Dielectric Breakdown Voltage of Insulating Oils

test method

The majority of high-voltage transformers, cables, switchgears, transducers, capacitors, and rectifiers use insulating oils for insulating electrically live parts and to carry off thermal energy. The quality of the insulating oil must be checked at regular intervals to ensure a long equipment service life. The most important requirement of an insulating oil is a high dielectric strength. Determination of the dielectric breakdown voltage of insulating oils provides an early detection method for any reduction in the insulating properties.

automatic portable dielectric breakdown tester

- Conforms to ASTM D877, D1816 and related test specifications
- Output voltage: **K16175:** 75kV **K16177:** 100kV
- Features 2.8” ultra bright color display for optimal readability and mobility
- Built-in printer offers direct evaluation and reporting of results
- Internal battery, external 12V power supply
- Automatic Vernier function for electrode gap spacing
- Measurement of Silicone based oils
- Internal temperature measurement of oil sample
- Bluetooth PC Connectivity and USB Flashdrive Capability

included accessories

Calibration Sheet	AC Power Cable
Integrated Battery	User Manual
PC Software	Integrated Printer

ordering information

catalog no.	description
K16175	Automatic Dielectric Breakdown Tester, 0-75kVAC, 100-240V 50/60Hz
K16177	Automatic Dielectric Breakdown Tester, 0-100kVAC, 100-240V 50/60Hz

accessories

K16175-4	Transport Case
K16175-5	Test Vessel for 75kV complete with electrodes for ASTM D1816
K16175-6	Test Vessel for 75kV complete with electrodes for ASTM D877
K16177-5	Test Vessel for 100kV complete with electrodes for ASTM D1816
K16177-6	Test Vessel for 100kV complete with electrodes for ASTM D877
K16175-23	IEC156 Test Cell with VDE Electrode for 75kV
K16175-24	IEC156 Test Cell with Sphere Electrode for 75kV
K16177-7	IEC156 Test Cell with Ball Electrode for 100kV
K16177-8	IEC156 Test Cell with Spherical Cup/VDE Electrode for 100kV
K16175-12	Spacer Gauge, 1mm
K16175-13	Spacer Gauge, 2mm
K16175-14	Spacer Gauge, 2.5mm

K16175 Automatic Dielectric Breakdown Tester

specifications

Conforms to the specifications of:
ASTM D877, D1816; BS EN 60156; CEI EN 60156; IEC 156; VDE 0370 Pt. 5
Output Voltage:
K16175: Up to 75kV rms symmetrical
K16177: Up to 100kV rms symmetrical
Voltage measurement accuracy: K16175: 0 - 75kV ±1kV
K16177: 0 - 100kV ±1kV
Voltage slew rate: 0.5 - 10kV/s
Resolution (displayed): 0.1kV
Power Supply: 85V - 264V, 47Hz - 63Hz, 12V external supply
Power consumption: K16175: 60VA
K16177: 75VA
Internal rechargeable battery: 1 x 12V / 7.2Ah
Switch-off time on flashover: < 5µs
Measurement of oil temperature: 0 - 100°C / 32 - 212°F
Temperature Resolution: 1°C / 1.8°F
Display: 2.8” color (ultra bright)
Selectable Programs: ASTM D1816-04-1mm, ASTM D1816-04-2mm, ASTM D877-02A, ASTM D877-02B, IEC 156/95
Customer-specific programs: Unlimited
PC Software: Included
Printer: Dot Matrix Hard Copy Output
Interface: Bluetooth
USB: USB memory stick
Operating Temperature: -5°C - 45°C (23°F - 113°F)
Storage Temperature: -20°C - 60°C (-4°F - 140°F)

Dimensions WxHxD,in.(cm)
K16175: 16.9x11x9.85” (43x28x25 cm)
Net Weight: 48.5 lbs (22kg)
K16177: 21.5x13.5x11.8” (52.1x34.3x30 cm)
Net Weight: 71 lbs (32kg)

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