



# AC Hipot Testing Services

**Powertech's Generation Electrical Services group provides AC Hipot Testing Services using a state of the art 50 kV, 500 kVA TSR system.**

Over-voltage or high-potential tests, generally known as hipot tests, are performed to provide assurance that the stator winding insulation has a minimum level of dielectric strength to successfully endure the in-service electrical stresses. It is based on the principle that if the insulation can withstand a higher voltage for a short time (normally 1 min), then an in-service failure under the normal operating voltage would be unlikely.

The hipot test may be applied in the factory, during on-site commissioning, after major repairs, or as part of the maintenance program. With 500 kVA power, our Tank Series Resonant (TSR) test system can provide voltages up to 50 kV to ensure the generator windings or other electrical equipment have the required dielectric strength for a reliable service. In addition, a reliable external AC source is required for off-line diagnostic tests of stator windings. This system complements our generator condition assessment service by providing a PD free source for off-line PD measurement, corona probe, and corona scope tests.

In addition to generator windings this system can be used to test other capacitive objects such as power cables, bushings, capacitors, and conditioning and proof testing of SF6 gas insulated equipment, especially after installation in the field.

## General Specifications

<b>Input Rating</b>	480/600V, 50 kVA, 60 Hz
<b>Output Ratings</b>	Power: 500 kVA Tap1: 50 kV, 10 A Tap2: 25 kV, 20 A
<b>Load Tuning Range</b>	Tap 1: 0 nF – 500 nF Tap 2: 60 nF – 2100 nF
<b>Duty Cycle</b>	30 Min ON / 30 Min OFF 8X / 24hr Full Load
<b>Partial Discharge Level</b>	2 pC at 50 kV
<b>Design Q Factor</b>	10
<b>Cabinet Dimensions (Access Panels Closed)</b>	Length: 3.51 m (139 inches) Width: 2.52 m (99 inches) Height: 2.27 m (90 inches)
<b>System Weight</b>	16650 LB / 7552 kg

## Generation Electrical Services

The Powertech Generation Electrical Services group is focused on large power generators, providing:

- Condition assessment, failure analysis, and on-site diagnostic tests
- Quality and acceptance testing of stator bars and coils for OEMs and asset owners
- Testing and modelling of generator performance for NERC and WECC compliance

## ABOUT POWERTECH LABS:

*Powertech Labs Inc. is one of the largest testing and research laboratories in North America, situated in beautiful British Columbia, Canada. Our 11-acre facility offers 15 different testing labs for a one-stop-shop approach to managing electrical utilities, and testing gas components, pressure vessels and systems.*

*Outside of the utilities industry, Powertech provides routine testing capabilities, product development, research and consulting services to support an array of industrial-type operations, electrical equipment manufacturers and automotive original equipment manufacturers.*

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