

SCIAG AGROSCIENTIFIC LIMITED

Pioneering Food safety Innovation

...





We supply innovative solutions to ease laboratory analysis of essential food safety requirements



GRAINS, SEEDS AND
MILLING



PROCESSED FOOD



MEAT



MILK AND DAIRY



OILS AND FATS



NUTRACEUTICALS AND
SPORT SNACKS



BREWERY



WINE AND SPIRITS

INTRODUCING SCIAG AGROSCIENTIFIC LIMITED

We write to officially introduce our company SciAg Agroscientific Limited to your organization. We are a reputed company providing laboratory equipment solutions for Food & feed, Pharmaceutical, Environment and Petroleum. We are approved distributor for VICAM (USA), Biotech, Prognosis Biotech, ZEUTEC (Germany), Infracont (Hungary), Biobase, NIREx (Argentina), IKA, Hanon. We are located in Plot 5, Oluyole Industrial Estate Ibadan

We engage in supply of Grains and Laboratory equipment such as:

- 800TS Biotek Elisa Microplate reader, Lowest LOD and LOQ prognosis Elisa Test Kits for Aflatoxin and Fumonisin among others toxins in Animal feeds, Milk/Dairy, Oil, Grains contaminant analysis,
- Validation Samples,
- Mettler Toledo and Ohaus Moisture Analyzers (MB 23, 27, 120),
- NIR Food Analyzers for Protein, Ash, Starch, Oil/Fat among other parameters in Flour, Sugar, Beer, Wine, Edible Oil, Dairy, Milk, Grains, Cocoa and Chocolate, Pfeuffer sortimat, Flour sieve shakers.

In addition we supply Glass-wares, Muffle furnace, Fumigant, Automatic Kjeldahl Protein/Nitrogen Analyzer, Kjeldahl Protein analysis equipment (Solvent Extractor unit, Digester System, Distillation Unit, Scrubber), Fat Analyzer, Autoclave, Water Activity Meter, AAS, UV-Vis Spectrophotometer, ANKOM Crude fibre Analyzers, Fume Cupboards, Water distillation Unit, Viscosity meter, Refractometer, Density Meter, Thermostatic Water Bath, Heating plate. We are also experts in Can and Pet Bottle equipment analysis such as Torque testers, Can Leak Analyzers, Stress Crack testers, Hot wire bottle cutter. We wish to propose a partnership with your company and we believe that our partnership can benefit your company to ease purchase of equipment and lab consumables.

We also keep a stock of reagent and consumables at our Ibadan and Sagamu warehouse, Ogun State. Our company ensures that products are delivered safely and on time.

We hope to discuss how we can collaborate with you and propose a business meeting at a convenient time.

Please, find enclosed the attached brochure with more information on our services.

Yours Faithfully,



Olanrewaju

MD

OUR VALUES

01 SAFETY

Embracing a culture to protect our clients.

02 INTEGRITY

Being honest and doing what is right.

03 TALENT

Keeping the best.

04 QUALITY

Delivering what is required with the best standard.

05 CUSTOMERS

Follow up healthy communication with clients.

06 RESULT

Meet customer's satisfaction.



Infracont XGrain and SGrain instruments can be used to analyse the composition of grain and flour without sample preparation. The devices primarily serve to measure protein, moisture, gluten, ash, and oil content, but the Zeleny index can also be measured.

Main application areas of the instruments are:

- Grain production
- Grain receival and storage
- Grain trade
- Milling
- Bakery
- Pasta manufacturing
- Soybean pressing and extraction
- Row material analysis for animal feed

