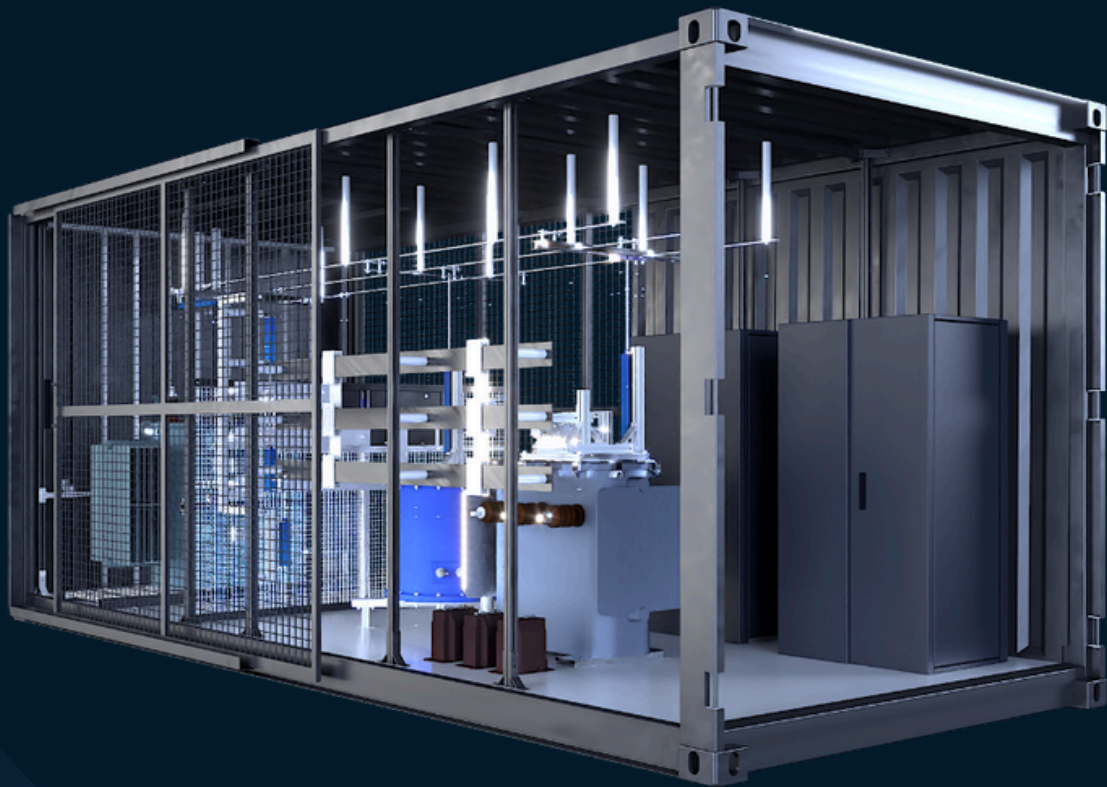


ROUTINE LABORATORY

# LABORATORY FOR ROUTINE TESTS ON TRANSFORMERS AND MOTORS

Standards  
NBR 5356 and NBR 5440

DISTRIBUTION TRANSFORMERS FROM 5KVA TO 300KVA



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# ROUTINE LABORATORY

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## Description

HVEX's rapid testing laboratory is a containerized solution designed to automate and optimize routine electrical tests for transformers with voltage classes up to 36kV and power ratings between 5kVA and 300kVA.

The equipment utilizes a pneumatic circuit for automatic switching of transformer connections to perform the tests.

### The tests covered include:

- Withstand voltage at industrial frequency
- Induced voltage of short duration
- No-load losses and excitation current
- Short-circuit impedance and load losses

The average testing time for a unit is 8 minutes and is conducted entirely safely, without the need for operator interaction during testing.

The module is installed in a standard 20-foot container with roller tracks in the test chamber for easy movement and integration with the manufacturing plant.

