



# STRATUS S50

by GENAQ

## User Guide

Atmospheric Water Generator  
Water Dispenser  
50 liters/day

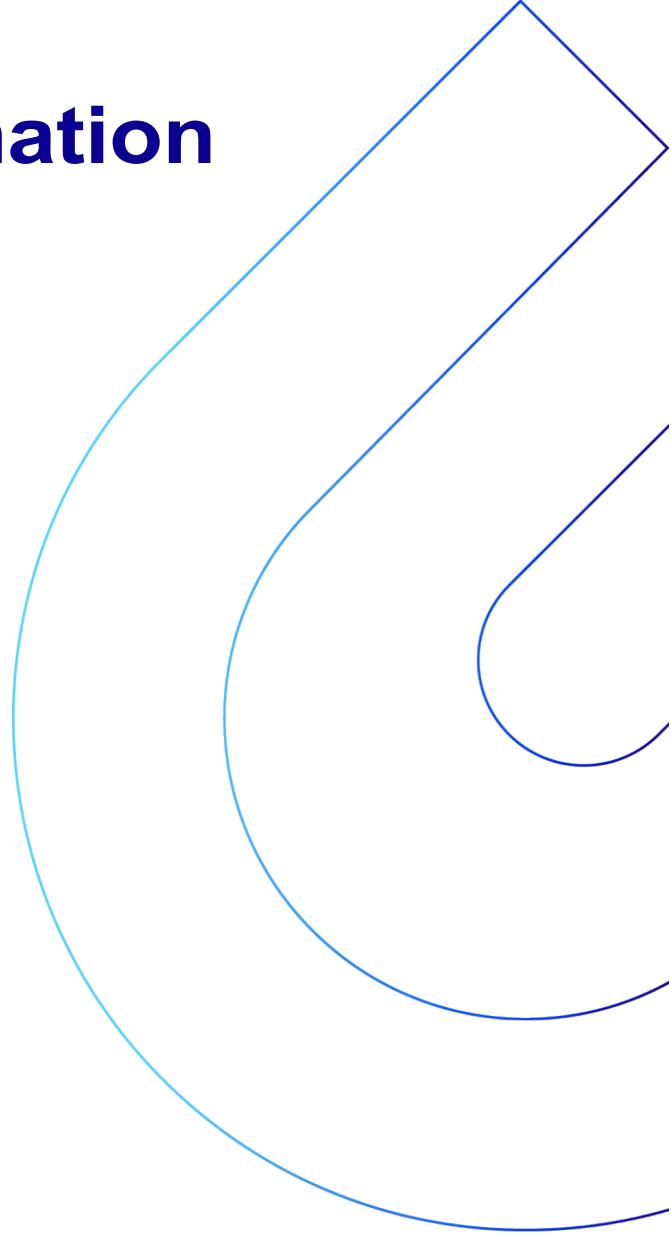


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# 1. General Information



## 1.1. Introduction

GENAQ Stratus S50 is an Atmospheric Water Generator built in a **Water Dispenser** construction, with a nominal generation capacity of 50 liters/day.

The Atmospheric Water Generator has been optimized to maximize the water production and minimize the energy cost per liter of produced water, as well as extend the system operating range to extreme temperature and extreme humidity conditions.

The generator operation diagram is the following:

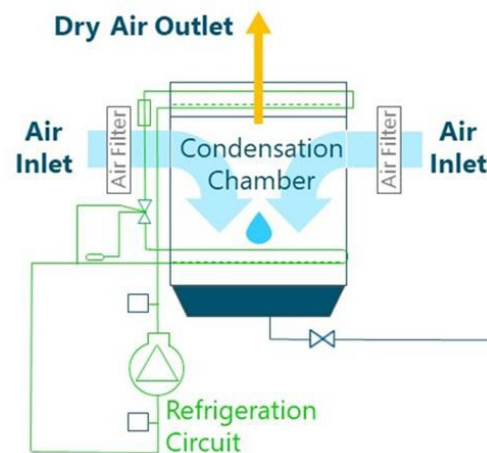


Figure 1: Atmospheric Water Generator working diagram

- The water generator takes laterally an atmospheric air flow that passes through a double air filter to the water precipitator.
- The water precipitator consists of a refrigeration cooler that cools the humid air to temperatures below its dew point, which produces water vapor condensation, present in the atmospheric air.
- When leaving the water precipitator, the air passes through an energy recovery section to precool the incoming air, so that the system energy consumption is considerably reduced.
- Finally, the air flow is carried outside, driven by radial fans.
- The hot and dry air flow is expelled outside by the generator's upper part. Due to the lower specific weight of the exhaust air, it rises naturally in the atmosphere, not interfering with the intake air.
- The condensed water remains in a tray and is pumped to the water filtration and storage system.

The refrigeration production for the precipitation of the water is obtained through a mechanical refrigerant compression cycle, equipped with alternative high efficiency compressors.

## 1.2. Specifications

Table 1: Technical Specifications

<b>GENAQ Stratus S50</b>	Version	<b>3.9</b>
	Dimensions (Height x Width x Depth)	<b>1510 x 460 x 565 mm</b>
	Weight	<b>115 kg</b>
	Dimensions with reinforced packaging (Height x Width x Depth)	<b>1730 x 570 x 830 mm</b>
	Weight with reinforced packaging	<b>176 kg</b>
	Color	<b>White</b>
	Manufactured in galvanized steel sheet structure with polyester paint of high resistance to corrosion	
<b>Performance</b>	Nominal Generation, at 30°C and 80% RH (±10%)	<b>52 L/day</b>
	Nominal consumption per liter, at 30°C and 80% RH (±10%)	<b>0.39 kWh/L</b>
	Specific generation, at 23°C and 60% RH (±10%)	<b>29 L/day</b>
	Specific consumption per liter, at 23°C and 60% RH (±10%)	<b>0.53 kWh/L</b>
	Pressure sound level at 1m	<b>62 dB(A)</b>
<b>Power Supply</b>	Power Supply (Other Voltages Available)	<b>230V-I-50Hz</b>
	Nominal Power	<b>0.9 kW</b>
	Specific power	<b>0.7 kW</b>
	Plug/Socket	<b>Type F</b>
<b>Refrigerant Circuit</b>	Refrigerant	<b>R134a</b>
	Evaporation coil built in copper tubes and aluminum fins	
	Condensation coil built in copper tubes and aluminum fins	
<b>Air Circuit</b>	Nominal Air Flow	<b>350 m3/h</b>
	Air Pre-Filter	<b>60 ppi prefilter</b>
	Air Filter	<b>F7 air filter</b>
<b>Hydraulic Circuit</b>	Food grade low density lineal polyethylene tube	
	Nominal Water Flow	<b>2 L/min</b>
	Internal Water Storage	<b>17 L</b>
	External Water Tank Compatibility	<b>No</b>
	Water Treatment	<b>Sediment Filter, Activated Carbon Filter, Ultrafiltration Filter, 2 x Zeolite Filter, Mineralization Filter, and UV lamp</b>
<b>Control and Electrical Circuit</b>	Control	<b>Emerson PLC, Dixell IPG208D-10021</b>
	Display	<b>Operation indicators and access via Offline Control</b>
	IoT	<b>Included: Remote control via Ethernet, WIFI or M2M</b>
	Electrical and control panel with thermal, magnetothermal and differential protection Safety, Alarms, Operating and Defrosting Cycles Control	
<b>Safety Devices</b>	Protection against refrigerant pressure abnormal levels for high and low pressure	
	Automatic resetting thermal protections in the compressor and motor fan	
	Protection fuses and electrical panel's general grounding	
<b>Limits</b>	Temperature Limits	<b>10°C to 45°C</b>
	Relative Humidity Limits	<b>10% to 100%</b>
	Storage Limit	<b>-15°C to 70°C</b>

