



Digital Refractometers

RFM SERIES REFRACTOMETERS FOR LABORATORY AND FACTORY USE

Precision Measurement

of concentration in laboratory or factory environments

What do we mean when we talk about refraction, Refractive Index and refractometers?

When light passes from one transparent medium to another it bends; we call this effect "*refraction*". The speed at which the light travels will change depending on the parameters of the materials. This principle can be seen when looking at an oarsman on the river with his paddle dipping into the water, or a teaspoon in a glass as seen below. In nature, refraction can be seen as sunlight passes through raindrops creating beautiful rainbows.

The ratio or change in the speed of light is called *Refractive Index* and instruments that measure this are called *refractometers*. The refractive index of a liquid is related to its concentration and so a refractometer can display the concentration in suitable units, such as °Brix (sucrose), glucose, sodium chloride, urea and urine specific gravity to name just a few.

This measurement is used throughout industries to check the concentration of liquids and viscous samples.



100 Years of Excellence

Who are Bellingham + Stanley?

In 1915, Leonard Bellingham and Frank Stanley were making their mark as pioneers in the development of high quality optical instruments. Over one hundred years later the company they founded is recognised as one of the world's leading manufacturers of refractometers and polarimeters.

At key stages in its history, Bellingham + Stanley® achieved notable advances in the fields of refractometry and polarimetry, producing innovative designs and breakthroughs in technology that are used extensively around the world to this day. This tradition of excellence and innovation continues today at the purpose-built manufacturing facility in Tunbridge Wells, United Kingdom and through its dedicated global Sales & Service Centres.

Continuous research and development means new designs continue to emerge, whilst rigorous testing and calibration procedures ensure instruments are manufactured to the high standards set by Leonard Bellingham and Frank Stanley over 100 years ago.

Xylem

Having been family owned for almost a century, Bellingham + Stanley is now part of Xylem Lab Solutions - a leading provider of laboratory instrumentation. Xylem Lab Solutions' instruments are relied upon every day across more than 150 countries for analysis, measurement and monitoring.

Customer Support

Bellingham + Stanley prides itself on first class customer service before, during and after each sale. Whether dealing directly with Bellingham + Stanley's UK based customer service team, or indirectly through one of many approved distributors you can be certain of a level of service worthy of its 100 years heritage.

Verification & Calibration

On-site instrument verification contracts are available. This service can help keep your instrument delivering accurate results consistently. Service contracts with general maintenance and verification of instrument performance are performed using UKAS certified samples.

Bellingham + Stanley's commitment to quality and customer service ensures that customers throughout Europe and beyond can benefit from services via an approved local distributor. All verification, validation, commissioning and calibration of instruments is carried out using traceable standards.

Other Instrumentation

Bellingham + Stanley is a manufacturer of high quality digital refractometers, polarimeters and density meters used globally in industries including food & beverage, chemical, petrochemical, and pharmaceutical.



Common Features

Easy to use software & intuitive instrumentation for your laboratory

Bellingham + Stanley prides itself on easy-to-use instrumentation with intuitive software. This harmonious design language can be seen throughout ADP Polarimeters, DSG Density Meters and RFM Refractometers offering customers a consistent look and feel.

The joined-up thinking seen throughout Bellingham + Stanley's high quality engineering means that the RFM Series of refractometers sport a great touchscreen on T-Series models (usable with PPE gloves), as well as fast networking abilities, USB functionality for optional peripheral devices and exporting of data (via PDF/.CSV/.XML) to USB drives. Large capacity memory means room for over 10,000 readings without the need to purchase costly storage.

Our instrumentation stands out from the crowd with ocean-blue durable plastic casing, reminiscent of Xylem's water values, and are hardy enough to withstand the rigors of a busy laboratory or factory. All RFM Refractometers feature a flat, easy-clean prism dish for samples, allowing for fast and accurate readings as well as facilitating simple daily maintenance between measurements.

Method System

Methods are a simple way to get to the measurements you require, fast. This effective system simplifies the reading and calibration process with "one touch recipes" for common measurements.

