COBRIX3 multibev
Online Beverage Analyzer
Anton Paar introduces the third generation of its successful COBRIX family of Online Beverage Analyzers for all beverages - the COBRIX3 multibev:

Continuous measurement of °Brix, % Diet, carbon dioxide, alcohol, original extract and optionally oxygen and conductivity directly at the beverage line has become a reality. The COBRIX3 multibev provides instant and highly accurate results, while requiring minimum supervision and maintenance.

System overview

The COBRIX3 multibev Online Beverage Analyzer provides:
- density sensor for °Brix and % Diet analysis
- sound velocity sensor for
  - automatic compensation of sugar inversion
  - determination of alcohol content
- CO2 transducer for carbon dioxide determination
- data processing unit
- pump with new liquid sensor
- flow monitor
- process-matched IP 55 (NEMA 4) housing and frame
- DAVIS data acquisition and control software for Windows™

All made by one single supplier: Anton Paar.

Features

- New CARBO 2100 Analyzer for CO2 measurement
- New powerful data processing unit mPDS 2000V3. Up to 255 products can be selected
- New DAVIS PC software with attractive new features
- New design - compact, flexible, practical, robust
- Improved Diet measurement due to improved sensors and formulas
- Faster start-up capabilities
- Large bright alarm and warning lamps
- Ease of installation - only electrical power, compressed air and simple plumbing are required
- Fast start-up: All sensors are pre-calibrated at the factory, just turn on power to start the measurement
- Long-term stability and reliability, no drift of the °Brix, % Diet, alcohol and CO2 results

Optional accessories

- Large additional displays
- Product selection switch
- Oxygen and conductivity sensors
**Brix analysis with optional sugar inversion compensation**

°Brix is measured extremely accurately by the density of the beverage. The Anton Paar U-tube technique for density measurement ensures optimal system performance. The Online measurement of the COBRIX3 exactly matches the well established and approved lab density method. Correction for sugar inversion is achieved by the unique combination of density and velocity of sound measurement in a single sensor.

**Measurement of alcohol**

Using the combined Anton Paar density and sound velocity transducer, the COBRIX3 multibev is capable of measuring alcohol, extract and other parameters in alcoholic lemonades (alcopops, malternatives, . . .), beer and wine.

**% Diet analysis**

% Diet results are determined to a previously unattainable level of accuracy by combining high-resolution density measurement with fast and accurate compensation for the effect of dissolved CO₂ on the measured density.

**CO₂ analysis**

CO₂ is measured using the patented “multiple volume expansion method” to eliminate the influence of gases other than CO₂.

**O₂ and conductivity analysis (optional)**

The oxygen sensor is based on the reliable Clark electrode principle. The conductivity sensor measures temperature-compensated inductive conductivity.
DAVIS software for data acquisition and storage

The COBRIX3 is controlled by a PC running the powerful DAVIS data acquisition and control software. Brand-specific settings such as target values, alarm limits, etc. can be stored and recalled for a virtually unlimited number of different beverages. Network capability - real-time data can be shown simultaneously on several PCs throughout the plant. Supervisory staff review the production performance as the DAVIS provides unlimited access to current and historical data.

Graphic display

Scroll back to the beginning of the production run, while still collecting and storing the current data without any interference! Production start/stop information is displayed among many other selected parameters. Alarms are indicated optically and acoustically, and by highlighting the corresponding measuring values. Reset an alarm by a simple mouse click, and the line starts up again if the automatic line stop function has been enabled.

Statistics report

Mean value, min/max and standard deviation, operating and down times of the production line, bottle/can numbers for out-of-spec product, history of adjustments, etc. are all presented in one concise page. At the end of each production run, the statistics report is automatically printed, containing user-specific calculations such as process capability and quality index.
Displayed and recorded results

Depending on beverage type:

- **Soft drink**: °Brix, %Diet, Fresh Brix, Actual Brix
- **Alcoholic lemonades**: °Brix, % Alcohol
- **Mineral water**: Density
- **Wine**: % Alcohol, Extract
- **Beer**: % Alcohol, Original Extract, Real Extract, Apparent Extract, Degree of Fermentation

For all beverage types:

- CO₂ concentration in g/l or Vol
- CO₂ pressure in bar or MPascal
- Line pressure
- Line temperature
- NaOH concentration during CIP

Optional

- Oxygen
- Conductivity
- Bottle count
- Production start/stop
Information at a Glance

The COBRIX3 multibev is the fastest and most reliable instrument to monitor every single one of your products from start-up.