## 1.2.1. Circuits and Dimensions

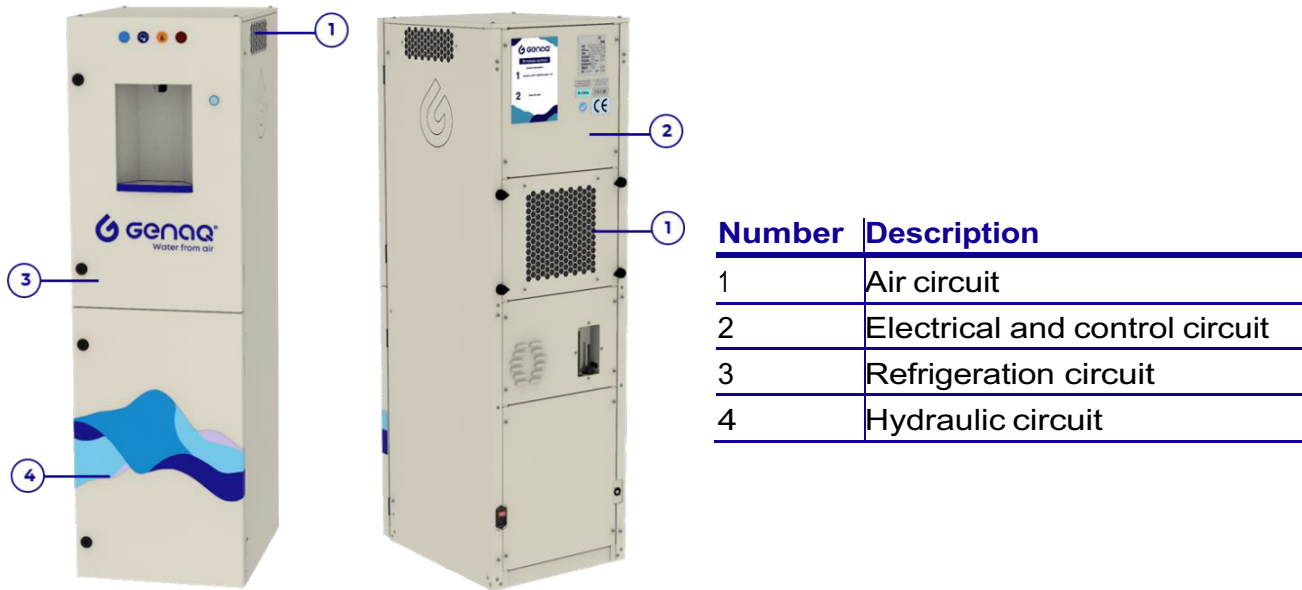


Figure 2: Circuits



Figure 3: Dimensions

## 1.2.2. Safety Recommendations

To avoid all accidents risks during installation, commissioning, or maintenance, it is mandatory to follow the specific recommendations. The generator start-up, its repair and maintenance must be carried out by qualified personnel.

It is mandatory to follow the recommendations and instructions contained in maintenance manuals, labels, and specific instructions.



Before intervening in the generator, verify that the general generator power is cut to avoid electric shock

Refrigerant leaks can cause:

- Asphyxia, due to displacement of oxygen from the air, narcotic effect and cardiac arrhythmia, due to refrigerant's inhalation.



Always ensure good ventilation in the work area

- Eye irritations and burns from splashes or skin contact.



Wear safety glasses and gloves. Avoid all contact of the skin with the cooling fluid



Be careful with the cutting elements of the generator

In case of accident by coolant inhalation, act according to the following instructions:

- Move the victim to a place where he/she can breathe fresh air. The victim must remain lying down or in the sideways.
- Call emergency medical services if necessary.

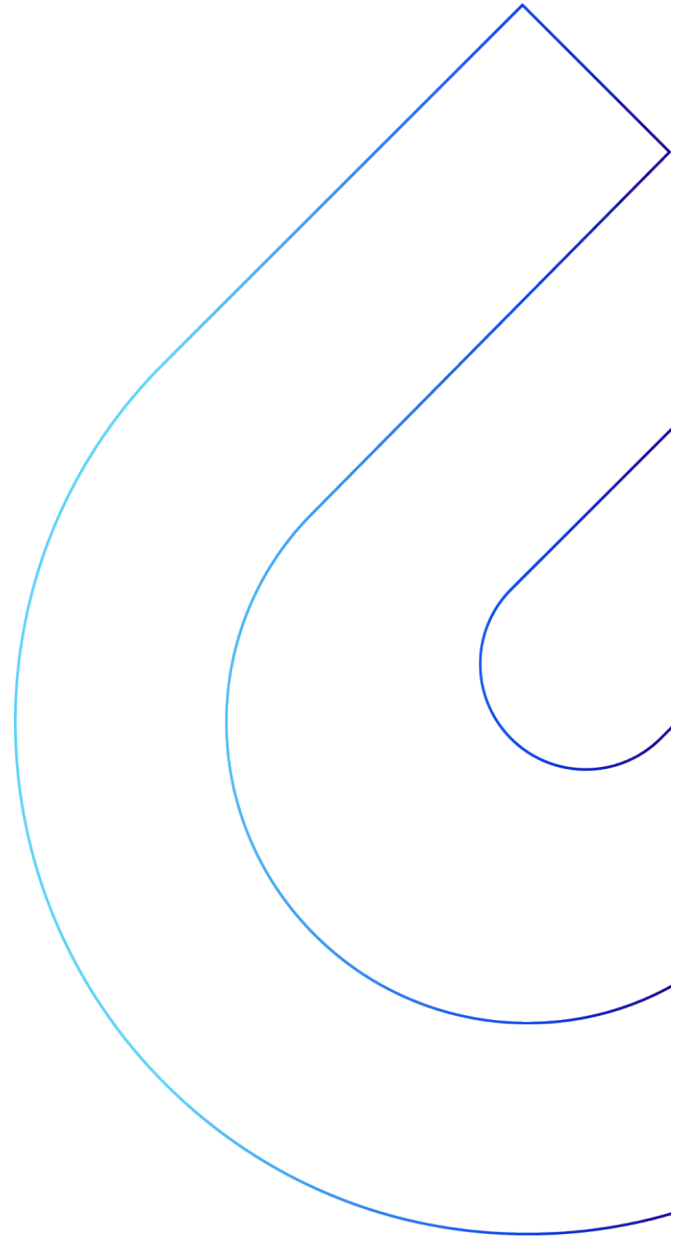
In case of eye injuries due to refrigerant splash:

- Never rub your eyes. If contact lenses are used, they must be removed.
- The eyelids will be kept open and rinsed with plenty of water.
- Then, the victim will be transferred to a specialist doctor (ophthalmologist) or to an emergency service.

In case of skin burn by coolant contact:

- Rinse the affected parts with plenty of tap water and keep applying it while removing the clothes.
- The affected parts should never be covered with clothing, bandages, oil, etc.

## 2. Start-up





## 2.1. First Start-up

The generator location will condition its functioning. For optimum performance, follow these steps:

- Once received, check that there has been no damage in the generator or its components.
- Place the generator in an area with good air renewal and away from heat sources, clearing its intake to facilitate the air aspiration and expulsion, and avoid air recirculation as much as possible.



To ensure good air circulation around the generator, air inlets and outlets must be clear.



Figure 4: Air intakes and outtakes

- Prior to start up, the generator must remain in vertical position for at least 24 hours.

For the first generator start-up (or after long inactivity periods), it is mandatory to perform a water tank cleaning and complete filling followed by a tank complete emptying through the Service.

After long periods of inactivity hyperchlorination must be carried out, as indicated in the section ***Preservation in long periods of inactivity***.

If you have worked inside the generator, check that you do not leave any object inside, that there are no gas leaks and that the hydraulic connections have been carried out properly.

## 2.1.1. UV Lamp Installation

The UV lamp is used to prevent the appearance of microorganisms in the hydraulic system. To do this, water is recirculated from the tank periodically.



The ultra-violet rays are harmful to skin and eyes.



