Centralized heat recovery fresh air ventilation system

KOMFORT GLA Series

User Manual

BLAUBERG

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Safety

Before installing and operating the equipment, please carefully read the user manual. Strictly adhere to the usage requirements, relevant national safety guidelines and regulations, as well as electrical technical specifications and other standards specified in the user manual during installation and operation of the equipment.
Warnings provided in the user manual contain important information regarding personal safety and must be paid attention to. Failure to comply with the operating procedures or safety warnings in the user manual may result in personal injury or equipment damage. To ensure the service life of the unit, please read the user manual carefully before using the equipment.

Illustration Example

Warning!

Prohibited!

Precautions for equipment installation and operation

- Be sure to disconnect the power during installation and operation.

- Handle with care when opening the package.

- Keep the power cord away from the heating device.

- Follow the relevant installation specifications when installing the equipment.

- Do not connect the machine to the power supply with damaged equipment or power cords.

- Do not operate this equipment outside the operating temperature range specified in the user manual.
- Do not operate this equipment in flammable or explosive environments.

- Do not touch the control unit with wet hands.
- Do not perform installation or maintenance operations with wet hands.

- Do not rinse the equipment directly with water.
- Protect the circuitry to prevent water ingress.

- Children are prohibited from operating this equipment.

- Before conducting any maintenance operations, disconnect the equipment from the power source.

- Do not store flammable or explosive materials around the equipment.

- If the equipment experiences abnormal noise, odor, or smoke, immediately disconnect the power supply and contact the dealer.

- Do not open the panel while the equipment is running.

- Do not direct the airflow generated by the equipment towards open flames or sources of fire.

- Do not block the air duct while the equipment is running.

- To ensure the long-term stable operation of the equipment, regularly inspect the safety of its installation.

- Do not place other items on the equipment.

- This equipment is intended for use only in specific scenarios.

Installation of this equipment should be carried out by individuals with relevant professional expertise. Prior to using this equipment, please read and understand this instruction manual. Children should use this equipment under the supervision of a guardian.

Once the equipment has reached the end of its service life,it must be recycled separately and should not be disposed of with unsorted waste. Some materials of the equipment can be recycled, while others should not be treated as household waste. In accordance with the effective regulations of the applicable country, the product should be promptly disposed of once it reaches its service life.

Blauberg Ventilation Group is pleased to introduce to you the KOMFORT GLA series of centralized heat recovery fresh air ventilation units.

Introduction

This user manual includes: design specifications,technical parameters, operation and installation guides, equipment operating norms, as well as safety precautions and notes. Before installation and use, carefully study the user manual. Please keep the user manual properly during the use of this product.

Overview

The KOMFORT GLA series is an efficient and energy-saving centralized heat recovery fresh air ventilation unit.
The equipment can be used independently or in conjunction with other refrigeration and heating equipment.
The equipment is designed for suspended ceiling installation and should only be installed indoors.
Normal operating conditions for the equipment are as follows:
indoor temperature +1 ° C to +40 ° C, relative humidity not exceeding 80%;
outdoor temperature -15 ° C to +45 ° C, relative humidity not exceeding 80%.
Protection levels:
- Overall dust and waterproof rating: IP 22
- Motor dust and waterproof rating: IP 20
The equipment undergoes regular improvements, so there may be some differences between certain product models and this equipment manual.

Safety Regulations

- When conducting inspections or maintenance, ensure that the power supply is disconnected.
- Installation and maintenance should be performed by professional personnel.
- Before energizing, ensure that there is no damage to internal components and no foreign objects inside the equipment.
- Unauthorized modification of the equipment, both hardware and software, is prohibited.
- The equipment is equipped with electrical wiring diagrams and relevant technical specifications.
- Protective measures should be taken to prevent smoke, carbon monoxide, and other combustible gases from entering the room through the equipment inlet.
- The ducts connected to the equipment must not contain solid impurities, sticky substances, or fibrous materials.
- The equipment is prohibited from operating in flammable and explosive environments.
- Follow the operation instructions in the user manual to ensure trouble-free operation of the equipment.

Transportation and Storage

Transportation of Equipment: The equipment can be transported using any vehicle provided it is protected from weather and mechanical damage.
Loading and unloading: Cranes can be used for handling to minimize mechanical damage. Loading and unloading operations should be carried out according to the transportation and handling procedures suitable for the type of goods.
Storage of Equipment: The equipment should be stored in its original factory packaging in a dry and well-ventilated environment.
Storage Environment: The equipment should be stored in an environment with stable temperature and humidity, with temperatures ranging from +5 ° C to +40 ° C.
Avoid storing in environments where mechanical damage may occur.
Do not store together with items that may cause corrosion or damage to insulation.

Design Specifications

This equipment has three operating modes:
1. Intelligent mode: Automatically adjusts based on TVOC and PM2.5 concentrations, comprehensively considering indoor air quality.

2. Fresh air mode: Three-speed adjustable air supply, allowing for personalized switching.

3. Single air supply mode: Direct supply of fresh air for comfort and energy savings.The equipment is equipped with 5mm thick insulation material, providing excellent thermal insulation and soundproofing effects, meeting national standards.It features a full-heat washable exchange core, capable of efficiently adjusting the indoor thermal and humidity environment while also having the advantages of antibacterial and antifungal properties to ensure air cleanliness. The washable exchange core has an extended lifespan.Fresh air from outside is exchanged with indoor air through the exchange core to regulate temperature.

