

## Specification Bench Refractometer (S074)

**Bench Refractometer**  
**Product Code: VRFM330**



**Measurements Specifications**

Scales	°Brix and User Defined (100 scales configurable)
Range	0-100 °Brix, 1.32 – 1.58 RI
Resolution	0.1 °Brix, 0.0001 RO
Accuracy	±0.1 °Brix, ± 0.0001 RO
Other available Scales	Up to 50 available from preprogrammed standard scales
Automatic Temperature Compensation	ICUMSA, AG, None or User Defined
Reading Time (seconds)	Minimum 4 (Optional delay)
Working Temperature Range	10°C below ambient to 70°C
Temperature Sensor Accuracy	±0.03°C
Sample Temperature Stability	±0.05°C
Interface	2 x RS232, 1 x Parallel
Ambient Humidity Range	<90% RH
Order Code	22-30

**Physical Specifications**

Prism	Artificial Sapphire (12mm sample area diameter)
Prism Dish	316 stainless steel (85mm diameter) shallow profile
Sample Illumination	Light Emitting Diode (Life 100,000Hr +)
Wavelength	589nm
Temperature Control	Peltier
Display	High resolution 240 x 120 pixel LED (CCFL backlit)
Housing	Low Density Expanded Polyurethane Foam (chemical/acid resistant)

**Electrical Specifications**

External Power Supply	100 – 240V ~, 50-60Hz, 50mA
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**Software Specifications**

Printer Formats	24 column / CVS for LIMS
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**Primary Features**

Methods System	Configurable (methods with limits or simple “mode” operation)
Temperature Stability Checks	SMART, none and delay
User Zero/Span Capabilities	Configurable to any value
AG Fluid Compensation	Configurable
Acid Correction	
Density/oven offsets	
Drift Run Facility	
GLP	Date/ time/ batch/ operator
On-screen Language	French, German, Spanish, English

**Optional Accessories**

- Enhanced Protection Pack
- Water proof power supply
- Splash Cover
- Printer package & Interface Cables
- Calibration oils
- AG Calibration Fluids

Date of issue	29-03-17	Revision No.	001	Revised by	SB
Authorised by	S. Britton	Document No.	S074	Page 1 of 2	

### Instrument Compliance

Conforms to ISO/IEC Guide 22 and EN 45014  
CE Low Voltage Directive 72/23/EEC and the EMC Directive  
89/336/EEC

### Instrument Dimensions

Nett Weight 5.4Kgs  
DIM Weight (Packed) 6.0Kgs  
Customs Tariff 90275000

### FM300+ Refractometers

RFM300+ series refractometers are considered by many leading companies as the ultimate instrument for installation in demanding factory environments, as well as for use as a primary quality control tool. Since its original launch in 1992, over 5,000 models have been installed across the globe, and following a complete re-design in 2008, the RFM300+ series of refractometers still offers all the original design attributes but with a wider refractive index range, Peltier temperature control and a more versatile software structure. A shallow, easy-to-clean prism dish houses a single sapphire prism optical system protected by a sample presser that may also be used to instigate a measurement without the need to press the read button. A large sampling area on the prism surface allows measurement of not only homogenous fluids like juices, sodas, sauces and edible oils, but also difficult to read samples like fruit pulps and industrial resins. Intelligent software ensures rapid temperature response to changes in prism temperature, whilst the SMART temperature stability check makes sure that the result is displayed only when the sample is stable. A Methods system allows rapid configuration of instrument setup and provides limit checks against stored data as well as product-specific offsets and acid corrections. Over 700 readings may be stored within the instrument memory and the onscreen menu may be displayed in a number of different languages. The instrument is available in two formats, the most popular being the 2-decimal place RFM340+ refractometer, which, following improvements to the thermodynamic control system, now has an increased measurement performance between 0-20°Brix and so reduces potential measurement error in the critical range covering finished products like the aforementioned juices and sodas. By improving the performance at the low end of the scale, users may now trim syrup dilution to the absolute minimum without the risk of breaching manufacturing specifications. SG scales for sucrose are also common to the series. These scales may be used to express the relative density of pure sucrose solutions and, when used in conjunction with a product offset from within the Methods system, can express finished beverages as an equivalent SG. By doing so, contract packers of beverage products may now use a refractometer in situations where density °Brix or SG is dictated as the method of analysis, whilst retaining all the measurement advantages held by a refractometer. Additionally, all RFM300+ series refractometers have the ability to display the measured result in two scale formats such as a Brix value based on SG alongside the original refractive index measurement. Optional software is also available at point of order to allow use in an environment controlled by FDA regulation 21 CFR Part 11, as well as optional devices that allow use in wet and humid factory environments, offering ultimate protection under the worst of environmental conditions

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 29-03-17



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Authorised by	S. Britton	Document No.	S074	Page 2 of 2	