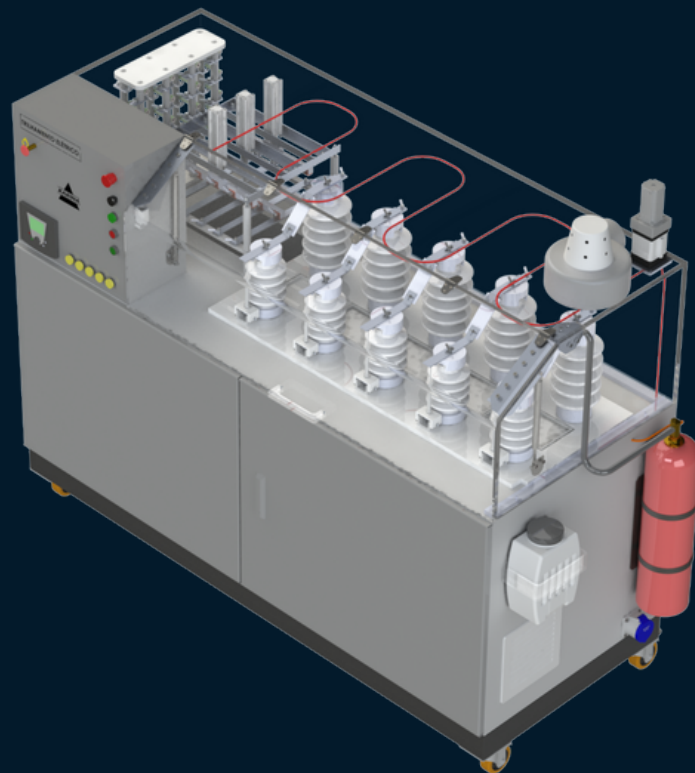


ELECTRIC TRACKING

ELECTRICAL TRACKING AND EROSION RESISTANCE TEST MODULE

Standards
IEC 60112, IEC 60587, NBR 10296 and NBR 16326



ELECTRIC TRACKING

Description

Electric tracking is a process resulting from the incidence of electrical discharges near, or on the surface of, dielectric materials, which produce carbonized tracks on the insulation.

In advanced cases, this mechanism can lead to erosion of the insulating material, characterized by localized and gradual loss of mass on the surface. The evaluation of this phenomenon on electrical equipment is carried out by measuring electrical tracking resistance, which, in practical terms, reveals the dielectric's ability to resist the formation of carbonized tracks.

HVEX's solution for the test of electrical tracking resistance and erosion consists of a robust and highly automated equipment so that measurements can be performed simultaneously on up to 5 test specimens, according to IEC 60112 and IEC 60587 standards.

Application:

- PLA
- HDPE
- ABS
- Cables
- Silicone
- Epoxy resins
- XLPE
- And others.

Quality

The tested object is partially isolated from the external environment, as the entire medium-voltage circuit is segregated by the panel and the acrylic enclosure. Limit switches ensure that the equipment is operating safely throughout the duration of the test.

A sinusoidal filter is used at the output of the frequency inverter to power the potential transformer at the specified test voltages.

The filter ensures that harmonic distortion does not exceed 5%.

Supply:

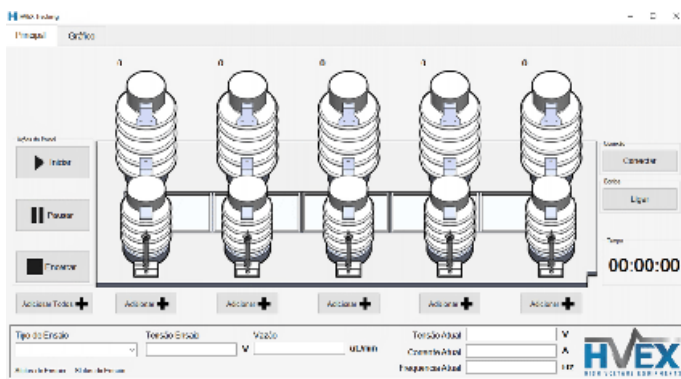
- Test module;
- Power and control panel;
- Computer;
- HVEX Tracking software;
- Fixture set for testing on covered cables.



ELECTRIC TRACKING

Software

HVEX Tracking is the dedicated software for the test, compatible with Windows® 7, 8, and 10, or higher. The software features an intuitive interface that allows for customer and equipment registration, database management, test command control, and graphical visualization of the measurements performed.



