

# LASERREFRACTOMETER LR.1X



The Laserrefractometer LR.1x is applied for the continuous, fast and highly accurate determination of °BRIX-values in juices, lemonades and diet drinks and for the CO<sub>2</sub> insensitive determination of original gravity from brewhouse to filling line.

Caused by the varying quantity of dissolved matter in the medium, a laser beam in combination with a specially coated prism is deflected. A CCD camera detects accurately the deflection, the measuring signal is transferred into °BRIX. A fast temperature sensor reads the temperature of the sample, the °BRIX value is compensated to 20 °C reference temperature.

Without any averaging, the LR.1x gives out measuring values every second, an optimum e.g. for closed loop - or phases separation tasks.

Because of the use of an auto-adjusting laser light source, there is barely any calibration demand. Usually needed compensation for sample lightness, turbidity or colour is not necessary.

The accuracy of +/-0,01 °BRIX (resolution +/- 0,001 °BRIX), so far unreached in process instrumentation, enables a reliable real inline measurement for the diet drink production. The usual problems of process refractometers caused by condensate after the CIP are solved by its unique design.

LR.1x is robust and almost maintenance-free.

## Technical Data

<b>Dimensions:</b>	Width 205 x height 360 x depth 170 mm
<b>Weight:</b>	Approx. 8,3 kg
<b>Mounting:</b>	Inline Varivent; bypass
<b>Power supply:</b>	24 VDC; 0,9 A
<b>Max. nominal pressure:</b>	ND 10 bar
<b>Cleaning:</b>	Common CIP, up to 130 °C
<b>Measuring ranges:</b>	LR.10: 0-30 °BRIX, for lemonades and diet drinks, fruit and vegetable juice, etc. LR.11: 40-85 °BRIX, for ready made syrup, liquid sugar, concentrates, etc. LR.13: 0-78 °BRIX for ready made syrup incl. diet, concentrates and special applications
<b>Repeatability:</b>	LR.10: +/- 0,005 °BRIX; LR.11/13: +/- 0,01 ° BRIX; without CO <sub>2</sub> or pressure influence
<b>Data display:</b>	2x16 signs LCD with background lighting
<b>Output signal:</b>	RS485, (0)4-20 mA, Profibus DP, and DeviceNet!

www.acm.co.at

**ACM** GmbH

Goldschlagstrasse 172  
A-1140 Vienna  
Austria  
Tel.: +43-1-7865866  
Fax: +43-1-7865866-20  
office@acm.co.at