

xylem



# Bellingham + Stanley

EXCELLENCE IN REFRACTOMETRY AND POLARIMETRY



**Bellingham  
+ Stanley**

a xylem brand

# 100 years of Excellence

## Who are we?

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 Sales & Service Centre in Atlanta, USA.

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 Analytics - a leading provider of laboratory instrumentation. Xylem Analytics instruments are relied upon every day across more than 150 countries for analysis, measurement and monitoring.

# Bellingham + Stanley

## Production

The Production Department adopts a forward-looking philosophy and constantly strives to improve working practices and efficiency. Bellingham + Stanley is proud of its highly skilled people and the factory facilities in Tunbridge Wells is equipped with state-of-the-art machinery.

A temperature-controlled test facility is dedicated to instrument calibration to ensure the highest possible accuracy and every instrument that leaves the factory is individually inspected.

## Research & Development

Rapidly changing technologies and increasingly stringent requirements of customers presents an ongoing and exciting challenge which Bellingham + Stanley's active Research and Development Department relish.

Innovation never rests - whilst Bellingham + Stanley customers experience the capabilities and benefits of the most recent instruments, R&D staff are actively working on the next generation; keeping abreast of developments in the science and technologies that underpin the instrument business. As well as embracing new technological advances, instruments are always designed from the outset to meet the latest international regulations.

## Customer Co-operation

Close co-operation with customers plays a vital role in the development process. A modern, well-equipped laboratory is dedicated to the evaluation of instruments under special conditions and for specific purposes. Customer samples are tested to demonstrate particular instrument performance. Sales staff are then able to offer qualified advice to customers and recommend the most suitable instrument and methodology for their application requirements.

With over 100 years experience in the industry, expert technical assistance is constantly available, ensuring that customers achieve the highest possible performance from Bellingham + Stanley instruments.

## Sales, Service & Calibration

Operating from the UK, Bellingham + Stanley is proud to be a global supplier of polarimeters, refractometers and calibration materials. Outside the UK over 100 distributors have been appointed in countries in Europe, North America, South America, Africa, Middle East, Far East and Australasia. These companies are carefully selected and trained to provide technical advice on all Bellingham + Stanley products as well as offering local servicing. This network of outlets is fully supported by experts in Tunbridge Wells and Atlanta. Bellingham + Stanley prides itself in fast, friendly technical advice and customer service, even extending to sample testing.

Within the UK and USA Bellingham + Stanley offers preventative maintenance programs either on-site or at dedicated service centres for customers that require regular servicing of equipment.

Calibration standards for refractometers and polarimeters are also available, some of which are traceable to national standards such as NIST or PTB.

# Polarimeters

## Digital polarimeters designed for a variety of applications

Bellingham + Stanley manufactures high quality general purpose polarimeters for use in a variety of applications. Utilising its extensive knowledge of polarimetry Bellingham + Stanley are also able to supply a range of sample tubes and quartz control plates for instrument validation.

Bellingham + Stanley offers two distinct series of polarimeters, each available with model variations depending on the requirements of the customer. Bellingham + Stanley digital polarimeters are compliant with all elements of pharmacopeia and are suitable for use in high security environments operating in accordance with FDA regulation 21 CFR Part 11.

## A range of polarimeters to suit your needs

ADP600 Series polarimeters are Peltier temperature controlled polarimeters designed to meet the needs of the most demanding applications within the chemical and pharmaceutical industries. ADP600 Series polarimeters are ideal instruments for scientists wishing to research the characteristics of chiral compounds.

The ADP600 Series polarimeters vary by wavelength of measurement, including the highly sensitive ultra-violet region but all feature an integral Methods system, high definition touchscreen and are capable of measuring to 4 decimal places.

ADP400 Series polarimeters offer measurement to 3 decimal places and come packed full of features normally reserved for high-end instrumentation and is available with or without Bellingham + Stanley's patented XPC temperature control technology.



## User-friendly software common across all new B+S instruments



Common software is present throughout Bellingham + Stanley's range of polarimeters and refractometers, through coloured accents to Methods systems and key commands.

Choose to make Bellingham + Stanley standard in your lab or factory and benefit from joined-up thinking across instruments.

### Polarimeter Tubes

Bellingham + Stanley manufactures a range of polarimeter tubes built to high quality standards conforming to ICUMSA recommendations.

To achieve the highest accuracy, optical rotation tube ends are precision ground with windows made from specially selected low strain glass.

It is important to note that polarimeter



tubes from Bellingham + Stanley are compatible with most makes of polarimeter around the world.

# Refractometers

## Refractometers expertly engineered for your laboratory or factory

Bellingham + Stanley offers one of the largest choices of digital refractometers in the world today. All refractometers are made and tested to the highest standards using Bellingham + Stanley's 100 years of experience in the field of refractometry; so whether you require a high-end digital touchscreen refractometer for measuring chemicals in a lab, or a handheld refractometer for measuring honey at a beehive you can feel confident you have the right instrument for the job.

All refractometers are supplied with a unique serial number and Certificate of Calibration ensuring every instrument you buy may be traced to NIST and ICUMSA standards.

## Digital refractometers for accurate analysis



Bellingham + Stanley's digital refractometers cover many different applications. Specification varies from customer to customer which is why a range of refractometers have been designed; offering a wide measuring range up to 1.70 RI with touchscreen interface on the highest spec model.