The UV lamp will beep in the following cases:

- If the UV Lamp is broken
- If the UV Lamp connector is not properly connected

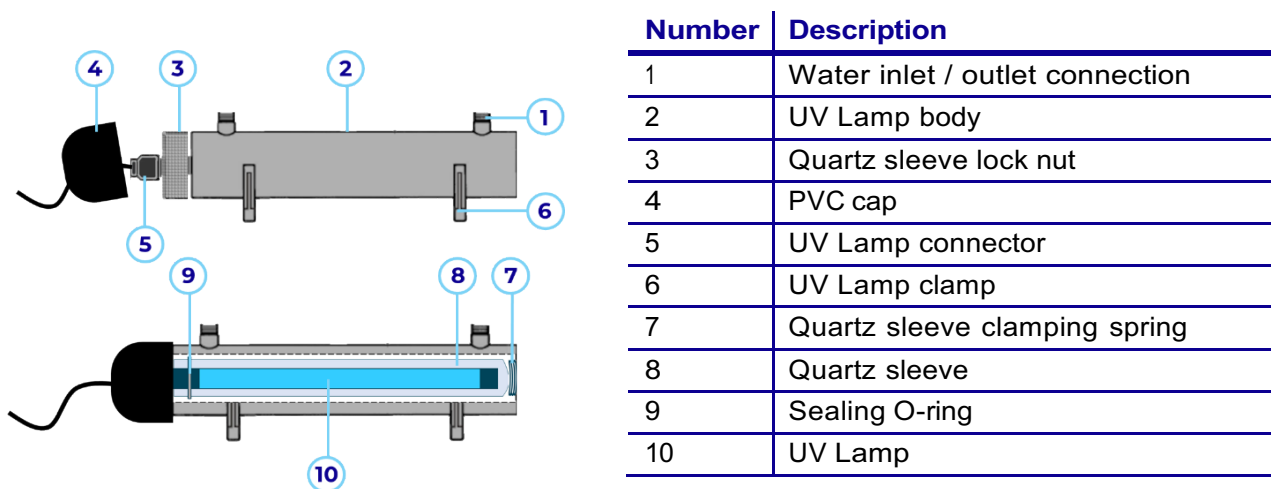


Figure 5: UV breakdown

You will receive your Generator with the UV lamp removed and packaged to avoid damage during transportation, it is necessary to install the Lamp **BEFORE STARTING THE GENERATOR**, make sure you have all the components before starting the assembly.

The assembly instructions are shown in the following sequence:

- Access the UV Lamp, it is necessary to open the upper door indicated in the following figure:

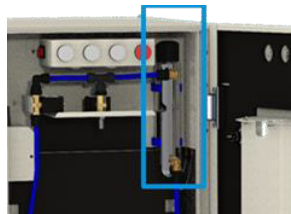


Figure 6: UV lamp access

- Extract the UV Lamp body (2) from the holder and unscrew the Quartz sleeve lock nut (3).

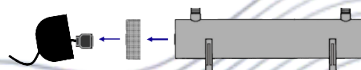


Figure 7: UV Lamp body breakdown

\* Depending on the model, hydraulic connections are done with quick connectors or with screwed connectors. In the latter case, auxiliary tools may be necessary (like a crosshead screwdriver).

Make sure that the sealing O-ring (9) is installed in the quartz sleeve. Introduce the quartz sleeve (8) into the UV Lamp body (2). Insert the quartz sleeve keeping the tube completely straight to avoid damage the sleeve, this component is especially fragile.

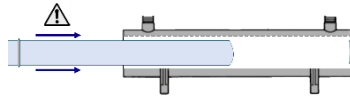


Figure 8: Quartz sleeve installation

- Screw the lock nut (3) to the UV Lamp body (2).

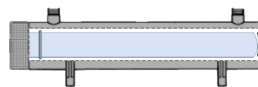


Figure 9: UV lamp lock nut

- Connect the UV Lamp (10) to the connector (5) and insert the lamp into the quartz sleeve (8). The Lamp must be inserted completely straight without damage the quartz tube.

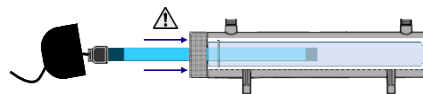


Figure 10: UV lamp installation

- Once all components are properly connected, insert the PVC cap (4) and install the UV lamp into the holder.

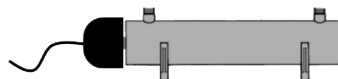


Figure 11: UV lamp

In case the UV lamp stops working, there will be a beep indicating it. In that case, the lamp would need to be replaced.

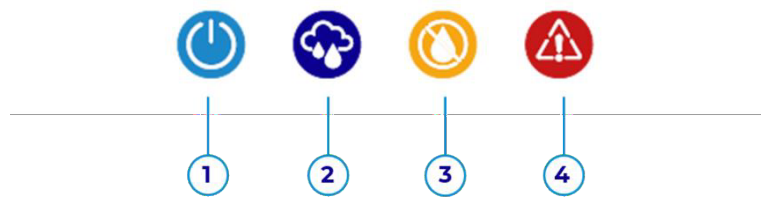
## 2.1.2. Waste Management

After the generator installation, recycle the packaging and the pallet respecting the environment.

When replacing the generator or any of its components, respect the environment, using an authorized company to remove and recycle, in accordance with the current legislation.

## 2.2. Quick Start Guide

GENAQ Stratus S50 have a friendly interface that allow to identify the generator status according to the illumination of these icons:



Number	Description
1	<b>Generation enabled</b> The icon is activated when generation is enabled by pressing the <b>Generation switch</b>
2	<b>Water generation</b> The icon is activated when the generator is generating water <i>*Water generation can be stopped because the tank is full or for other reasons</i>
3	<b>No water</b> The icon is activated when water service is unavailable
4	<b>Alarm</b> Any alarm stops water generation

Figure 12: Display

To start-up the generator, follow these instructions:

### 2.2.1. Turn On the Generator

To activate the generator, connect the socket to the power grid and activate the **Power switch** located at the back of the generator.

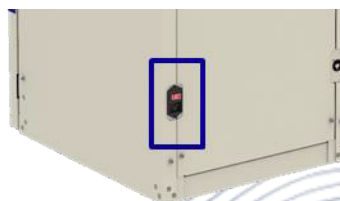


Figure 13: Power switch

## 2.2.2. Water Treatment First Start-up

Before activating the water generation and service, it is necessary to clean the new water filters. This is especially important to eliminate particles that new filters may contain. It will be necessary to use a container to catch the spilled water.

Open the water treatment access door, you will find these three pipes disconnected:



Figure 14: Hydraulic circuit disconnected

Follow the steps below:

1. Fill the internal water tank to the top level
2. Press the service button until no air comes out of the next pipe:

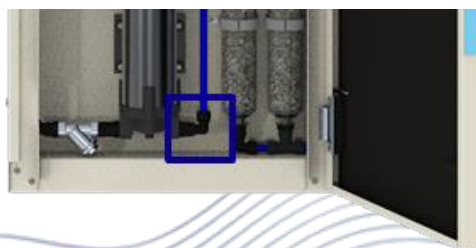
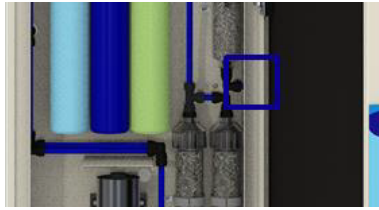


Figure 15: Pump pipe

3. Connect the pipe
4. Press the service button until the tank is empty by this pipe:



*Figure 16: ZF pipe*

5. Discard the collected water by this pipe
6. Connect the pipe
7. Fill the internal water tank to the top level
8. Press the service button until the tank is empty by this pipe:



*Figure 17: MF pipe*

9. Discard the collected water by this pipe
10. Connect the pipe

After this procedure the generator should be left with all pipes connected like the following picture:



*Figure 18: Hydraulic circuit connected*

Once you have checked that all the pipes are connected, you can close the lower door of the generator.

### 2.2.3. Turn On the Water Generation

To activate the generation, open the upper frontal door and activate the **Generation switch**

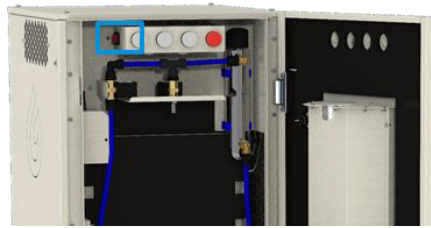


Figure 19: Generation switch

### 2.2.4. Serve Water

To serve water first you must follow the steps to Turn On the generator. Then:

- Make sure the “No water” icon is deactivated.
- Press the **Service button** to start the service. Release the **Service button** to stop the service.



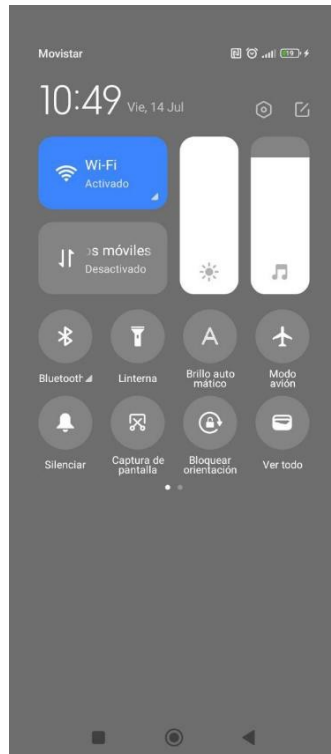
Figure 20: Service button

## 2.3. Offline Control

Offline Control is the default interface and access method for Stratus S50 by which you can use your own device to access the generator configuration. This chapter will cover the access mode and a brief description of the functionality and information provided by this system.