Fast Read Time

Results displayed in rapid time, with readings in less than 5 seconds depending on model and mode selected. Smart temperature stabilisation is activated prior to reading to give the most accurate results in super-fast time.

Durable Construction

Designed and manufactured in the UK to the highest standards for over 100 years. All RFM Refractometers are built using premium quality parts, durable ABS casing and have been designed for accuracy and efficiency.



Method System

The beating heart of our products

At the heart of all Bellingham + Stanley digital benchtop instrumentation is the Method System. A Method is a predetermined, named set of measurement criteria that can be accessed at the touch of a button, allowing customers to access their desired settings instantly and consistently. A single Method includes all the settings necessary for the instrument to take and check a particular sample, including: scale, temperature compensation type, temperature set point, stability type, limit check and more.

If a workflow requires a number of products with different reading requirements, then a Method can be added for each of them. For example, in the food and beverage industry a range of individual soft drinks could be regularly measured and the display can show whether each product is within its set tolerance. Alternatively, within pharmaceutical, Methods may be created to fulfil different Pharmacopoeia requirements or Monographs.

When working within strict procedural conditions, such as FDA regulations 21 CFR Part 11, using the Method system will offer tighter security and peace of mind if so desired. Once set, Methods access only allows for a change of Method. Only users with higher "setup security rights" are able to change the measurement settings of a Method. This will ensure an analysis is performed the same way every time.

RFM Refractometers come fully equipped with a library of commonly used Methods but for those that need to refine a Method or create a completely new Method for regular use, this is also possible. User created Methods (along with other settings) can be copied to other RFM Refractometers via USB stick.

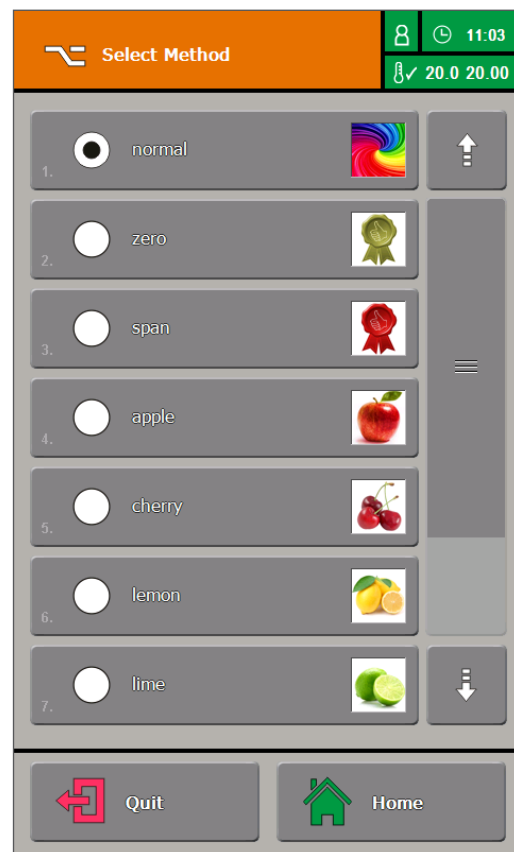


Fig 1. RFM-T GUI (Method selection)

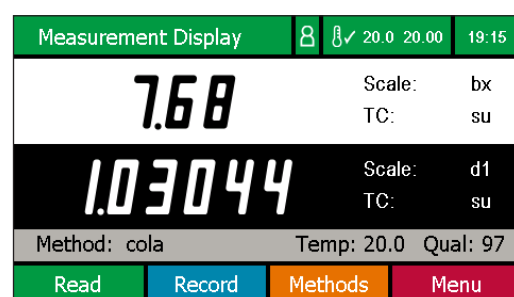


Fig 2. RFM-M GUI (Dual screen display)



Customisation

RFM-T touchscreens offer bespoke welcome screens, contact & help information & more for your business.

