

# RFM990-AUS32 Refractometer

**High accuracy Peltier temperature controlled refractometer specifically designed for use by manufacturers of Diesel Exhaust Fluids such as Aqueous Urea Solutions (AUS-32) in accordance with ISO22241-2**

- **Very High Accuracy Refractive Index**
- **Very High Temperature Stability**
- **Conforms to ISO 22241-2**



**Bellingham  
+ Stanley**

# RFM990-AUS32 Refractometer

## Characteristics:

- Conforms to ISO 22241-2
- Highest accuracy ( $\pm 0.00002$  RI)
- Highest stability ( $\pm 0.01$  °C)
- Peltier temperature control
- Urea Scale
- Urea temperature compensation
- Kalrez® gasket
- IP65 housing
- Low maintenance LED light source
- RFID user identity/clearance
- Audit Trails
- 700 stored Results

## Options:

- High accuracy CRM's
- Enhanced Protection Packs
- Printers
- Interface cables
- Flow cells

## Free Software Downloads!

- Remote control
- Data acquisition
- User Scale creation
- User Temperature Compensation creation

## Other AUS-32 Products!

- Hydrometers for "truck testing"
- Hand refractometers for field use
- Oil in water test strips
- Process refractometer for manufacturers

The RFM990-AUS32 is an extremely high accuracy Refractometer specifically designed to meet the stringent needs of the chemical manufacturing industry.

Of particular interest is its compliance with the strictest of ISO procedures in relation to the manufacture of Diesel Exhaust Fluids, such as AUS and Adblue®.

ISO22241-2 dictates the highest level of measurement must be achieved under the tightest limits of temperature control. The RFM990-AUS32 is the only refractometer on the market that complies in terms of refractive index and temperature measurement/control specifications. In addition, the instrument is fitted with specific Urea scales and temperature compensation, so even the slightest movement in temperature will be corrected.

Being part of the RFM900 series of refractometers, user of the RFM990-AUS32 will also benefit from other unique features such as RFID user identity/clearance, significant on-board data storage, calibration audit trails and a methods system that makes changing instrument parameters a simple two-button process. Full details of these features can be seen by visiting the RFM900 section of the Bellingham + Stanley Internet site.

No matter how good the instrument performance, without good verification, it is not possible to confirm the instrument meets the specification laid down in ISO22241-2. Bellingham + Stanley offer a new UKAS Certified Reference Material for this purpose at precisely the correct RI value.

Specification	
Scales	
Refractive Index (RI)	1.33 – 1.70
% Urea mass/mass (AUS32)	0-40
Resolution	
Refractive Index	0.00001
% Urea mass/mass (AUS32)	0.01
Accuracy	
Refractive Index	$\pm 0.00002$
% Urea mass/mass (AUS32)	$\pm 0.02$
Other Scales	User defined – Urea % (AUS32), Adblue®, FSII etc. or custom scales, loaded by PC software
Automatic Temperature Compensation	Urea, ICUMSA (sugar), AG, None or User Defined
Temperature Control	Internal Peltier Device
Temperature Accuracy	$\pm 0.02$ °C (at 20 °C)
Temperature Stability	$\pm 0.01$ °C (at 20 °C)
Working Temperature Range	0 °C or 10°C below ambient which ever is the greater to 70°C (for AUS32 performance – 20°C is mandatory)
Temperature Stability Checks	None/delay time/repeatability/Smart (independently set by Method)
Sample Temperature Range	20 to 30 °C
Reading Time (seconds)	4.5
Interface	1 Parallel (printer) 2 x serial (RS232)
Ambient Humidity Range	< 90% RH

Physical Specification	
Prism	Artificial Sapphire
Prism Dish	316 Stainless Steel
Interfaces	Parallel (printer), 2 x RS232 Serial
Sample Illumination	Light Emitting Diode (life 100,000hr +) 589nm
Case Material/Sealing	Polyurethane Foam/ IP65
Prism Gasket	Kalrez®

Order Code	
22-71	RFM990-AUS32 Automatic Digital Refractometer for high accuracy measurement in accordance with ISO 22241-2 – Analysis of Aqueous Urea Solutions.
18-50	Certified Reference Material for AUS-32 refractometer. 1.38290 RI equivalent to 32.5% AUS. (K=2: $\pm 0.000011$ RI), 15ml dropper bottle, 6-weeks shelf life. Contract Supply only. Includes UKAS Certificate of Calibration.

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