ANALYSIS SYSTEM model BA06

OPERATING SPECIFICATIONS

Application:	Measurement of alcoholic beverages and beer or sugar-sweetened syrups on process lines
Type of measurement:	- Continuous refractometric measurement of the Refractive Index and display in the selected scale (REGULAR BRIX or % STANDARD) of the relative concentration, with temperature compensation already applied. Calculation of the alcohol content expressed in ALC/V for alcoholic beverages. Calculation of the alcohol content expressed in w/w, of the value of the real extracts and original extracts for beer. Measurement of Real Brix and fresh or inverted Brix for sugar-sweetened syrups. - Dissolved CO_2 concentration measurement, based on IR ray absorption and transmission of the relative value. The technique used is known as "Attenuated Total Reflectance" (ATR): a collimated beam of infrared radiation passes through a prism in contact with the liquid, undergoes a number of internal reflections and is then collected by a suitably filtered detector as it exits the prism. The relationship between the intensity of the beam exiting and entering the prism is proportional to the concentration of dissolved CO_2. Measurement of the OX parameter (optional).
Measurement limits:	Alcohol: 0...10% w/w; (0...12% v/v). Real extracts: 0...30 Ew. Original extracts: 0...30 °Plato. Crown prism "N-K5" 0...50 Brix. Barium Light Flint "BaLF4" prism 0...80 Brix. 0-100% for "% STANDARD" Inversion Display Scale. "BRIX" measurement scale with reference to the ICUMSA nD/Bx conversion table, (1974). CO_2 : 0...6 v/v (0...12 g/l).
Calibration	Crown "N-K5" prism 0...20 Brix (0...50 Brix on request). Barium Light Flint "BaLF4" prism 0...65 Brix (0...80 Brix on request).
Accuracy* (Repeatability):	Alcohol: ±0.02[±0.01] w/w. Real extracts: ±0.05 [±0.01] Ew. Original extracts: ±0.05 [±0.01] °Plato. * With CO_2 compensation and specific product calibrations. The values provided below refer to standard sucrose solutions: 0.1% of the Range, maximum accuracy ±0.02 Brix with variation of di ±10 °C (±18 °F). 1% of the Range for "STANDARD" Inversion scale. CO_2 : ±0.025 v/v (±0.05 g/l).
Response time:	1.0 second.
Response time to temperature variations:	2'/10 °C (18 °F).
Product temperature:	-5...+90 °C [23...194 °F] with automatic compensation of the influence temperature has on the sugar concentration, measured by 3/8" AISI 316L stainless steel Pt1000 Temperature Probe, Class "A" according to IEC751. The maximum limit for the measurement of CO2 is 35 °C [95 °F].
Line pressure:	max. 10 bar (145 psi) at 20 °C (68 °F). max. 8 bar (116 psi) at 100 °C (212 °F). Special version for pressures up to 15 bar (217 psi) at 100 °C (212 °F).
Sanitization limit conditions:	See specific Table.

GENERAL SPECIFICATIONS

Power supplies	***Electrical:*** DC 24V ±10% 40W (MP01). DC 24V ±10% 60W (MP02). Terminal board connection. External power supply box (optional):

	AC 85...264V ±10% 50...60Hz 60W.
Interfaces	***Analog:*** 2 active analog output channels 4...20mA (470Ω max.) configurable in the "Max. and Min. full scale" values. 4 auxiliary analog input channels 4...20mA. ***Digital:*** RS485 for connection to the "M8" remote control unit. RS485 for connection to Maselli analyzers. ETHERNET TCP/IP (Transmission Control Protocol Over Internet Protocol - for PC network) (MP02). USB for downloading data and updating software (MP02). ETHERNET/IP (Industrial Protocol - for industrial automation) (optional MP01/02). PROFIBUS DP (optional MP01/02). PROFINET (optional MP01/02). ***Inputs:*** 2 configurable inputs ***Outputs:*** 2 relay outputs for alarm signals with contacts of a maximum capacity of 1A/24V DC/AC
Notes:	All interfaces are optically isolated from the power supply (VDEO160) and are completely configurable from the keypad. Connection to the units is executed using a connection cable fitted with connector.