M-Series Refractometers

The RFM-M Series Refractometers are robust, fully automatic digital refractometers visibly defined by the presence of a tactile keypad for operation. Subdivided between the 700-Series and 300-Series, these instruments offer variety and great value allowing you to choose depending on your application and temperature control requirements. The entry level instrument, the **RFM712-M** digital refractometer, is especially suited for use within fruit processing plants commonly found in the wine, tomato and sugar industry. The **RFM742-M** and **RFM340-M** digital refractometers offer higher resolution and are ideal for use in beverage, dairy, and confectionery manufacturing.

All M-Series refractometers feature an artificial sapphire prism mounted in an easy clean stainless steel dish with PEEK spill barrier and an outer casing that is sealed and shaped to withstand moisture ingress – great for use in a harsh factory environment or busy laboratory with high humidity (<90%). RFM Refractometers use an LED light source for over 100,000 hours of use.

Along with primary Brix and RI scales there are over 20 pre-programmed scales as standard. These include HFCS (3), Sugar (4), Honey, NaCl, Wine Must (5), Urine SG (3), Glycol (2), Urea, FSII and more; plus customer programmable user scales via PC.

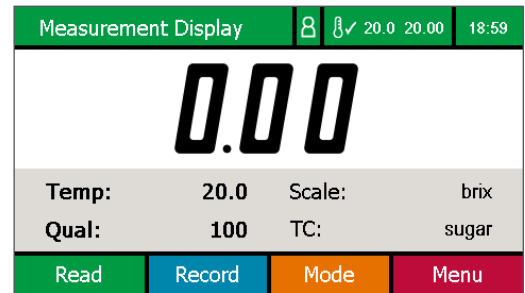


Fig 3. RFM-M GUI (Full colour "Modern" read screen)

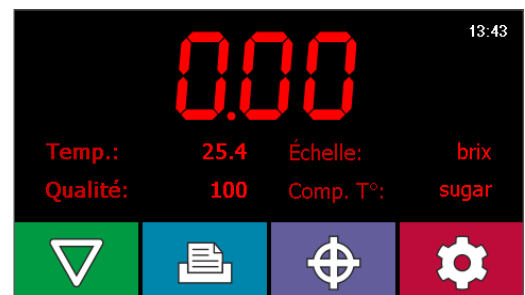


Fig 4. RFM700-M GUI ("Classic" read screen)



Feature Key

- 21 CFR Part 11 Compliant 
- Peltier Temperature Control 
- RFID User Identity 
- Factory Friendly 
- Connectivity (incl. USB) 
- High Definition Touchscreen 

RFM700-M Refractometers

RFM700-M Series refractometers are robust, low cost, fully automatic instruments that are ideally suited to the food, sugar and beverage industries but can also be used in many other non-food applications where temperature control is not required.

Commonly, the RFM700-M Series refractometers are supplied to operate in the °Brix scale with results temperature compensated to 20°C in accordance with ICUMSA®. Additional user scales provide measurement in different formats such as Refractive Index (RI), various wine, urine specific gravity & automotive scales as well as allowing custom scales to be loaded in accordance with product data.

Inherent to the robust design is an artificial sapphire prism mounted in an easy-clean stainless steel dish and an outer casing that is sealed and shaped to withstand sample spillage and moisture ingress. This, together with the external power supply and bright 4" high definition full colour display, makes the RFM700-M ideal for use in busy laboratories, Tare Houses, or harsh factory environments. The instrument can also save and/or print results and be connected to a printer or laboratory PC, with results being output in standard print, CSV or secure PDF formats.

Other software features include special AG temperature compensation that facilitates a SPAN calibration when using AG calibration fluids, and a time delay before reading, ensuring reliable results every time.



Key Features

- Alphanumeric keypad
- Classic red or modern colour display
- Multiple scale
- Audit trail (date, time, batch & operator)



Temperature Control

The **RFM700-M Series** uses Automatic Temperature Compensation (ATC). For Peltier temperature control choose **RFM300-M Series** refractometers.

