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 alpha-numeric 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 visability 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 with-stand 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 ± 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 CONFIGURATION

Example of an ordering configuration:-

OTS100AF-USA-P4 = This order is for an OTS100AF with US power lead, ASTM electrode set, internal printer and lid stirrer.

Model:	OTS		AF-		-		
							Weights
Select Model	100 kV	100					29.5 kg
	80 kV	80					29.5 kg
	60 kV	60					29.5 kg
Select Power Cord		EU Lead	EU				
		UK Lead	UK				
		US Lead	US				
		Australian Lead	AU				
		No Plug Lead	BL				
Select Electrode Set			ASTM Set	A			
			IEC Set	E			
			Full Set	U			
Select Printer Option				Internal Printer	P		0.54 kg
				No Printer	X		0.08 kg
Select Stirrer Option					Stirrer Lid Assembly Fitted	4	0.3 kg
					Stirrer Lid Assembly Not Fitted	X	

ORDERING INFORMATION

Product	Order Code
Included Accessories (on all configurations)	
Vessel 400 ml assembly	
Magnetic bead stirrers (2 off)	
Magnetic bead retriever	
Feeler gauge set 1, 2, 2.5, 2.54 mm	
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

Product	Order Code
Optional accessories	
Vessel 400 ml assembly (no electrodes supplied)	1001-473
Vessel 150 ml assembly (no electrodes supplied)	1001-474
VCMD Digital calibration meter	1001-105
Printer paper, 1 roll (MOV applies) (4 rolls supplied if printer configured)	25995-001

Registered to ISO 9001:2000 Cert. no. Q 09290
Registered to ISO 14001-1996 Cert. no. EMS 61597

OTS100AF_80AF_60AF_DS