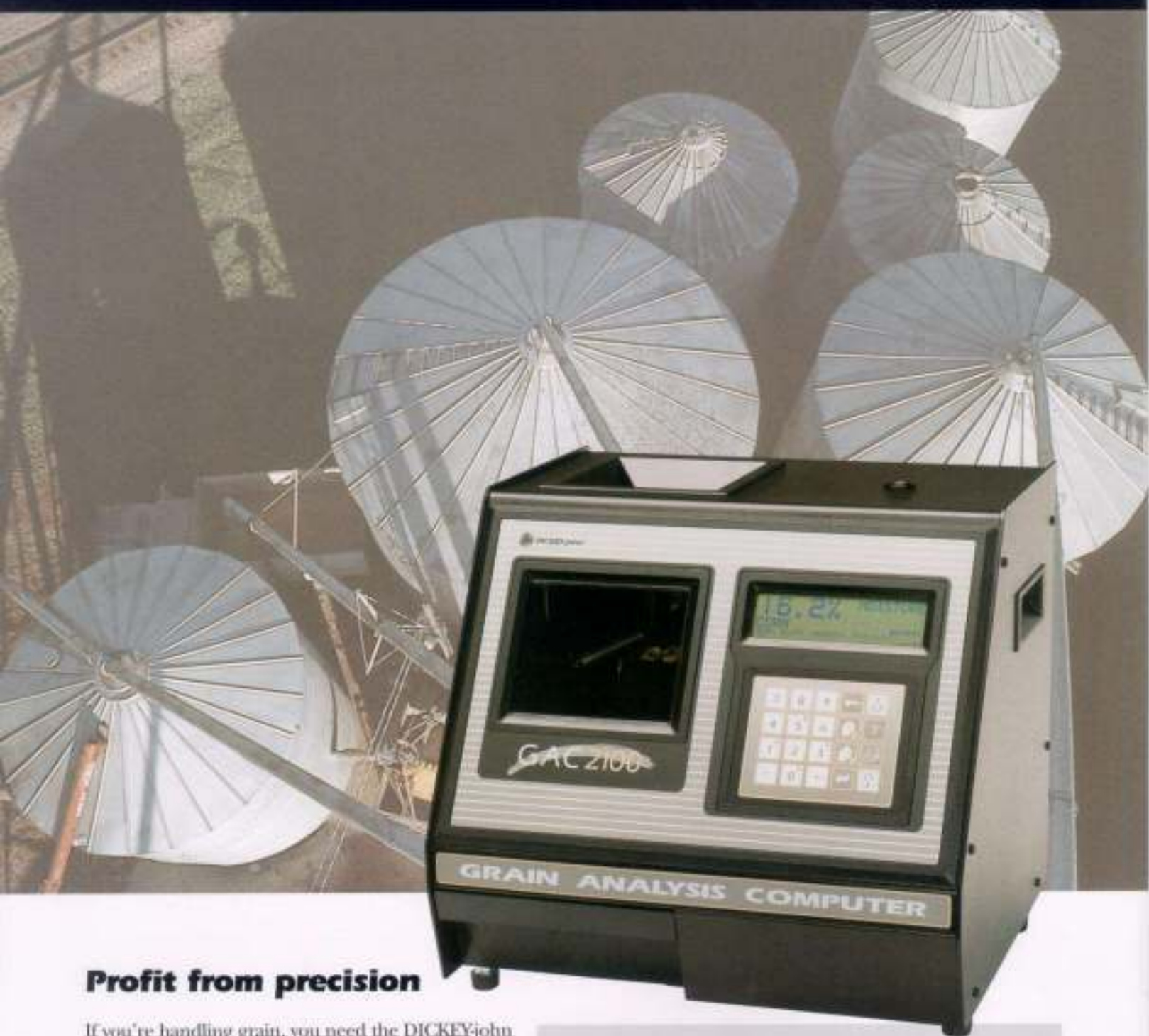






DICKEY-john®
CORPORATION

GAC2100 GI Grain Analysis Computer



Profit from precision

If you're handling grain, you need the Dickey-John **GAC2100 GI**. The GAC2100 GI is an economical, non-NTEP version of Dickey-John's popular GAC2100 NB, which is used for official moisture measurement by USDA/FGIS, licensed FGIS agencies and most grain terminals and country elevators in the US. THE GAC2100 GI is as accurate as the GAC2100 NB, it can store up to 16 grain calibrations, and it delivers the widest grain and unit operating temperature ranges available in commercial moisture meters.

The GAC2100 GI is fully automatic for these tasks:

- sample weight
- temperature compensation
- moisture correction

The GAC2100 GI can handle 16 different grains, including:

- edible beans
- cereals
- grass seeds
- oilseeds
- vegetable seeds

Operating the GAC2100 GI is a simple matter of **Selecting** the desired product to test, **Pouring** the sample into the test hopper, **Testing** the sample, and **Displaying** the results. An easy-to-read LCD displays one-button prompts to quickly and easily step the user through the entire procedure, which takes just a few seconds start to finish. Two separate RS232 ports allow test results, by sample number, to be logged to a host computer and for sample tickets to be printed. The GAC2100 GI may be programmed to test sixteen different grains, and it may be operated in eight different languages.



Select Sample



Pour Sample



Test Sample



Display Results

Specifications

Performance

| | |
|--------------------------------|---|
| Measurement Method: | Capacitance, conductance, weighing device |
| Applications: | Cereals, oilseeds, grass seeds, vegetable seeds, edible beans |
| Measured Parameters: | Moisture, temperature and specific weight |
| Measurement Time: | 1.6 seconds |
| Moisture Range: | 5 to 45% (depending on grain calibrations) |
| Grain Temperature: | 0 to 50°C (32 to 122°F) |
| Temperature Difference: | 20°C instrument to grain sample |
| Temp. Compensation: | Yes, automatic |
| Moisture Repeatability: | ± 0.1% (depending on application) |
| Moisture Resolution: | 0.1% moisture |
| Grain Sample: | Whole grain, pellets |
| Sample Size: | 250 gr (approx. for cereal grains) |

Features

| | |
|--------------------------------|-----------------------------------|
| Number of Calibrations: | 16 reprogrammable calibrations |
| Languages: | 8 languages, operator selectable |
| Display: | Large LCD display 240 x 64 pixels |
| Output: | 2 standard RS232 printer ports |

Installation Requirements

| | |
|-------------------------------|---|
| Operating Temperature: | 5 to 45°C (41 to 113°F) |
| Humidity: | 5 to 95% non-condensing |
| Power Supply: | 85-264 VAC, 48-62 Hz at 20 VA consumption |
| Dimensions: | (H x W x D) 37.5 x 38.7 x 40.6 cm (14.75" x 15.25" x 16") |
| Weight: | 11.8 kg (26 lbs) |
| Shipping Dimensions: | (H x W x D) 48.3 x 56.0 x 58.5 cm (19" x 22" x 23") |
| Shipping Weight: | 16.0 kg (35.5 lbs) |



DICKEY-john®
CORPORATION

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www.dickey-john.com • email sales@dickey-john.com • ©2003 DICKEY-john Corporation • All rights reserved.



S-FLOW READER



- One, unique way of sample preparation
- Broad range of validated matrices
- Lowest LOD (0.02ppb) and LOQ in the market

Manufactured by Lateral Logic LTD, the S-Flow reader provides a quantitative analysis of lateral flow test strips

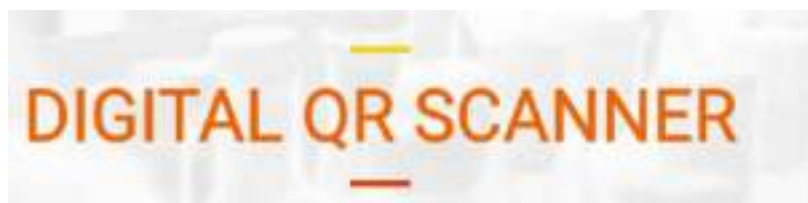
- Precise and fast scanning process
- High throughput: can read up to six strips at a time in just a few seconds
- Capable to read different product test strips simultaneously
- Simple procedure that does not require any special training
- Easy way to place the strips on the plate
- **Compatible with all the lateral flow tests manufactured by Prognosis Biotech**

** Lateral Logic LTD is a subsidiary company of Prognosis Biotech providing innovative software and technology services*



A USER-FRIENDLY & COMPACT INCUBATOR DEVICE

- One-button functionality
- Equipped with aluminum heating units and an analogue/ digital temperature control.
- 30 programs included depending on the incubation times of each product
- Fixed incubation temperature at 40 °C for all products
- Compatible with a test-top device for a double incubation process



An easy-to-use QR code reader that enables the automatic load of products' calibration settings

- Connects via a USB cable or Bluetooth technology

PROFESSIONAL SUITCASE

ProGnosis Biotech provides to its customers with an elegant and durable suitcase that can fit all the necessary equipment for a laboratory experiment.

Space for:

- S-flow reader
- Laptop
- One-step incubator and the test top
- Mini-centrifuge
- QR code reader
- Pipettes & tips





KITS

- Affordable and Readily Available



DRAMINSKI®

ULTRASOUND SCANNERS



Moisture Meter

Moisture meter for cereals, maize, grass seeds, oilseeds, and legumes seeds upto 33 different kinds of African grains

Small handy device thanks to which you will be able to determine your grain moisture very quickly.

Ideal for every farmer.



