

GH 500 Hygrometry generator



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1.1 *Precautions for use*

Please always use the device in compliance with the intended use and in the limit of described parameters in the technical features in order not to compromise the protection ensured by the device.

- The device must be connected on a low voltage installation in compliance with the regulation of the country where the device is installed (in France: NFC 15-100).
- Every fuse replacement must be realised with the switched off device by using a recommended fuse in the documentation (see the technical features of the device: please see the technical datasheet).
- Disconnect the power supply cable to switch off the device.
- The device is not adapted for ATEX areas according to the current regulations.

1.2 *Symbols used*

For your safety and in order to avoid any damage on your device, please read the described processes in this user manual and read carefully the notes preceded by the following symbol:



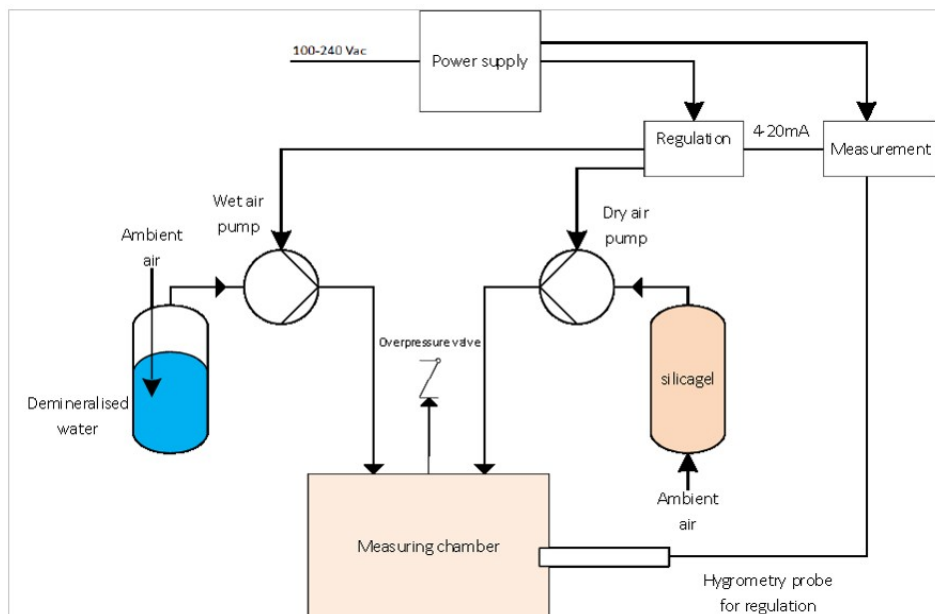
The following symbol is also used in this user manual:
Please read carefully the information notes indicated after this symbol.



