

LABORATORY PACKAGE mod. LP20
OPERATING SPECIFICATIONS

Application:	Measurement of carbonated soft drinks and mineral waters in the laboratory.
Type of Measurement:	Generic measurement of CO ₂ (carbon dioxide) and O ₂ (oxygen), and, in particular, the concentration of CO ₂ dissolved in liquids (on the basis of absorption of infra-red (IR) rays and the transmission of the relative value, using a technique known as "Attenuated Total Reflectance – ATR"), and of the concentration of O ₂ both dissolved and in gaseous phase, on the basis of the fluorescence phenomenon.
Intended use:	<p>The uses intended for the measurement of beer are of three types:</p> <ul style="list-style-type: none"> -On board the line, in production lines where sampling systems are present, the LP20 instrument is connected to these systems by means of its inlet connector which is for 6x4 tubes. If the sampling point has a different sized connector, the customer must provide specific fittings to obtain the 6x4 size. -Measuring the purity of CO₂ in the tanks, i.e. checking for traces of oxygen inside. In this case a measurement is made in the gaseous phase. Before being filled with beer, the tanks are filled with gaseous CO₂ to prevent oxidation. Measurement of the gaseous oxygen inside makes it possible to decide whether the tank can be filled with beer. -In the laboratory: in this case, a sampler is required to take samples under pressure from the bottle or can of beverage, beer or wine. For the measurement of O₂ the pressurization gas must be devoid of oxygen: it is advisable to use a cylinder containing nitrogen with 99.999% purity.
Measurement limits	<p>CO₂: 0...6 V/V (0...12 g/l)</p> <p>O₂: 0...2000 ppb</p>
Accuracy:	<p>CO₂: ±0.025 V/V (±0.05 g/l)</p> <p>O₂: Value higher between ± 1 ppb and ± 3% of the reading</p>
Measurement scale	<p>CO₂: "V/V (Vol/Vol)" or "g/l"</p> <p>O₂: ppb</p>
Measurement interval:	<p>CO₂: 3 seconds</p> <p>O₂: 5 seconds, max. response time 40 seconds</p>
O₂ detection limit	± 1ppb
Product temperatures:	-5...+40°C (41...104 °F) with automatic sugar concentration compensation by means of AISI 316 stainless steel 3/8" Pt1000 Temperature Probe, Class "A" according to IEC751.
Relative line pressure:	Min 1 bar (14.5 psi), max 10 bar (145 psi)

GENERAL SPECIFICATIONS

Power supplies	<p>Electrical: DC 24V ±10% 10W; for battery pack recharge: 3Ah</p>
Interfaces	<p>Digital: USB – Connection by means of type B 2.0 connector</p>
Notes:	Connections to the appliance are made via a 5P F multipole connector for battery charger.

CONSTRUCTION FEATURES	
Execution:	Enbloc casing in plastic with front panel in INOX AISI 304/316
Measurement section:	Synthetic sapphire measurement prism. Pt1000 temperature probe inside the equipment.
Notes:	The optical section of the equipment is dehumidified by a special humidity extractor.
Electronic section:	"CPU" with microprocessor"; LCD 320x240 points back-lit graphic color display
Materials in contact with the product:	Prism-holder in POM-C and various components in INOX AISI 316L. O-Rings and gaskets in EPDM/VITON/KALREZ 6230. "Synthetic sapphire" measurement prism.
Dimensions and weight:	170 (b) x 280 (h) x 180 (p) 4,9 kg

TECHNICAL-NORMATIVES SPECIFICATIONS	
Environmental features	<p>Temperature limits: Environment:10...45 °C Storage: 50...+113 °C</p> <p>Humidity limits: Environment: 5%...95% (R.H. without condensate) Storage: 5%...95% (R.H. without condensate)</p> <p>Altitude limits: <2000 m a.s.l.</p> <p>Degree of Protection: IP67 in accordance with EN60529</p>
Conformity to Directives:	<p>EMC: 2014/30/EU WEE: 2012/19/EU EC REGULATION 1935/2004 CE marking of conformity to EU Directives</p>