

## LP20 Portable Applications

In the portable applications, the LP20 series is using the same technology of the TP10 analyzer to measure CO<sub>2</sub>/O<sub>2</sub>. The sensors are packed in a IP67 case equipped with a local touch screen control panel, batteries flow cell, tubing and all the accessories needed for the measurement line. Both in the single channel configuration and in the dual channel one, the LP20 is light but very robust and easy to operate for quick connection to a tank or a piping.



## OPERATING SPECIFICATIONS

### TPO Measurement

Gas Phase range:	0 hPa to 45 hPa O <sub>2</sub> partial pressure
Liquid Phase range:	0 ppm to 2 ppm
Repeatability:	±5 ppb or ±5 % whichever is the greater

### CO<sub>2</sub> Measurement\*

Range:	0...5 v/v (0...10 g/l)
Accuracy:	+/- 0.025 v/v (+/- 0.05 g/l)

### Head Space Measurement

Repeatability:	±0.5 ml
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Analysis Cycle time:	~7 minutes
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*\*Sample must be gently shaken before measurement*

## TECHNICAL FEATURES

Measurement Temp.:	from 0 to 40°C
Pressure:	max 6.5 bar absolute
Container dimensions:	diameter from 30 to 125 mm height from 30 to 370 mm volume > 200 ml
Gas consumpt. / analysis:	Vn=6L
Required oxygen-free gases:	N <sub>2</sub> or CO <sub>2</sub> class5 if TP10 is used without CO <sub>2</sub> measurement
Additional gases:	Compressed air
Cleaning:	Chlorine free water
Communication interfaces:	1xUSB, Ethernet
Display :	10" LCD Panel with capacitive touchscreen
Data storage:	Up to 5000 measurement data sets

Please refer to the technical datasheet for further data.

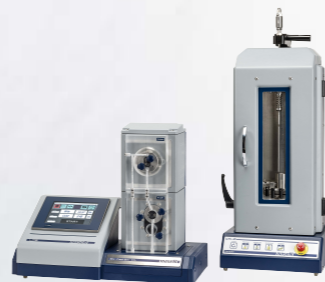
## More products for the Beer Industry

### BA06 Beer Analyzer



In line - Alcohol, Plato, Extract, CO<sub>2</sub>

### LP10 Laboratory Beer Analyzer



Laboratory - Alcohol, Extract, Plato, CO<sub>2</sub> and Oxygen

ZZ2001583A

**maselli**  
PROCESS ANALYZERS



# TP10

## TOTAL PACKAGE ANALYZER

TOTAL PACKAGED OXYGEN, TRUE CO<sub>2</sub> AND HEAD SPACE VOLUME  
FOR THE BEER INDUSTRY



**maselli**  
PROCESS ANALYZERS

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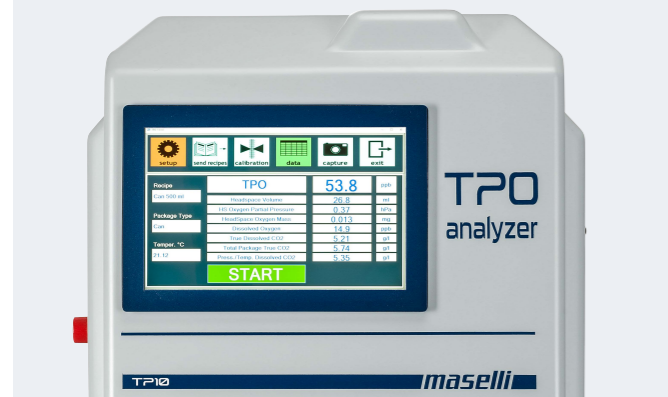
[www.maselli.com](http://www.maselli.com)



# TP10

## BENEFITS, APPLICATIONS AND FAQ

- Optical technology
- All in one TPO and CO<sub>2</sub> analyzer
- Fast Measurement
- Web Based Software
- Robust Construction
- Easy to operate
- Low Maintenance



## EQUIPMENT CONFIGURATIONS

The Maselli TP10 is an innovative Total Package Analyzer designed for the brewing industry. The analyzer can be used with a wide variety of package shapes and sizes. Once the package is placed in the TP10 the analyzer automatically pierces the container and measures the headspace volume, CO<sub>2</sub>, and O<sub>2</sub> concentration of both the liquid and headspace of the package. The TP10 user interface operates on a web-based software platform making data analysis quick and easy from anywhere.

### Parameters

**Oxygen:** Total Packaged O<sub>2</sub>, Head Space O<sub>2</sub>, Dissolved O<sub>2</sub>  
**CO<sub>2</sub>:** CO<sub>2</sub> P/T, True CO<sub>2</sub>  
**Head Space:** HS Volume

### 1. Why are breweries concerned about Oxygen levels in their process?

- Flavor Stability
- Shelf-life Stability

### 2. What is Total Packaged Oxygen (TPO)?

- Liquid O<sub>2</sub> + Headspace O<sub>2</sub>

### 3. Why is it important to measure TPO?

- It accounts for all the Oxygen in the package both dissolved and, in the headspace of the container

### 4. How can the TPO data be used to control your process?

- Establish a limit of sale ability
- Characterize the performance of your filler
- Establish O<sub>2</sub> specification for your filler
- Determine filler valve maintenance needs

### 5. What can the TP10 TPO analyzer tell you about your process?

- Discover the source of oxygen intrusion
- Headspace pickup
- Liquid transfers

### 6. Which are potential sources of O<sub>2</sub> pickup?

- Poor purging of the air from the lines
- Leaking valves, seals, or pumps
- Bad container purging
- Air contaminated purge gas

## DESIGN

### Web based control panel

The Maselli TP10 is operated by means of an intuitive control panel that operates on a web-based software platform. The TP10 has a local display and can be networked to communicate with existing data collection systems. The analyzer can also be remotely accessed through user password protected software interface to extract data for statistical analysis or troubleshooting.

### Universal sampling capability

The Maselli TP10 has the capability to sample from a wide variety of package shapes and sizes including glass bottles, PET bottles or cans. A container can be easily placed in a universal package holder, which operates together with a robust piercer that is designed for continuous use.

### Robust Construction

The Maselli TP10 was designed to operate at line in a production environment or in a central laboratory. The sensors are enclosed in a water-proof housing designed for easy access for system validations and sensor maintenance.

### Innovative measurement method

The Maselli TP10 contains 2 separate gas and liquid sample cells. The measurement cycle begins by extracting the headspace gases into the gas sampling cell where it measures both the CO<sub>2</sub> and O<sub>2</sub> from the headspace. A sampling tube is then lowered into the container to draw the liquid into the liquid sampling cell. The CO<sub>2</sub> and O<sub>2</sub> is measured as the sample flows to drain. All data parameters are determined in less than 6 minutes per cycle and displayed on the control panel.

**“To truly understand the oxygen shelf-life impact of your beer, you need to measure TPO.”**