Benefits:

- Brazilian design and manufacturing;
- 2-year warranty;
- On-site or remote technical assistance nationwide;
- Personnel training;
- Customization of the project according to the required application.

Automation

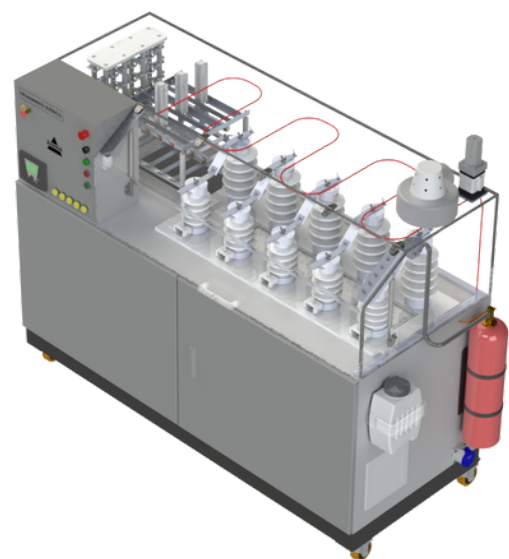
The selection of the series resistance and the flow rate of the contaminant solution is made automatically through the selection solenoids and the peristaltic pump, which has a communication interface with the PLC.

Protection:

The equipment allows the automation of up to 5 test specimens simultaneously with real-time leakage current visualization.

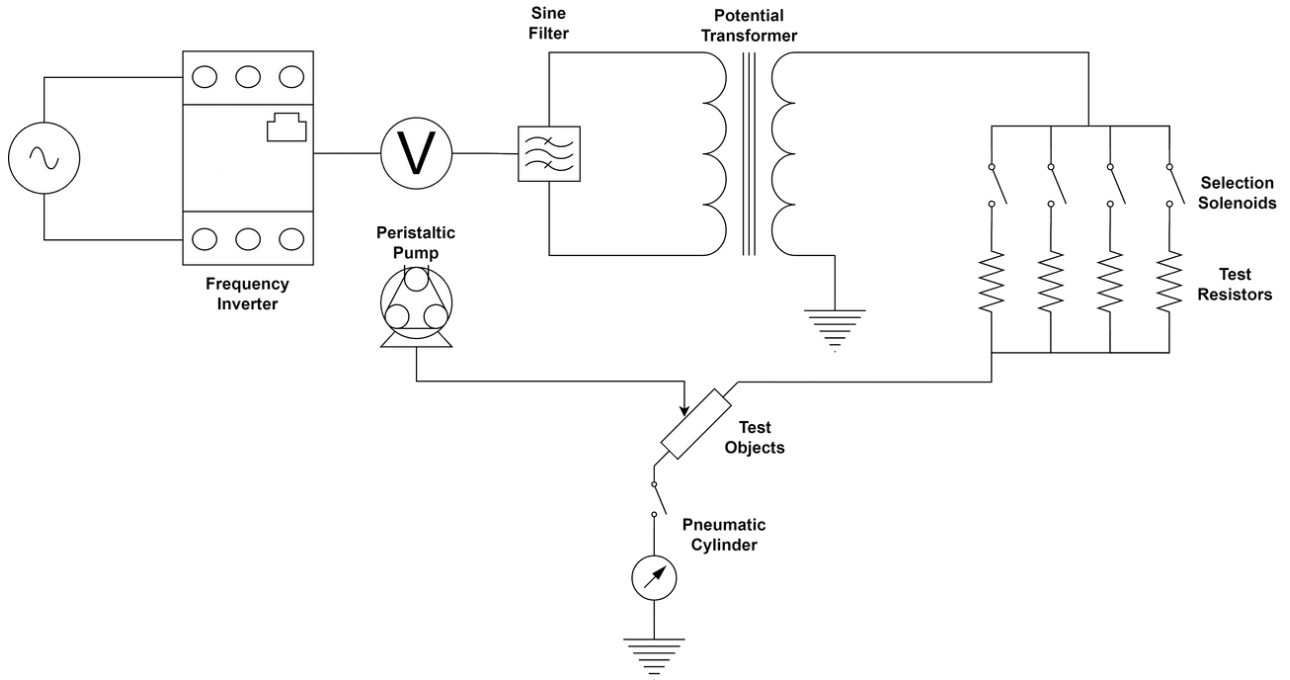
Test optimization:

The overcurrent protection system is carried out by a pneumatic cylinder that acts for values exceeding 60mA for more than 2 seconds.

