

**Cost-Effective
Self-Contained
Non-Destructive Carbon Dioxide
Transmission Rate Analyzer System
for Testing Beverage Bottles**



PERMATRAN-C[®] Model 10

**Cost effective productivity
Accurately test for:**

**Shelf-life in hours ... not weeks
At a fraction of the price**

mocon[®]

The traditional method of testing for the amount of CO₂ in a bottle is time consuming and involves large quantities of product..

mocon makes it simple and accurate. The bottle shelf life calculation is based on operator inputs (initial gas volume, and expired gas volume) and instrument measured CO₂ transmission rate. The PERMATRAN-C® Model 10 will calculate the length in time (days) the initial gas volume will take to drop to the expired gas volume (shelf life). And it does it in just hours (after bottle has been conditioned), using just one bottle.



CO₂ transmission rate is calculated by placing a bottle into the appropriate capture volume. Values for capture volume size and bottle external volume size are preprogrammed into the instrument. After the instrument calculates the void volume, the PERMATRAN-C® Model 10 then directly quantifies the percentage of CO₂ permeating through the bottle and being accumulated in the void. Because void volume is known, length of test time is known, and the percentage of CO₂ being measured, the instrument then calculates the actual CO₂ being permeated by the bottle in cubic centimeters per day.



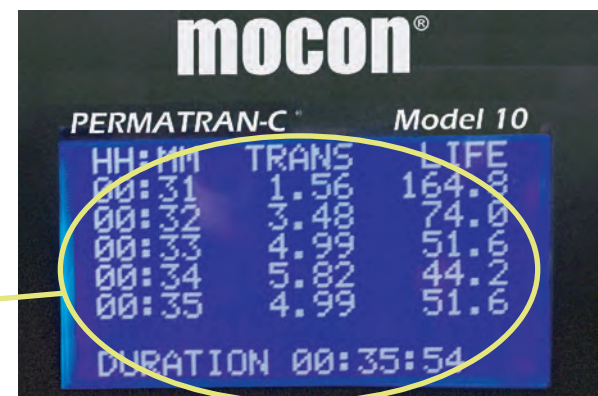
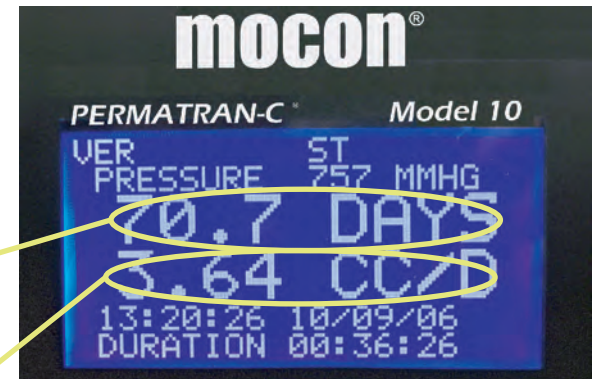
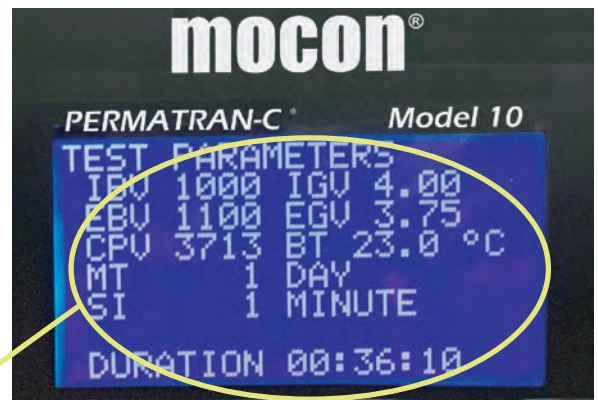
The PERMATRAN - C® Model 10 is a non-destructive carbon dioxide gas transmission rate and bottle shelf life analyzer using bottle transmission rate to calculate shelf life.



The PERMATRAN-C® is simple to operate and allows the operator to begin a test with the push of a button. It accommodates a range of plastic bottles from 355ml to 2.5 liters. Results can be read from the on-board screen and/or downloaded to a PC for viewing, storage or printing.