- you will know the quality of your grain
- you will be able to control moisture of your grain before selling it
- you will save time and money connected with deductions when selling your grain
- you will be able to store your grain safely for a long time
- you will decrease risk of heating the

D E T E C T I O N

800™ TS Absorbance Reader

The 800 TS Absorbance Reader is an affordable, high quality microplate reader for assays in 6- to 384-well formats. The color touchscreen provides a visual user interface, making programming simple. The onboard software includes "quick read" and custom protocols, with data viewed immediately after measure, followed by export to USB or to the compact printer. The software stores a history of programmed assays and recent plate readings for instant recall. The 800 TS can be configured to include temperature control and shaking, ideal for assays like short- or long-term kinetics, enabled under computer control via Gen5 Software. The 800 TS, used alongside the 50 TS Washer, makes an affordable system to automate many application workflows, including immunoassays, cytotoxicity, enzyme assays, cell-based assays and more.



800 TS can be controlled by Gen5 software for extensive data analysis.



Features:

- Versatile for many applications, including ELISA, protein and other end point assays, plus kinetics and cell-based assays
- Color touchscreen for quick programming and simple operation
- USB flash drive for convenient data export, Gen5 import for analysis
- High precision and accuracy for reliable results
- Durable and high quality design from BioTek, the #1 microplate reader brand

Typical Applications:

- ELISA
- Protein assays
- Cytotoxicity assays
- Kinetic ELISA

Configurations:

| | |
|-----------|---|
| 800TS: | 6- to 96-well plates, 400 to 750 nm detection, shaking |
| 800TSI: | 6- to 96-well plates, 400 to 750 nm detection, temperature control and shaking |
| 800TSUV: | 6- to 96-well plates and 340 to 750 nm detection, shaking |
| 800TSUVI: | 6- to 96-well plates and 340 to 750 nm detection, temperature control and shaking |
| 800TSNB: | 6- to 384-well plates and 400 to 750 nm detection |

See website or price list for configurations and descriptions.

Optional Accessories:

- Gen5™ Microplate Reader and Imager Software
- Gen5™ Secure (for 21 CFR Part 11 Compliance)
- Absorbance Test Plate
- Product Qualification Package
- Printer



BioTek's 800™ TS Reader is ideal for pairing with 50™ TS Washer for routine workflows.

Specifications:

General

| | |
|----------------------|---|
| Detection modes: | Absorbance |
| Read methods: | End point. Kinetic, well area scanning (under computer control) |
| Microplate types: | 6- to 384-well plates |
| Temperature control: | To 50 °C ("I" configuration) |
| Shaking: | Yes (except 800TSNB) |
| Read speed: | 11 secs /96 wells (sweep mode) |
| Software: | Gen5 Reader Control Software Gen5 Microplate Reader and Imager Software (optional) |

Absorbance

| | |
|------------------------|--|
| Light source: | Tungsten halogen |
| Wavelength selection: | Filters |
| Wavelength range: | 400 – 750 nm 340 – 750 nm ("UV" configurations) |
| Dynamic range: | 0 to 4.0 OD (normal and rapid read modes) 0 to 3.0 OD (sweep read mode) |
| Resolution: | 0.001 OD (standalone mode) 0.0001 OD (via Gen5 control) |
| Filter wheel capacity: | 5 positions |
| Filters supplied: | 405, 450, 490, 630 340, 405, 450, 490, 630 ("UV" configurations) |

| | | |
|-------------------------------|------------------|---|
| OD accuracy (96-well) | Normal read mode | ± 1.0% ± 0.010 OD from 0.000 to 2.000 OD @ 405 nm ± 2.0% ± 0.010 OD from 0.000 to 2.000 OD @ 340nm |
| | Rapid read mode | ± 2.0% ± 0.020 OD from 0.000 to 2.000 OD @ 405 nm ± 2.5% ± 0.020 OD from 0.000 to 2.000 OD @ 340nm |
| | Sweep read mode | ± 1.0% ± 0.020 OD from 0.000 to 1.000 OD @ 405 nm |
| OD linearity (96-well) | Normal read mode | ± 1.0% ± 0.010 OD from 0.000 to 2.000 OD @ 405 nm ± 3.0% ± 0.010 OD from 2.000 OD to 3.000 OD @ 450 nm ± 2.5% ± 0.010 OD from 0.000 to 2.000 OD @ 340nm |
| | Rapid read mode | ± 2.0% ± 0.010 OD from 0.000 to 2.000 OD @ 405 nm ± 2.5% ± 0.010 OD from 0.000 to 2.000 OD @ 340nm |
| | Sweep read mode | ± 1.0% ± 0.010 OD from 0.000 to 1.000 OD @ 405 nm ± 1.0% ± 0.010 OD from 0.000 to 1.000 OD @ 340 nm |
| OD repeatability (96-well) | Normal read mode | ± 0.5% ± 0.005 OD from 0.000 to 2.000 OD @ 405 nm ± 1.5% ± 0.005 OD from 0.000 to 2.000 OD @ 340nm |
| | Rapid read mode | ± 1.0% ± 0.010 OD from 0.000 to 2.000 OD @ 405 nm ± 2.0% ± 0.020 OD from 0.000 to 2.000 OD @ 340nm |
| | Sweep read mode | ± 2.0% ± 0.020 OD from 0.000 to 1.000 OD @ 405 nm |

Physical Characteristics

| | |
|---------------|--|
| Connectivity: | 1 USB port for computer control, 1 USB port for printer. |
| Power: | External 24VDC power supply compatible with 100-240VAC @ 50-60 Hz. Power consumption: 40 Watts; 150 Watts incubated configurations |
| Dimensions: | 16.5x15x7 inches (419 x 381 x 178 mm) |
| Weight: | <22 lbs (9.97 kg) |

Regulatory

CE and TUV marked. For *In Vitro* Diagnostic use.



BioTek Instruments, Inc.
Highland Park, P.O. Box 998
Winooski, Vermont 05404-0998, USA

Phone: 802-655-4040 • Toll-Free: 888-451-5171
Outside the USA: 802-655-4740
www.biotek.com

*Preliminary performance values represent the average observed factory test values.
Specifications subject to change.*