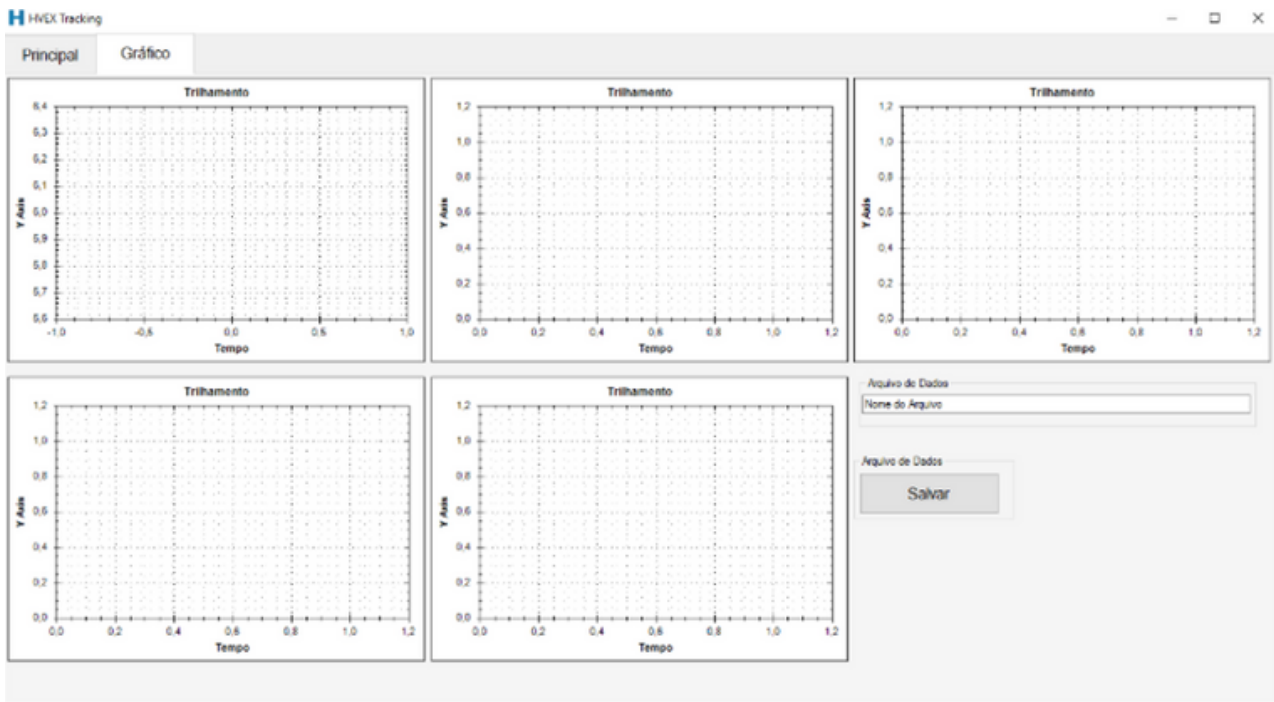


ELECTRIC TRACKING

Schematic



HVEX Tracking Software



Technical Specifications

Power supply	220 VCA, 60 Hz
Test voltage	Up to 10 kV, 60 Hz. For higher levels, consult the technical team.
Maximum transient current	100 mA
Leakage current reading range	1 to 200 mA
Maximum error	0,3%
Data acquisition	10 kHz
Sampling rate	16 bits
Vertical resolution	< 5%
Harmonic distortion (THD) of test voltage	TCP/IP, Modbus
Communication (Protocol and Interface)	Ethernet, Wifi
Series resistance	1 k Ω , 10 k Ω , 50 k Ω
Maximum number of objects for simultaneous testing	5 Tongue type or multiple cable options
Overcurrent protection	60 mA, for times longer than 2s
Time between voltage steps	Between 1 min and 1 hour (pre-configured as standard for 1 hour)

Technical Specifications

Dimension	1,5 x 2,0 x 0,8 m (H x L x D)
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Weight	350 kg
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Humidity	0 to 90% non-condensing
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Temperature	40 °C
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We provide solutions for improvement of electrical energy generation, transmission and distribution efficiency, quality and reliability. With a highly specialized and experienced team in research, development and innovation, HVEX develops tailor-made solutions for Brazilian and foreign markets. Wide range of products with solutions focused on signal transduction, measurement, monitoring and protection.



Boosting the Innovation



☎ 35 3622-2699

✉ contato@hvex.com.br

🌐 www.hvex.com.br

📍 R. Ismael Pinto de Noronha, 86,
Nossa Sra. de Fatima, Itajubá-MG