Throughout the production run, warning lights, sounds and PC messages give you time to make adjustments to the line before product goes off spec, or before the COBRIX3 multibev stops the production line.

Fast return of investment is the immediate result.

Eliminates out-of-specification product

Laboratory methods for quality control often take up to 15 minutes before results are known. Therefore, an accidental change during production inevitably causes significant losses in both time and yield. Continuous measurement ensures product quality that is always right on target. The COBRIX3 can instantly stop the line if required.

Improves line performance

The COBRIX3 provides real-time data which allows quick and effective adjustment of the blender and carbonizer. Production efficiency is improved by significant savings in syrup and CO2. Suspect product can be easily isolated, and rejects are reduced.

Decreases production costs

The very short response time of the COBRIX3 allows quick line start-ups and change of products. No drifts - no delays. Exceeding pre-selected quality limits immediately activates alarms, thus avoiding the bottling of out-of-specification products.

Identifies production problems quickly

Continuous measurement allows easy trouble-shooting at the production line. Typical examples are: leaking valves, inefficient mixing, fluctuations of the CO2 saturation due to variations of the water temperature, etc.

Traceable quality

All quality related data are recorded and stored automatically. Line performance and product quality are therefore traceable 24 hours a day, 365 days a year.
## Technical Specifications

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<th>Details</th>
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| **Measuring ranges**                         | 0 to 80 °Brix for sugar-based soft drinks  
0 to 2 °Brix for diet beverages  
0 to 30 °Brix for alcoholic lemonades (alcopops, malternatives, ... )  
0 to 10 Vol (0 to 20 g/l) CO₂  
0 to 20 % v/v alcohol for alcoholic lemonades, beer |
| **Accuracy**                                 | 0.02 °Brix in the range of 0 to 80 °Brix  
0.002 °Brix in the range of 0 to 2 °Brix (<1 % Diet)  
0.025 Vol (0.05 g/l) CO₂  
0.04 % v/v alcohol in the range of 0 to 20 % alcohol |
| **Repeatability**                            | 0.001 °Brix (0.5 % Diet)  
0.005 Vol (0.01 g/l) CO₂ |
| **Measurement temperature**                 | -5 to +30 °C (23 to 86 °F)                                             |
| **Maximum temperature**                     | 121 °C (250 °F)                                                       |
| **Maximum measuring pressure**              | 10 bar (145 psi)                                                       |
| **Analog outputs**                          | three 4 to 20 mA isolated                                              |
| **Analog inputs**                           | two 4 to 20 mA, isolated, active or passive                            |
| **Digital inputs**                          | 2 counter inputs, 4 digital inputs                                     |
| **Limit monitor**                           | two digital outputs (warning/alarm)  
two relays, 30 V, 0.7 A (limit monitoring/error relay) |
| **Serial interface**                        | RS 232/RS 485                                                          |
| **Power supply**                            | AC 115/230 V ±10 %, 50 to 60 Hz                                        |
| **Power consumption**                       | 500 VA                                                                 |
| **Protection class**                        | IP 55 (NEMA 4)                                                         |
| **Dimensions (W x H x D)**                  | 490 x 1460 (1700) x 410 mm (19.4 x 57.9 (67.5) x 16.3 inches)          |
| **Weight**                                  | 120 kg (264 lbs)                                                       |
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Instruments for:
Density & concentration measurement
Rheometry and viscometry
Sample preparation
Colloid science
Microhardness testing
X-ray structure analysis
CO₂ measurement
High-precision temperature measurement

Specifications subject to change without notice.