## Operation

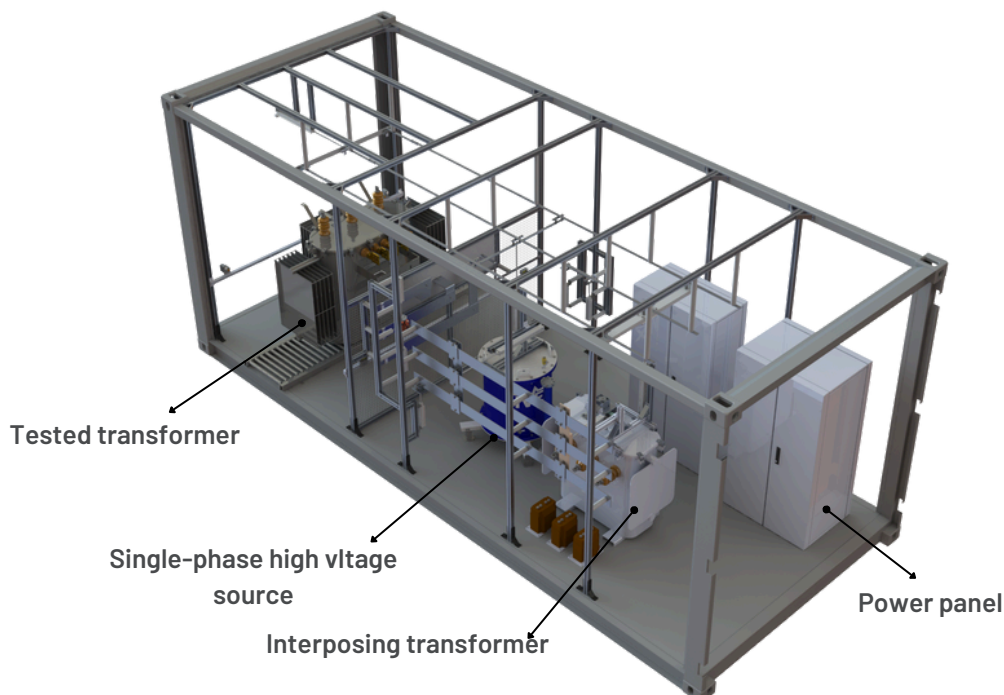
After oil filling and thermal equilibrium, the transformer is moved to the testing module in the container.

The operator connects 8 cables (for three-phase) or 5 cables (for single-phase) and closes the testing module.

The operator retrieves the transformer's data from the software, which automatically fills in all test variables.

The automated central bench connects and disconnects the instruments to perform all tests.

Upon completion of the test, the software indicates whether the piece is approved or not. The operator can then generate a test report and move to the next tested transformer.



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## Technical Specifications

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Standards	NBR 5356-1, NBR 5356-3, NBR 5440
Compatible transformers	From 220 V to 440 V at LV and up to 36 kV on HV; from 5 kVA to 300 kVA, 10% of maximum impedance and X/R ratio of 8x
Tests covered	<ul style="list-style-type: none"><li>• Withstand voltage at industrial frequency</li><li>• Induced voltage of short duration</li><li>• No-load losses and excitation current</li><li>• Short-circuit impedance and load losses</li></ul>
Accuracy Loss test	0.6% for voltage and current, 1.0 °C for temperature
Accuracy Applied/Induced tests	1.0% for voltage
Work frequency	From 50 to 240Hz
Maximum voltage	Loss test: 3400V Applied voltage test: 70kV
Maximum harmonic distortion	6.0%
Test time	From 4 to 12 minutes, depending on the power and voltage of the transformer
Power supply	380 V Three-phase, 200 kVA
Pneumatic circuit	Work pressure: 3 to 6 bar; Flow rate: 0,5 m <sup>3</sup> /h
Dimensions	6,1m Length 2,4m Width 2,6m Height
Weight	5000 Kg (11023,11 lbs)
Software	HVEX Container Lab Acquisition

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## Technical Specifications

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Single-phase transformer

5 cables connection

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Three-phase transformer

8 cables connection

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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.



Driving Innovation



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