

# FIELD GENERATOR

GC 15

## DESCRIPTION

The field generator GC 15 is aimed to apply simultaneously or separately an electric and a magnetic field. The alternative magnetic field has a frequency which can be fixed between 20 and 250 Hz and a magnitude from 0 to 1200A/m. Electric field is established at 50 Hz frequency with a magnitude between 0 and 15 kV/m.

The generator is a moving cabinet thanks to casters. This cabinet is at the 19 inch standard with an height of 33 U.

Top part of the cabinet is a shielded box made of a material having a good magnetic permeability. Inside is located the magnetic field generator and the testing chamber.

Bottom part of the cabinet is integrating the power supply, the transformer (for electric field generation) as well as instrument used to measure the generated field..

Electric field is generated by polarizing electrodes located at the top and bottom of the testing chamber with a voltage.

## GENERAL CHARACTERISTICS

### Size and environment conditions

- Height : 1700 mm including casters
- Width : 600 mm
- Length : 600 mm
- Weight : 230 kg
- Operating position : vertical cabinet
- Temperature conditioning : 15 minutes
- Operating temperature : +10°C to +40°C
- Storage temperature: -10°C to +50°C
- Power supply : 230 V nominal
- Operating range : -12% / +10% of nominal value
- Operating frequency : 50 to 60 Hz
- Consumption : max. 350 VA

### Protection :

- by fuse 2 x 3,15 A type D1
- by RCD : 30 mA

### Safety measures

- Access to the testing chamber is protected by a transparent door sliding vertically. An optical sensor detecting the presence of this door avoid voltage to be applied when it is not fully closed.
- Two series protection impedances are used with the polarizing electrodes to limit the short-circuit current to less than 40  $\mu$ A.
- A polyester isolating film avoid contact with electrodes at the entrance of the testing chamber.

### Protection against magnetic field radiation

Level of the magnetic field at 1 m from front of the generator cabinet is less than : 2 A/m



· **Electric field characteristics**

- Testing chamber electrodes polarizing voltage : manual setting from 0 to 3 kV rms to develop an electric field from 0 to around 15 kV rms/m.

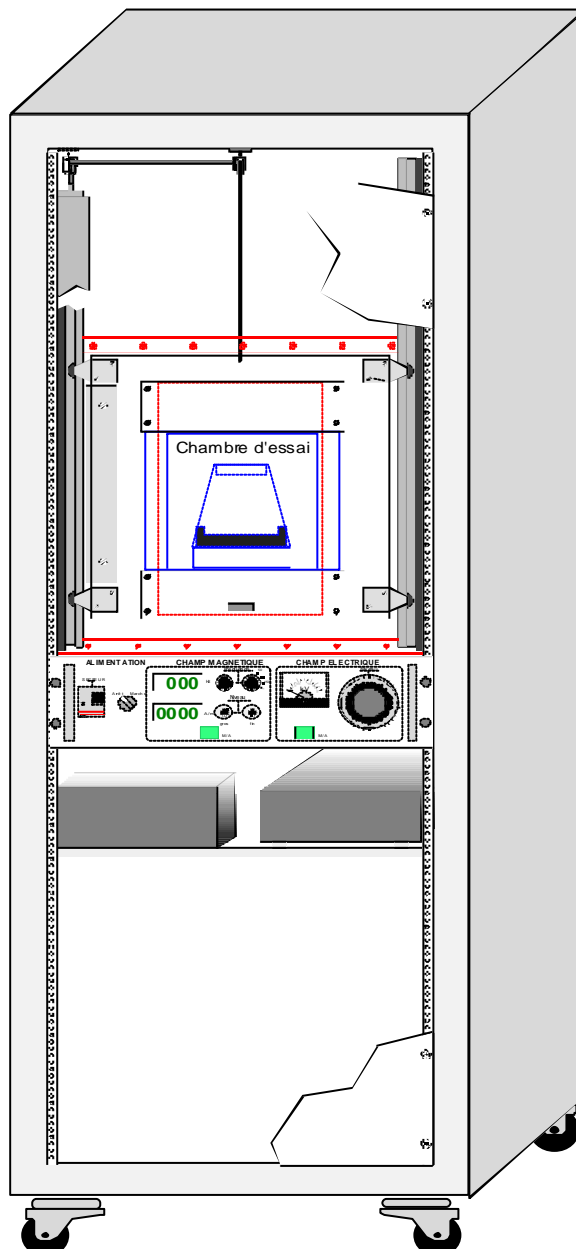
· **Magnetic field characteristics**

- Choice of the frequency with 3 fixed settings (50 - 100 - 150 Hz) and an adjustable setting
- Adjustment from 0 to 1200 A/m over the complete frequency range.
- Volume of the magnetic dipole : cylindrical shape  $\varnothing$  80 mm, length 130 mm

Note : the testing chamber is removable and can be replaced by a larger one

· **Measurement of the generated magnetic field**

- Display of the field value with 2000 points
- Accuracy on the generated field value at 50 Hz at the center of the testing chamber  $\pm 1$  digit : 1%



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