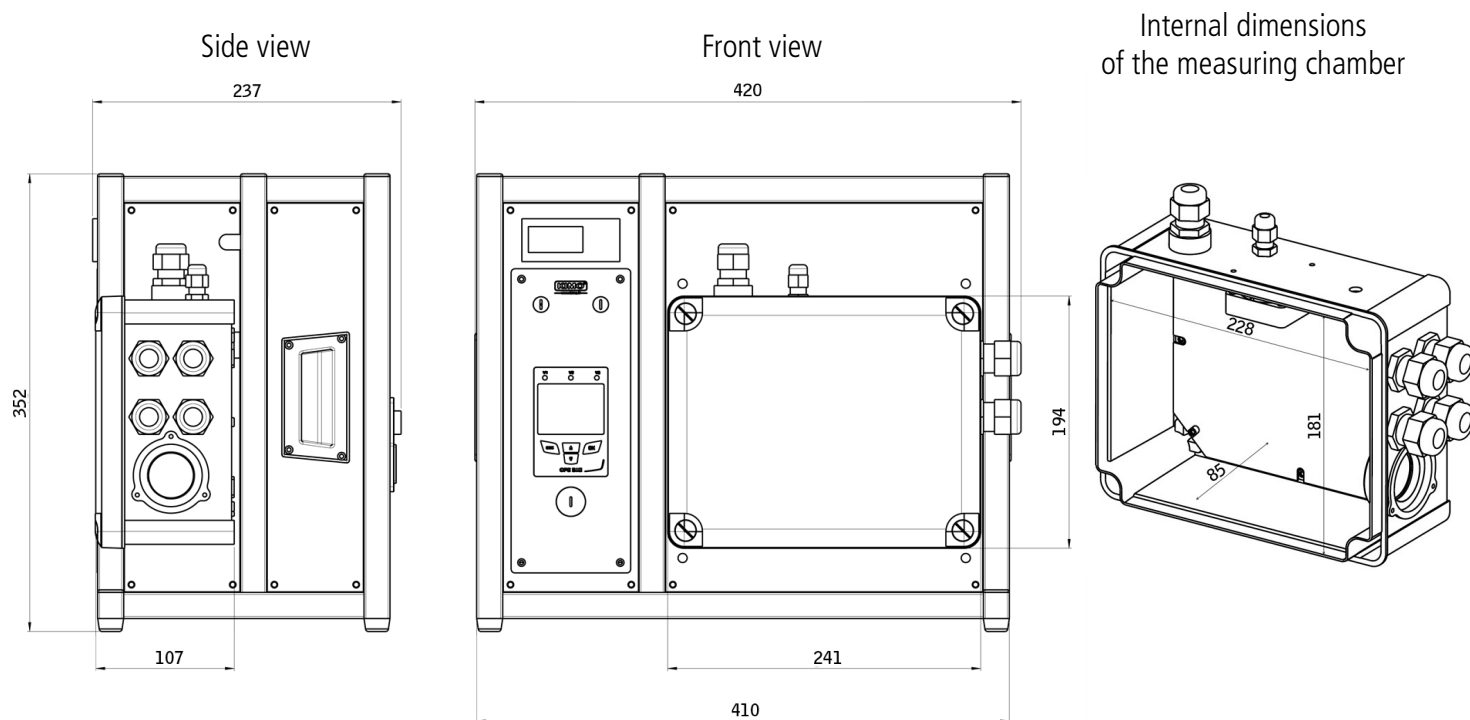
2 Instrument description

GH500 instrument is the key instrument to adjust and calibrate in ambient air your measuring instruments in hygrometry. Easy-to-use, it will guarantee fast and stable hygrometry generations.

