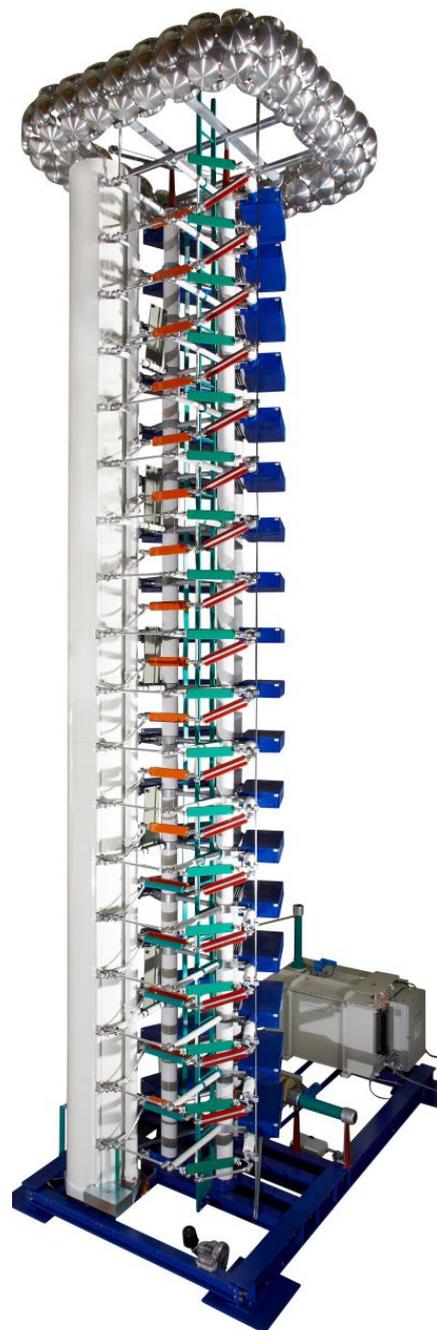




SGVA

Impulse Voltage Test Systems
400 kV – 10'000 kV

Datasheet



HAEFELY

Current and voltage – our passion

General Description



SGVA impulse test systems can be used to generate impulse voltages simulating lightning strokes and switching surges. The total charging voltage ranges from 20 kV to 10'000 kV with a per-stage energy of 20 to 30 kJ. This wide range permits optimum capacity selection for any test assignment. The system has all our experience acquired, in building Impulse Generators since 1932, behind it.

Our generators withstand earthquakes and strong winds due to extreme engineering design and our outdoor systems are also protected against fire & lightning.

The impulse test system operates under a control system which charges the impulse generator through the charging unit.

SGV generators are based on MARX multiplier circuits and stages in the impulse generator are connected and charged in parallel via the charging resistors. Charging time and charging voltage and polarity can be selected by the operator.

Once the selected charging voltage has been reached, a trigger pulse initiates firing of the first spark-gap of the impulse generator.

The resulting over-voltage triggers the successive stages. As all the spark-gaps fire, the stages which are in series now, add up to reach the test voltage

An impulse voltage divider reduces the impulse voltage to a value that the measuring and recording instruments can use.

The major impulse circuit elements such as capacitors and resistors are arranged in an optimum manner to simultaneously satisfy the two major requirements, smallest-possible internal inductance and operating convenience.

The electronic measurement and control components are designed and manufactured in-house. Our many years of experience in dealing with electromagnetic compatibility of electronic devices in high voltage test bays provide the requisite expertise and a trouble-free operation and a long service life are thereby ensured.

Features	Advantages
<ul style="list-style-type: none"> ▪ Strong Stack structure 	<ul style="list-style-type: none"> ✓ Withstands Earthquakes
<ul style="list-style-type: none"> ▪ Charging voltage from 20 kV up to 10'000 kV 	<ul style="list-style-type: none"> ✓ Fits every application
<ul style="list-style-type: none"> ▪ Energy Per Stage from 20 kJ / 30 kJ 	<ul style="list-style-type: none"> ✓ Wide range of test objects covered
<ul style="list-style-type: none"> ▪ Built-in ladder and platforms and resistor storage bins 	<ul style="list-style-type: none"> ✓ Short reconfiguration times
<ul style="list-style-type: none"> ▪ Fast & unique Grounding system 	<ul style="list-style-type: none"> ✓ Heightened safety.
<ul style="list-style-type: none"> ▪ Encapsulated Spark gaps with filtered air flow 	<ul style="list-style-type: none"> ✓ Dustproof and avoids premature misfires
<ul style="list-style-type: none"> ▪ Color Coded Flat resistors 	<ul style="list-style-type: none"> ✓ Visual confirmation of correct configuration from afar

Applications

Applications covered include testing according to IEC, ANSI / IEEE & other national standards. Test objects covered are:

- Shunt reactors
- Power transformers
- Instrument transformers
- Cables (type tests)
- Arresters (impulse current tests)
- Insulators
- Bushings
- GIS and air-insulated breakers
- Cars, Air Crafts, Avionics and others.

Components of Impulse Voltage Test system

- Impulse Generator stack
- Resistor Sets
- Charging Rectifier
- Impulse Voltage Divider
- Control System
- Measuring System

Accessories and Options

- Manual or Motorized Air cushion systems
- Top electrodes
- Shunts
- Termination resistors
- Chopping Gaps
- Additional circuits for transformer testing
- Additional circuits for Impulse Current generation
- Internal Series overshoot circuit
- Weatherproof enclosures



Support frame

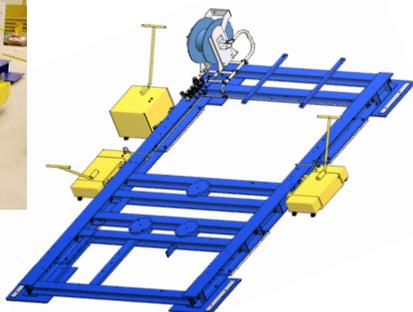
Epoxy resin tubes glued to a welded steel frame carries sets of two impulse capacitors in a V-shaped configuration as well as the resistor holders

Operating platforms and internal Ladder

At every third stage a folding platform is mounted. All operations like resistor change, parallel connection of stages, implementation of Glaninger circuit or Overshoot Compensation can be performed from this platform

Base Frame:

Charging Rectifier and the structure are both mounted on it, keeping the floor space requirement small



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