Rev. 156SS070317

SpectraAlyzer

FLOUR



ZEUTEC

EN



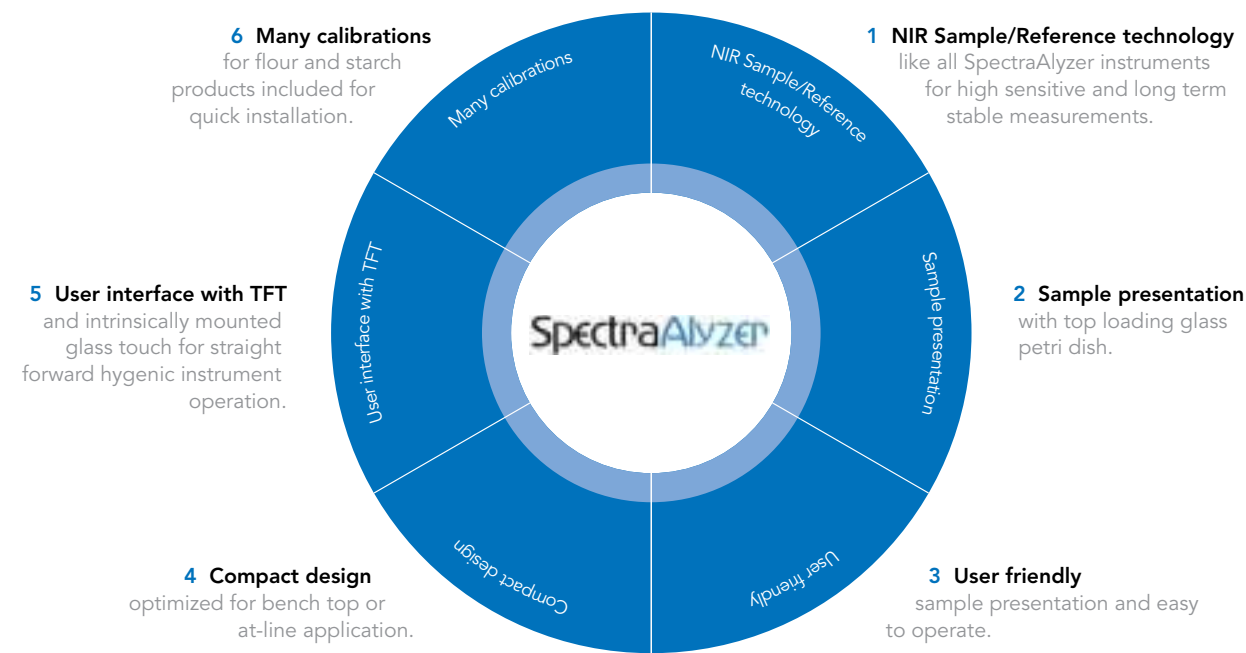
What it does for you

The SpectraAnalyzer FLOUR is the ideal solution for routine analysis of major quality parameters during flour and starch production.

In modern milling operations, reliable and accurate analysis solutions are necessary to provide customers with flour and starch products of highest and - what is most important - consistent quality. In order to be most competitive in the world market, consistent high yields, top blend quality and low production costs are the objectives that need to be achieved. Designed as a modular system, the SpectraAnalyzer® FLOUR solution presents the quantitative analytical results of major quality parameters (e.g. moisture, protein, gluten, starch, ash, colour) and many others within 45 seconds. There is no need to manually condition the sample and extra reagents do not have to be used. So this analyzer solution provides highly accurate quality control parameters at no extra cost. As a stand-alone system the SpectraAnalyzer® FLOUR can be operated very easily and intuitively – even close to the production line. The rugged construction and unique optical sample/reference setup ensures reliable operation in environments with fluctuating temperatures, vibration and dust. Immediate company wide data visualisation is possible using the embedded webserver, providing actual and historic analytical data in real time. Up and downloading of calibration models as well as analytical data make it a valuable tool for process control.

The SpectraAnalyzer® FLOUR analyzer comes with many ready to use calibrations and a powerful software package to facilitate calibration fine tuning and extensive and automated logging as well as database storage of the analytical results on the analyzer, within the mills' intranet and/or the internet.

FEATURES INCLUDE



Scope of supply

- 1 SpectraAnalyzer® FLOUR
- 2 Sample presentation glass petri dish, set of three
- 3 Handbook, Network cable, Mains supply cable





Technical data



Design

Spectral range 1400 – 2400 nm

Dual beam system, Sample / reference measurement

High signal to noise > 10000:1

Large expandable internal memory for calibrations, methods and history results

Auto-diagnostics

Graphical user interface, projected capacitive glass touch panel

Optional Accessories

Keyboard, Mouse, Barcode Reader, Printer, Application work (AWX G2), Colour module

Analytical Performance

| | | |
|--------------------|-------------|----------|
| Protein (%) | 8 – 16 | +/- 0,15 |
| Moisture (%) | 8 – 18 | +/- 0,10 |
| Wet Gluten (%) | 22 – 36 | +/- 0,48 |
| Sedimentation | 30 – 60 | +/- 1 |
| Ash (%) | 0,4 – 1,9 | +/- 0,01 |
| Colour (520/620nm) | -3,5 – 10,1 | +/- 0,32 |

Specifications

| | |
|-----------------------|--|
| Screen | TFT 800 x 480 pixel |
| Power requirements | min. 90 V AC (50 – 60 Hz) max. 260 V AC (50 – 60 Hz), 220 VA |
| Operating temperature | 5 - 40 °C non-condensing |
| Interfaces | 1 x front USB 2.0, 3 x USB 2.0, 2 x RS232, Ethernet |
| Dimensions | Height: 310 mm / Width: 300 mm / Depth: 480 mm |
| Weight | 16 kg |

Order Information

| | |
|---------------------------------|------------|
| SpectraAnalyzer® 2.0 – TW flour | 110-A100-5 |
|---------------------------------|------------|

ZEUTEC Opto-Elektronik GmbH

Kieler Str. 211, D-24768 Rendsburg

T (+49) 4331 - 136650

E moreinfo@zeutec.de

www.spectraalyzer.com

ZEUTEC

SpectraAnalyzer® 2.0 – TW flour Item No. 110-A100-5



Beer Quality Check and Control



ZEUTEC

**made
in
Germany**



One **SpectraAnalyzer** **BRAUMEISTER** for all parameters!

FAST, EASY, ACCURATE & MODULAR

Analytical parameters and performance in beer are:

| Parameter | Range | Unit | Repeatability |
|------------------|---------------|-------------------|----------------------|
| Alcohol | 0 – 12 | % v/v | < 0.02 |
| Alcohol | 0 – 10 | % w/w | < 0.02 |
| Density | 1.000 – 1.020 | g/cm ³ | 0.00002 |
| Original gravity | 0 – 25 | °P | < 0.01 |
| Extracts | 0 – 10 | % w/w | < 0.06 |
| Bitter units | 5 – 60 | IBU | 0.1 |
| pH | 3 – 5 | | < 0.02 |

Analytical parameters in wort are:

| Parameter | Range | Unit | Repeatability |
|-------------------|--------------|-------------|----------------------|
| Extract, apparent | 11 - 17 | % w/w | 0.002 |
| Bitter units | 5 – 56 | IBU | 0.01 |
| Colour | 7 – 50 | EBC | 0.05 |
| Viscosity | 1.7 – 2.2 | mpa s | 0.002 |
| FAN | 200 - 280 | mg/l | 2 |
| pH | 4 - 5.5 | | 0.1 |

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ZEUTEC

SpectraAlyzer Grains

Major quality parameters in 45 Secs:

Protein, Moisture, Oil, Ash, Hardness and Water absorption

The SpectraAlyzer **FLOUR** – Flour Analysis Instrument, is the ideal solution for routine analysis of major quality parameters during flour and starch production.