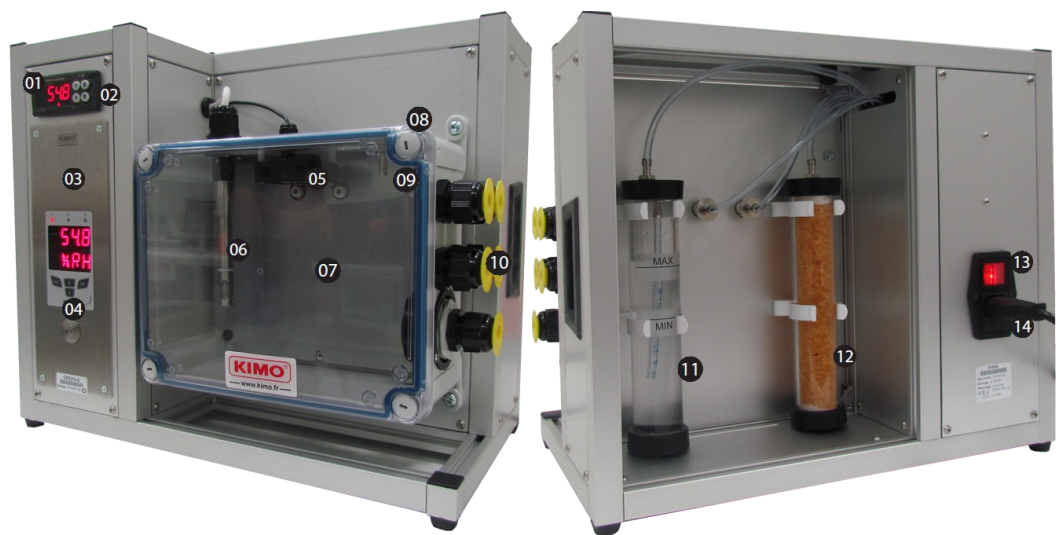
2.1 Schematic drawing



2.2 Dimensions (in mm)



2.3 Description



01. K38 controller with adjustable setpoints	08. Overpressure control exhaust outlet
02. K38 keypad : selection of the setpoint value	09. Measuring chamber with front opening
03. CPE 310-S transmitter for measurement of the chamber	10. Cable gland for probes
04. CPE 310-S keypad : configuration of the measurement transmitter	11. Moistening cartridge
05. Blower	12. Drying cartridge
06. SHSI thermo-hygro measuring probe for CPE 310-S	13. On/Off key
07. Metallic mounting plate to magnetize the instruments	14. Power supply

3.1 K38 display description



- 1 : **OUT1** : pump of the wet air circuit in operation
- 2 : **OUT2** : pump of the dry air circuit in operation
- 3 : - : value of the measured humidity is lower than the setpoint value
- 4 = : value of the measured humidity is stabilized at the setpoint value
- 5 : + : value of the measured humidity is higher than the setpoint value

3.2 Operating principles

The GH 500 is a device which allows to generate points of relative humidity on a range from 10 to 85% HR. It works on the principle of a mix of moist air and dry air in different proportions, in order to obtain the required relative humidity value. For the generator works optimally, it must be placed in the most stable room in temperature (between 20 and 25 °C). This condition will define the homogeneity in humidity of the generator. Once the generator is properly installed and turned on, simply select the threshold value of the required relative humidity.

3.3 Enter a setpoint value

To enter a setpoint value :

- Press on **(P)** The screen starts flashing in displaying SP1 and the actual setpoint value.
- Press on **▲** to increase the setpoint value or on **▼** to decrease the setpoint value.
- Press on **(P)** to validate.
- Press on **(U)** during 3 seconds to return to the normal display.

3.4 Performances

The stability of the GH500 regulation allows to have a regulated setpoint value at $\pm 0.1\%$ RH. It is able to pass from 10 to 85 % RH in 35 minutes and from 85 to 10% RH in 30 minutes. However, the durations can vary according to the consumables wear condition, if the rise and fall times become more longer, verify their conditions.

The homogeneity in dry temperature is 0,1°C in a restricted volume, it is therefore advised in order to have a precise measurement to put the probe in the middle of the housing.

3.5 Use advice

The measuring chamber must be always airtight. The ball of the overpressure control exhaust outlet (see 08 instrument description chapter) must turn when the pump is in operation.

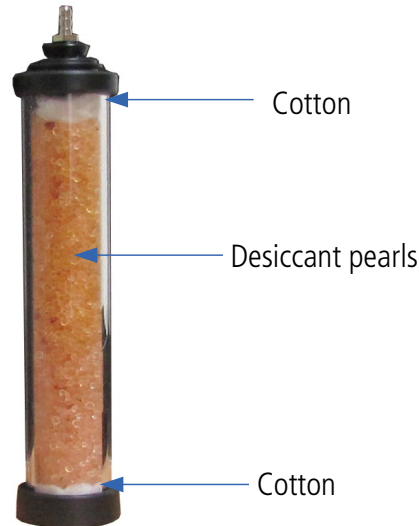
If not, check that the front part of the measuring chamber is well closed and that the cable glands are well blocked.