RFM M-Series Specifications

Specifications	RFM712-M	RFM732-M	RFM742-M	RFM330-M	RFM340-M
Order Code	19-00	19-10	19-20	19-35	19-45
Scales					
°Brix	0-50	0-100	0-100	0-100	0-100
Refractive Index	1.33-1.42	1.33-1.54	1.33-1.54	1.32-1.58	1.32-1.58
User Defined (RI equivalent)	2	2	2	100	100
Resolution					
°Brix	0.1	0.1	0.01	0.1 / 0.01	0.01/0.001
Refractive Index	0.0001	0.0001	0.00001	0.0001 / 0.00001	0.00001 / 0.000001
Accuracy					
°Brix	±0.1	±0.1	±0.04	±0.04	±0.010 (<30) / ±0.030 (>30)
Refractive Index	±0.0001	±0.0001	±0.00005	±0.00005	±0.00002 (<1.38) ±0.00004 (>1.38)
Precision (Reproducibility)					
°Brix	± 0.05	± 0.05	± 0.01	± 0.01	± 0.005
Refractive Index	± 0.00005	± 0.00005	± 0.00001	± 0.00001	± 0.000005
Temperature Range					
Ambient	5-40 °C			5-40 °C	
Sample	5-95 °C			5-95 °C	
Peltier	ATC only			0 °C or 10 °C below ambient whichever is greater to 80 °C	
Temperature Compensation					
Sucrose (°Brix)	5-80 °C				
AG Fluids (°Brix)	10-40 °C				
User	Simple coefficient (units/ °C) or polynomial function				
Temperature Sensor Accuracy	±0.05 °C	±0.05 °C	±0.05 °C	±0.03 °C	±0.03 °C
Temperature Stability Checks	None/Delay Time (programmable in seconds)			None/Delay Time/Repeatability/Smart	
Peltier Control Stability	ATC only	ATC only	ATC only	±0.05 °C	±0.05 °C
Prism Seal	Silicone/Resin	Silicone/Resin	Silicone/Resin	Silicone/Resin	Silicone/Resin

T-Series Refractometers

The RFM-T Series digital refractometers have been designed by experts with the world's food, beverage, chemical, industrial and pharmaceutical industries in mind.

Each digital refractometer in the RFM-T Series is fitted with a Peltier temperature control system and precision optics. At the heart of the RFM-T Series is a precision engineered flat prism surface for fast, accurate readings and easy-cleaning.

Inherent to the design of the RFM-T Series digital refractometers is a high definition, capacitive touchscreen display that facilitates operation in laboratory and factory environments, even when wearing PPE gloves. The 7" touchscreen is clear, colourful, durable, and simple to use.

Touchscreens provide users with direct navigation and accessibility through fingertip control, removing the need for learning which ambiguous button does what. Thanks to the large 7" screen and user-friendly software these instruments even cater for a variety of languages, customisation, on-screen help and more. Simply put - touchscreen technology from Bellingham + Stanley makes life easier.

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 corrections, such as citric acid content for orange juice or coffee solids daily offsets. Over 8,000 readings may be stored within the instrument memory and the on-screen menu may be displayed in a number of different languages.

Standard features include RFID User Clearance, electronic signatures and audit trails that facilitate use in a FDA regulated environment (21 CFR part 11) as well as enhanced functionality via the USB interfaces such as Back-up & Clone and Print to Secure PDF.

A dual display function allows two different scales to be displayed simultaneously, such as Brix and equivalent sucrose specific gravity (SG).

Along with primary Brix and RI scales there are over 20 pre-programmed scales including HFCS (3), sugar (4), sucrose SG (3), NaCl, Butyro, Wine Must (5), Urine SG (3), PHR-MEAN and more; plus customer programmable user scales via PC.

The **RFM990-T (AUS)** features AUS32, DEF, and FSII scales.