The equipment is equipped with high-efficiency DC fans. DC fans have excellent starting and speed control characteristics, providing better power and generating higher airflow to meet energy-saving requirements, thereby achieving high ventilation efficiency.Key features of this fan include high performance, low power consumption, low noise, and high-precision airflow control. The fan impeller undergoes radial and axial run-out correction as well as dynamic balance correction, ensuring stable fan performance and operation.

It utilizes a composite high-efficiency filter, with multiple layers of filtration, providing high purification efficiency.Maintenance is performed through lateral inspection to ensure maintenance of critical internal components of the equipment. Replaceable components include filters, exchange cores, fans, etc.

For detailed operation instructions on equipment control, please refer to the user manual for the CS3N-1.2 intelligent controller

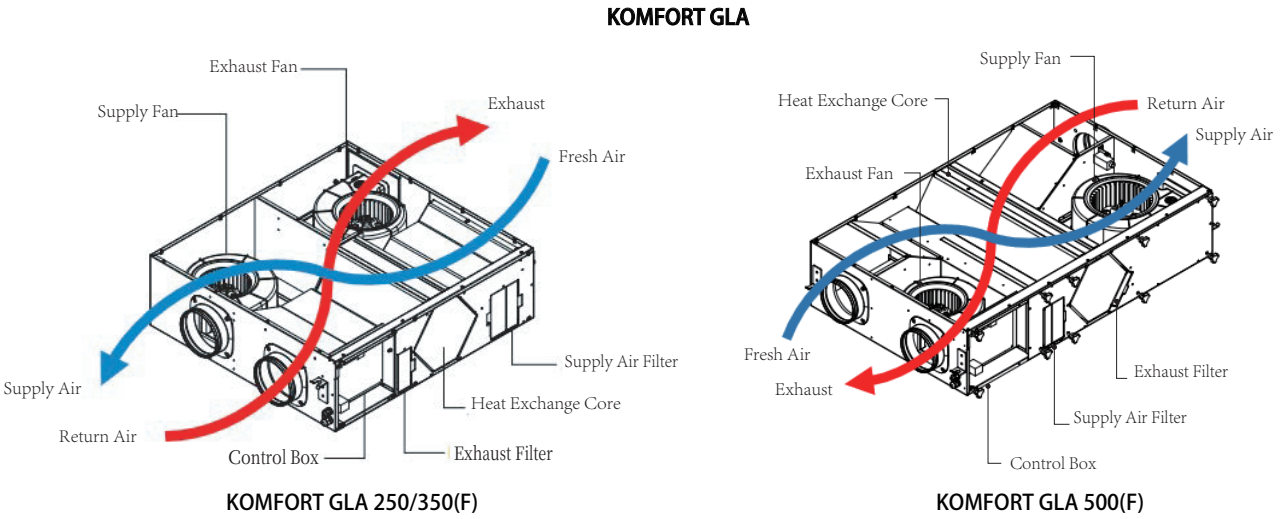
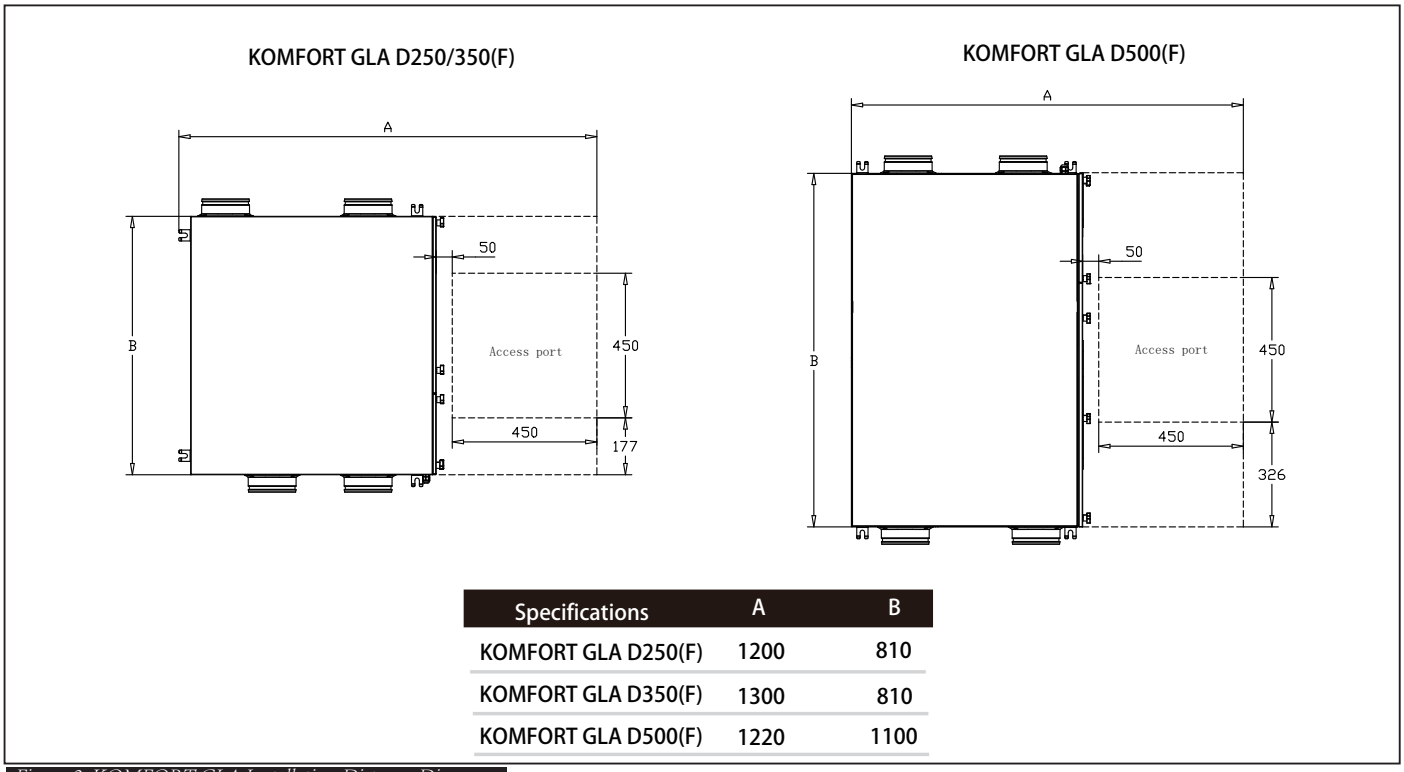


