

OTS100AF, OTS80AF and OTS60AF

Laboratory oil testers



- **Laboratory instruments for measuring insulating oil breakdown voltage**
- **Lock in precision – oil vessel with lockable adjustment**
- **Bright 3.5" colour display visible out doors**
- **Suitable for mineral, ester and silicon oils**
- **Trip detection circuit with direct measurement of voltage and current**
- **Ultra fast (< 10 us) HV switch off time**

DESCRIPTION

Megger's automatic laboratory oil test sets perform accurate breakdown voltage tests on mineral, ester and silicon insulating liquids. Moulded test vessels give repeatable results with lock in precision electrode gap setting adjustment wheels. The transparent, shielded lid and large test chamber enable easy access to the test vessel.

All three laboratory models are fitted with a 12 key alphanumeric keypad to facilitate entry of test ID, filenames, notes etc. Alpha characters are entered by repetitive pressing on a key, the same way as text is entered modern cellular telephones.

Test standards are preloaded in the instrument and new versions can be uploaded via USB flash drive. All laboratory models support the creation of user defined custom tests. Test results are identified either by a serial number or asset ID and are time and date stamped. Megger's asset and data management software, PowerDB Lite, is bundled at no extra cost providing an excellent tool for downloading and printing results.

An optional internal printer provides a hard copy of results. Ink based printout ensures durability at all temperatures. USB interfaces (x3) support PC connection, USB flash drive, external USB printer and barcode scanner.

User safety is paramount and Megger have designed independent and dual redundant high voltage cut-off circuitry to ensure safety. During a test the operator can terminate by pressing any button on the keyboard which will remove high voltage immediately and abort the test. The transparent lid provides ample visibility within the chamber yet is protected and electrically shielded by a screen with multiple links to instrument ground.

FEATURES AND BENEFITS

- Test voltages : 60 kV, 80 kV and 100 kV
- Lock in precision oil vessel - lockable gap setting
- Flat electrode gap gauges that will not damage electrodes
- Automatic oil temperature measurement
- QVGA colour display with backlight visible in sunlight
- Large, easy clean test chamber with oil drain
- High visibility test chamber
- Safe operation with dual redundant micro switch
- Intuitive user interface

OPTIONAL FEATURES

- Internal printer
- Motorised lid impeller
- Voltage check unit (VCM100D)
- Transport case

APPLICATION

Monitoring and maintenance of oil quality is essential in ensuring the reliable operation of oil filled electrical equipment. Codes of practice have been established in many countries that include several different types of test on insulating oils.

One of the fundamental tests of oil quality is the breakdown voltage test, which is a measure of the oil's ability to withstand electric stress. A low breakdown voltage can indicate the presence of contaminants such as water or conducting particles.

Care should be taken to ensure the process of sampling oil and subsequent testing does not in any way contaminate it with foreign objects. Cleaning vessels between oil tests should be a rinse with the next sample, never clean with fibrous materials. To ensure an accurate reading set gap carefully and lock adjusting wheels.

SPECIFICATIONS

Test voltage

OTS60AF -30 to +30 kVrms

OTS80AF -40 to +40 kVrms

OTS100AF -50 to +50 kVrms

Voltage resolution and accuracy

0.1 kV $\pm 1\%$ ± 2 digits

Programmed test sequences

ASTM D 1816-04

ASTM D 877A-02

ASTM D 877B-02

IEC 60156-95

Vessels 400 ml (standard) 150 ml (option)

Nylon 12 chamber provides precision electrode alignment, adjustment wheels lock electrodes in position, option of 150 ml vessel for low volume oil samples

Temperature sensor resolution

1 °C

Power supply

Line voltage 85 to 265 VAC

Line frequency 50/60 Hz

Interfaces

USB 2.0 compatible

2 x USB type-A (Flash drive, printer, other)

1 x USB type-B (PC)

Internal printer (option)

Matrix impact printer

Paper 57.5 mm wide

External printer

Any printer with USB interface and PCL3 driver

Protection

Dual safety micro switches on chamber cover

Display

320 x 240 QVGA colour display with backlight

Environment

Operating temperature 0 °C to +50 °C

Storage temperature -30 °C to +65 °C

Humidity 80% RH at 40 °C operation

95% RH at 40 °C storage

Altitude

2000 m

Safety

Designed in accordance with IEC61010

EMC

Light industrial IEC 61326-1 Class B, CISPR 22, CISPR 16-1 and CISPR 16-2

Dimensions

All models 580 mm x 420 mm x 290 mm

Weight

All models 30 kg with printer option fitted



400 ml vessel assembly (with electrodes fitted)



VCM100D

ORDERING INFORMATION

Product	Order Code	Product	Order Code
Included Accessories (on all configurations)		Optional accessories	
Vessel 400 ml assembly		Vessel 400 ml assembly (no electrodes supplied)	1001-473
Magnetic bead stirrers (2 off)		Vessel 150 ml assembly (no electrodes supplied)	1001-474
Magnetic bead retriever		VCMD Digital calibration meter	1001-105
Feeler gauge set 1, 2, 2.5, 2.54 mm		Printer paper, 1 roll (MOV applies) (4 rolls supplied if printer configured)	25995-001
User manual			
PowerDB Lite software			
Configured accessories (to order additional or spares)			
IEC60156 Electrode Set - 12.7 mm spherical (2), 36 mm mushroom (2)	1001-477		
ASTM D877/1816 electrode set - 25.4 mm cylindrical (2 std, and 2 none std), 36 mm mushroom (2)	1001-478		
Full electrode set ASTM and IEC electrodes	1001-479		
Vessel lid mounted impeller (ASTM D1816) for use with 400 ml vessel	1001-102		

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