



MEGGER® OTS 60PB

- Weighs only 42 pounds
- Internal rechargeable battery
- Preprogrammed national specifications
- Safety interlock on test chamber door
- RS-232 output for optional printer kit

Portable Oil Test Set

DESCRIPTION

The Megger® OTS 60PB Portable Oil Test Set is a fully automatic oil test set that reduces the operator's tasks of preparing and loading the oil sample into the test chamber and initiating the required test sequence.

On completion, the mean breakdown value of tests in the sequence is given and the value for each individual test may be recalled.

Standard deviation calculations are automatically carried out and displayed when specified by the test standard.

Maximum test voltage for the test set is 60 kV. The test set is microprocessor-controlled. Test sequences for many national and international standards are programmed into the test set memory.

The parameters programmed into the test set include stand times, stir times, rate-of-rise of applied voltage and number of tests. A five-minute test sequence is available for rapid assessment of the condition of the oil sample.

Proof tests are also available. In these, the test voltage can be raised to a given value and maintained for one minute to determine if breakdown occurs.

The test voltage can then be removed or increased until the oil sample does break down.

The test set has an LCD screen that shows a menu of test options.

The menu guides the operator through the setup program. It illustrates the

correct test electrodes and gap to use, shows the progress of each individual test including the actual voltage being applied and gives the results of the test sequence either numerically or as a simple pass/fail message.

The display can be set to read in any of six languages: English, French, German, Italian, Portuguese and Spanish.

The control panel adjacent to the display has three membrane keys for making selections from the menu and options that appear on the display. A fourth key turns the instrument on and off.

The oil test vessel, which contains the oil sample under test, is placed in the test chamber. The action of closing the chamber door submerses the high-voltage electrodes in the oil.

The chamber door operates a safety interlock that prevents access to the electrodes when they are energized. Oil is stirred automatically by a paddle stirrer immersed in the oil simultaneously with the electrodes.

An optional printer kit enables hard copies of results to be produced via the RS-232 interface.

The test set is constructed in a sheet-steel cabinet and is powered by an internal rechargeable battery. A battery charger unit is included to recharge the equipment using a 12 volt vehicle battery.

The unit comes with a rugged, padded carrying case. An attached compartment holds the accessories: oil test

vessels, electrodes, an electrode spacing gauge, charger unit and vehicle lead set.

APPLICATIONS

The OTS 60PB is designed specifically to determine the dielectric strength of insulating oils. The test set is lightweight for easy transport to sites of transformers, switchgear and other electrical apparatus. This portability also allows new oil to be tested at its storage facility.

The equipment follows the oil testing sequences described in many national and other specifications including:

American ...	ASTM D877, ASTM D1816
British	BS 148, BS 5730A, BS 5874
International	IEC 156
German	VDE 0370
French	NFC 27
Spanish	UNE 21
Italian	CEI 344
Russian	ROCT 6581
South African	SABS 555
Australian	AS 1767
Institute of Petroleum	IP 295

The OTS 60PB's many safety features ensure the safety of the operator provided the equipment is used in accordance with the instruction manual.

Foremost among these features is the safety interlock on the test chamber door. If the test chamber door is opened during the test sequence, the high voltage will be removed and the test will terminate automatically.

TYPICAL PARAMETERS OF KEY TEST SPECIFICATIONS

Test Spec Selected	Initial Stand Time	Rate of Rise of Test Voltage	Intermediate Stir Time	Intermediate Stand Time	Number of Tests	Maximum Duration of Test Sequence
5-Minute Test	1 min	2 kV/s	30 s	30 s	3	4 min, 30 s
ASTM D877	2 min, 20 s	3 kV/s	No Stir	1 min	5	8 min
ASTM D1816	3 min	0.5 kV/s	Continuous Stir	1 min	5	17 min

FEATURES AND BENEFITS

- Lightweight and portable for ease of transport to and around test site
- Four test vessels and all accessories included with the test set
- Operator tasks reduced by micro-processor-controlled test sequences
- National and international test specifications selectable from menu screen
- Recall of individual test breakdown voltages, automatic averaging of results and calculation of standard deviation, where specified, eliminate manual calculations and reduce chance for errors.
- Built-in motorized stirrer simplifies tests requiring this function.
- Internal rechargeable battery for unrestricted test location
- Five-minute test program and proof test capabilities
- Go/no go screen selectable for pre-set pass/fail limit

- High-integrity, safety interlock on test chamber door
- RS232 printer output through charger port

SPECIFICATIONS

Proof Test (A)

Voltage rises at 2 kV/s to user-preset value. Level is maintained until breakdown occurs or for 1 min.

Proof Test (B)

Voltage rises at 2 kV/s to user-preset value. Level is maintained for 1 minute, then rises at 2 kV/s to breakdown or maximum voltage.

Max. Output Voltage

60 kVac

Display

Dot-matrix LCD screen gives alphanumeric information and kV test voltage to two digits

Temperature Range

Operation: 32 to 104° F (0 to 40° C)

Storage: -22 to +149° F (-30 to +65° C)

Humidity Range

Operation: 80% RH at 104° F (40° C)

Storage: 93% RH at 104° F (40° C),
95% RH at 77° F (25° C) cyclic

Power Supply

Internal rechargeable, 12 V, 12 Ah battery (typically 12 h of continuous testing)

Charger supply 90 to 264 V, 50/60 Hz

Optional 12 V cigarette lighter adapter (does not recharge internal battery)

Fuses

2 x F6.3 A IEC 127/1

0.8 x 0.2 in. (20 x 5 mm) HBC

Safety

Where appropriate the test set has been designed to incorporate IEC 1010-1 safety specification to Safety Class 1. The safety interlock is to BS5304 (1988) Guarding of Machinery standard.

Dimensions

(without accessories)

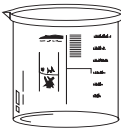
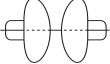


10.2 H x 14.7 W x 9.75 D in.

259 H x 373 W x 247 D mm

Weight (without accessories)

42 lb (19 kg) basic

INCLUDED ACCESSORIES

 0-0.6 qt (0-0.6 l) Plastic	ASTM D1816 (Mushroom) Electrodes 1.4 in. (36 mm) dia	 A
	ASTM D877 (Cylindrical) Electrodes 1.0 in. (25 mm) dia	 C
	IEC 156* (Spherical) Electrodes 0.5 in. (13 mm) dia	 B

* or equivalent

ORDERING INFORMATION

Item (Qty)	Cat. No.	Item (Qty)	Cat. No.
Portable oil test set (60 kV)	OTS60PB	Battery charger unit	6331-659
Included Accessories		Spare fuse	25413-285
Padded, protective carrying case with handle and shoulder strap	6420-102	Instruction manual	6171-585
Oil test vessels 600 ml capacity [4]		Optional Accessories	
A pair of spherical electrodes, shape B	6220-484	Printer kit	6220-568
A pair of mushroom electrodes, shape A	6220-482	Spare paper roll	25995-001
A pair of cylindrical electrodes, shape C	6220-483	Spare printer ribbon	25995-002
An electrode spacing gauge for 2 mm, 2.5 mm and 4 mm spacing	5250-211	Pack of 10 reusable/disposable oil test vessels ..	6220-487
		Pack of 10 test vessel lids	6121-402
		Cigarette lighter power adapter	6231-509
		A pair of cylindrical electrodes with 0.5 mm edge radius, shape not shown	6220-538