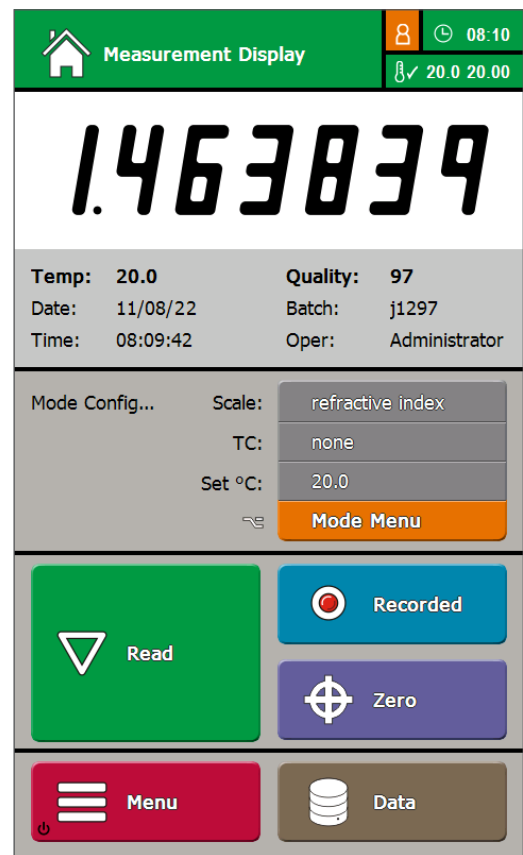


Fig 5. RFM-T GUI (Read screen showing a result)



RFM300-T Refractometers

With a wide measuring range and Peltier temperature control of the flat, easy clean prism, the RFM300 Series refractometers offer extremely rapid temperature stabilisation of the sample, allowing readings to be taken quickly and reliably in any scale including Brix, Refractive Index (RI) or up to 100 user defined scales.

The large sampling area on the prism surface allows measurement of not only homogenous fluids like sodas, and edible oils, but also difficult to read samples like fruit juices, pulps, sauces and industrial resins.

The instrument is available in two variants, with the 3-decimal place Brix **RFM340-T** benefiting from increased measurement performance between 0-30 °Brix. By improving the performance at the low end of the scale, potential errors are much reduced in the critical range for finished products such as juices and sodas. This will also allow users to reduce 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 can 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.



- Touchscreen
- Easy clean prism
- High accuracy ($\pm 0.01^\circ\text{Brix}$)
- Smart temperature stability
- Print to secure PDF
- Dual scale display



Calibration Solutions

See how easy it is to calibrate the RFM-T Series with calibration solutions from Bellingham + Stanley.

RFM T-Series Specifications

Specifications	RFM330-T	RFM340-T	RFM960-T	RFM970-T	RFM990-T (AUS)
Order Code	19-30	19-40	19-60	19-70	19-73
Scales					
°Brix	0-100	0-100	0-100	0-100	0-100
Refractive Index	1.32-1.58	1.32-1.58	1.30-1.70	1.30-1.70	1.33-1.70
User Defined (RI equivalent)	100	100	100	100	0-40 (% Urea m/m)
Resolution					
°Brix	0.1 / 0.01	0.01/0.001	0.1	0.01/0.001	0.01 (% Urea m/m)
Refractive Index	0.0001 / 0.00001	0.00001 / 0.000001	0.0001	0.000001	0.000001
Accuracy					
°Brix	± 0.04	$\pm 0.010 (<30) / \pm 0.030 (>30)$	± 0.1	± 0.02	± 0.02 (% Urea m/m)
Refractive Index	± 0.00005	$\pm 0.00002 (<1.38)$ $\pm 0.00004 (>1.38)$	± 0.0001	± 0.00002	± 0.00002
Precision (Reproducibility)					
°Brix	± 0.01	± 0.005	± 0.05	± 0.005	± 0.005 (% Urea m/m)
Refractive Index	± 0.00001	± 0.000005	± 0.00005	± 0.000005	± 0.000005
Temperature Range					
Ambient	5-40 °C		5-40 °C		
Sample	5-95 °C		5-95 °C		
Peltier	0 °C or 10 °C below ambient whichever is greater to 70°C		0 °C or 10 °C below ambient whichever is greater to 80°C (for AUS32 performance - 20 °C is mandatory)		
Temperature Compensation					
Sucrose (°Brix)	5-80 °C				
AG Fluids (°Brix)	10-40 °C				
User	Simple coefficient (units/ °C) or polynomial function				
Temperature Sensor Accuracy	± 0.03 °C	± 0.03 °C	± 0.03 °C	± 0.03 °C	± 0.02 °C (at 20 °C)
Peltier Control Stability	± 0.05 °C	± 0.05 °C	± 0.05 °C	± 0.05 °C	± 0.01 °C (at 20 °C)
Temperature Stability Checks	None/Delay Time/Repeatability/Smart (independently selectable by Method)				
Prism Seal	Silicone/Resin	Silicone/Resin	Kalrez® (FDA/USP Class VI compliant)		