Figure 1. Structure and Heat Exchange Principle of the Equipment

Before installing the equipment, please ensure that there is adequate space for maintenance access.



Specifications	A	B
KOMFORT GLA D250(F)	1200	810
KOMFORT GLA D350(F)	1300	810
KOMFORT GLA D500(F)	1220	1100

Figure 2. KOMFORT GLA Installation Distance Diagram

Operating Principle

In winter, the warm and stale indoor air passes through the filter and then flows through the heat exchange core. It transfers heat to the outdoor fresh air before being discharged outside. The outdoor fresh air, after passing through the filter, flows through the heat exchange core, re-introducing the heat from the exhaust air back into the indoor environment.

In summer, the cool and stale indoor air undergoes filtration and flows through the heat exchange core. It transfers cold to the outdoor fresh air before being discharged outside. The outdoor fresh air, after filtration, flows through the heat exchange core, reintroducing the cold from the exhaust air back into the indoor environment.

This process maximizes energy efficiency and reduces energy consumption during both cooling and heating seasons.

Box Packing List

1. KOMFORT GLA Machine - 1 unit
2. User Manual - 1 copy
3. Mounting Ears + Screws - 1 set
4. Packaging - 1 set
5. Installation Guide - 1 page

The equipment comes with a standard 10-meter-long controller cable.

Warning:
Inspect for any transportation damage before accepting delivery. Only deliver the goods after confirming that the goods are in good condition.

Naming Convention

Example of Naming

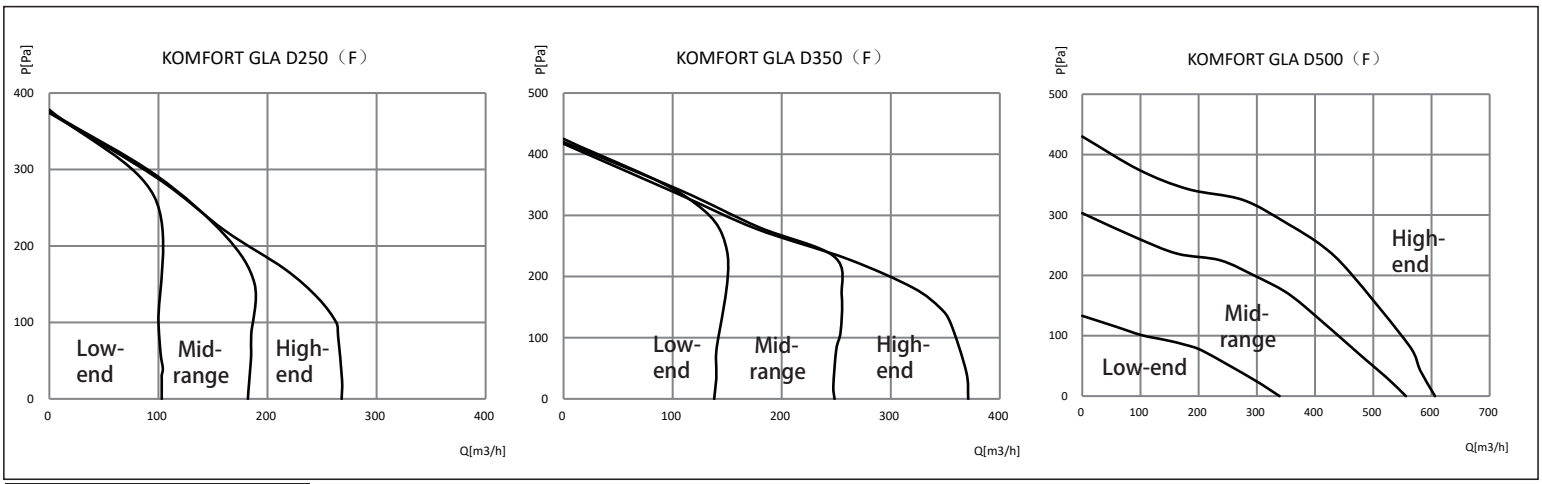
KOMFORT GLA D XXX F

- **F** — Nanoparticles (Optional)
- **XXX** — Specifications
  - 250: Rated fresh air volume 250m /h
  - 350: Rated fresh air volume 350m /h
  - 500: Rated fresh air volume 500m /h
- **D** — Ceiling Installation
- **KOMFORT GLA** — Product Series

