

# LR02

## *Easy Start*

### LABORATORY REFRACTOMETER FOR CONCENTRATION ANALYSIS

The LR02 "Easy Start" refractometer with microprocessor is Maselli's latest laboratory instrument. It has been designed to be accurate, sturdy, compact and easy to use. Thanks to its battery power supply and carrying handle, it is easy to transport and use without being connected to a mains power supply. Its waterproof keyboard and its stainless steel structure mean it can be safely used directly in the production area. By simply lowering the cover, without pushing a single button, the LR02 "Easy Start" refractometer measures the sample's refractive index, calculates its concentration (Brix or User), displays the information on an LCD unit with back lighting and sends the recorded value to an optional external printer or to a PC.

The project has been developed using state of the art technology, which guarantee a high level of precision and reliability, such as **the sapphire prism, the LED long-life light source and high-resolution digital optical CCD sensor.**

The main applications for the LR02 laboratory refractometer are in the food and drink, chemical, petrochemical and textile industries.



# GENERAL CHARACTERISTICS



## TECHNICAL CHARACTERISTICS

**Measurement limits:**  
1.3330...1.5318 nD (0...95 Brix)

**Accuracy**  
(1.3330...1.3811 nD):  $\pm 0.00007$  nD  
(0...30 Brix):  $\pm 0.05$  Brix

(>1.3811...1.5318 nD):  $\pm 0.0014$  nD  
(>30...95 Brix):  $\pm 0.1$  Brix

**Measurement scales:**  
(5 parameter)  
- nD  
- Brix ("Brix" Scale refers to the nD/Brix ICUMSA 1974 conversion tables)  
- HFCS42 special iso-glucose scale  
- HFCS55 special iso-glucose scale  
- "USER" scale can be configured based on measurement parameters required

**Temperature Compensation:**  
- Automatic between +5 °C...+45 °C (+41 °F...+113 °F)  
- For USER field scales, compensation refers to value setting applied

**Interfaces:**  
RS232 (for printer or PC)

**Supply:**  
External power supplier:  
- AC input 115/230V  $\pm 10\%$  50...60Hz 10VA  
DC output 7.5V 420mA  
Batteries:  
- Battery case (optional) for 5x1.5V batteries or 5x1.2V 2000mAh

## CONSTRUCTION CHARACTERISTICS

**Measurement prism:**  
In synthetic sapphire

**Light source:**  
High efficiency LED electronically compensated

**Element of refractometric measurement:**  
High resolution CCD

**Element of temperature measurement:**  
Internal Pt1000

**Controls:**  
Keypad in scratch-proof polyester

**Display:**  
Backlit graphic LCD display 128x24 point

**Language:**  
Choice of 5 interface languages (English, German, French, Italian, Spanish) for the display of menus and messages

**Execution:**  
- AISI 304 Stainless steel  
- Protection IP65 (EN60529)

**Weight:**  
6 kg (13.2 lb)

**Sample volume:**  
1 cc min.

**Materials in contact with the process fluid:**  
- 316 AISI stainless steel  
- Synthetic sapphire  
- PTFE  
(others on request)

**Dehumidification:**  
The optical section of the unit is dehumidified by means of a Molecular Sieve desiccant cartridge

## ACCESSORIES

- Battery carrying case
- External table battery charger
- Graphic or continuous reel printer



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