- Widest RI range
- Highest precision (± 0.000005 RI)
- Conforms to ASTM D 1218, 1747, 2140 & 5006
- Material traceability certificate available

- USP Class VI / FDA materials
- MEAN Method (USP/EP/BP)



RFM900-T Refractometers

The RFM900-T Series builds upon the fantastic features of the RFM300-T Series whilst offering a wider measuring range and enhanced durability for the most demanding applications.

Featuring a wide measuring range up to 1.70 RI and capable of measuring to six decimal places, the RFM900-T Series refractometers are ideally suited for use in the chemical, petrochemical, pharmaceutical, flavours and fragrance industries as well as for academic research. The RFM900-T Series combine the latest opto-electronic principles with durability and ease of use.

A low-profile sample dish and non-contact presser makes sample application and cleaning easy; whilst the use of a Kalrez® gasket and artificial sapphire prism facilitates placement in the harshest measurement environments. Wetted areas are manufactured using USP Class VI materials for flow through applications.

The instruments conform to a number of industry measurement standards and offer operational features including audit trails, RFID user clearance and use without an intermediate PC, that allow use in an environment controlled by FDA regulation 21 CFR Part 11.

RFM990-AUS32 Refractometer

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 urea-based NOx reduction agents used as Diesel Exhaust Fluids, also known as DEF, AUS32 and AdBlue®.

ISO 22241 dictates the highest level of measurement must be achieved under the tightest limits of temperature control. In addition to the compliance with this norm, the **RFM990-AUS32** is fitted with specific Urea scales and temperature compensation as well as an AUS32 Method that allows input of both the F factor and biuret content of the solution that is included in the analysis.

Being part of the RFM900 Series of refractometers, users of the **RFM990-AUS32** also benefit from common features such as RFID user identity/clearance, on-board data storage, limit checking and audit trails.



- Petrochemical model
- Premium performance
- Conforms to ISO 22241

- AUS32 Method (input criteria)



Printers, Filters & more

A range of printers, filters and other accessories compatible with the RFM digital refractometers are available from all good distributors.



AdBlue® is a registered trademark of the VDA Verband der Automobilindustrie e.V.
Kalrez® is a registered trademark of DuPont Performance Elastomers LLC.

Refractometer Workflow Accessories

Flowcell accessories from Bellingham + Stanley provide your refractometer processes with a means of semi or fully automated sample application and prism washing, creating more efficient workflows for your laboratory or factory.

For businesses that regularly measure volatile samples, RFM Refractometers with flowcell accessories can reduce waste, and minimise exposure by eliminating evaporation from the measuring process.

To find out if your RFM Refractometer is suitable for flowcell accessories or to enquire about a complete flow-through system you can contact your distributor or Bellingham + Stanley Customer Care team today.

Bellingham + Stanley's flowcell accessories offer inline multi-instrument configuration, useful within flavours, fragrances and essences applications. They can also provide connectivity to an auto-sampler for efficient automation to processes.

Flowcell Key Features

- Semi and fully automated means of sample application and removal
- Provides inline multi-instrument configuration within flavours, fragrances, essences & more
- Auto-sampler connectivity
- Eliminates evaporation - minimises risk of exposure to volatile samples
- Wetted areas are manufactured using USP Class VI materials

Macro. Micro. Flow

Micro flowcells are used to transfer volatile, or limited volume, low viscosity liquids as part of a single or multiple instrument analysis, often incorporating an autosampler and pump within the beverage, brewing, flavours, fragrance or essential oil industries.

Macro flowcells are used where sample viscosity limits the use of micro-flowcells. They are also used for connection to a pilot plant or small batch process line - where a fully integrated process refractometer may not be suitable.