Technical Parameters Table

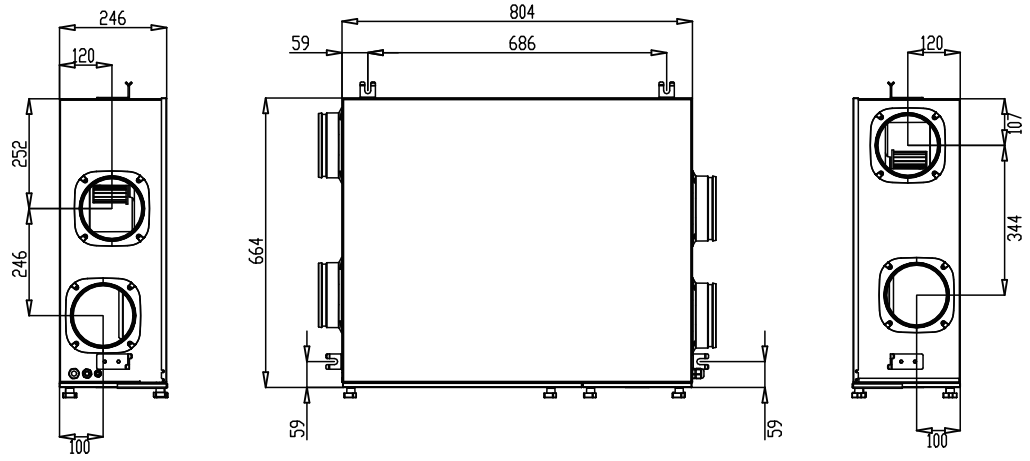
Table 1. Technical Parameters

	KOMFORT GLA D250（F）			KOMFORT GLA D350（F）			KOMFORT GLA D500（F）		
Area Applicable [㎡]	80-120			120-150			150-180		
Maximum Static Pressure [Pa]	380			420			400		
Rated Voltage [V]	220			220			220		
Rated Power [W]	90	60	30	125	72	40	280	110	70
Rated Current [A]	0.41	0.27	0.13	0.57	0.33	0.18	1.27	0.5	0.32
Air Volume [m³/h]	250	175	100	350	245	140	500	350	200
External Static Pressure [Pa]	120	120	120	120	120	120	150	150	150
Maximum Fan Speed [RPM]	2000			2000			1800		
Noise [dB(A)]	36	33	30	38	36	32	40	38	35
Operating Temperature	1℃~40℃								
Casing Material	Polymer-Coated Steel Plate								
Insulation Material	Insulation Cotton								
Return Air Filter	G4+G3 Composite Filter								
Supply Air Filter	G4+G3 Composite Filter, H13 Silver Ion Composite Filter								
PM2.5 Filtration Efficiency	99%			99%			99%		
Air Outlet Flange [mm]	Φ150			Φ150			Φ150		
Weight [KG]	29			35			49		
Total Heat Exchange Efficiency	72%			73%			75%		
Heat Exchange Core Type	Counterflow Total Heat Recovery			Counterflow Total Heat Recovery			Counterflow Total Heat Recovery		
Heat Exchange Core Material	Washable Polymer Membrane			Washable Polymer Membrane			Washable Polymer Membrane		

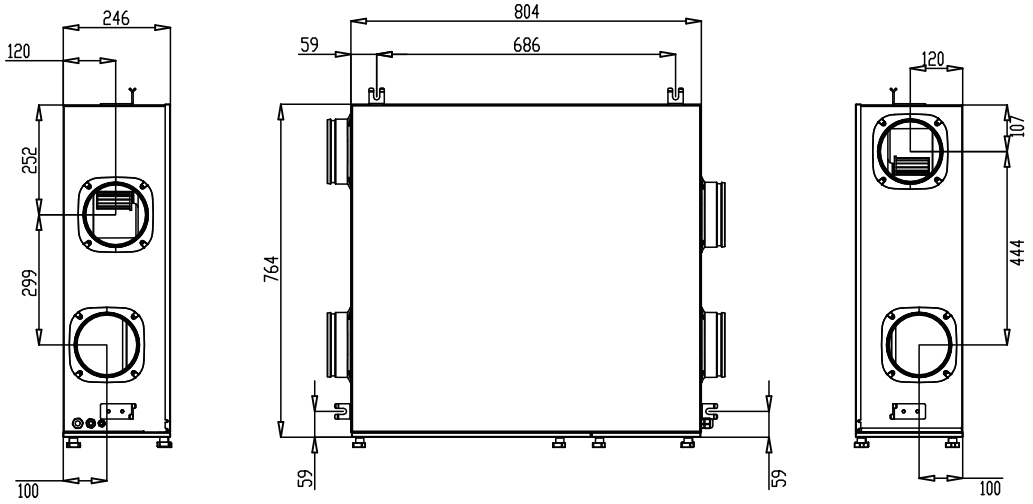


Pressure-Flow (P-Q) Curve Graph

KOMFORT D250(F)



KOMFORT GLA D350(F)



KOMFORT GLA D500(F)