The PERMATRAN-C® Model 10 is self-contained. It's backlit screen displays:

- Test Parameters
- Predicted Bottle Shelf life (Days)
- Bottle Transmission Rate (Cubic Centimeters/Day)
- Test Identification
- Bottle Temperature (Degrees Celsius)
- Capture Volume (Cubic Centimeters)
- Internal Bottle Volume (Cubic Centimeters)
- External Bottle Volume (Cubic Centimeters)
- Bottle Gas Volumes (Initial)
- Bottle Gas Volumes (Expired)
- Transmission Rate date (at predetermined intervals) For example: every 15 minutes
- Results



Screens shown smaller than actual size

The reports can be down loaded to a PC where it can be viewed, stored or sent to a printer using PC PAC-C 10 software.

Product Name	Test Method	Internal Bottle Volume, cc	External Bottle Volume, cc	Initial Gas Volume	Expired Gas Volume	Capture Volume, cc	Convergence Period, minutes	Convergence Level, %	Maximum Test Time, hours	Bottle Temperature	Sample Interval, minutes
1 LRTB	CONTINUOUS	1000	1036	4.00	3.75	3535	60	3	24	23.0	5
12 OZ	CONTINUOUS	355	410	3.75	3.40	1042	15	1	1	5.0	5
2 LTR	CONTINUOUS	2000	2100	4.00	3.75	3535	60	3	24	24.0	1
591 ML	CONTINUOUS	591	630	4.00	3.60	1072	60	3	24	25.0	1
AA	CONTINUOUS	200	300	6.00	0.50	3535	15	1	1	5.0	5
UKSFJD	CONTINUOUS	500	600	4.00	3.00	2000	60	3	24	22.0	5
PEP12OZ	CONTINUOUS	355	390	4.20	3.30	1042	60	3	24	23.0	1
PRODUCT	CONTINUOUS	2489	3496	4.56	3.89	2638	238	9	24	36.8	28
REPETABIL	CONTINUOUS	500	500	4.00	3.00	1570	15	1	1	5.0	3
VER	CONTINUOUS	1000	1100	4.00	3.75	3535	60	3	24	23.0	1

Without a doubt the PERMATRAN - C® Model 10 is the most cost effective, lowest priced shelf life analyzer available. It's backed by MOCON's 40 years of leadership in innovation and design of permeation testing systems.

Proudly designed, engineered and manufactured in the United States by

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Nothing else exists in the marketplace.

The PERMATRAN®-C Model 10 can be used with plastic bottles ranging from 355 ml to 2.5 liters. The unit is self contained and its portability enables it to be used in areas away from the lab.

Simple operation provided by QuickStartSM allows the operator to begin a test with the push of a button making this an ideal production quality control system. Upon completion of each test, the data can be downloaded onto a PC.

Ideal users of the PERMATRAN®-C Model 10 are carbonated soft-drink manufacturers, beer manufacturers and their bottle suppliers.

Features:

- Projected Shelf Life (in days)
- Results Show Transmission Rate
- Ability to test greater than 300 different bottle sizes using different sized capture volumes
- Ease of Use - Quick Start Feature
- Test completed within 2-4 hours (3 hours typical), after bottle has been conditioned
- Data can be exported
- Able to fit into a standard size laboratory grade environmental chamber
- The system has CE, CSA, and UL markings
- Auto Calibration
- Safe Burst Feature

MOCON Commitment

The new system is another example of MOCON's 40 year commitment to innovation and quality in the design of permeation testing systems for barrier material and pack assessment.

Consulting & Testing Services

MOCON maintains an applications and testing laboratory to assist customers in realizing the full potential for their MOCON instrument. Seminars and intensive training classes are held for those interested in maximizing their understanding of the systems, technology, and operating procedures. Call your MOCON representative for more information on these programs or for your system quotation.



Technical Specifications:

- Test Temperature: 5°C - 40°C (with environmental chamber)
- Normal Range of Measurement 1cc/day to 80cc/day
- Transmission Rate Repeatability: $\pm 5\%$ (typical for $\pm 0.5\text{C}$)

Electrical Specifications:

- Voltages: 100, 120, 220 or 240 VAC $\pm 10\%$
- Frequencies: 50/60 Hz

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