Lyssy OPT-5000

SYSTECH Illinois

Oxygen Permeability Tester

Fast and precise testing of films and foils for oxygen permeation

The OPT-5000 tester has been specifically developed to provide an easy and reliable test method. With a minimum of training anybody can perform a quality test. Just insert the sample, choose the test programme and press START - that´s it! The user interface is based upon an easy to use touch screen display, which indicates the test cycle and the oxygen transmission rate as the testing progresses.

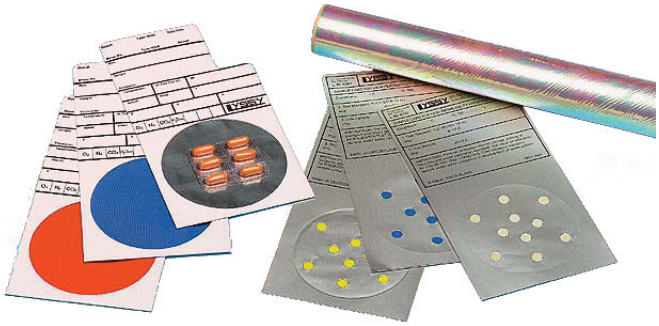
The OPT-5000 is the right choice for the testing of both low and high permeability films. With its broad testing range, ease of operation and automatic humidity control, the OPT-5000 is extremely versatile in application and suitability, both for advanced research in the laboratory and quality control in production settings.

Features & Benefits

- Simplicity in operation due to the high degree of automation - the quality of tests performed is less operator dependent
- Extremely broad testing range, covering low and high permeability
- High repeatability of testing results
- Automatic equilibrium detection
- Automatic humidity control
- Automated test and carrier gas flow control
- Automatic temperature control
- Automatic sequenced selection of test programmes with predefined test parameters
- Easy set-up of test programmes and sample data
- Complete traceability in test documentation, data logging and error reports
- Easy to use test sample holders - no grease needed for sealing
- RS232 Interface for communication with PC
- Built-in printer
- Test results are expressed directly in cc/m²/day
- Test modes: Absolute (no test standard required) or Relative (test standard required)
- Automatic leak test/individual zero on system

Thermostatic cooling

In order to test at temperatures below ambient conditions, the measuring chamber can be cooled down to the required temperature via an external water cooling thermostat, which can be supplied as an optional accessory.



Technical Specifications

General description	
Measuring range	0.1 - 10.000 cc/m²/day as standard
Sensor type	Ceramic solid-state oxide sensor
Carrier gas (Nitrogen)	Nitrogen with low oxygen content (Examples: Nitrogen 5.0, UHP or White Spot Grade)
Test gas (Oxygen)	1-100% (100% or 20.9% recommended)
Sensor life	> 5 years operation under the conditions given
Cascade measuring	Automatic sequential run of multiple test programmes
Measure conditions	
Dry measurements	Temperature range: 5°C to 60°C (40°-140°F)
Humid measurements	20-90% RH symmetrically on both sides in the following temp. range: 20°C-40°C. Limited RH ranges at temperatures 10-20°C and 40-50°C
Data logging	
Measurements	256 results saved in memory 500 cycles saved in memory
Data transfer	RS232 Serial output to PC or external printer
Printer	Built-in 4" thermal printer
Weight & size	
Dimensions	470H x 400W x 480D cm
Weight	Approx. 40 Kgs
User Interface	
Display	Icon based touch screen
Testing programmes	8 user-defined programmes specifying a predetermined set of test conditions (Temp.,%RH, and number of runs)
Sample IDs	8 user-defined sample IDs specifying the sample conditioning: (Leak/Individual zero, stabilisation time, reference/measuring time)
Stability settings	Number of cycles in result window, deviation (minimum 2.5% or 0.025 cc/m²/day)
Calibration	Measure against the built-in calibration, or up to 8 user-defined calibrations
Operational Environment	
Ambient temperature	15°C - 25°C (Must be maintained constant during measurement (±2°C))
Ambient humidity	20-90% RH (non-condensing), constant during measurement
Industrial protection level:	IP 23
EMC Protection level	Conforming to: EN61000-6-1, EN61000-6-3 and EN61326
Sample requirements	
Measured area	42 cm²
Sample Thickness	Up to 5 mm
Min. sample size	10 x 10cm (4" x 4")

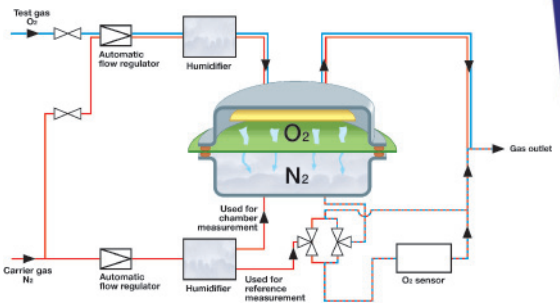
Fast, sensitive and accurate

The oxygen permeability tester features a sensitive and rapid response ceramic oxygen sensor, which measures the partial pressure concentration of oxygen in the carrier gas.

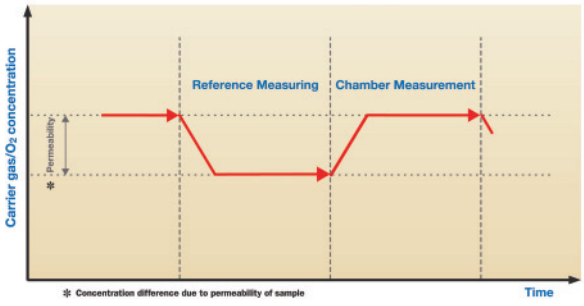
The test sample is affixed to a sample card, which when inserted into the tester, separates the upper and lower chamber. The upper chamber contains an atmosphere with a fixed and known concentration of oxygen, while the lower chamber contains an oxygen-free atmosphere.

The oxygen permeability is determined by the difference between the measured oxygen concentrations in the gas stream passing through the chamber and the gas stream bypassing the chamber.

Measuring principle OPT-5000



Example of measuring cycle OPT-5000



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