

Refractometers & Polarimeters for the sugar industry



**Bellingham
+ Stanley**

a xylem brand

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Bellingham + Stanley has been manufacturing instrumentation since 1915 and as a result has been closely associated with the sugar industry for over a Century.

This pedigree continues with the introduction of our latest models to compliment the exiting range of refractometers and polarimeters already available to the industry. Whether the instrument is a simple handheld refractometer for checking sugar cane juice in the field, a high precision refractometer capable of measuring Brix to three decimal places or a purity system for the Tare House, Bellingham + Stanley continue to offer high quality products at extremely attractive prices.

This document is a review of the instrumentation available to the sugar industry through a carefully selected network of regional Xylem offices, local distributors or directly from our Sales & Service facilities in the UK and USA.

Refractometers and Polarimeters for the Sugar Industry



Eclipse 0-30 Brix Refractometer	Code 45-02
Eclipse 0-50 Brix Refractometer	Code 45-03
Eclipse 45-80 Brix Refractometer	Code 45-05
Eclipse 72-95 Brix Refractometer	Code 45-06
Eclipse Spare Illumination Flaps	Code 45-003

Handheld Refractometers - Eclipse

Handheld refractometers are used in many different industries to provide the sugar ripeness of fruits in the field or rapid concentration measurements when there is no laboratory nearby to provide a result. In fact, Bellingham + Stanley were one of the first manufacturers to provide a handheld refractometer when they introduced the first "pocket" refractometer in the mid 1930's to measure sugar cane juice in the field prior to harvest.

Today, the UK manufactured Eclipse range of instruments is considered as one of the most robust instruments on the market, providing one of the clearest scale views.

- Models covering the full Brix range
- All metal construction for robustness
- Thick rubber hand-grip for easy handling and acting as a supreme thermal barrier
- IP65 rated to protect against moisture and dust
- Certificate of Calibration showing serial no. and traceability to ICUMSA/NIST



OPTi Brix 0-54 Refractometer	Code 38-02
OPTi Brix 40-95 Refractometer	Code 38-33
OPTi Brix 0-85 Refractometer	Code 38-84
OPTi Brix 0-95 Refractometer	Code 38-A1
OPTi Ethanol 0-20 Refractometer	Code 38-39

Handheld Refractometers - OPTi®

The most convenient method of obtaining sugar juice measurements in the field is by way of the OPTi digital handheld refractometer due to its small size, robustness and ease-of use. Automatic temperature compensation provides for high precision measurement across part or all of the sugar range without the need to take ambient or sample temperature in to consideration; providing a Brix accuracy to +/- 0.2 Brix every-time.

- Small "hand-print" for easy carriage in the field
- Tough ABS case with stainless steel prism dish and rubberised keypad for longevity
- Temperature compensated Brix scales including a 0-95 version
- Ethanol 0-20% model with ethanol based ATC for added precision
- IP65 rated to protect against moisture and dust
- Certificate of Calibration showing serial no. and traceability to ICUMSA/NIST



RFM712-M 0-50 Refractometer	Code 19-00
RFM732-M 0-100 Refractometer	Code 19-10
RFM742-M 0-100 Brix Refractometer (2-dp)	Code 19-20
Waterproof Power Supply (IP65)	Code 55-250

Digital Refractometer - RFM700-M Series

Offering automatic temperature compensation and a choice of measurement range and accuracy, the RFM700-M series of instruments is ideal for use in the sugar industry for measuring all kinds of sugars and at any part of the process. Now having many features in common with the top selling RFM300 series instruments, the RFM700-M instruments offer excellent value for money where temperature control is not required. A password protected setup menu provides additional software facilities such as a delay time before reading to allow for sample stabilisation and span calibration. The RFM700-M models have full connectivity via USB, Ethernet & serial RS232 for print functions or for connecting to a polarimeter as part of a low cost purity system.

- Simple to use refractometers for laboratory, mill, refinery or factory
- Automatic temperature compensated models capable of 2 d.p. across 0-100 Brix



- RFM330-T touchscreen Refractometer
Code 19-30
- RFM340-T touchscreen Refractometer
Code 19-40
- RFM330-M keypad Refractometer
Code 19-35
- RFM340-M keypad Refractometer
Code 19-45
- 75mm funnel flow (fitted to RFM300)
Code 26-53

Digital Refractometer - RFM300 Series

The RFM300 can be considered as the ultimate refractometer for the sugar industry. Latest RFM300 models come with either a touchscreen or tactile keypad user interface and feature internal Peltier temperature control devices that respond extremely rapidly to differing sample temperatures. Like the RFM700-M, the sapphire prism is housed in a flat stainless steel dish but with a non-contact sample presser that requires no cleaning between samples. Funnel flow-through versions available.

- Brix, RI, Sucrose SG in single or dual scale display formats
- 3 decimal place Brix between 0-20 (then 0.01 resolution 20-100)
- Peltier temperature control to 0.05 °C
- SMART temperature stability to ensure the highest precision measurement
- USB, Ethernet & RS232 connectivity for versatile factory or laboratory installation
- 8000 stored readings with audit trail of user and instrument configuration



- ADS435 standard Saccharimeter
(589nm) **Code 37-25**
- ADS455 standard Saccharimeter
(589nm with XPC) **Code 37-45**
- ADS438 NIR standard Saccharimeter
850nm) **Code 37-85**
- ADS435 Flow 200 Saccharimeter
(589nm) **Code 37-27**

Saccharimeters & Purity Systems - ADS Series

The latest ADS400 Series saccharimeters offer cost effective POL measurement with on-board sugar Purity for use in the sugar industry Tare House, factory or quality control laboratory. For rapid measurement in the Tare House or factory, ATC models are recommended but for those ultra-high precision measurements in the laboratory, instruments with XPC Technology offer low maintenance, on-board Peltier temperature control. All measured results are clearly visible on the instruments 4" (10cm) colour display with up to 8000 readings being stored, viewed and output to LIMS via csv or latest XML output. Standard lab versions with or without XPC Technology and funnel flow-through, ATC packages are available.

- LED light source (NIR or 589nm) and interference filter for easy maintenance
- Continual measurement and display of all parameters
- On-board, editable Purity calculations via simple Methods system
- ADS480 NIR versions available for lead-free measurement

Certified Reference Materials

Production facilities throughout the world rely on refractometers and polarimeters for quantity and quality control. No matter what the make or type of instrument, results are only as good as the calibration regime behind the measurement. Good laboratory practice (GLP) dictates that instruments should be kept in good working order, with regular calibration using traceable standards, a key part of instrument maintenance.



Bellingham + Stanley, through its UKAS accredited calibration laboratory No. 0834, offers a wide range of calibration materials for use with different instrument types and applications. These materials have been created and tested alongside Bellingham + Stanley's precision instruments but are suitable for use on other manufacturers equipment.

- Pure sucrose solutions weight/weight traceable to ICUMSA and NIST
- Long life, low Brix value, aqueous AG Fluids traceable to ICUMSA and NIST
- Long life, high Brix/RI value Calibration Oils traceable to ICUMSA and NIST
- Quartz Control Plates and Box Sets traceable to ICUMSA and PTB

Xylem

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

We're a global team unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

For more information on how Xylem can help you, please visit www.xylemanalytics.co.uk



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