Where larger volumes of sample are available, a funnel flowcell may be used. These negate the need to clean the instrument prism between sample measurements, providing a rapid sample turnaround, such as in Tare Houses of grape growers' co-operatives and sugar mill receiving stations.



Calibration



Certified Reference Materials

Regular verification of laboratory instrumentation is of primary importance in a modern manufacturing facility, not only for reasons of quality control but also as an assurance of plant efficiency.

Depending on the instrument type, application and traceability requirement, a choice can be made from a number of Certified Reference Materials offered by Bellingham + Stanley that may be used to verify almost any make of refractometer or polarimeter. All CRMs are manufactured to the highest standards and are certified in accordance with ISO 17025.

AG Fluids

Ideal for use where verification/calibration at the lower end of the °Brix or refractive index scale is required. AG fluids are despatched with at least 12-months validity and when purchased as a 'multi-pack' offer excellent value for money as the 'per bottle shipping cost' is significantly reduced.

Calibration Oils

Primarily used to verify instruments that operate over a wide refractive index range and for specific applications such as within the edible oil industry, careful consideration to temperature must be adopted when using calibration oils due to their high coefficient. For optimum performance, temperature control should be applied to the instrument being verified or alternatively, use of the RI/°C table/calculator should be made.

Sucrose Solutions

Sucrose Solutions are an extremely easy to use medium for verifying and calibrating refractometers measuring in the °Brix scale, as no special consideration is required when testing instruments at ambient temperature fitted with ATC.

Sucrose Solutions are typically supplied in 15ml plastic dropper bottles complete with Certificate of Calibration but may also be supplied in a larger quantity for high volume users or for customers wishing to verify the performance of density meters operating in the °Brix scale. The Certificate of Calibration provides values for sucrose in %w/w, °Brix and refractive index as well as giving detail about traceability and uncertainty.



Keeping In Line With Regulations

What is 21 CFR Part 11?

FDA Regulation Title 21 CFR Part 11 (also known as 21 CFR 11) Electronic Records/Electronic Signatures, is the part of the Code of Federal Regulations that establishes the United States Food and Drug Administration (FDA) regulations on electronic records and electronic signatures. Specifically, 21 CFR 11 defines the requirements for submitting documentation in electronic form and the criteria for approved electronic signatures.

Who needs to comply?

All FDA-regulated industries, which includes pharmaceutical, production of medical devices, food & beverage manufacturers and cosmetics companies, must comply with 21 CFR 11. Computer systems (including analytical instruments with onboard computers) which store or produce data to make quality control decisions, or reporting data for the FDA must comply with 21 CFR 11. This includes any laboratory results used to determine quality, safety, strength, efficacy, or purity. In manufacturing environments, this includes data used to make decisions related to product release and product quality.

Bellingham + Stanley has designed a selection of its instruments to help customers easily comply to regulations. The RFM900-T Series refractometers offer a wealth of benefits for users working in industries with strict procedures and processes.

Key Benefits

- Compliance without an intermediate PC
- Server synchronised clock to prevent data tampering
- Multi-reading PHR Method for batch measurement
- Print to Secure PDF with custom header
- Electronic signatures including multi-verification (Submitter > Reviewer >> Approver)
- XML output strings with encryption & MD5 check for easy connection to LIMS/Server
- Configurable users enforcing unique login & signatures
- Full instrument configuration audit trail
- Full validation documentation, service & support

"By removing the need for an intermediate PC, our 21 CFR 11 compliant refractometers can deliver great performance simply and efficiently."



Read more online

Read our blog to learn how our products can help you comply to regulation 21 CFR Part 11.

