

STEINFURTH NICO – NON-DESTRUCTIVE CO₂ MEASUREMENT – IN FILLED BEVERAGE CONTAINERS

Both taste and shelf life are influenced by the amount of dissolved CO₂ gas in beverages. A reliable measurement method is the key to accurate and diagnostically conclusive monitoring of the in-pack CO₂ content. NICO uses a unique laser-based measuring technology developed and patented by Steinfurth. The instrument operates independently of packaging related parameters and headspace diameter. A global first, NICO is the only non-invasive handheld CO₂ analysis solution on the market.

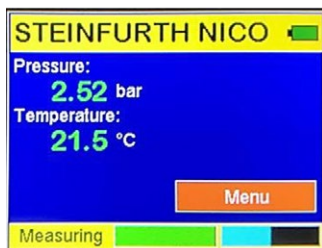
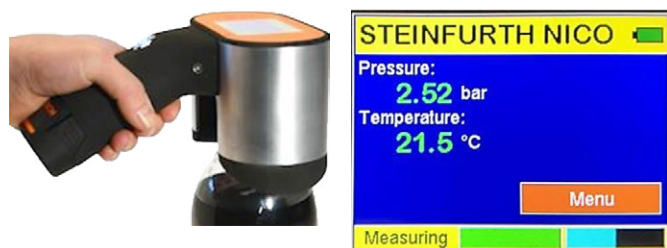
TRANSPARENCY COUNTS

The extremely fast and non-invasive measuring principle allows measurement of the CO₂ content throughout the complete supply chain of sealed transparent beverage containers - NICO enables the possibility for QA monitoring at different stages of the beverage production cycle from bottling, storage, transport and in market testing. Despite of the unique technology all measuring results are 100% comparable with traditional CO₂ measurement data (by using the reliable calculation of the CO₂ content from equilibrium pressure and temperature – based on the Henry's law).

NICO SCORES WITH EASE OF USE

NICO analysis steps are simple. Create equilibrium at the time of measurement, by briefly pre-shaking the container. Then simply place the NICO on the bottle closure and move back and forth horizontally over the headspace area of the container. NICO will do the rest.

As part of the NICO unique analysis technique, the packaging influences are continuously analyzed and taken into account along with real time data for pressure and temperature, which is also displayed on the measurement screen. The rapid measurement cycle of approximately 10 seconds, is completed once the device has collected sufficient information to make its analysis. The final pressure, temperature and CO₂ results are automatically displayed on the touchscreen and captured in the instruments on board memory for retrieval when required.



NICO'S BENEFITS AT A GLANCE

- Non-destructive CO₂ measurement
- Compact & mobile design
- Rapid analysis (approx. 10 sec)
- Rechargeable standard battery
- Data transfer via QR code & in-built Wi-Fi hotspot
- HTML interface for database access
- Complex mathematical model for precise pressure, temperature, and CO₂ determination
- Easy operation
- Shelf-life testing capability on the same container
- Usable along the entire beverage supply chain - from the bottling facility, through warehousing & transport till delivery to the consumer.

TECHNICAL SPECIFICATIONS

	Range	Accuracy	Repeatability
CO₂	0 - 20 g/L (0 - 10 vol)	< 2 %	< 1.2 %
Pressure	1 - 6 bars (14.5 - 87 psi)	< 1.5 %	< 0.5 %
Temperature	5 - 35 °C (41 - 95 °F)	< 0.25 °C	
Measuring time	< 15 s		
Dimensions	160 x 220 x 110 mm (6.3 x 8.7 x 4.3 inch) (H x W x D)		
Weight	1200 g (with battery)		
Laser class	1M		