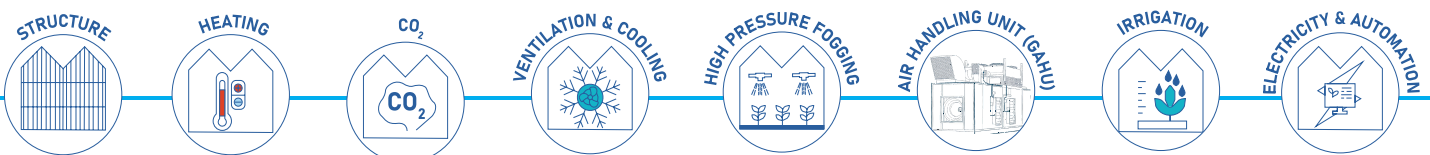
It is extremely important to carefully inspect the fan before commissioning to prevent malfunctions and/or accidents. In particular, review the following inspection steps:

2.4.1 Potential Grounding and Wiring Protection

- Visually inspect the fan to confirm there are no unusual mechanical parts or foreign objects inside
- Ensure that the fan's protective components (the guard grille made of metal wire) are correctly positioned and secured.
- Check that the emergency stop button is functioning properly.

2.4.2 Electrical System Control

- Ensure that the supply conductors are properly connected to the terminals of the isolator switch.
- Check the connections of the conductors in the potential earthing (or grounding) & wiring protection.
- Ensure that the protections within the electrical panel are correctly positioned and secured.
- Check whether the safety devices are receiving power and if they are active (or functional).
- After these serial checks are completed, the fan is ready to be operated for the first time.



3.COMMISSIONING



ATTENTION

The GCF-50 circulation fan should not be used without reading the user manual and being thoroughly familiar with the controls.

3.1 Control Tools

This section provides instructions regarding the control tools that must be installed on the electrical control panel, which was mentioned during the product assembly phase.

During the assembly phase, the installer must install a control panel in accordance with the IEC EN 60439-7 standards and arrange (or route) the fan cables according to the instructions in the IEC EN 60204-7 and IEC 60364 standards. The fan’s electrical circuit should generally be equipped with these tools (or devices).

3.2 GCF-50 Circulation Fan User Manual

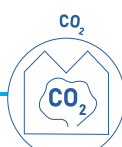
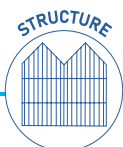
3.2.1 Turning on the fan

Before Starting the Fan

- Ensure all guards (or protective covers) for hazardous areas are in the correct positions.
- Confirm all electrical safety components are in place and check their functions by activating them.
- Check for the presence of electricity (or power) in the supply line.

To Start the Fan, Follow the Procedure Below:

- Turn the lockable switch (or isolating switch) to the “I” position.
- Press the “Start” button.



3.2.2 Normal Stop

If necessary, you can stop the fan by turning the selector switch to the “Off” position. This switch is mounted on the electrical panel. Activating this control should cause the fan blade to stop, but it will not cause the isolation of the power supply. The fan can be restarted by pressing the “Start” button.

If the fan does not need to be used for a long period, the following shutdown procedure should be used:

- Press the “Stop” button.
- Press the “Emergency Stop” button.
- Turn the lockable switch (or isolating switch) on the electrical panel to the “O” position and attach a lock to the switch.



ATTENTION

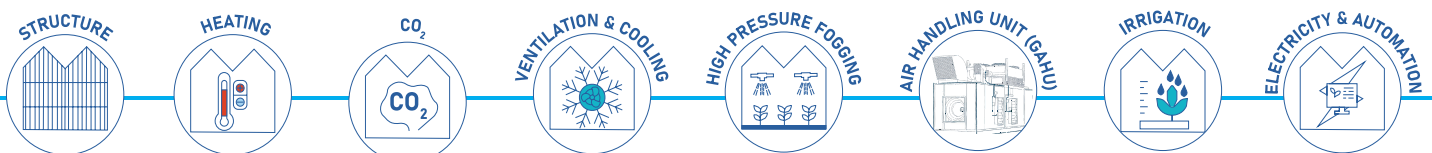
In the event of possible power outages or if the operator turns off the main switch, the fan impeller will not move even if the electrical supply resumes.