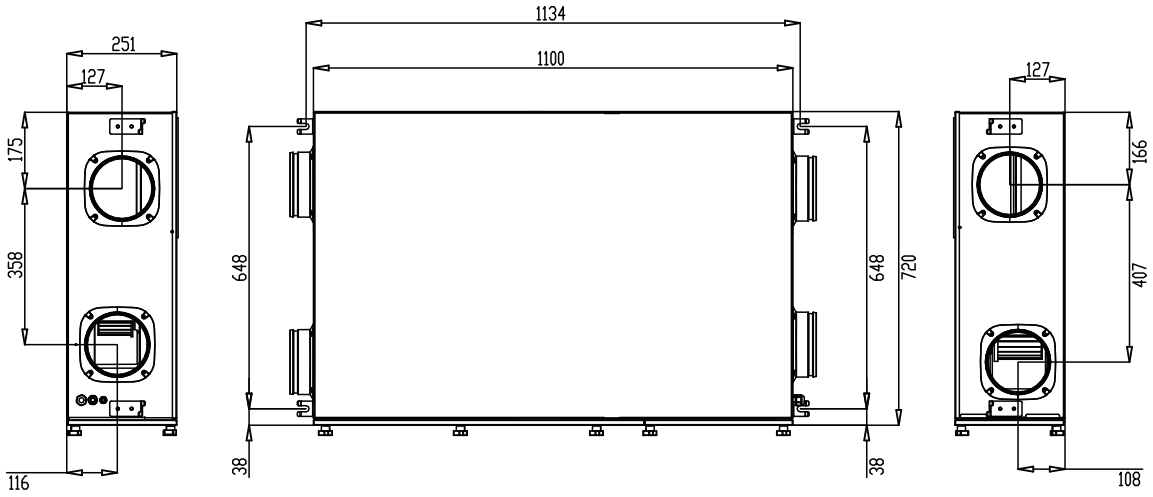


Figure 4. Exterior Dimensions Diagram

Nanoparticles

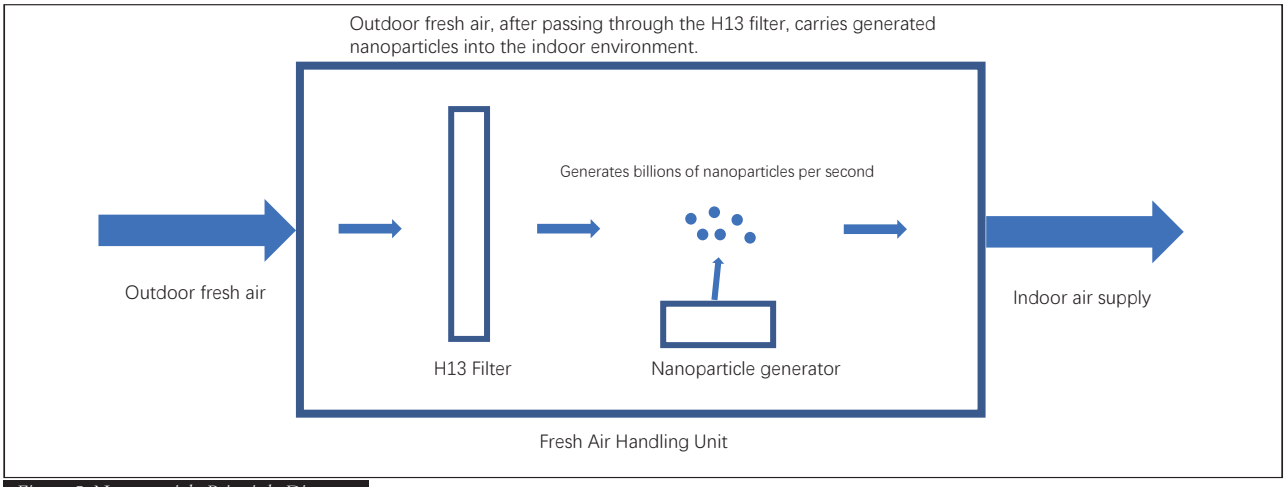


Figure 5. Nanoparticle Principle Diagram

About Nanoparticles:
Nanoparticle technology originates from simulating the effects of lightning and waterfall in nature, using particle chips to extract water from the air, ionize and reduce it, and create quality air without the need for water or consumables.
Nanoparticles are nano-scale active water molecule clusters that are skin-friendly, with a negative charge, with a diameter of 5-20 nanometers. They are characterized by small particle size, weak acidity, high moisture content, and rich in active oxygen, which can deep clean, sterilize, disinfect, and remove odors.
While generating nanoparticles, the product also produces trace amounts of ozone (0.019mg/m),meeting the requirements of indoor air quality standards in Japan and China. It is safe and controllable, having no impact on human health, and can be safely used in environments with people present.
Operating Principle:
The nanoparticle generator is set on the air supply side. When turned on, it generates billions of nanoparticles per second, while the fan operates. The nanoparticles follow the airflow and are delivered to every corner of the room, ensuring a constant concentration of nanoparticles indoors with a continuous supply of fresh air.
Nanoparticles can kill bacteria and viruses in the indoor air, remove indoor odors, and settle indoor dust.

Table 2. Nanoparticle Technology Parameters

Product Parameters	
Input Voltage	12V DC
Rated Power	<0.36W
Sterilization Rate	99%
Ozone Emission	<0.019mg/m³
Operating Noise	<35dB
Lifespan	＞100000 hours

installation

Warning!
Safety Precautions
The equipment must be installed on a stable and rigid structure.
The equipment must be securely fastened with bolts. Before starting installation, ensure that the installation structure has sufficient strength and load capacity to bear the weight of the equipment.
Power must be disconnected and switches turned off when installing the equipment.

Prohibited!
It is prohibited to use the equipment in high-temperature, corrosive, or flammable and explosive environments.