Selection Guide

Features	RFM700-M	RFM300-M	RFM300-T	RFM900-T
Brix / Refractive Index / User Scales	●	●	●	●
High Definition Touchscreen	—	—	●	●
Dual Scale Display Function	—	●	●	●
Equivalent SG Scale for Beverage	—	●	●	—
High RI Range	—	—	—	●
Peltier Temperature Control	—	●	●	●
Delay Before Reading	●	●	●	●
SMART Temperature Stability	—	●	●	●
Presser	—	●	●	●
Continuous / Auto-read	●	●	●	●
Zero Calibration at any value < Span	●	●	●	●
Calibration & Configuration Audit Trail	—	●	●	●
On-board Multi-lingual Menu Structure	●	●	●	●
Installation Wizard	●	●	●	●
Security (Password)	●	●	●	●
Facilitates 21 CFR Part 11	—	—	●	●
RFID User Clearance	—	●	●	●
Store Data (>8,000 results)	●	●	●	●
View Data	—	●	●	●
Output Data	●	●	●	●
GLP Printout (Date/Time)	●	●	●	●
Secure Data Exchange	●	●	●	●
Methods System	—	●	●	●
Mean Method (USP/EP/BP)	—	●	●	●
Petroleum Method ASTM D 2140, 1218, 1747	—	—	●	●
Coffee Method	—	●	●	●
Beverage Method Citric Acid Correction, Apparent Brix/SG	—	●	●	—
Flow Cell Ready	—	●	●	●
High Accuracy "Urea" option	—	—	—	●
Remote PC operation	●	●	●	●

Selection Guide

Code	Flowcell Accessories	RFM700-M	RFM300-M	RFM300-T	RFM900-T
19-83	RFM300 micro flowcell, polyacetyl, UNF 28/nozzle	—	●	●	—
19-84	RFM300 macro flowcell, polyacetyl, UNF 28/nozzle	—	●	●	—
19-85	RFM300 funnel flowcell, polyacetyl, UNF 28/nozzle, 100mm (diameter) stainless steel funnel and anti-syphon tube	—	●	●	—
19-91	RFM900 micro flowcell, PEEK, UNF 28/nozzle	—	—	—	●
19-92	RFM900 macro flowcell, PEEK, UNF 28/nozzle	—	—	—	●
75-600	Material Certificate for wetted components	—	—	—	●



Code	Peripherals & Cables	RFM700-M	RFM300-M	RFM300-T	RFM900-T
55-14	CBM-910 Dot Matrix Printer - Serial: UK/Euro/US 110-230V	●	●	●	●
55-18	Thermal printer USB: 110-240V, 50/60Hz	●	●	●	●
54-02	Serial Cable for CBM910 Serial printer	●	●	●	●
55-85	USB to RS232 Adaptor	●	●	●	●
55-82	Barcode Reader - USB	●	●	●	●
55-86	USB Mini Keyboard	●	●	●	●
55-88	USB Hub	●	●	●	●



Code	Spare Parts	RFM700-M	RFM300-M	RFM300-T	RFM900-T
19-88	Contact Presser, polyacetyl, RFM300-M/T, for Viscous Samples	—	●	●	—
19-98	Contact Presser, PEEK, RFM900-T, for Viscous Samples	—	—	—	●
19-201	RFM-T/M Spare Filter (12 pk)	—	●	●	●
19-204	Touchscreen Protector	—	—	●	●
19-203	Touchscreen Stylus	—	—	●	●
22-071	RFID tags (3 pk)	—	●	●	●
22-072	RFID tags (10 pk)	—	●	●	●
55-250	Waterproof Power Supply (IP65)	●	●	●	●



Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

Bellingham + Stanley is part of Xylem Lab Solutions and is a leading provider of refractometers, polarimeters and density meters.

Xylem Lab Solutions' global brands have been leaders in the laboratory instrumentation market for decades, and are relied upon every day across more than 150 countries. Working in true partnership with our clients, we listen, learn and adapt to individual needs, offering deep application expertise built upon our long history of innovation in instruments and services. Our solutions for analysis, measurement and monitoring help enable many of today's modern laboratories and industrial processes, and provide our customers the trusted and high performing solutions they need to succeed.

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Bellingham + Stanley, a Xylem brand, operates an Integrated Management System complying with ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018.



The United Kingdom Accreditation Service (UKAS) is one of the signatories to the International Laboratory Accreditation Co-operation (ILAC) Arrangement for the mutual recognition of calibration certificates.



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