3.2.3 Emergency Stop

The use of the emergency stop button causes the fan to stop. It is controlled by a mushroom-type red button on a yellow background, is mechanically locked, and is released by rotation.

3.2.4 Restarting After Emergency Stop

The emergency stop button is released by rotation, and then the standard start-up procedure is applied (or followed).



4. MAINTENANCE



ATTENTION

The GCF-50 circulation fans require daily visual inspection. During this inspection, possible defects are checked (or should be checked).



ATTENTION

Circulation fans can gather dust in the greenhouse environment. To maintain their operating performance, a general cleaning should be performed once every 3 months.

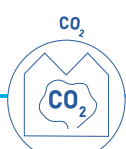
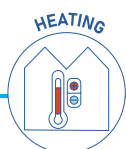
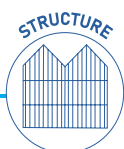
4.1 Introduction

Maintenance must only be performed by qualified personnel using appropriate tools and working methods. Before applying any maintenance step, ensure the power switch is in the off position and locked. Ensure that the impeller has completely stopped. The fan does not contain parts requiring periodic lubrication.

The moving parts of the fan have a self-lubricating structure or are manufactured with lifetime lubrication.

4.2 Cleaning

Inspect and keep the fan clean at regular intervals. Periodic cleaning of the protective wire grille is necessary. Possible dusting and blockages reduce fan performance, increase electricity consumption, and may cause the motor to overheat.





ATTENTION

Keep the motor body clean; dust accumulation on the motor body may lead to overheating, causing failure in the bearings and the motor itself.



ATTENTION

Do not use water for motor cleaning. Use only compressed air. Spraying water will cause rust to form inside the bearings, leading to failure.



ATTENTION

Do not operate the fan with the protective wire grille removed. The fan must only be disassembled by a qualified technician, when it is completely stopped, using specific tools



ATTENTION

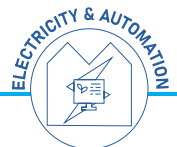
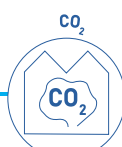
If any of the fan components are damaged or need to be replaced, the replacement part must be procured and used from the manufacturer. Otherwise, the fan will be voided from warranty coverage (or the fan's warranty will be void).