Whilst ranges and applications may differ, build quality remains consistently high amongst Bellingham + Stanley's RFM range. The same high quality touchscreen is implemented on all T-Series models giving a high definition user interface at your fingertips.

All instruments are built with flat, easy-clean prism dishes to hold your sample, with any spills being dealt with by the ergonomically designed casing which allows samples to harmlessly drip away.

With USB connectivity and easy-to-use software as standard throughout the range, as well as a team of experts to support you before and after purchase, Bellingham + Stanley offers peace of mind as well as accurate, repeatable results.

## Handheld refractometers designed to go where you go

Handheld refractometers can be used in a large variety of applications from fruit ripeness to air-conditioning and heat transfer fluids. Bellingham + Stanley offers two lines of handheld refractometer with optical and digital variants.

The Eclipse optical refractometer features high quality optics and are manufactured using a robust "all-metal" design with rubber handgrip and replaceable polyurethane illuminator flap.



The OPTi® digital refractometer is accurate, pocket sized and simple-to-use. With an easy clean prism dish and clear, readable LCD display the OPTi refractometer is like having a lab instrument in the palm of your hand.

Handheld refractometers from Bellingham + Stanley come with predefined scales, selectable from over 100 variations and are supplied with a unique Certificate of Calibration.

# Calibration Materials

## Calibration is the key to success

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 may be used to verify Bellingham + Stanley's precision instruments and are also suitable for use on equipment from other manufacturers.



### **AG Fluids** (Traceable to NIST and ICUMSA)

AG Fluids are aqueous solutions covering the range 1.33-1.40 RI (0-40 °Brix equivalent) and have a shelf life of 12-months. They are ideal for calibrating refractometers that have temperature control in both food and industrial applications as well as instruments that have AG Fluid temperature compensation such as the OPTi digital and RFM700 Series refractometers. Being aqueous, they are safe and easy to use and offer excellent traceability. AG Fluids are unique as they have a long shelf life.

### **Calibration Oils** (Traceable to NIST and ICUMSA)

Calibration Oils are organic compounds that cover the range 1.46 -1.56 RI and the top end of the Brix scale. Calibration Oils have a shelf life of 12-months and are ideal for calibrating temperature controlled refractometers in both food and industrial applications. Having an RI above 1.54 RI, BSDD is useful for chemical manufacturers working above the regular Brix scale.

### **Quartz Control Plates** (Traceable to PTB)

An essential tool for verifying the measurement performance of new or existing polarimeters, Bellingham + Stanley offers Quartz Control Plates as single units or in multiple plate box sets making calibration and verification a simple process. All box sets come complete with Certificates of Conformity, with UKAS Certificate of Calibration (546-900nm) available on request.

### **Sucrose Solutions** (Traceable to NIST and ICUMSA)\*

Sucrose Solutions offer ease of use when calibrating instruments that do not incorporate temperature control but instead rely on temperature compensation. Suited to beverage, sugar and food producers as their components typically match the product under test. Due to the short shelf-life of Sucrose Solutions it is possible to opt for a supply contract to ensure a regular fresh supply. Sucrose Solutions are available in a number of values covering the range 0-60 °Brix.

### **AUS 32** (Traceable to NIST)

AUS 32 standards are unique "RI equivalent" solutions specifically calibrated for certifying refractometers working with Aqueous Urea Solutions (AUS), sometimes known as DEF (Diesel Exhaust Fluids).

### **Certified Water** (Traceable to NIST)\*

Water is the most commonly used sample to calibrate zero. Certified Water can be used when validating critical instrumentation including those used in the pharmaceutical industry.

### **Verification Packs** (Traceable to NIST and ICUMSA)

Verification Packs comprise a variety of AG Fluids and Calibration Oils. They are ideal for validating any make of laboratory refractometer where verification of results across the whole measuring range is required.

\* Manufacturers certification only - not currently a UKAS certified product

# First Class Service

## Customer service wherever you are

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

## Verification and calibration - Your house or ours?

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If you are located within the United Kingdom, Bellingham + Stanley can offer you on-site instrument verification contracts. This service can help keep your Bellingham + Stanley instrument delivering accurate results consistently. Service contracts with general maintenance and verification of instrument performance are performed using UKAS certified samples.

Validation of new equipment, often applicable to those working within the pharmaceutical industry, is available to customers throughout the UK and Europe.

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

## Instrument repairs

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Whilst Bellingham + Stanley instruments are built to the highest standards and are tested before leaving the factory, sometimes throughout the course of its lifetime something may go wrong. As well as a standard repair service, Bellingham + Stanley offer a certification service for instruments manufactured at their UK factory. Certification can be carried out at the time of order, or as part of a repair when returned to the service department in the United Kingdom or USA.

For customers outside of the United Kingdom or USA, Bellingham + Stanley will be able to supply details of a local distributor that provides a similar service.



# Xylem

- 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 Analytics and a leading provider of refractometers and polarimeters.

Xylem Analytics' 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.

Xylem Analytics is part of Xylem Inc., a global company focused on solving the world's most challenging and fundamental water issues. As accurate analysis is crucial to the water industry, Xylem Analytics taps its diverse product brands for leadership in that field and beyond, providing the best laboratory and field monitoring instrumentation across a wide variety of industries.

**For more information on how Xylem can help you, go to [www.xylem.com](http://www.xylem.com)**



Bellingham + Stanley, a Xylem brand, operates an Integrated Management System complying with ISO 9001:2008, ISO 14001:2015 and OHSAS 18001:2007.



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