metrix®

BioTest® LF Electric Field Testers

- **VX 0003 with 3 kHz internal antenna**
- **VX 0100 with 100 kHz external antenna**



Measure your exposure to electromagnetic pollution at home or in the office

- 2 complementary measurement methods
  Representative method:
  - **Field measurement while taking into account the person's presence**
  Traditional method:
  - Fields referenced to earth
- Testing **in compliance with the current and future standards and directives** (including 1999/519/CE, 2004/40/CE, etc.)
- Test of pollution generated by **electrical power distribution** (0 - 3 kHz)
- Test of pollution generated by the **equipment connected** (3 - 100 kHz)
- Single external antenna for **field measurement and cable detection** (rénovation)

metrix® A Brand of CHAUVIN ARNOUX GROUP

LF Electric Field Testers / Meters

The ***BioTest***® **VX 0003** and **VX 0100 electric field testers/meters** instantly indicate the level of electromagnetic pollution. Ideal for the housing and tertiary sectors, they are designed for both professional and private use.



Our day-to-day environment contains many sources of such electromagnetic pollution:

- electrical power distribution inside housing and offices
- surge protector power bar, electrical cables, etc.
- computer, printer, fax
- lighting
- high-voltage power line, transformer, railway, etc.

Low-frequency fields between 10 Hz and 100 kHz are harmful.
To limit such pollution, standards have been set up which are regularly updated.

The Standards

The **VX 0003** and **VX 0100** perform the test in accordance with the current and even future standards:

- Recommendations by WHO / ICNIRP (World Health Organization / International Commission on Non-Ionizing Radiation Protection)
- IEEE C95.6-2002 (International standard - Public, 0 - 3 kHz range)
- European directive 1999/519/CE (Public, 0 - 100 kHz range and above)
- European directive 2004/40/CE (Workers, 0 - 100 kHz range and above)
- 2010 draft standard, EN IEC 62493 (Lighting Systems)
- EN50366 standard and IEC 62233 in 2012 (Household Appliances)

The Solution: Testing/Measurement

The VX testers are simple, economical, reliable and calibrated metrologically.

- The **VX 0003** is equipped with an internal antenna and can measure from 10 Hz to 3 kHz.
- The **VX 0100** has an interchangeable antenna for measurements from 10 Hz to 100 kHz.

The highly practical **VX 0100** can also be used to detect cables during renovation work, for example.



There are 2 distinct measurement methods:

- **Traditional method:** the user connects the tester to the earth. With this method, the measurement is performed with the field referenced to earth, via the HX0103 cable.
- **The most representative method** with the fewest constraints (no cables): the user's presence is taken into account during measurement.

For this, the user must keep a finger pressed on the specified area on the rear panel of the instrument.

Product Advantages:

- Hand-held and designed for stand-alone use (60 to 80 hours)
- Instruments designed by a well-known manufacturer in the electrical installation sector
- Top-quality manufacture, professional instruments with 2-year warranty
- Audio signal for immediate identification of field levels
- Detailed manual for measurement, diagnostics and corrective solutions
- Delivered with socket tester (phase position and presence of earth)



- **VX 0003** measuring while taking the user's presence into account.



- **VX 0100** and antenna measuring the electromagnetic fields in an office

Corrective Action

A survey must first be carried out so that corrective action can be taken.

- Connect and test the earths of the electrical installation correctly
- Measure the field emission levels
- For equipment not connected to the earth, it is essential to check that the Ph/N are connected the right way round. If they are reversed, the field emission level will be abnormally high.

Electric field intensity is inversely proportional to the distance.

- Make sure that potential field sources remain at a safe distance from areas where people are frequently present.

Various types of equipment designed to limit electric fields are available on the market:

- sheaths prewired with shielded H07-VU phase wires
- shielded wires and cables. These cables provide their full effect when the shielding is connected to the earth network. The electric field is drained to earth via the shielding.
- equipment casings fitted with a metal screen mounted at the rear.
  This helps to reduce the overall electromagnetic radiation from the casing, cable and equipment as a whole.
- bipolar automatic current cut-off devices. These are devices set up downstream of the fuse corresponding to the circuit in the room. They are designed to automatically cut off the voltage causing the electric fields as soon as the last appliance or lamp has been switched off.
  They re-establish the current as soon as a switch is activated in the room.

BioTest® Low-frequency Electric Field Testers / Meters

	VX 0003	VX 0100
DISPLAY & BUZZER		
Display on two scales of 7 LEDs	•	
2,000-count backlit LCD		•
Direct display in Volt/m (compatible with standards)	•	•
Buzzer proportional to the level of the Field E	•	•
Indication of the measurement frequency range		•
“Low battery” and “Hold” indicators	•	•
COMMANDS		
Start/Stop (with automatic stop 30mn)	•	•
Measurement Hold function	•	•
Buzzer Start/Stop	•	•
Selection of measurement range	Manual	Automatic
Selection of 3 kHz filter (<, >, full band)		•
ANTENNA & REFERENCE		
Built-in “field” antenna inside the casing	•	
Removable 62 mm “field” antenna		•
+ Cable detection function		•
Field measurement referenced to the individual	•	•
Field measurement referenced to earth	•	•
+ Rod		Option
MEASUREMENT		
“RMS” electric field intensity in V/m	•	•
Sensitivity & Accuracy		
2 sensitivity ranges (compatible with standards)	5 to 100 V/m 100 to 2,000 V/m	1.0 to 200.0 V/m 100 to 2,000 V/m
Accuracy (in “laboratory” conditions)	± 10% on LEDs thresholds	± 3% ± 5 D at 50/60 Hz
Frequency Range		
Analysis of electrical distribution, 10 Hz to 3 kHz	•	•
Analysis of equipment connected to the mains	10 Hz to 3 kHz	5 Hz to 3 kHz (3 kHz low-pass filter) 3 kHz to 100 kHz (3 kHz high-pass filter) 5 Hz to 100 kHz (3 kHz without filter)
GENERAL SPECIFICATIONS		
Power	9 V battery (included) - Battery life 60 - 80 hours - Automatic shutdown (30 min)	
Safety	Single earth terminal	Reversed (M/F) antenna and earth terminals
Protection	Protected reference contact	Protected reference contact
Metrology	Metrological monitoring available via the Chauvin Arnoux / AEMC network	
Mechanical specifications	IP65 protection - Dimensions: 63.6 x 163 x 40 mm - Weight: approx. 200g with battery	
Warranty	2 years	

State at delivery

VX 0003 delivered with a 5 m earth cable (HX0103), socket tester, belt bag (HX0104)

VX 0100 delivered with an external field and cable detection antenna (HX0100), 5 m earth cable (HX0103), socket tester, hard case 270 x 195 x 65 (HX0109)

Optional compatible accessories for VX 0100:

Rod **P01102084**

Adapter for rod (x2) **P01102034**



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For assistance and ordering

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