The equipment should be secured using threaded rods and expansion screws. It must be installed in a suspended ceiling for convenient connection with ducts.
The layout of the ducts should avoid long distances, excessive bends, and changes in diameter, as these may reduce airflow performance. The ducts installed should not be deformed.
Sealing is required at the connection between the ducts and the equipment.
For other devices directly connected to the ends of the ducts, the length of the connection should be minimized to reduce air resistance caused by airflow. It is recommended that the length of the connected ducts should not be less than 1 meter.

If necessary, air outlets should have protective devices to prevent foreign objects from entering the equipment.
Before installing the equipment, make sure that the installation location can withstand the weight of the equipment. Otherwise, reinforcement is required.
Use long bolts to reduce resonance between the equipment and the ceiling.
If vibration between the connecting bolts and the equipment generates noise, flexible ducts can be used instead of rigid ducts, and vibration damping connectors can be equipped.

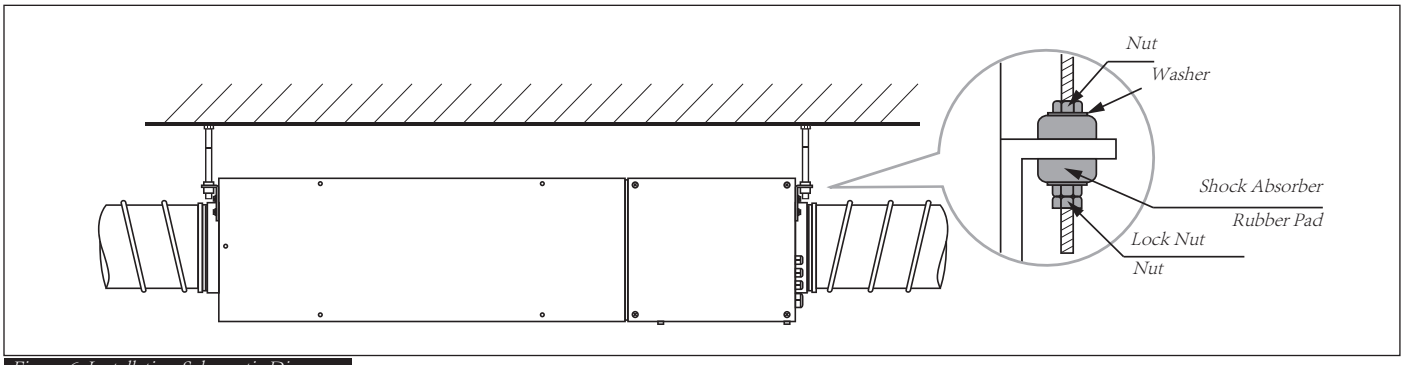


Figure 6. Installation Schematic Diagram

Connection Diagram

Warning

Before connecting the circuit, please read the user manual carefully. Only professional electricians should connect the wires. Follow the electrical wiring diagram for correct wiring. Modifying internal wiring is not allowed, and any equipment issues arising from this are not covered by warranty.The equipment power supply should be connected to AC 220V mains electricity.

Strictly adhere to relevant household wiring standards (GB50311-2016). A circuit breaker must be installed in the household wiring system.

Connect the power supply and equipment together through the circuit breaker(GB50054-2011).

The operating current of the circuit breaker should not be lower than 5A. Install the circuit breaker to protect the machine.

Disconnect the power supply of the equipment and switch the circuit breaker from ON to OFF before proceeding with any other operations.

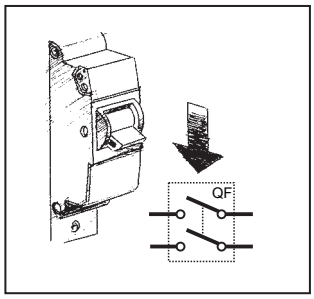
Take measures to prevent the circuit breaker from resetting before performing any operations.

The KOMFORT GLA uses single-phase AC power with a working voltage of 220V/50Hz. The equipment is connected to wires and control panels through a terminal box. The electrical wiring diagram is shown in Figure 7.

Connect the wires according to the cable labels.

The electrical wiring diagram is located on the inside of the electrical cover panel.

The cable labels correspond to the wiring diagram one by one.