In modern milling operations, reliable and accurate flour analysis solutions are necessary to provide customers with flour and starch products of highest and – what is most important – consistent quality. In order to be most competitive in the world market, consistent high yields, **top blend quality and low production costs** are the objectives that need to be achieved.



In modern milling operations, reliable and accurate flour analysis solutions are necessary to provide customers with flour and starch products of highest and – what is most important – consistent quality. In order to be most competitive in the world market, consistent high yields, **top blend quality and low production costs** are the objectives that need to be achieved.



SpectraAlyzer **SUGAR**

Major quality parameters in 45 Secs:

Dry matter, Sucrose content, Purity, Ash content, Glucose / Fructose content

The SpectraAlyzer **SUGAR** is the ideal solution for routine analysis of major quality parameters during sugar production and processing.

In modern sugar factories, reliable and accurate analysis methods are necessary to provide customers with products of highest and – what is most important – consistent quality. In order to be most competitive in the world market, consistent high yields, **top sugar quality control and low production costs** are the objectives that need to be achieved.

For the analysis of these different sample types, the SpectraAlyzer **SUGAR** offers the possibility to use two different drawers. With the *liquid drawer*, liquids can be easily pumped into the measuring cell and be analyzed. For the *standard drawer*, there are a variety of sample cups that are specifically designed for different samples.



SpectraAlyzer Dairy

Major quality parameters in 45 Secs:

Moisture, Protein, Fat, Sugars, Starch, Acidity, Salt, Ash

The SpectraAlyzer **DAIRY** is a dairy analyzer and quality check instrument, which is the ideal solution for routine analysis of major quality parameters during the production of dairy products.

In modern dairy processing operations, reliable and accurate dairy analysis solutions are necessary to provide customers with products of highest and – what is most important – consistent quality. In order to be most competitive in the world market, consistent high yields, **top quality and low production costs** are the objectives that need to be achieved.





MB120

Faster, Smarter, More Efficient Moisture Analysis

Moisture affects everything we use on a daily basis. Therefore, in many cases it is important to be able to accurately determine the moisture content of samples. Equipped to handle routine and sophisticated measurements, our flagship moisture analyzer MB120 makes the whole process faster, easier, and more efficient. The MB120 allows you to analyze more samples; access saved data, and spend less time prepping and more time putting



MB90

Simple Operation. Precise Results.

Measuring moisture content has never been easier than with the MB90 Moisture Analyzer. The MB90's halogen heating distributes heat uniformly over the sample and speeds up the drying process, delivering fast and precise measurements. Designed for tool-free cleaning, its components can be easily removed for quick and easy maintenance. Operating the MB90 is intuitive with the icon-driven menu navigation on the touchscreen display.

MB27

Outstanding Performance, Flexible Configuration and Reliable Results

The new OHAUS MB27 Basic Moisture Analyzer combines high quality and durable construction into a sleek, compact design. The MB27 offers dependable, accurate results for a wide variety of moisture analysis applications.



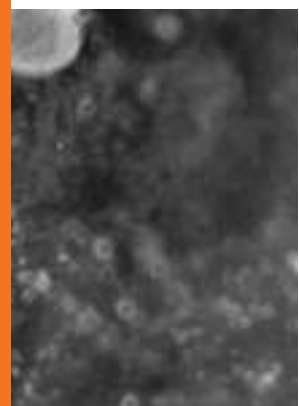
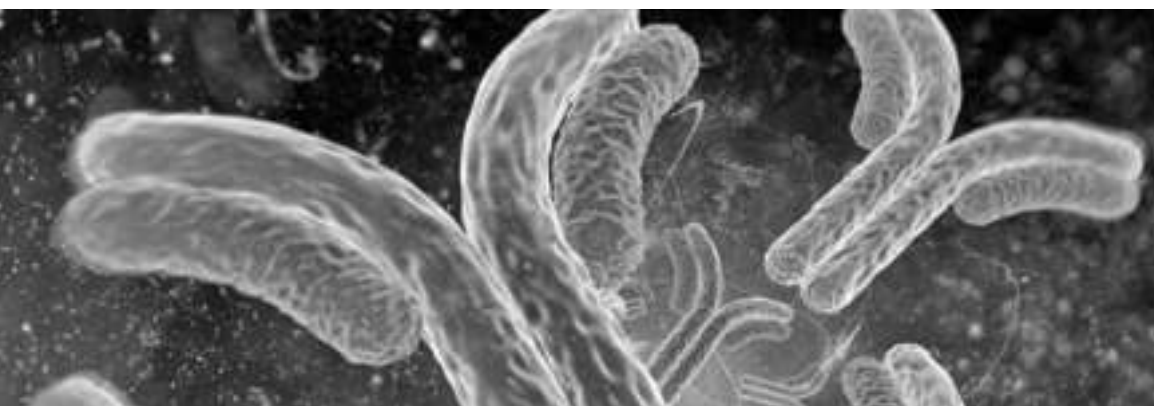
MB23

Outstanding Performance, Flexible Configuration and Reliable Results

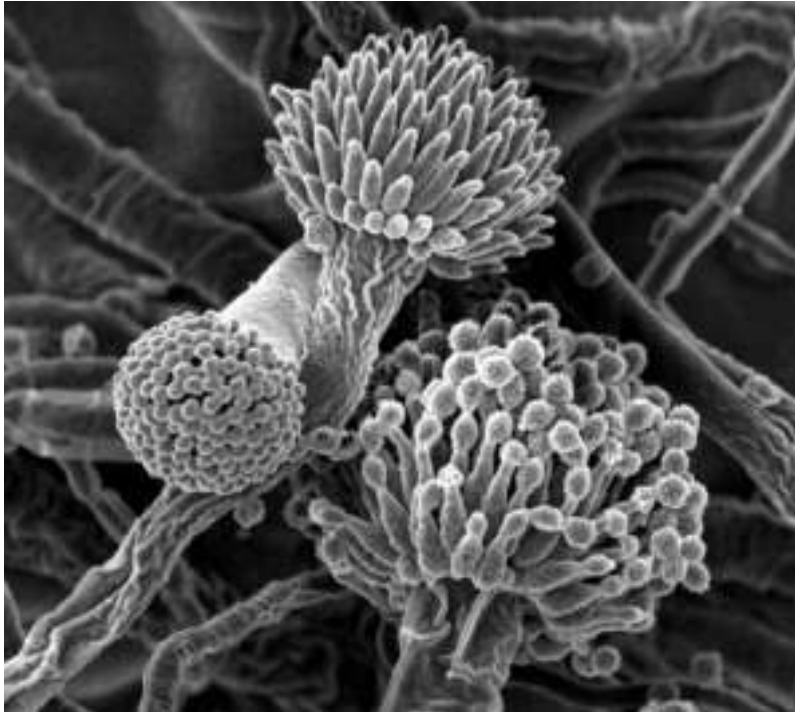
The MB23 provides precise moisture content determination at an unbeatable value. With a large backlit LCD display, standard RS232 port, 110g capacity with a readability of 0.01g/0.1% and a non-glass infrared heating element, the MB23 offers moisture analysis for any budget.