4 Change the consumables

4.1 Regeneration of the desiccant pearls

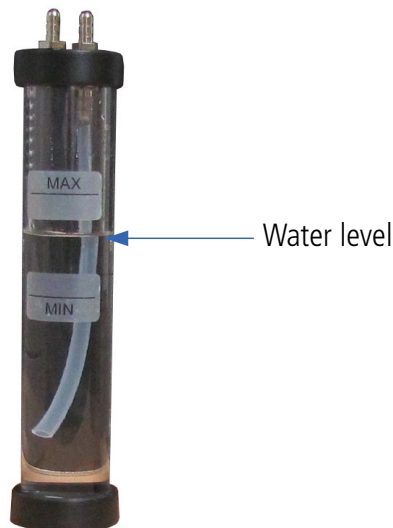
Before using the device, put a cotton filter at each end of the dessicant pearls tube.

The dessicant pearl is a material which allows to drain the air; the little balls pick up moisture: their colours pass from orange to transparent. When the colour becomes transparent, the dessicant pearls absorption capacity is reduced and it must be regenerated. One hour in an oven at a temperature of 100°C allows a proper recovery of their properties. However, after several regeneration periods, their capacity can be degraded and it is necessary to change them.

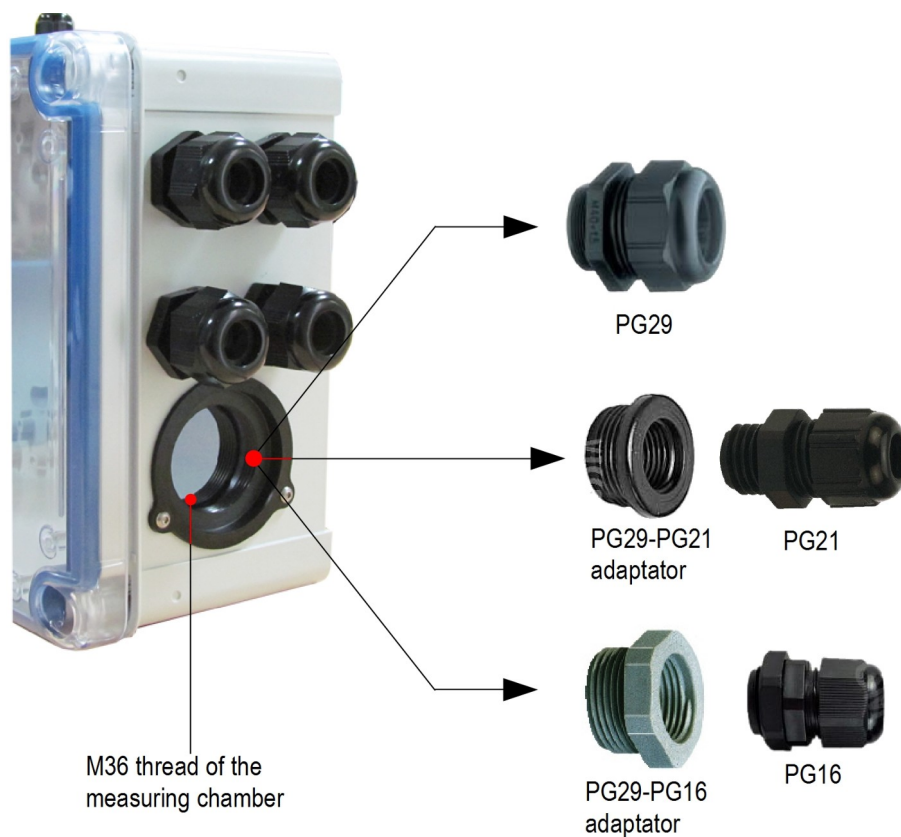



4.2 Maintenance of the bubbler

The bubbler allows to load humidity in air. For an optimal operation, the level of water must be maintained. You must use distilled water to avoid the stagnation and clean the bubbler if the water changes colour or becomes opaque. It is important not to exceed the maximum level indicated at risk of see the water overflowed from its tank and infiltrate the pneumatic circuit.



5 Cable glands



 The M36 thread is adapted to insert a mirror for example.

6 Transport case

 During the transportation, please empty the cartridge of demineralised water. Unclip the drying cartridge and empty it in the flask n°2.