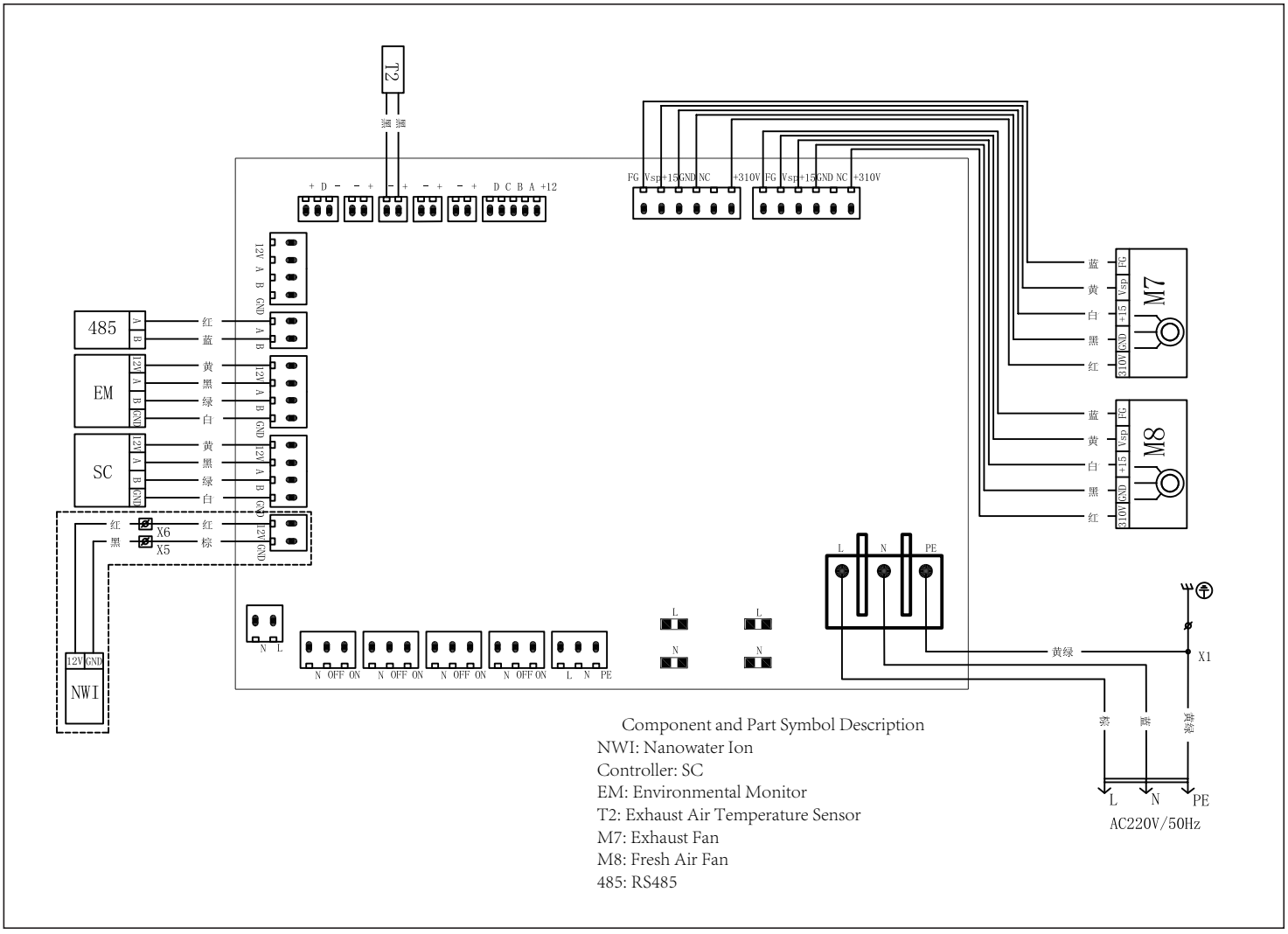
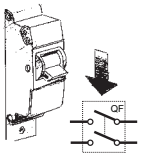


Figure 7. KOMFORT GLA Electrical Wiring Diagram

Technical Maintenance

Warning

Before any maintenance, switch the circuit breaker from ON to OF and disconnect the power supply for repairs.



Regular maintenance of the product can extend its lifespan and ensure normal operation.
Always disconnect the power supply before performing any maintenance.
The product requires 3-4 maintenance times per year.
Maintenance includes routine cleaning and other tasks.
1. Filter Maintenance (3-4 times/year)
If the filter becomes dirty and clogged with dust, it increases air resistance and decreases ventilation efficiency. You can use a vacuum cleaner to clean the filter. After two consecutive cleanings, the filter must be replaced. Only install dry filters. You can contact the retailer where you purchased the product to obtain replacement filters, or refer to "Table 1.Technical Parameters".
Dirty filters are not covered under warranty.
Filters that become wet and moldy must be replaced immediately.
Replacing the filter of KOMFORT GLA: (Refer to Figure8)
1. Remove the inspection panel.
2. Remove the filter and install the new filter.

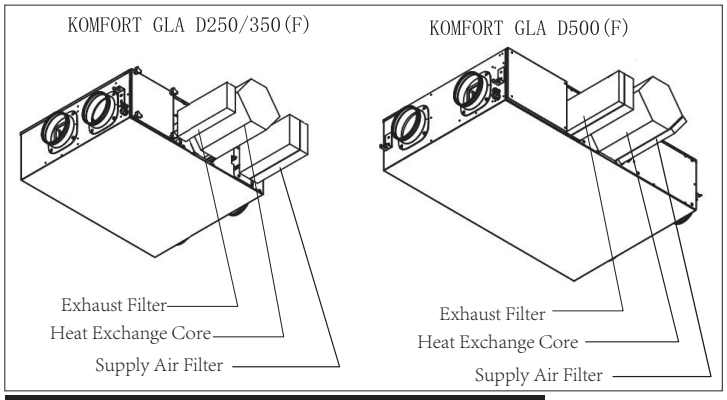


Figure 8. Maintenance Diagram for Filter and Heat Exchanger

It is recommended to wear work gloves during maintenance.
2. Fan Maintenance
Filters cannot completely prevent dust from entering the product, which may reduce the airflow of the product. You can use a soft cloth or brush to wipe the impeller. It is not allowed to rinse with water, contact with rough detergents, sharp objects, chemicals, etc. Maintenance of the fan in the KOMFORT GLA series: (refer to Figures 9 and 10)
1. Open the fan maintenance panel;
2. Disconnect the terminal connectors on the control panel, remove the electrical control box, left and right side panels.
3. For KOMFORT GLA D250/350(F) models, remove the internal sheet metal of the chassis before removing the fan. (refer to Figure 9)