PRODUCT CATALOG

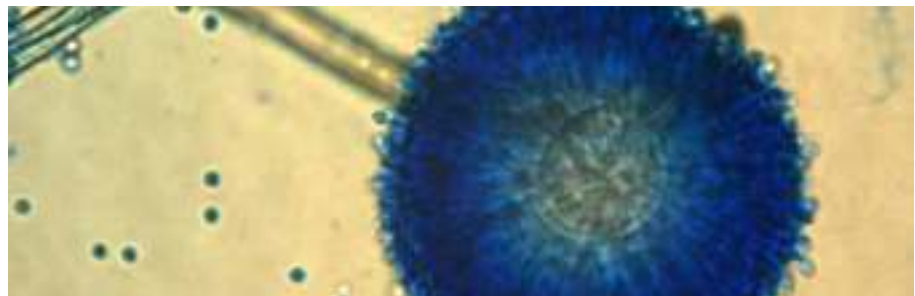
R&D, IN VITRO DIAGNOSTICS FOR FOOD SAFETY



**PROGNOSIS
BIOTECH**



- ELISA KITS FOR ALL REGULATED MYCOTOXINS
- **ONE, UNIQUE WAY OF SAMPLE PREPARATION**
 - BROAD RANGE OF VALIDATED MATRICES
- **LOWEST LOD AND LOQ IN THE MARKET**



MYCOTOXINS

Mycotoxins are poisonous chemical compounds produced by certain fungi. There are many such compounds, but only a few of them are regularly found in food and animal feedstuffs such as grains and seeds. Nevertheless, those that do occur in food have great significance in the health of humans and livestock. The effects of some food-borne mycotoxins are acute, symptoms of severe illness appearing very quickly. Other mycotoxins occurring in food have longer term chronic or cumulative effects on health, including the induction of several types of cancers and immune deficiency.

There are six mycotoxins, or groups of mycotoxins, that can be found quite often in food or feed: Deoxynivalenol, Zearalenone; Ochratoxin, Fumonisin, T2-HT2 toxins and Aflatoxins B1, B2, G1, G2.

The fungi that produce mycotoxins in food are categorized into two groups: those that invade before harvest, commonly called field fungi, and those that occur only after harvest, called storage fungi.

There are three types of toxicogenic field fungi:

- plant pathogens such as *F. graminearum* (deoxynivalenol, nivalenol)
- fungi that grow on senescent or stressed plants, such as *F. moniliforme* (fumonisin) and sometimes *A. flavus* (aflatoxin)
- fungi that initially colonise the plant before harvest and predispose the commodity to mycotoxin contamination after harvest, such as *P. verrucosum* (ochratoxin) and *A. flavus* (aflatoxin)

Most controlling government agencies worldwide have regulations regarding the amount of mycotoxins allowable in feed and food and especially in infant food. Accurate and rapid determination of the presence of mycotoxins in commodities is of paramount importance.

BIO-SHIELD B1 5

Bio-Shield B1 5 is an ELISA test for the quantitative determination of Aflatoxin B1 in grains, nuts, spices, cereals and other commodities including animal feed. The test has a low procedure time of 5 minutes, producing highly accurate and precise results.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- 5-min ELISA method
- Limit of detection (LOD): 1.5 ppb
- Wide range of quantification: 2-50 ppb
- High specificity and sensitivity
- All reagents are in ready to use format
- Adjusted to the EU legislation limit
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B5048/B5096

BIO-SHIELD B1 OP

Bio-Shield Aflatoxin B1 Optimum Performance is an ELISA test for the quantitative determination of Aflatoxin B1 in grains, cereals, spices, oil, animal feed and baby food ingredients.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- Limit of detection (LOD): 1 ppb
- Wide range of quantification: 2.5-50 ppb
- High specificity and sensitivity
- All reagents are in ready to use format
- Adjusted to the EU and Asian legislation limit
- Very fast process (20 min)
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B3348/B3396





BIO-SHIELD B1 ES

Bio-Shield Aflatoxin B1 Extra Sensitive is an ELISA test for the quantitative determination of Aflatoxin B1 in grains, nuts, cottonseeds, cereals and other commodities including animal feed.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- Limit of detection (LOD): 0.2 ppb
- Range of quantification: 0.5 -10 ppb
- Ultra sensitive method
- All reagents are in ready to use format
- Adjusted to the EU legislation limit
- Very fast process (20 min)
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B2948/B2996

BIO-SHIELD B1 BF

Bio-Shield Aflatoxin B1 Baby Food is an ELISA test for the quantitative determination of Aflatoxin B1 in grains, nuts and cereals in accordance with the EU and Asian legislation limit of AFB1 in baby foods.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- Limit of detection (LOD): 0.02 ppb
- Range of quantification: 0.06-2.5 ppb
- Ultra sensitive method
- Fast and easy to use extraction protocol
- All reagents are in ready to use format
- Adjusted to the EU and Asia legislation limit for infant food
- Fast process (75 min)
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B3148/B3196

BIO-SHIELD TOTAL 5

Bio-Shield Total 5 is an ELISA test for the quantitative determination of Aflatoxins B1, B2, G1, G2 in grains, nuts, cereals and other commodities including animal feed. The test has a low procedure time of 5 minutes, producing highly accurate and precise results.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- 5-min ELISA method
- Limit of detection (LOD): 1,5 ppb
- Wide range of quantification: 2-50 ppb
- High specificity and sensitivity
- Cross reaction (Aflatoxin B1: 100%, Aflatoxin B2: 80%, Aflatoxin G1: 80%, Aflatoxin G2: 55%)
- All reagents are in ready to use format
- Adjusted to the US and Asian legislation limit
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B5148/B5196

