



## VLF Test System 20 kV

### Portable VLF Test System 20 kV with 0.1 Hz Cosine Square Wave Voltage

#### Function description:

In accordance with most regulations, cables and joints must be tested after installation or repair. For this test the breakdown strength of the cable is tested.

The portable VLF Test System 20 kV of Seba KMT can be used to test the cables in conjunction with the according local regulations for operating voltage levels up to 11 kV for new cables and 16 kV for aged cables at 3 µF cable capacity.

By using the patented Seba KMT 0.1 Hz Cosine Square Wave Voltage, weak and for further operation critical spots in PE, XLPE but also in paper cables are brought to a controlled breakdown very fast without causing additional damage or ageing to the cable insulation.

The VLF Test System consists of a DC source, which charges the test object up to the required test voltage level and the commutator unit, which performs the regular 5 second interval polarity change.

The change-over from one polarity to the reverse one is performed with a switched rectifier, an inductivity (choke) and a capacitor, which is made up of the internal 0.3 µF and the cable capacity itself. The L / C resonance circuit produces a cosine shaped voltage with slopes similar to a 50 Hz sine wave.

#### Technical Features

- The weight of 50 kg make the VLF Test System 20 kV a powerful, universal and at the same time portable unit.
- The patented change over principle in combination with the recycling of energy stored in the cable capacity results, in comparison to other methods, in a lower weight, less energy consumption and much higher test capacity.
- The high test capacity of 3 µF permits the simultaneous testing of all three phases.
- The method is officially recommended by the two VDE Standards 0276-620 and 0276-621.
- Independent researches shows that VLF test is done most effectively with the 0.1 Hz cosine square wave shape compared to any other VLF wave shape or frequency.
- VLF is the most economic method for testing PE and XLPE cables. DC test is not applicable for these cable types.
- controlled output voltage

#### Options

- Breakdown recognition and automatic shut-down.
- VLF / DC leakage current measurement.



#### Technical Data

Output voltage VLF	0 ... 20 kV <sub>RMS</sub>
Voltage shape	Cosine Square Wave
Change-over slope	approx. 5 ms analogue to 50 Hz AC mains frequency
Frequency	0.1 Hz
Output current	12 mA max.
Display leakage current	0 ... 12 mA (optional)
Display resolution	10 µA
Output voltage DC	0 ... 20 kV
Testable cable capacity	max. 3 µF
Discharge unit	integrated, 10 µF in 3 s
Power supply	230 V, 50 Hz, approx. 2.5 A 120 V, 60 Hz, approx. 5 A
Operating temperature	- 20...+ 40 °C
Weight	< 50 kg, portable
Dimensions (W x H x D)	520 x 600 x 300 mm

#### Scope of Delivery

- Basic unit
- AC mains cable
- Earthing cable 4 m
- HV-connection cable 4 m
- Accessory bag
- Operating manual

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**DIN ISO 9001**



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