### 2.3.1. Access guide

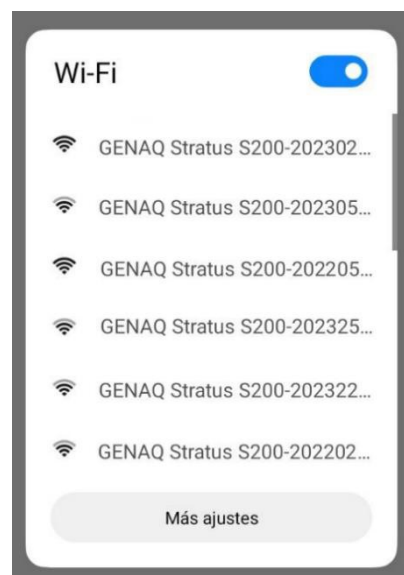
Direct connection from QR. To establish a direct connection, a manual scan of Wi-Fi networks must be carried out from the device from which we want to connect.



*Figure 21: Android Wi-Fi activation and scan*

The network scan should show the SSID (with the SN) of the generator's access point if we are in range.

By connecting to this network, we enter the generator's LAN, which allows us to access the generator's web interface.



*Figure 22: Android Wi-Fi network scan results*



Once you are connected to the generator access point, scan the QR code located on the outer casing, which will automatically open the web browser configured by default on the device and navigate to the IP address that the server occupies within the LAN.



**GENAQ®**

**Offline Control**

**1**

**Connect to WiFi "GENAQ model - ID"**  
For example: "GENAQ Stratus S200 - 202208020136"

**Conéctese a la WiFi "GENAQ modelo - ID"**  
Por ejemplo: "GENAQ Stratus S200 - 202208020136"

**Connectez-vous au WiFi "GENAQ modèle - ID"**  
Par exemple : "GENAQ Stratus S200 - 202208020136"

**2**

**Scan QR code**  
or open "192.168.0.250" in your web browser.

**Escanee el Código QR**  
o abra "192.168.0.250" en su navegador de internet.

**Scannez le code QR**  
ou ouvrez "192.168.0.250" dans votre navigateur internet.



Figure 23: QR Code instructions example

Accept the QR code dialogue box, after a few seconds you should see the server login, where you will have to enter your access data.

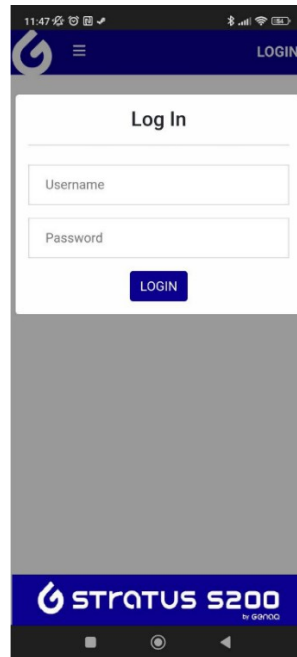


Figure 24: Webserver login interface

## 2.3.2. Web Interface

Below is a review of the main functionalities and interfaces of the web server.

### 2.3.2.1. Login

As shown before, when accessing the server by any method, the first thing that appears is the login. Your access data must have been previously provided by GENAQ.

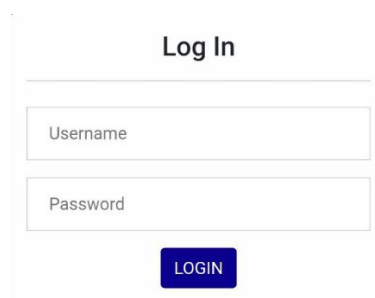


Figure 25: Login interface detail

### 2.3.2.2. Side menu

The server structure is organized by tabs with specific functionalities. The sidebar is the easiest method of navigating between tabs, and it shows all those to which a certain level of user has access. You can display it by clicking on the three-bar icon in the top left corner.

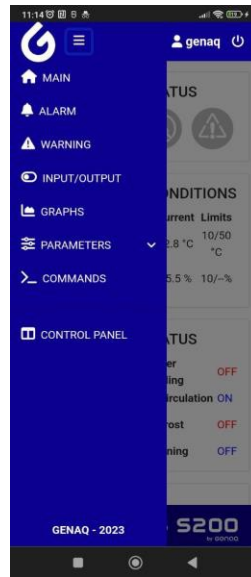


Figure 26: Displayed side menu

### 2.3.2.3. Main interface

The main interface view gives an overview of the status of the generator, with the status of the LED indicators and the environmental conditions, as well as the limits set per parameter for its operation. In case the equipment has water cooling, a third card will appear in this view with the main variables, parameters, and related states. This view also details the status of the generator deeper. Among other things, the main variables of the refrigeration cycle are shown for each operating circuit.

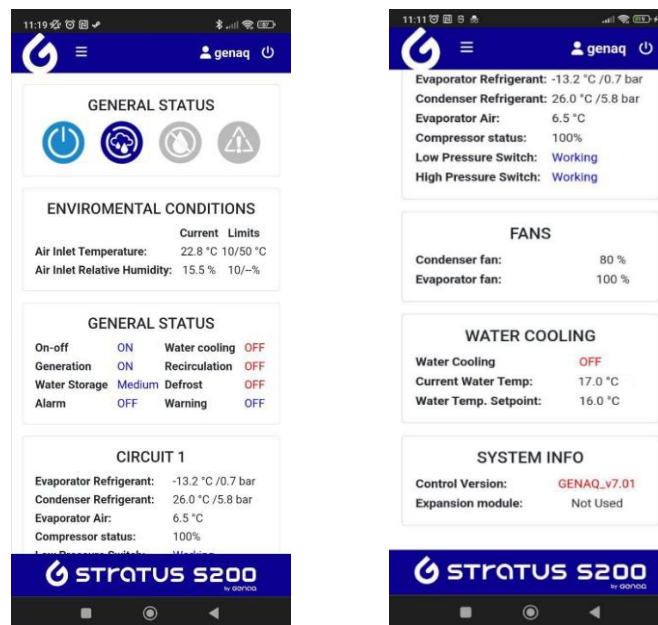


Figure 27: Main interface views

The utility of this view is purely informative, and no action can be performed on the generator from this tab.

### 2.3.2.4. Alarms and warnings

These tabs are very similar and show the active alarms and warnings, as well as the history of the last ten alerts from the generator. Unlike the rest of the tabs, these can also be accessed through the buttons on the top bar, which are displayed in the event of an active alarm or warning.

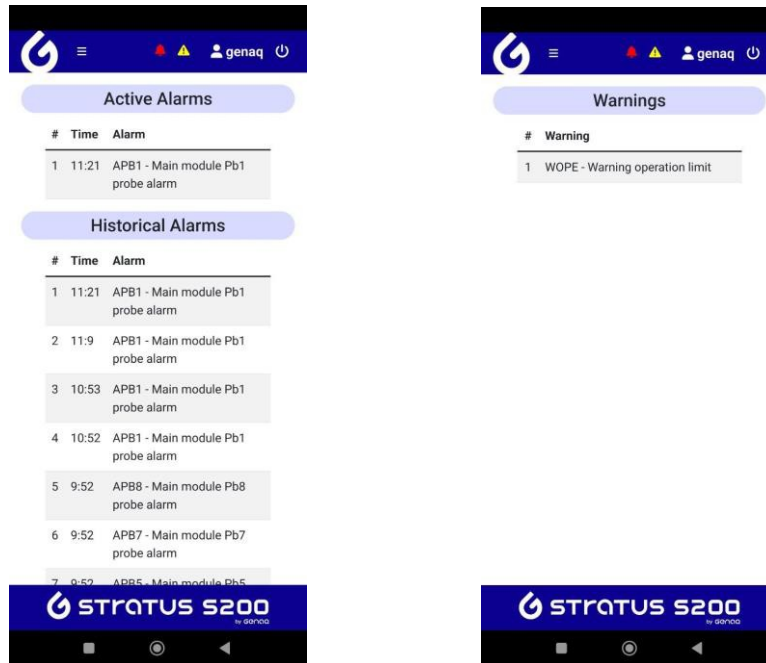


Figure 28: Alarms and warnings views

To reset a specific alarm, refer to Alarms and Warning document.

### 2.3.2.5. Inputs/Outputs

The input/output's view shows the instantaneous value of all signals configured for the controller in the IOs parameters menu for more comprehensive monitoring.