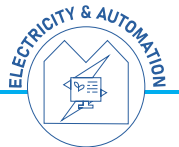
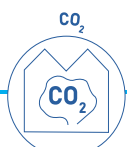
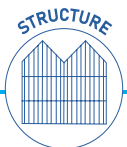
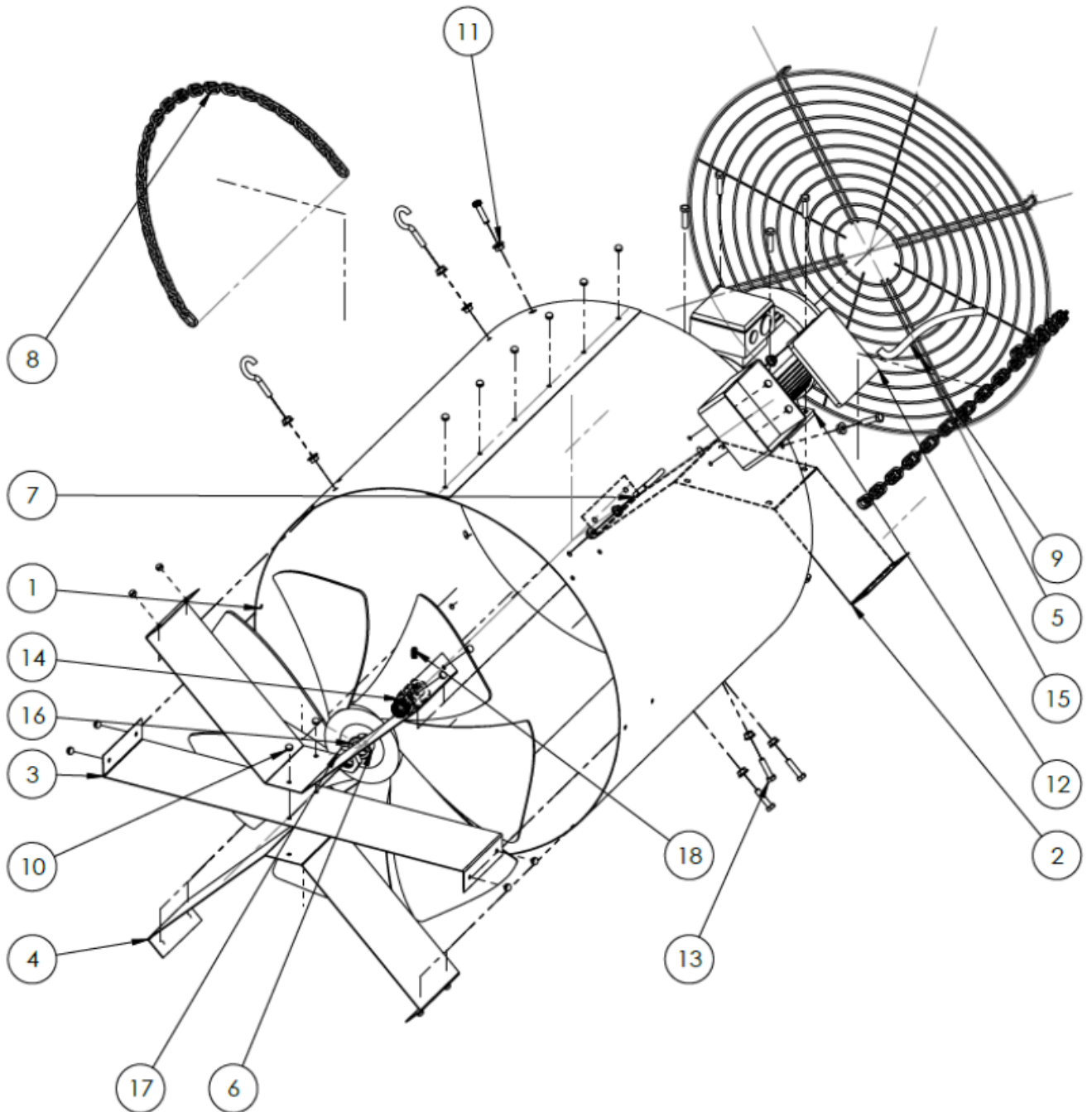
ATTENTION

Several steps that will significantly reduce or eliminate white rust forming on packaged components are as follows:

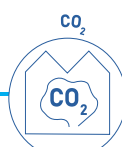
- Keep all fan components dry.
- Ensure that the area where the products are stacked is structured to prevent water accumulation.
- Take care that the body material does not remain damp (or moist).



5.SPARE PART LIST



| | DESCRIPTION | | AMOUNT |
|----|-------------------------------|------------------|--------|
| 1 | Cage | RS.19525.155 | 1 |
| 2 | Engine Support | RS.19525.152 | 1 |
| 3 | Horizontal Support | RS.19525.153 | 1 |
| 4 | Cross Support | RS.19525.154 | 2 |
| 5 | Ø497.5 mm Security Cage | RS.20014. 150 | 1 |
| 6 | Ø475 mm Propeller | Special Produ. | 1 |
| 7 | M6x40 mm Hook | Galvanized Steel | 4 |
| 8 | 1.25 m Cahin | Galvanized Steel | 2 |
| 9 | Ø4x1. 5 mm Cable | 4 Phase Cable | 1 |
| 10 | Ø4.8 mm Rivet | Galvanized Steel | 22 |
| 11 | M6 Fiber Nut | Galvanized Steel | 20 |
| 12 | 0.25 kW AC Motor | 4 Phase Cable | 1 |
| 13 | M6x25 Hex Screw | Galvanized Steel | 12 |
| 14 | Clamping | Galvanized Steel | 1 |
| 15 | 90x90x50 Junction Box | ABS HF 650°C | 1 |
| 16 | M20 Spring Washer | Galvanized Steel | 1 |
| 17 | M20 8.8 Nut DIN 934 | Galvanized Steel | 1 |
| 18 | M6x12 mm Allen Head Screw Set | Galvanized Steel | 1 |



