

Model 902D DualTrak O₂/CO₂ Analyzer

✓ Features

- Portable, (optional) battery operation
- Measures both O₂ and CO₂
- Built-in sampling pump
- Rugged metal enclosure
- Low maintenance design
- Long-life sensors (4-5 year O₂ sensor, CO₂ sensor theoretically unlimited)
- Suitable for all gas mixtures
- Easy to use controls
- Results in 15-20 seconds

✓ Applications

- Meats
- Dairy Products, Cheese
- Produce
- Snack Foods
- Baked Foods
- Prepared Meals
- Pet Food
- Coffee
- Salsa
- Potatoes



Overview

The Model 902D DualTrak is used for measurement of many types of modified atmosphere (MAP), or "gas-flushed" packaged foods such as meats, snack foods, fresh vegetables, nuts, fruits, dairy products and ready-to-eat packaged foods including salads. MAP packaging can be done with a single gas such as nitrogen or a mixture of gases, using some combination of nitrogen, oxygen and carbon dioxide. Regardless of the gases used, analytical testing of the package with the DualTrak is valuable to determine if the concentrations are correct, whether or not the package has leaked, and to test for respiratory processes for shelflife purposes.

Ease of Use

The Model 902D DualTrak was designed for maximum flexibility and ease of use in packaging measurements. The unit is lightweight, battery operated and can be easily moved or transported as needed. The instrument is housed in a rugged metal case with a handle for

carrying. Tip up feet can be used for propping the unit at an angle during use. Low power consumption enables the unit to be battery powered, with eight hours of operation before re-charging (charger included) is required. For continuous use, the DualTrak can be operated with the charger plugged into a standard 100-240V outlet.

Food Package Sampling

The syringe needle attached to the end of the probe is inserted into the package through an adhesive-backed foam septum. With the pump on, sample is drawn through the probe and tubing into the carbon dioxide and oxygen sensors, through the pump and out to vent. The sensor signals are converted to concentration values and displayed on the front panel. The probe, tubing and sensors have been designed with minimal internal volume to reduce the sample volume needed, important for small package measurements. Neither sensor is heated, so the pump can be located downstream of the sensors and does not contribute to the volume requirement of sample. A disposable syringe filter can be inserted on the end of the probe to remove any moisture and dirt from the sample gas.

Electrochemical O2 Sensor

Long-life, proprietary design yields accurate low-level measurements down to 0.1% oxygen and also measures full range up to 100% level. Output compensated for ambient temperature variations. Sensor is not heated and has no moving parts.

Infrared CO2 Sensor

Solid-state infrared sensor has no moving parts, sapphire optical cell, microprocessor-based calibration factors using 6th order polynomial equation to linearize full range measurement up to 100%. Low-level measurements accurate to 0.1% CO2.

Rechargeable Battery

Totally sealed, long-life NiMH battery accepts full or partial charging cycle. Charger module plugs into standard 115 Vac outlet for charging or continuous operation.

Sampling Probe Assembly

The sample probe is a one-piece construction to minimize internal volume and eliminate leaks. Inert tubing extends from the front panel fitting through the probe to the needle hub. The end of the probe is fitted with a disposable filter for dirt and moisture removal. The removable needle has a tip with a side-port hole to prevent plugging.

Sampling Pump

The rugged miniature diaphragm pump has electronically controlled timing to operate only when sampling. It provides a high flow rate (~5cc/sec) and has is rated for 6-8 years of life.

Microprocessor/Electronics

Micro-processor based electronics for sensor signal processing, battery charging, pump timing and on/off control provide high accuracy and reliability.

Technical Specifications

SENSORS	Oxygen Sensor	Carbon Dioxide Sensor
Type:	Proprietary Electrochemical	Solid-state Infrared
Range:	0 to 100%	0 to 100%
Sensitivity:	0.1% O ₂ (or optional 0.01%)	0.1% CO ₂ (or optional 0.01%)
Minimum Detection Limit:	0.1% O ₂ (or optional 0.01%)	0.1% CO ₂ (or optional 0.01%)
Accuracy:	$\pm 0.1\%$ O ₂ below 10% $\pm 1\%$ of reading above 10%	<u>0 to 100%</u> $\pm 0.2\%$ CO ₂ below 10% $\pm 1\%$ of reading above 10% <u>0 to 20%</u> $\pm 0.1\%$ CO ₂ below 10% $\pm 1\%$ of reading above 10%

Calibration Controls	Potentiometer SPAN adjustment for both O ₂ and CO ₂ . Potentiometer ZERO adjustment for O ₂ , pushbutton AUTO-ZERO for CO ₂ .
O ₂ Calibration	Weekly; set with room air set to 20.9% O ₂ .
CO ₂ Calibration	Every 12 months; calibration gas recommended.
Sample Pump	Miniature diaphragm type with adjustable timing.
Sampling Assembly	Needle holder with luer needle, disposable filter, 1/16 O.D. PTFE tubing.
Size	9.8W x 4H x 10L in. (249 x 102 x 254 mm)
Weight	9.8 lb. (4.4 Kg)
Warranty	2 years, parts and labor
Standards	 
Consumables	For package testing applications: Sample probe assembly, leur fit needles, foam septas, particulate filters, moisture blocking filters
Included parts	100-240V internationally compatible charger/power supply, sample probe, 200 foam seal pads, 2 needles, 2 particulate filters, 2 moisture blocking filters
Included Documentation	Owners manual (includes operating instructions with detailed calibration instructions, calibration certificate, precautions), NIST calibration certificate
Origin of Goods	Our products are manufactured in the U.S.A.
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