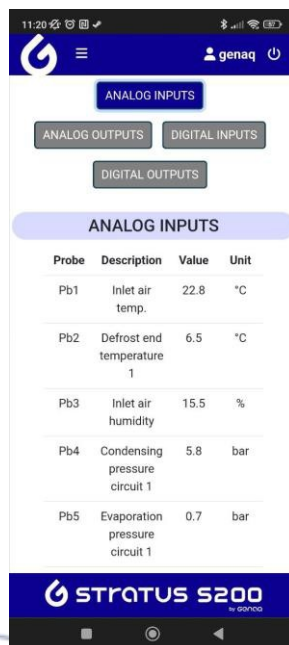


Figure 29: Inputs/Outputs view

### 2.3.2.6. Graphs

The graph view shows a visual representation of the value of all inputs and outputs of the system organized by signal type. The data used for the representation is the data stored in the .logs files. If there is any discrepancy in these .log files, the graphs will not be displayed, and it will be necessary to delete the files and start the sampling again. This can be done from the menu Commands.

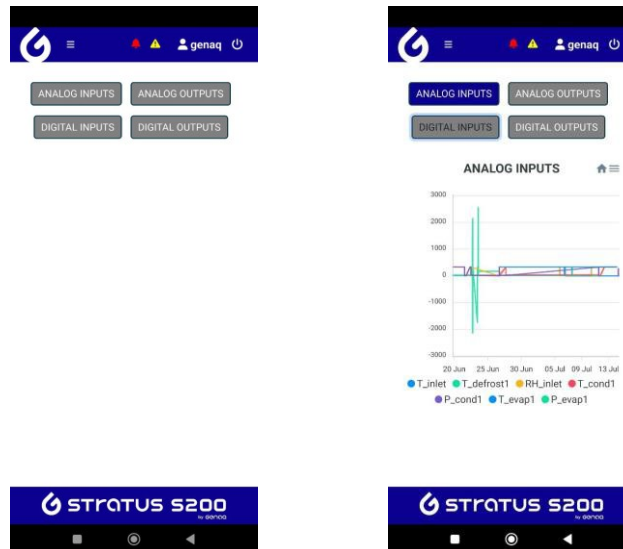


Figure 30: Graphs view

### 2.3.2.7. Parameters

The parameters menu is divided into 14 submenus of the same nature. One for every specific configuration of the generator and the other dedicated exclusively to its inputs/outputs.

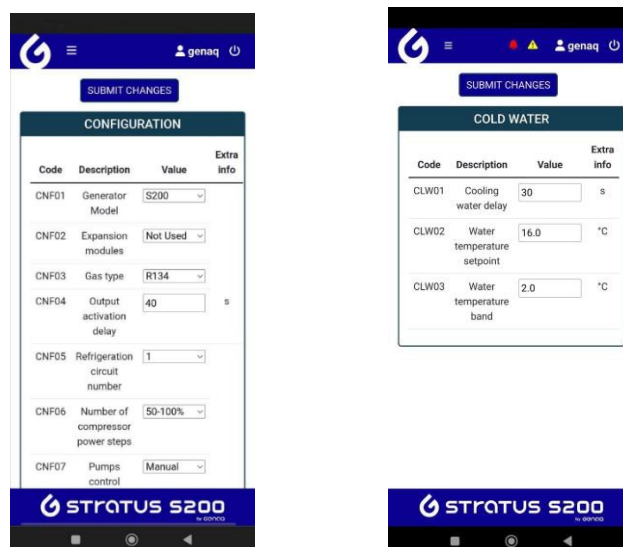


Figure 31: Parameters views

Access to these menus is limited to the professional technician and the GENAQ team, so before accessing them, it will be necessary to log in with one of these two user levels.

The parameters are organized by category to make them easier to find. The input/output parameterization menu is similar to the general parameter's menu. The configuration fields are organized by the input/output type.

### 2.3.2.8. Commands

Finally, the commands menu, which also requires logging in, allows you to act on the start and stop status of the generation, load or save the .conf files previously saved in the controller's memory and reset certain alarms or restart the system logs.



Figure 32: Commands views

### 2.3.2.9. Control panel

The Control Panel menu is a Dixell specific submenu used to perform certain actions on the generator controller, its access by untrained personnel is discouraged.



Figure 33: Control panel login

## 2.4. Alarms and Warnings

### 2.4.1. Alarms Description

Table 2: Alarms description

Label	Description	Effect	Reset
APB1 APB2 ... APB10	Main module PbX probe alarm	Alarm sign Stops water generation	Automatic: Once the probe recover its value
APBE1 APBE2 ... APBE7	DIN4 expansion module PbX probe alarm	Alarm sign Stops water generation	Automatic: Once the probe recover its value
APBX1 APBX2 ... APBX10	DIN10 expansion module PbX probe alarm	Alarm sign Stops water generation	Automatic: Once the probe recover its value
ACC1	Circuit 1 Compressor Alarm	Alarm sign Circuit 1 compressor stops Stops water generation	Manual: It is necessary turn off/on manually the generator if the alarm appears more than 5 times in less than 1 hour Automatic: Once the digital input is recovered
ACC2	Circuit 2 Compressor Alarm	Alarm sign Circuit 2 compressor stops Stops water generation	Manual: It is necessary turn off/on manually the generator if the alarm appears more than 5 times in less than 1 hour Automatic: Once the digital input is recovered
ASC1	Safety line of Circuit 1	Alarm sign Circuit 1 compressor stops Stops water generation	Automatic: Once the digital input recovers its value
ASC2	Safety line of Circuit 2	Alarm sign Circuit 2 compressor stops Stops water generation	Automatic: Once the digital input recovers its value
AHP1	High pressure switch alarm Circuit 1 Exceed of pressure switch activations	Alarm sign Circuit 1 compressor stops Stops water generation	Manual: It is necessary turn off/on manually the generator
ALP1	Low pressure switch alarm Circuit 1 Exceed of pressure switch activations	Alarm sign Circuit 1 compressor stops Stops water generation	Manual: It is necessary turn off/on manually the generator
AHP2	High pressure switch alarm Circuit 2 Exceed of pressure switch activations	Alarm sign Circuit 2 compressor stops Stops water generation	Manual: It is necessary turn off/on manually the generator
ALP2	Low pressure switch alarm Circuit 2 Exceed of pressure switch activations	Alarm sign Circuit 2 compressor stops Stops water generation	Manual: It is necessary turn off/on manually the generator

<b>Label</b>	<b>Description</b>	<b>Effect</b>	<b>Reset</b>
AFAN	Fans failure alarm	Alarm sign Stops water generation	Automatic: Once the digital input recovers its value
ACNF	Circuit number configuration alarm	Alarm sign Stops water generation	Manual: It is necessary reconfigure the generator
ATET	Tray emptying time The water flow is very low	Alarm sign Stops water generation	Automatic: Once the upper tray buoy is deactivated Manual: It is necessary turn off/on manually the generator
AZWF	Zero water flow	Alarm sign Stops water generation Stops tray water pump	Manual: It is necessary turn off/on manually the generator
ANLK	No-link expansion module 4DIN	Alarm sign The probes changes the value to "error". The reading of the digital inputs changes to "false" Stops water generation	Manual: It is necessary reconfigure the generator
ANLK	No-link expansion module 10DIN	Alarm sign The probes changes the value to "error". The reading of the digital inputs changes to "false" Stops water generation	Manual: It is necessary reconfigure the generator
ACS1	Coresense compressor 1 Circuit 1	Alarm sign The control will register in an internal file the type of alarm produced in the coresense Stops water generation	Automatic: Once the problem in the compressor is solved
ACS2	Coresense compressor 2 Circuit 1	Alarm sign The control will register in an internal file the type of alarm produced in the coresense Stops water generation	Automatic: Once the problem in the compressor is solved



