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PRODUCT BROCHURE

PERMATRAN-C® MODEL 4/30
CARBON DIOXIDE PERMEATION ANALYZER

High performance CO_2TR testing for barrier films and packages.

HIGH PERFORMANCE

High-Performance Carbon Dioxide Permeation Analyzer

The PERMATRAN-C 4/30 is a trusted high-performance Carbon Dioxide Transmission Rate (CO_2TR) analyzer for low- to high-level barriers and packages. This instrument is ideal for testing mono and multi-layer films, bottles and closures, and offers quick results to help drive research and development programs or support efficient quality control operations. It features two independent cells with interchangeable horizontal test cartridges that allow a wide variety of sample sizes and types to be easily and accurately tested.

Models	Barrier Level	Detection Range
4/30 L	Low to High	0.5 to 8,000 cc/(m² • day)

Versatility and Efficiency

The PERMATRAN-C 4/30 is designed to test CO_2TR for low- to high-level barriers on films, packages and bottles. Unlike manometric or Zahm-Nagel methods that require long periods of time to provide results, the patented MOCON® modulated IR sensor system allows the 4/30 to provide accurate results in a shorter time frame.

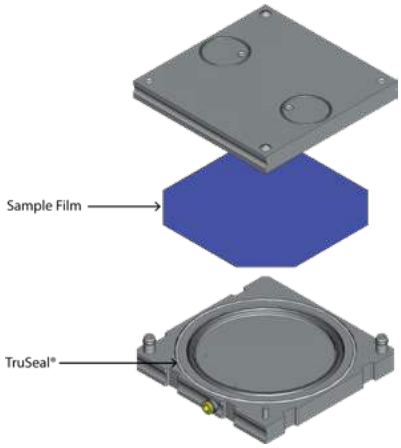
With the optional adapter cartridge it can also test additional applications such as complete or partial packages, flexible or rigid containers, bottles and/or closures and seals in the form of O-rings or gaskets.

The interchangeable cartridges also work with other Next Generation MOCON permeation analyzers. These purpose-built cartridges increase accuracy, extend the range or make it possible to test unique or difficult samples.

All test cartridges incorporate our MOCON exclusive TruSeal® design, utilizing two seals and flushes gas between those seals to prevent ambient ingress into the test area. This reduces background levels, improves repeatability and reduces the need to run individual zero.

Interchangeable cartridge options such as package adapter and reduced area cartridges expand testing capabilities.

Removable cartridge utilizes central pneumatic clamp and TruSeal to provide repeatable results.



TruSeal®

- Gas flushing of sample mounting seal protects chamber integrity
- Lowers background levels reducing need to run individual zero
- Shortened testing time increases throughput

Control Features

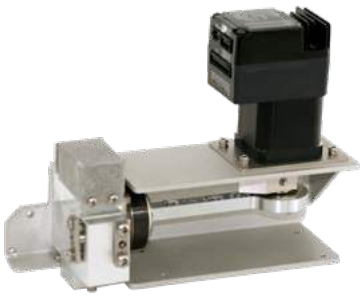
- Fully automated flow and temp control throughout tests
- Automatic test method development and recommendations
- Programmable multi-test sequencing

TRUSTED RESULTS

Precision Measurement with Our Modulated IR Sensor

Using a patented modulated infrared (IR) technology, this sensor provides accurate and repeatable results. It has the longest life of any CO_2TR sensor on the market, and is the only modulated IR sensor system to meet the ASTM F2476 standard.

Modulated IR Sensor meets the ASTM F2476 standard



Advanced Control System

The user friendly WinPerm™ 2 control system features fully automated testing including temperature, gas flow and sensor sample time. Final test reports are automatically saved and can be set to automatically print and export to permanent storage directories. The analyzer is compatible with PermWare®, your complete permeation laboratory data management system.

Auto-test mode *automatically adjusts the testing parameters to provide results for unknown samples.*

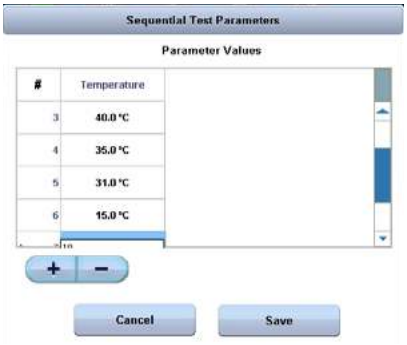
The test mode options make testing known or unknown samples easy and repeatable. A single button push initiates a fully automated test following pre-set stored parameters, reducing operator variability. The intuitive color touchscreen is easy to learn and use, while the automated testing provides consistent results and fewer potential errors.

Advanced-test mode *is the most commonly used and is for specific parameters and conditions.*

Industry Standard in CO_2TR Testing

The PERMATRAN-C 4/30 features our exclusive test cell drawer design with two horizontal removable easy-to-load cartridges. A single button opens and closes the drawers, and the cartridge is automatically clamped in place with consistent and even force on any sample thickness. This approach provides greater test repeatability than manual or cam clamping methods.

Sequential testing allows a series of tests to be performed on the same samples at different test conditions.



Touchscreen Interface

- Intuitive automated operation requires less training
- Built in multi-level user management and data security
- Event log and troubleshooting guide

Modulated IR Sensor

- Short exam times reduce overall test time to increase throughput
- Accurate and repeatable results
- Most trusted IR sensor that fully complies with ASTM F2476

Warranty

- Full 100% parts and workmanship warranty for 12 months
- Exclusive 4-year warranty on the modulated IR sensor

PERMATRAN-C 4/30 SPECIFICATIONS

Industry Standards

- ASTM F2476
- DIN 53380-4
- ISO 15105-2

Conformance Standards

- CE, UL, CSA Safety Compliance

Connectivity

- Ethernet Port
- 2 USB Ports
- Optional PERM-NET™ Lite for remote monitoring

Dimensions & Weight

Depth: 23" or 58.0 cm
Width: 12" or 30.4 cm
Height: 15.5" or 39.4 cm
Weight: 95 lbs. or 42.1 kg

Accessories

- PermWare® software is available to collect and manage test data
- Additional cartridges allow samples to be prepared and staged for a quick change out to increase efficiency
- Interchangeable dual-cell cartridge options expand testing capabilities. Options include:
  - Reduced Area Cartridge
  - Edge Effect Cartridge
  - Blister Testing Cartridge
  - Package Testing Adapter

Performance Specifications

Test Temperature Range	10°C to 40°C ± 0.2°C
Controlled RH Testing Ranges	0%
Maximum Film Thickness	Up to 120 mil, 3 mm
Carrier Gas	Nitrogen (99.7% N_2 or better)
Test Gas	Carbon Dioxide (99.7% CO_2 or better)

Technical Specifications

Models		Test Ranges			Resolution	Repeatability
		cc/(m² • day)	cc/(100 in² • day)	cc/(pkg • day)	cc/(m² • day)	cc/(m² • day)
4/30 L	Normal (50cm²)	0.5 to 8000	0.03 to 516	0.0025 to 40	0.0001	0.25 or 2%*
	Reduced Area Cartridge (5.64cm²)	4.5 to 71,000	0.29 to 4,600	-	-	-

**Whichever is greater*

mocon® / AMETEK®

PB-PPS-0137-PERMATRAN C 430-1024-1.3

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