BIO-SHIELD TOTAL ES

Bio-Shield Aflatoxin Total Extra Sensitive is an ELISA test for the quantitative determination of Aflatoxins B1, B2, G1, G2 in grains, nuts, cottonseeds, cereals and other commodities including animal feed.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- Limit of detection (LOD): 0.2 ppb
- Wide range of quantification: 0.6-10 ppb
- Ultra sensitive method
- Cross reaction (Aflatoxin B1 100%, Aflatoxin B2 98%, Aflatoxin G1 97%, Aflatoxin G2 86%)
- All reagents are in ready to use format
- Adjusted to the EU legislation limit
- Very fast process (20 min)
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B2348/B2396

BIO-SHIELD TOTAL OP

Bio-Shield Aflatoxin Total Optimum Performance is an ELISA test for the quantitative determination of Aflatoxins B1, B2, G1, G2 in grains, cereals, spices, oil and animal feed.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- Limit of detection (LOD): 1 ppb
- Range of quantification: 3-50 ppb
- Ultra High specificity and sensitivity
- Cross reaction (Aflatoxin B1 100%, Aflatoxin B2 98%, Aflatoxin G1 97%, Aflatoxin G2 86%)
- All reagents are in ready to use format
- Adjusted to the EU and Asian legislation limit
- Very fast process (20 min)
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B3948/B3996

BIO-SHIELD ZON 5

Bio-Shield ZON 5 is an ELISA test for the quantitative determination of Zearalenone (ZON) in grains, cereals and other commodities including animal feed. The test has a low procedure time of 5 minutes, producing highly accurate and precise results.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- 5-min method
- Limit of detection (LOD): 20 ppb
- Wide range of quantification 25-500 ppb
- High specificity and sensitivity
- All reagents are in ready to use format
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B5348/B5396



BIO-SHIELD DON 5

Bio-Shield DON 5 is an ELISA test for the quantitative determination of Deoxynivalenol (DON) in grains, cereals and other commodities including animal feed. The test has a low procedure time of 5 minutes, producing highly accurate and precise results.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- 5-min ELISA method
- Limit of detection (LOD): 0.07 ppm
- Wide range of quantification: 0.1-5 ppm
- High specificity and sensitivity
- All reagents are in ready to use format
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B5248/B5296

BIO-SHIELD DON

Bio-Shield Deoxynivalenol (DON) is an ELISA test for the quantitative determination of Deoxynivalenol in grains, nuts, cereals and other commodities including animal feed.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- Limit of detection (LOD): 0.05 ppm
- Wide range of quantification: 0.1-5 ppm
- High specificity and sensitivity
- All reagents are in ready to use format
- Very fast process (20 min)
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B2648/B2696



BIO-SHIELD OCHRATOXIN

Bio-Shield Ochratoxin is an ELISA test for the quantitative determination of Ochratoxin A in grains, nuts, cottonseeds, cereals and other commodities including animal feed.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- Limit of detection (LOD): 0.5 ppb
- Wide range of quantification: 1.5-40 ppb
- High specificity and sensitivity
- All reagents are in ready to use format
- Very fast process (20 min)
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B2448/B2496

BIO-SHIELD T2/HT-2

Bio-Shield T-2/HT-2 is an ELISA test for the quantitative determination of Trichothecene T-2/HT-2 in grains, cereals and animal feed.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- Limit of detection (LOD): 5 ppb
- Wide range of quantification: 10-500 ppb
- High specificity and sensitivity
- All reagents are in ready to use format
- Very fast process (15 min)
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B3248/B3296

BIO-SHIELD FUMONISIN 5

Bio-Shield Fumonisin 5 is an ELISA test for the quantitative determination of Fumonisin (Fumo) in grains, cereals and other commodities including animal feed. The test has a low procedure time of 5 minutes, producing highly accurate and precise results.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- 5-min ELISA method
- Limit of detection (LOD): 0.15 ppm
- Wide range of quantification: 0.2-6 ppm
- High specificity and sensitivity
- All reagents are in ready to use format
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B5548/B5596

BIO-SHIELD T-2

Bio-Shield T-2, is an ELISA test for the determination of the Trichothecene T-2 in grains, cereals and other commodities including animal feed. In contrast with other products, this ELISA test can detect solely the T-2 mycotoxin.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- Limit of detection (LOD): 3.3 ppb
- Wide range of quantification: 6-500 ppb
- High specificity and sensitivity
- All reagents are in ready to use format
- Very fast process (20 min)
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B4148/B4196

MLN sample cleaner

Sieve machine with aspiration and deawner.

The cleaning procedure essentially corresponds to that of a normal process-cleaning machine

- Fully automatic cleaning
- With deawner and aspiration
- Quick sieve change
- Maintenance-free

Usage area

The proportion of impurities (coarse particles, fine particles, aspiration discharge) and the proportion of quality grain can be determined directly upon receipt using a sample. This makes it possible to accept quality grain and reject batches that do not fulfil the contractual conditions in a targeted way.



Insect sieve Sieve box with drawer

Determination of insect attack during acceptance and storage

Function

Add a representative sample of approx. 100 g and sieve by hand for one minute making movements back and forth. Then check the removable white drawer for the presence of beetles or insects. The effect can be increased by heating the sample.



Sortimat

Laboratory sorting machine

Usage area

The Sortimat is designed for sorting and classifying agricultural grain crops.

The focus of use is in the boldness determination of brewing barley. The Sortimat can be used to appraise the productive capacity of grain, legumes, oil seeds and pellets.



Sample Preparation



Sample extraction becomes easier. Crush and grind grains like rice, wheat, corn, sorghum, bean, sweet potato, potato, potato vine and other massive plants and fibre feeds before analysis.

Features:

- Also used to crush kinds of straw with good quality and high capacity
- High performance
- Excellent functionality

PEST MOTH TRAP



SpectraAlyzer Oil Analyzer

Oil Analyzer

Samples

- Sunflower
- Groundnut
- Cottonseeds
- Soybeans
- Rapeseeds

Parameters

- Moisture
- Fat
- Protein
- Ash
- Oil



SpectraAlyzer - Oil Analysis

ZEUTEC

Worried about
checking quality
parameters in
Oil???

SpectraAlyzer is
the solution !!!!

Analysis time -45 Sec



Products - Rice Bran oil, Sunflower Oil, Safflower Oil, Palm oil, Mustard oil, Cottonseed oil and many more...

Parameters - Free Fatty Acids, Color, unsaponifiable matter, Iodine value, Saponification value, Peroxide value, Riechert Meissl Number and many more....