## 2.4.2. Warnings Description

Table 3: Warnings description

Code	Description	Cause	Check
WHP1 WHP2	High pressure switch circuit X	The high pressure switch is active. If the pressure switch is activated a predefined number of times in one hour, the water generation will stop and the AHPX alarm will be activated.	Check the pressure in the high sector of the respective circuit.
WLP1 WLP2	Low pressure switch circuit X	The low pressure switch is active. If the pressure switch is activated a predefined number of times in one hour, the water generation will stop and the AHPX alarm will be activated.	Check the pressure in the low sector of the respective circuit.
WDF1 WDF2	Defrost finished by time circuit X	The defrost has ended because a predefined time has been exceeded since its start.	Check the amount of ice in the evaporator.
WOPE	Operation limit reached	Ambient conditions are outside the predefined operating limits of the generator. The water generation stops.	Check the reading of the values of the input temperature and humidity probes.
WLFR	Low water flow rate	The tray emptying water flow rate is lower than the predefined value.	Verify emptying of the condensation tray and condition of the water filters.
WLNA	RS485 connectivity failure network analyzer	The control does not communicate with the network analyzer.	Check connection between NA and controller. Check Modbus address of the device.
WEV1 WEV2	RS485 connectivity failure EEV driver circuit X	The control does not communicate with the electronic expansion valve on circuit X.	Check connection between EEV and controller. Check Modbus address of the device.
WCS1 WCS2	RS485 connectivity failure Coresense circuit X	The control does not communicate with the Coresense on circuit X.	Check connection between Coresense and controller. Check Modbus address of the device.
WCS3	Coresense Compressor on circuit 1	Alarm message in the circuit 1 compressor	Check coresense light indicators
WCS4	Coresense Compressor on circuit 2	Alarm message in the circuit 2 compressor	Check coresense light indicators
WOWL	Off generation by water level	The generation of water stops because the water tank is full. It is not possible to store more water.	Check the connection of the level buoys and their correct operation
WSH1 WSH2	Off generation by superheating circuit X	The superheat is higher than the predefined value.	Check evaporation pressure
WPHP	Prevent high pressure	The refrigerant circuit pressure is higher than the predefined limit pressure.	Make sure the air inlet filters are cleaned, replace them.

## 3. Maintenance



## 3.1. Basic Maintenance

GENAQ Stratus S50 atmospheric water generator requires:

- **Basic Maintenance**, to be carried out by the user.
- **Professional Maintenance**, to be carried out by a refrigeration professional qualified for this generator.



Any repair, replacement, or intervention in the generator by unauthorized personnel will lead to the cancellation of the Warranty.



During maintenance, turn off the power and wear protective gloves to avoid possible cuts.

It is important to follow the Maintenance recommendations with the **frequency** indicated in this Manual

The Basic Maintenance tasks are described below:

### 3.1.1. External Cleaning

To keep your generator free of dust and dirt, wipe the housing surface with a damp cloth. Do not use detergents or solvents.

**Frequency:** Depending on the location.

### 3.1.2. Air Filters

By the generator use, dust and dirt will be deposited on the air filters, hindering the air flow. This requires periodic filter cleaning and replacement.



It is mandatory disconnect the generator from the power grid before any maintenance task.

#### 3.1.2.1. Air Inlet Filter

- Remove the filters as indicated in the following sequence.




Figure 34: Air inlet access

- Remove the filters and replace them. If spare parts are not available, please contact [support@auqvian.se](mailto:support@auqvian.se).

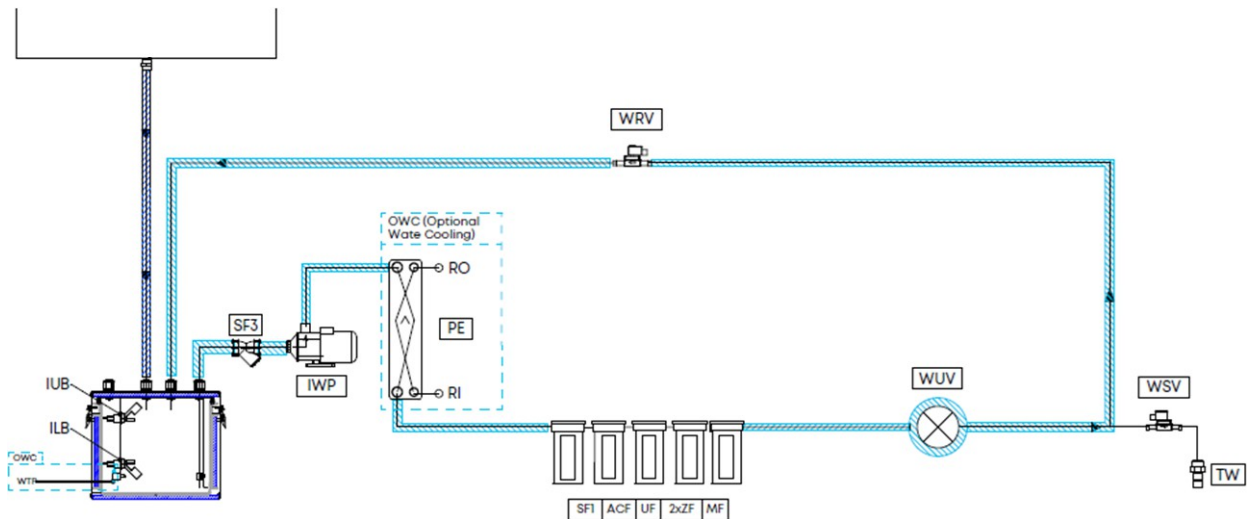
**Frequency:** Once a year, in dusty environments, the replacement frequency may increase.

### 3.1.3. Hydraulic Circuit

The hydraulic circuit is composed of several elements that require supervision, cleaning and replacement maintenance:

 It is mandatory disconnect the generator from the power grid before any maintenance task.

#### 3.1.3.1. Diagram



Code	Description
WSV	Water service valve
WSV	Water recirculation valve
IWP	Water pump
PE	Plates exchanger
SERVICE	Service valve
WUV	UV Lamp
MF	Mineralization filter
ZF	Zeolite filter
UF	Ultrafiltration filter
ACF	Activated Carbon Filter
SF1, 3...	Sediment filter
OWC	Water cooling (Optional)
IUB	Internal tank upper buoy
ILB	Internal tank lower buoy
BV	Bleed valve
WTP	Water temperature probe
TW	Tap water

Figure 35: Hydraulic circuit

### 3.1.3.2. Leakage Check

Periodically check the absence of leaks in the hydraulic circuit and after any cleaning or replacement operation. To disconnect the pipe, press the ring and pulling the pipe in opposite direction (it is recommendable help with a 10 open-end wrench). To ensure the connection, introduce the pipe completely into the quick connection.

In case of doubts, please contact [support@auqvian.se](mailto:support@auqvian.se).

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**Frequency:** In each maintenance operation

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### 3.1.3.3. Condensation Tray

The condensation tray cleaning requires removing the access panel as shown below:

- Turn off the generator by pressing the ON/OFF key at the display and disconnect it from the power supply.
- Access the condensation tray by opening the front door.



Figure 36: Condensation tray access panel

- Unscrew the Allen screws and remove the access panel to separate it from the generator.
- With the panel removed, proceed to clean the condensation tray.
- Clean the tray with products that do not damage the stainless steel of the tray and that are not harmful to health, such as bleach dissolved with water. Do not use solvents, degreasers or products that are harmful to health.
- After cleaning the condensation tray, it is necessary to clean the water tank, since the cleaning product goes from the drain of the tray to the tank.
- Once the condensation tray panel is tightening, screw the front panel
- Turn On the generator

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**Frequency:** Depending on the air quality of the place, its frequency is 1 month

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### 3.1.3.4. Water Filters

The water filters are used to trap particles that have through the main air filters, to avoid microbiological and chemical contamination risk, to avoid any smell or flavor in the water, and to enrich it with minerals.

To replace the filters, please, follow these steps:

- Turn off the generator and disconnect it from the power supply.
- Access into the hydraulic circuit location.

#### 3.1.3.4.a. **Sediment, Mineralization, Ultrafiltration and Activated Carbon Filters**

- Unscrew the filters counterclockwise.

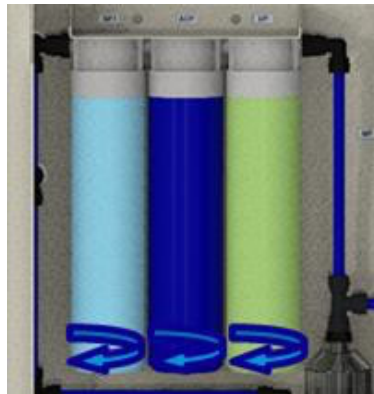


Figure 37: Filters extraction

- Replace the filters with new ones and screw them.
- If you do not have spare parts, please contact [support@auqvian.se](mailto:support@auqvian.se).

#### 3.1.3.4.b. **Zeolite Filter**

- Disconnect the filter from the pipe.