CONSTRUCTION FEATURES	
Execution:	The system is essentially made up of: Multiparametric Receiver MP01/02 Digital Refractometer, model UR29S Digital Carbometric Unit, model UC09
Notes:	The modular System allow, data processing, operator interface, interfacing with analysis unit, interfacing with additional elements and with the process line
MP01/MP02 Multiparametric Receiver	***Execution:*** AISI 304 casing for wall, post or cabinet mounting
	Function: System management, data processing, operator interface, interfacing with analysis unit, interfacing with additional elements and with the process line. ***Electronic section:*** Central "CPU" unit with microprocessor with management software, updatable via PC; communication, interfaceability with analysis units via serial RS485 protocol. Processing and indication of measurements, software menu display, diagnostics menus, error messages and operating status indicator icons on graphic backlit LCD 240x128 pix display with "LCD Saving" function or 10" 2048x2048 monitor. Multi-level programming software complete with password protection for certain functions and check menu. Possibility to choose one of several menu and messages display languages. Process temperature expressed in "°C" or "°F" and pressure expressed in "kg/cm^2" or "psi". Possibility to store and call up at any time groups of parameters known as "recipes" containing production parameters.
Dimensions and weight	**MP01:** 270 (b) x 201.5 (h) x 115.5 (d), 3.2 kg. **MP02:** 340 (b) x 300 (h) x 160 (p), ~5.5 kg.
UR29S Refractometric Unit	***Execution:*** Enbloc housing with AISI 316 stainless steel lid, PEEK™ heat insulating flange, AISIL 316L stainless steel prism holder with 3" BS 4825 ASME-BPE® Tri-Clamp fitting or "N" type Varivent fitting® for installation on the process line. ***Measurement section:*** Measurement prism in optical glass (N-Balf-4 or Crown N-K5). Electronically compensated LED light source. CCD sensitive element. Pt1000 temperature probe inside the appliance. Piezoelectric system for sonic velocity calculation. ***Electronic section:*** Central "CPU" unit with microprocessor. ***Electrical:***

	DC 24V ±10%, 1A
Notes:	The optical section of the equipment is dehumidified by means of a desiccant molecular sieve cartridge
Interfaces	*Digital:* RS485 for connection to the MP01/02 Multiparametric Receiver
Notes:	The connections to the Appliance are executed using circular multipolar metal connectors, pre-assembled on a specific connector cable
Materials in contact with the product:	Prism holder complete with fork devices made from AISI 316L stainless steel. O-rings and gaskets in Kalrez 6230 + Viton or EPDM (silicone available on request). Measurement prism in optical glass. (Crown "NK5", Barium Light Flint "BaLF4").
Dimensions and weight	Ø176 (b) x 255 (h) x 154.5 (p), 3.5 kg
UC09 Carbometric Unit	*Execution:* Enbloc housing with AISI 316 stainless steel lid, PEEK™ heat insulating flange, AISI 316L stainless steel prism holder with N type Varivent® fitting for installation on the process line
Power supplies:	DC 24V ±10%, 10W
Measurement section:	Synthetic sapphire measurement prism. Pt1000 temperature probe inside the appliance.
Notes:	Connections to the appliance are made via a metal multipole connector
Electronic section:	Central "CPU" unit with microprocessor
Interfaces	*Digital:* RS485 for connection to the MP01/02 Multiparametric Receiver
Notes:	The optical section of the analyzer is dehumidified by means of specific moisture extractor
Materials in contact with the product:	Prism holder in AISI 316L stainless steel. O-rings and gaskets in Kalrez 6230 + Viton. Synthetic sapphire measurement prism.
Dimensions and weight:	∅176 (b) x 255 (h) x 143 (d), 3.3 kg
Accessories:	In-line body, Varivent® DN40, 50, 65, 80, 100, 125 or others on request or series of specific DF15 deflectors with TC welded connectors, DIN, etc. Flow stop detection device.

TECHNICAL-NORMATIVE SPECIFICATIONS	
Environmental features	*Temperature limits:* Environment: -10...+45 °C (14...113 °F) Storage: -20...+70 °C (-4...+158 °F) *Humidity limits:* Environment: 5%...95% (R.H without condensate) Storage: 5%...95% (R.H without condensate). *Altitude limits:* <2000 m a.s.l. *Degree of Protection, Receiver:* IP65 in accordance with EN60529 *Degree of Protection, Analyzers:* IP67 in accordance with EN60529 with connectors or safety devices enabled
Conformity to Directives:	EMC: 2014/30/EU REGULATION (EC) 1935/2004 EC Marking of Conformity with EU Directives