



Oxygen Transmission Rate Analyzer

OxySense® Model 8101e

As barrier film technology advances, you need an OTR instrument that delivers more than just a number - you need confidence. The All-NEW OxySense® 8101e is engineered for the modern lab, providing the industry's widest measurement range and highest sensitivity, backed by a system of verifiable data integrity.

What's new:

- Completely new, user-focused design
- Q-Seal™ gas-free cell closure for simple and effective film loading
- "Test Condition Matrix" (TCM™) feature to test a sample at up to ten different conditions with one touch
- Expandable up to 32 cells for maximum productivity
- Automatic relative humidity and temperature control
- Easy testing, just load the film and press a button to start

The eMetric™ Sensor: A Modern Approach to High-Performance Testing

The proprietary eMetric™ sensor is the engine of the 8101e. It operates on a refined coulometric principle, generating a precise electrical current directly proportional to the oxygen it detects. By integrating this signal, the system provides a true measurement of oxygen permeation, delivering tangible benefits:

Unmatched Measurement Range: Test everything from ultra-high barriers to highly breathable materials on a single instrument. With a dynamic range from 0.05 to 432,000 cc/(m²·d), our eMetric™ sensor eliminates the need for multiple analyzers, giving you the flexibility to handle any material your lab encounters.

Exceptional Sensitivity: Trust your results even on the most demanding barrier materials.

Intelligent Test Completion with Auto-Stop™: The Auto-Stop™ feature intelligently determines when your sample has reached true equilibrium and automatically concludes the test. This removes operator guesswork and ensures results are based on stable, repeatable data. By ending the test at the precise moment of completion, Auto-Stop™ conserves valuable test gas and minimizes unnecessary wear on the sensor, increasing productivity and lowering your cost of ownership

Maximum Uptime with Fast Wet-to-Dry Conversion:

Maximize your instrument's productivity with rapid conversion between test conditions. The system is designed to change from a fully saturated wet test to a dry test in just minutes, not hours. This exceptional versatility means less downtime and more testing completed each day.

Unquestionable Accuracy Through Independent Calibration:

Data integrity is paramount. The 8101e system is designed for open-loop validation using 3rd-party certified gas standards. This method provides an independent, NIST-traceable verification of instrument performance at any time. This process ensures your results are not just repeatable, but provably accurate, giving you absolute confidence in every test.

Oxygen Surge Protection

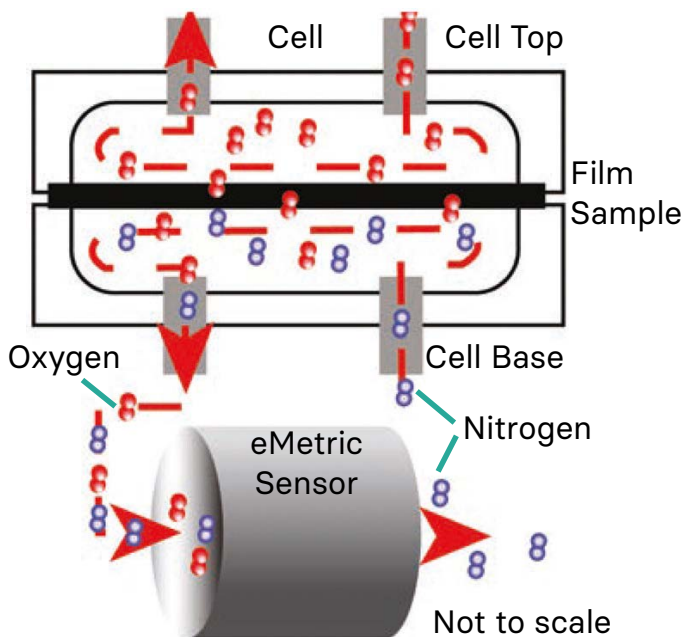
Our system is designed for the real world, where pinholes or unexpected high-transmission samples can occur. The built-in oxygen surge protection instantly detects excessive oxygen levels and automatically safeguards the sensor. This critical feature prevents the sensor from being overwhelmed and damaged, significantly extending its operational life and reducing long-term replacement costs.

Accelerated R&D with Test Condition Matrix (TCM™)

Dramatically accelerate your material characterization with the Test Condition Matrix™ feature. With a single button press, you can automatically test a sample at up to ten different conditions of temperature and relative humidity. This "walk-away" automation provides a complete material profile in a fraction of the time, freeing up your technicians for other critical tasks.

Networking: This system runs on any Windows® system operating system enabling to safe, secure operation and network connectivity.

Remote, Internet based support: Only with your permission Systech can access your instrument to diagnose and repair system errors without the cost and time involved with an on-site visit.



Performance that Meets the ASTM D3985 Standard

The ASTM D3985 standard sets the benchmark for OTR testing. The Systech 8101e is engineered to meet this challenge, delivering the sensitivity and precision required.

By combining the wide range of the eMetric™ sensor with the assurance of independent gas calibration, the 8101e provides data that is robust, reliable, and comparable to the core requirements of ASTM D3985. This ensures your testing results align with industry expectations for accuracy and integrity, allowing you to operate with confidence.

Industry Standards

- ASTM F2622
- Performance comparable to ASTM D3985
- Performance comparable to ASTM F1927
- Performance comparable to ASTM F1307
- Performance comparable to ISO CD 15105-2
- DIN 53380-3
- JIS 7126

Disclaimer

The information contained in this document is liable to modification from time to time in the light of experience and our policy of continuous product development. Check the Industrial Physics website for the latest version.

Features:

- Latest eMetric™ sensor technology
- Delivers performance comparable to ASTM D3985
- Independently verifiable accuracy using certified gas
- High sensitivity
- Widest test range
- Easy to operate
- Fully automatic
- Expandable Satellites

Applications

- Barrier Film, PET Bottles, Containers, Canisters, Bags, Flexible pouches

Technical Specification:

E-Metric Unmasked Range	Range
cc/(m ² • day)	0.05 to 432,000
cc/(100in ² • day)	0.003 to 28,000
cc/(pkg • day)	0.0002 to 2000
Resolution cc/(m ² • day)	0.0001
Repeatability cc/(m ² • day)	0.015 or 1%

Test Conditions

Test Temperature Range:

10°C to 40°C ± 0.1°C

Controlled RH Testing Ranges:

Films – Carrier and Test gas: 0% to 90% ± 2%
 Packages – Ambient or controlled by chamber

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