6.GUARANTEEE

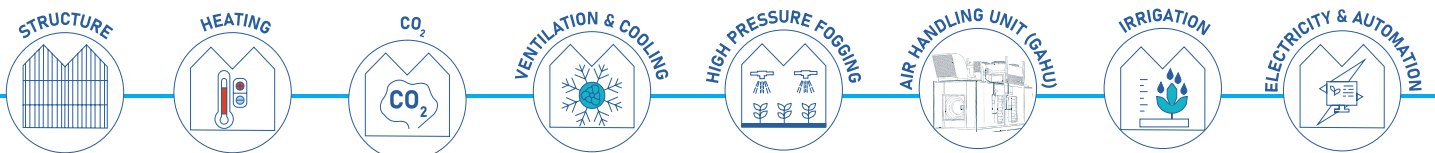
Timfog products are designed and manufactured to provide reliable and satisfactory performance, but they are not guaranteed against all failures. Although they are reliable products, they may develop unforeseen defects. The user must take this into account and set up adequate emergency and warning systems. If these are not set up, it constitutes a breach of the contractual clauses prepared by the Timfog factory. In this case, the user is solely responsible for all damage they may incur.

Timfog provides a warranty for manufacturing or material defects for a period of 1 year from the delivery date to the user, provided the products were shipped and stored in accordance with the instructions and assembled and maintained according to the same instructions. The warranty is not valid if the products have been repaired without Timfog’s express permission, incorrectly assembled, or misused. The user accepts all responsibility for the incorrect use of the products.

The warranty for external suppliers’ products fitted to the GCF-50 (e.g., electric motors, etc.) is limited to the conditions specified by the supplier. All claims must be made in writing within eight days of the discovery of the defect, and the faulty product must be delivered within 72 months.

Timfog has 30 (thirty) days from the date the defective product is received and reserves the right to inspect the product at the customer’s facility or its own facility. Timfog reserves the right, entirely at its own discretion and free of charge, to replace or repair the products it deems defective.

Timfog will not be responsible for costs arising from the dismantling of the faulty part or for the time required to travel to the location and related travel costs. No manager, employee, or dealer may give other warranties or accept other liabilities on behalf of Timfog, in connection with other Timfog products, other than those in writing with the stamp/signature of one of the company directors.



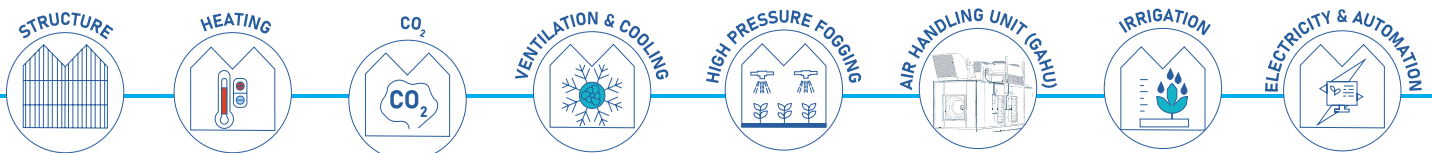


ATTENTION

Timfog reserves the right to change the technical specifications in this guide at any time and without prior notice, with the aim of improving the quality of its products and services.

The responsibility of the Timfog manufacturer ceases (or is terminated) in the following cases:

- Dismantling of safety devices,
- Use of unauthorized materials,
- Inadequate maintenance,
- Use of non-original spare parts and accessories.



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