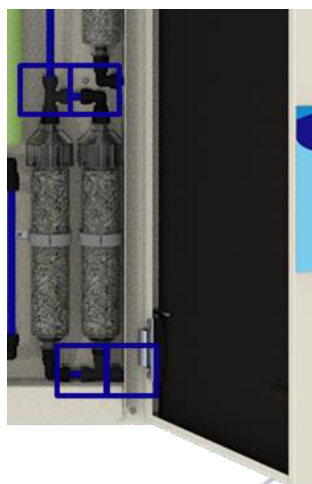


Figure 38: Zeolite filter disconnection

- Unscrew the quick connection to remove the cap and fill the filter with zeolite.



Figure 39: Zeolite filter

- Install the filter. To avoid leaks, make sure that the pipes are properly connected.

#### 3.1.3.4.c. Mineralization Filter

- Unscrew the mineralization filter from the quick connections.

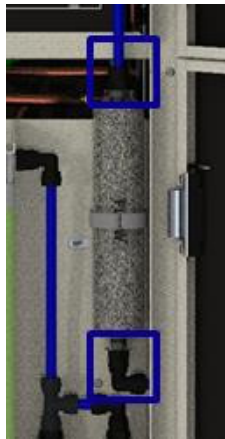


Figure 40: Mineralization filter disconnection

- Replace the filter and screw the pipe connection. To avoid leaks, make sure that the pipes are properly connected.
- Connect the filters to the pipe.

#### 3.1.3.4.d. “Y” Sediments Filter (SF3)

- Open the lower door.

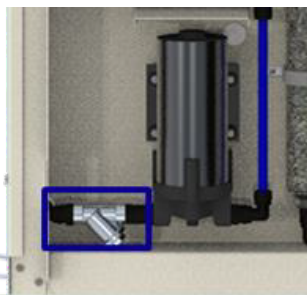


Figure 41: Sediment filter location

- Unscrew the Y-strainer with a spanner.
- Empty the contents inside the 300 µm mesh and clean it with water.
- Reinstall the mesh in its respective compartments.



Please check Possible Anomalies in the **Troubleshooting** chapter.

### Frequency:

- **Sediment “Y” filter:** Around two times in a year. In dusty environments, the cleaning frequency may increase.
- **Sediments, Ultrafiltration and Activated Carbon filters:** Around one year. In dusty environments, the replacement frequency may increase.
- **Zeolite filter:** Refill once a year, refill frequency varies as a function of water consumption.
- **Mineralization filter:** One year, replacement frequency varies as a function of water consumption.

The frequency of filter change can be affected by the generator use and external environmental conditions, the values given above are under daily operating conditions and use in a closed environment.

Therefore, to accurately assess the need to change the water filters, a quarterly water analysis should be carried out, where the following parameters are evaluated:

Parameters	Unit	Limit according to Spanish regulation (RD 3/2023)	Corrective actions if the limit is exceeded
$NH_4^+$	mg/l	0.5	Changed ZF
$NH_3$	mg/l	0.5	Changed ZF
pH	mg/l	6.5-9.5	Changez SF-ACF-UF and MF
$NO_2^-$	mg/l	0.5	Change SF-ACF-UF and clean internal tank

### 3.1.35. Replacement of the UV lamp

- Extract the UV Lamp body from the holder and unscrew the Quartz sleeve lock nut.

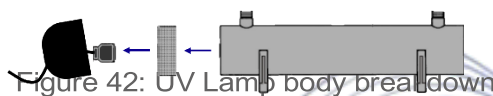


Figure 42: UV Lamp body breakdown

- Make sure that the sealing O-ring is installed in the quartz sleeve. Introduce the quartz sleeve into the UV Lamp body.



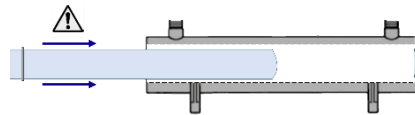


Figure 43: Quartz sleeve installation

- Screw the lock nut, connect the UV Lamp and insert the lamp into the quartz sleeve

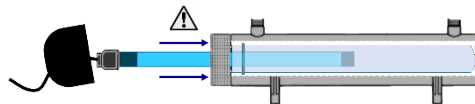


Figure 44: UV lamp installation

If the replacement of the lamp body and / or the brass connections was necessary, please follow these instructions:

- Disconnect the UV Lamp body from the Hydraulic circuit by disconnecting the quick connection.
- Remove the UV Lamp body from the brass connections by unscrew them.
- Screw the new brass 3/8"-female connections (in case they were deteriorated) to the water inlet / outlet.
- To connect the lamp to hydraulic circuit it is necessary to install a 3/8" – 10mm quick connection to each brass connection.

Note: In any screwed hydraulic connection, it is especially important to coat the connections with Teflon to ensure the tightness. Please, make sure that these connections are properly tightness to avoid leaks.

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#### Frequency:

- **Cleaning of the Quartz sleeve:** Once a year.
  - **Replacement of Quartz sleeve and the UV lamp:** Around two years.
- 

#### 3.1.3.6. Water Tank Cleaning

With the use of the generator, the water tank will accumulate sediments. It is important to keep it clean and inspected periodically. To perform a correct maintenance, follow these steps:

- Turn off the generator by pressing the ON/OFF key and disconnect the generator from the grid.
- Access to the internal tank location and disconnect the inlet, suction and recirculation pipe from the tank.



Figure 45: Internal tank connections

- Disconnect the level buoys connector, unscrew and pull to remove the piece.



Figure 46: Level buoys connector

- *In case you acquire the optional Water Cooling, disconnect the temperature probe connector, press the tab, and pull to remove the piece.*



Figure 47: Temperature probe connector

- Extract the water tank
- Remove the cover. Clean the tank with a damp cloth. Do not use solvents, degreasers, or products harmful to people.
- Once relocated all the elements, turn on the generator.

---

**Frequency:** Depending on the air quality of the place, its frequency is 1 month

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### 3.1.4. Preservation During Long Periods of Inactivity

It is **IMPORTANT** to carry out the correct hygiene of the generator if it is going to be more than a week out of operation, as the pipes and filters can be contaminated due to the lack of use. Despite the warranty offered by the generators regarding their hygiene, the pipes' sections between the tank and the dispensing tap can contain microbiological contamination if the generator is not operating.

The manufacturer will not be responsible for any defect, in this sense, if the following procedure is not followed to avoid such contamination:

Always perform a hyperchlorination of the generator's hydraulic circuit when it has been in a period of inactivity of more than a week.

For this we will aim for a total chlorine concentration of 7mg/l to eliminate any possible pathogens that may have been developing during the period of inactivity. The table below shows the volume (ml) of sodium hypochlorite to be used depending on the richness of the sodium hypochlorite used.

The total volume of water to be treated corresponds to 12 liters.

Table 4: Hyperchlorination

Water amount	Product Concentration	Chlorine	Water amount	Product Concentration	Chlorine
12 liters	1%	8.4 ml	12 liters	6%	1.4 ml
12 liters	2%	4.2 ml	12 liters	7%	1.2 ml
12 liters	3%	2.8 ml	12 liters	8%	1.05 ml
12 liters	4%	2.1 ml	12 liters	9%	0.93 ml
12 liters	5%	1.7 ml	12 liters	10%	0.84 ml

In case the richness of your sodium hypochlorite is different from the one shown in the table above, it is necessary calculate it by using the following equation:

$$V_{NaClO} (ml) = \frac{V_{water} (l) \times C_{final} (mg/l)}{Richness \left(\frac{mg}{ml}\right) \times 10}$$

$V_{NaClO}$  = Volume of hypochlorite

$V_{water}$  = Volume of water in the tank

$C_{final}$  = Concentration desired of hypochlorite (7 mg/l is the advisable value for hyperchlorination)

*Richness* = % of hypochlorite richness (data available in material safety datasheet)

After more than one month without use, after the hyperchlorination and empty the tank twice through the service. It is advisable to carry out a tap water analysis according to the local regulation, in order to detect anomalies in the water treatment, in this case, it is necessary replace it. Check at least the following parameters:


- Coliform bacteria (E. coli)
- Aerobia bacteria
- Ammonia
- pH
- Nitrites




For long periods of inactivity, it is advisable to empty the tank, the filters, the UV and empty the pipe (to do this, disconnect the pipe from solenoids valves and the pipe sections before and after the filters).

## 3.2. Professional Maintenance

**Professional Maintenance** includes all the tasks of the **Basic Maintenance** plus those described in this section which must be carried out by a refrigeration specialized and authorized technician.

 Any repair, replacement, or intervention on the generator of unauthorized personnel will lead to the cancellation of the warranty.

 During maintenance, turn off the power and wear protective gloves and goggles to protect against cuts and splashes.