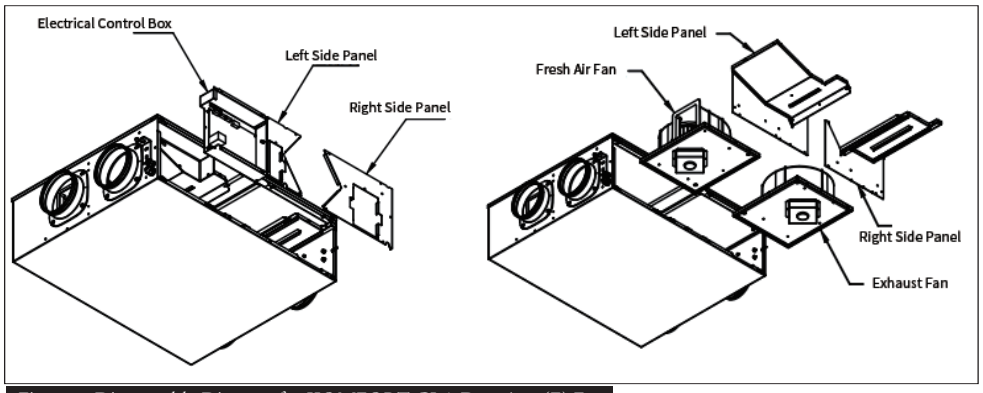


Figure 9. Disassembly Diagram for KOMFORT GLA D250/350(F) Fan

For the Komfort GLA D500(F) model, after removing the electrical control box and the left and right side panels, you can remove the fan by loosening the fan fixing screws.

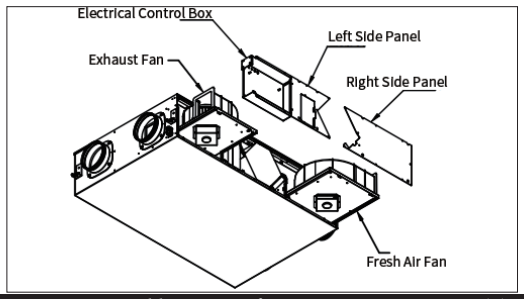


Figure 10. Disassembly Diagram for KOMFORT GLA D500(F) Fan

3. Heat Exchange Core Maintenance (once a year)
In addition to timely replacing or cleaning the filters to maintain high-efficiency heat exchange, it's necessary to periodically clean the heat exchange core. You can clean it with a detergent solution. Remove the heat exchange core from the device, wash it with the detergent solution, and reinstall it after it's dry.
Maintenance of the heat exchange core in the KOMFORT GLA series: (refer to Figure 8)
1. Open the inspection panel;
2. Pull out the heat exchange core from the device;
3. For the KOMFORT GLA D500(F) model, the heat exchange core is divided into 2 sections, remove them accordingly;
4. Reassemble the components in the reverse order.

Maintenance and Troubleshooting

Table 3: Fault List and Troubleshooting

Faults	Causes	Solutions
The fan blades do not rotate when the machine is turned on	Power supply not connected or incorrectly connected	Connect the power supply and troubleshoot
	Motor blockage, impeller contamination	Troubleshoot motor faults, clean impellers
Switch malfunction	Short circuit	Turn off the fan and seek assistance from the sales outlet
Insufficient air volume	Low speed setting	Set to high speed
	Contamination of filters and impellers, contamination of heat exchange core	Clean or replace filters, impellers, or heat exchange cores
	Air valve and air inlet/outlet grille closed or blocked	Remove and clean the air valve and inlet/outlet grille to ensure ventilation
Supply air temperature is too low	Contamination of exhaust air filter	Clean or replace exhaust air filters
	Ice formation on the heat exchange core	Check the environment of the heat exchange core. If necessary, shut down the unit and restart after eliminating the risk of ice formation.
Noise and vibration	Impeller blockage	Clean the impeller
	Loose threaded interfaces	Tighten screws
	Lack of flexible damping devices	Install flexible damping devices

Warranty Certificate

Warranty Terms

1. The warranty period starts from the date of purchase, and all warranty terms become invalid after the warranty period expires. When claiming warranty service, please present a valid purchase receipt. Two points to note:
 a. Products within the warranty period should be serviced by Blauberg authorized service providers.
 b. Keep this warranty certificate safe for verification during warranty claims.
2. From the date of purchase, free repair or replacement of parts is provided for malfunctions due to product quality issues during the following periods:
 a. Whole machine: 2 years.
 b. Main components: Fan - 8 years.
3. Consumable materials are not covered by the warranty, such as seals, filters, screw packs, fuses, etc.
4. Other unspecified circumstances shall be handled in accordance with national regulations.

regulations

The following faults caused by the following reasons are not covered by the free warranty:
1. Damage caused during transportation, warehousing, or installation due to non-manufacturer reasons.
2. Damage caused by improper operation, abnormal power supply, etc.
3. Damage caused by floods, lightning, fires, earthquakes, or other force majeure factors.
4. Damage caused by reasons other than those attributable to the manufacturer.

Information Registration

Product Model		Machine Serial Number	
Purchase Date		Dealer Name	
User Name		User Phone Number	
User Address			

After-sales Service Hotline: 400-835-0379

Pre-sales Consultation Hotline: 400-825-0508

Official Website: http://www.blauberg.cn

This section involves warranty information, please keep it properly.

Blauberg Environmental Systems (Suzhou) Co., Ltd.

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