**Frequency:** Annual and in case of any anomaly detected.

Professional Maintenance includes the following tasks:

- The generator metallic parts corrosion control (chassis, bodywork, exchangers, electrical panel, etc).
- Check the air, water and refrigerant isolation circuits.
- In case of an incident, the repair of mechanical parts, refrigeration elements and hydraulic circuit.
- Check the electrical connections.
- In case of an incident, replacement or repair of electrical generator elements.
- Handling of protection elements, control panel, start-up, stop and emergency switches.

In addition to the maintenance tasks recommended above, the generator will be affected by the applicable regulations in this matter.

### 3.2.1. Refrigeration Circuit

GENAQ Stratus S50 is designed to work with R134A refrigerant. The use of any other refrigerant in this generator is not allowed and invalidates the warranty.

The refrigerant charging and draining will always be done in liquid phase through the Schrader valve located in the liquid line of the generator.



Figure 48: Refrigeration circuit

### 3.2.1.1. Refrigerant Charge and Emptying

Any operation related to loads, drains or replacements of the refrigerant must be carried out by an authorized refrigeration professional and never by the user of the generator. The recovery of the refrigerant is mandatory for its subsequent reuse and / or disposal and must be handed over to an authorized waste manager when appropriate.

### 3.2.1.2. Dehydrator Filter

The filter function is to keep clean and free of moisture clean, neutralizing the acids that can be found therein. Check through the viewfinder indicator of the absence of liquid moisture in the system.

### 3.2.1.3. Oil

Look through the oil viewfinder to check the oil level. If there is change of color, check the quality of the oil through a contamination test. In the presence of acid, water, or metallic particles, replace the affected oil circuit and the dehydrator filter. If it is necessary to replace the oil, you should use new oil identical to the original one. Both oil type and volume required for each model are listed in tables technical characteristics.

## 3.2.2. **Air Circuit**

If a repair or replacement of the fan is necessary, its access is done by opening the upper plate, as shown in the figure:



Figure 49: Fan access

## 3.2.3. **Control and Electrical Circuit**

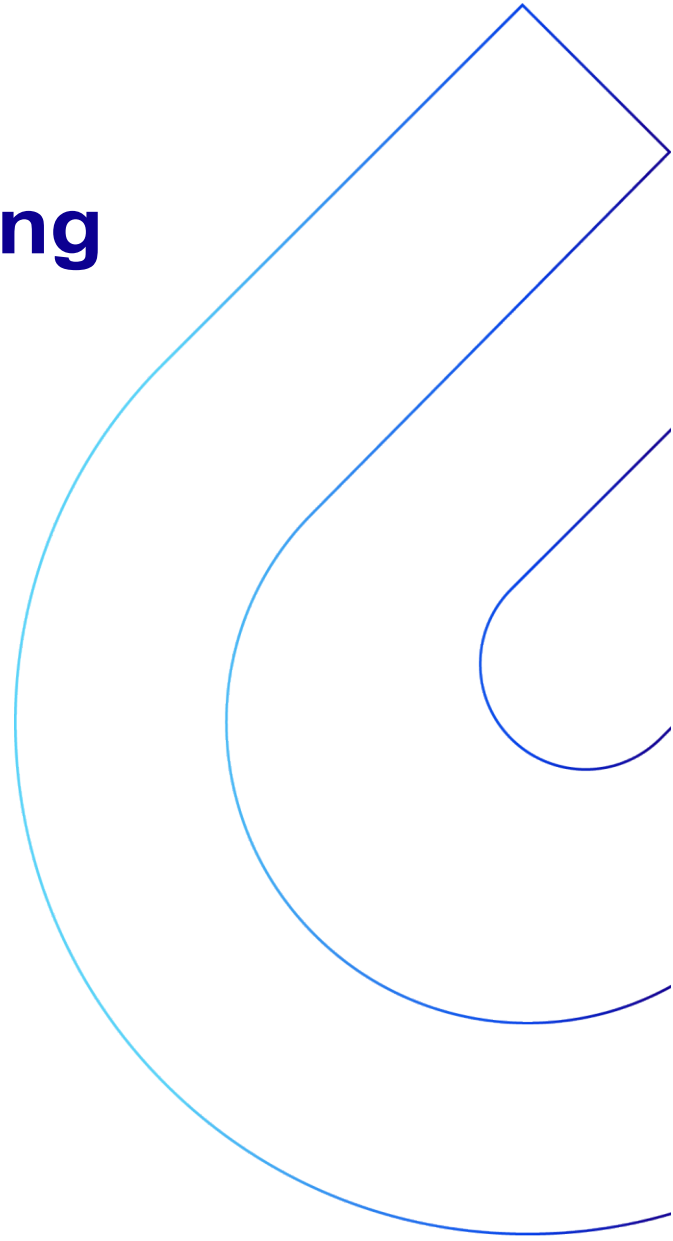
This generator uses DIXELL IPG208D-10021 and VTIPG, that have been designed to control all functions of this generator.



Figure 50: Control

The control includes a friendly interface that allows to visualize the temperatures, alarms, and the operation of the compressor and the fan. It also allows you to monitor and change some parameters of the control.

## 4. Troubleshooting



## 4.1. Troubleshooting

If there is a problem with the generator, check the table below and follow these tips. In case you might need additional assistance, please contact [support@auqvian.se](mailto:support@auqvian.se).

Table 5: Troubleshooting tips

Symptom	Cause	Solution
The generator does not turn on	a) Absence of electrical power	a) Check differential and circuit breaker....
The compressor does not start The compressor pilot is on	a) Absence of electrical power b) Burned contactor coil c) Internal Klixon open d) Inlet Temp lower than set point	a) Check differential, fuses b) Change it c) Wait for rearming, check intensity absorbed
The compressor does not start The compressor pilot flashes	a) The contacts of a control element are open (pressure switches) b) Anti-short cycle timing does not allow start-up	a) Check the safety chain in electronic regulation b) Wait and verify electronic regulation c) Check the continuity of the contact (jumper connection)
The compressor stops a few seconds after starting, the engine sounds intermittently, and opens the internal Klixon	a) Very low network voltage b) Damaged starter kit (check starter relay opening) c) Crammed compressor d) Crashed compressor	a) Check the voltage of the line and locate the voltage drop b) Replace compressor and starter kit c) Check the oil level, and return the oil to the compressor through the suction pipe. If it is necessary to install siphons and resize the pipe. d) Replace the compressor
Repeated stops and starts of the compressor	a) The compressor light flashes b) The compressor pilot remains on. (cut by Klixon) c) Regulating differential too low	a) Check pressures and / or check the safety chain (pressure switches) to find the cause High- or Low-pressure switch cut-out b) Increase the temperature or humidity differential
High pressure switch cut PAL Alarm: Very high condensation pressure	a) Insufficient flow or recirculation of air b) Dirty or clogged air filter c) Fan is damaged d) Dirty or clogged condenser e) High ambient temperature	a) Check air circuits (flow, recirculation, obstructed air outlet) b) Clean c) Repair d) Clean
Evaporator blocked by ice PAL Alarm: Very low evaporation pressure (low pressure switch cut)	a) No evaporator flows b) Cooling fan breakdown c) Continuously frozen Evaporator d) Filter clogging liquid (having different temperature at the inlet and outlet) e) Lack of gas f) Very low-pressure condensation g) Low room temperature	a) Clear air intakes b) Fix it c) Check defrost, defrost parameters change. d) Changing the filter e) Find leak, complete loading f) Air temperature at very low condenser (very high air flow), adjust control parameters condensation or relocating generator
The compressor is noisy	a) Loose Fixation b) Lack of oil c) Default compressor	a) Set b) Add oil up to recommended level c) Change it
Defrosting is not performed	a) Power failure b) Probe out of evaporator coil c) Non-operating module Defrost	a) Check contactor and fuse b) Check reading in Pb2 probe / check location c) Check defrost parameters
EAL Alarm	a) Plate unconfigured to default	a) Check the plate configuration
Null / Sparse production	a) Clogged filters b) Membrane saturated	a) Replace filters b) Replace membrane
Plastic or synthetic flavor	a) Start-up or non-use b) Spent mineralization filter	a) Water filling and complete emptying of the water tank twice b) Replace the mineralization filter
Chlorine taste and smell (with the option chlorine dosing)	a) Spent activated carbon filter	a) Replace activated carbon filter
Unpleasant taste and smell	a) Environmental pollution	a) Replace the filters and sanitize the circuit



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