1000kg Digital Scale Checked Plate with A12 Indicator

- 1) Single deck (without bottom-border frame)**
- 2) 5mm thick whole checker plate platform**
- 3) Mild steel structure, powder-coated finishing,**
- 4) U shape beams by moulds**
- 5) with A 12 indicator and monitor display**
- 6) Stores up to 7 unit prices**
- 7) Built in rechargeable batteries**
- 8) High precision load cell and heavy duty scale body**
- 9) Checker plate of flat plate optional**
- 10) Speedy weighing and good stability**
- 11) Can be placed and use directly on the floor**



Sample Preparation



Sample extraction becomes easier. Crush and grind grains like rice, wheat, corn, sorghum, bean, sweet potato, potato, potato vine and other massive plants and fibre feeds before analysis.

Features:

- Also used to crush kinds of straw with good quality and high capacity
- High performance
- Excellent functionality

ANKOM

TECHNOLOGY

ANKOM²⁰⁰⁰ FIBER ANALYZER



Introducing the Automated Fiber Analyzer

- Performs Crude Fiber, ADF and NDF determinations
- Automatically adds required solutions and hot water rinses
- Batch Process up to 24 samples at one time
- Accurate and Precise results, time after time
- Computerized controls eliminate technician variability

The ANKOM²⁰⁰⁰ Fiber Analyzer automates fiber determinations. Capable of Acid Detergent, Neutral Detergent and Crude Fiber analysis, the ANKOM²⁰⁰⁰ eliminates chemical and hot water handling. The samples are prepared using ANKOM Filter Bag Technology and placed in a bag suspender. At that point the technician simply selects the analytical method on the computer controller and pushes a button. The system automatically adds the appropriate chemicals and performs the necessary rinses. The solution is heated and solubilization takes place without manual intervention. When the process is complete, the technician simply removes the bags and completes a final drying before weighing the samples.

Also Available ANKOM²⁰⁰ FIBER ANALYZER

Used in over 85 countries around the world, the ANKOM²⁰⁰ Fiber Analyzer provides a low cost alternative for the laboratory seeking increased efficiency. Technicians simply add the required solutions and hot water rinses according to the method and the ANKOM²⁰⁰ handles the rest.



ANKOM Technology is the developer of Filter Bag Technology (FBT).

Samples are completely encapsulated which insures ease of handling and virtually eliminates error. Operator exposure to chemicals is eliminated. Using Filter Bags, productivity soars as samples are batch processed in an automated system. The samples per day your lab can process will dramatically increase. Costs are decreased as your technicians are free to take on other tasks while the ANKOM automated analyzer handles the process.

- Accurate Results
- Increased Precision
- Batch Processing
- Lower Costs
- High Output

ANKOM

TECHNOLOGY

Helping To Feed The World!


[BACK](#)
[CONTROLS](#)
[FORWARD](#)

ANKOM^{2000/200}

FIBER ANALYZER

Specifications

| Sample Specifications | | |
|----------------------------|-----------------------|----------------------|
| Sample Size | 0.5 – 1.0 gram | |
| Fiber Range: | 0% - 100% | |
| Samples per batch: | up to 24 | |
| | | |
| | | |
| Samples per day | | |
| Acid Detergent Fiber = | 144 | |
| Neutral Detergent Fiber = | 120 | |
| Crude Fiber = | 96 | |
| | | |
| Instrument Specifications: | ANKOM ²⁰⁰⁰ | ANKOM ²⁰⁰ |
| Dimensions: | 18”w x 14.5”d x 23”h | 16”w x 9”d x 20”h |
| Operating Temperature | 100°C | 100°C |
| Power Requirements | 120 – 240V, 50/60 Hz | 120–240V, 50/60 Hz |
| Weight | 46 kg. | 20 kg |
| | | |
| | | |
| | | |
| | | |

Helping To Feed The World!

ANKOM Technology is the developer of Filter Bag Technology (FBT) used around the world for fiber and fat analysis. With customers in over 85 countries, ANKOM has a reputation for quality and innovation. Constantly seeking to develop better methods for time consuming analytical methods, ANKOM Technology focuses on customers needs. We offer instruments, chemicals and other ancillary products to support fiber studies, crude fat extraction, total fat extraction, *in vitro* and *in situ* research and more. We work hard to keep costs low with quality and service high.



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Macedon, NY 14502

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E-mail: newproducts@ankom.com



edge[®]

pH, EC and DO Meter

A lightweight and versatile meter that can be used in portable, wall-mount and benchtop configurations

 **HANNA**[®]
instruments

Digital electrodes

edge® measures pH, conductivity and dissolved oxygen through its unique digital electrodes. These digital electrodes are auto-recognized, providing sensor type, calibration data and a serial number when connected to edge® by an easy to plug-in 3.5mm connector.

edge® features Hanna's exclusive pH CAL Check™ to warn you if the electrode in use is not clean or if your buffers are contaminated during calibration. We have added Sensor Check™ for pH sensors with a matching pin. Our Sensor Check™ feature warns you if the pH bulb is cracked and/or the junction of the electrode is compromised.



3

parameters—pH,
EC and DO

0

footprint

0.5

inch thick
(12.7 mm)

8.8

oz. weight
(250 g)

8

hours battery
life

5.5

inch display
(14 cm)

2

USB ports



A hybrid meter that can be used in portable, wall-mount and benchtop configurations

The versatile design of edge® enables it to be used as a portable, wall-mount or benchtop meter. edge® simplifies measurement, configuration, calibration, diagnostics, logging and transferring data directly to a computer or USB drive.



• Portable field unit

- edge® is ideal for field use due to its light weight, large screen and thin design. It can be easily slipped into a backpack or messenger bag. Up to 8 hours of battery life when used as a portable device

• Wall mount cradle

- The included wall mount cradle makes it easy to conserve space on the benchtop and can charge edge® with the AC adapter. Ideal for continuous monitoring applications

• Electrode holder with built-in cradle

- The included electrode holder features a swivel, adjustable arm with a built-in cradle to hold edge® securely in place at the optimum viewing angle

edge® technical features



- **Two USB ports**
edge® includes one standard USB for exporting data to a flash drive. edge® also includes one micro USB port for exporting files to your computer as well as charging edge® when the cradle is not available.



- **Clear, full text readout**
edge® features clear, full text guides displayed on the bottom of the screen. There is no need to decipher scrambled abbreviations or symbols; these helpful messages guide you through every process quickly and easily.



- **Data logging**
edge® allows you to store up to 1000 log records of data. Logging data sets include readings, GLP data, date and time.



- **GLP**
Data from the last calibration you perform is stored in the sensor including the date, time and standards. When any sensor (pH, EC, or DO) is connected to edge®, GLP data is automatically transferred.



- **Basic mode**
You can use edge® in basic mode—ideal for routine measurements by displaying a simplified screen and features.

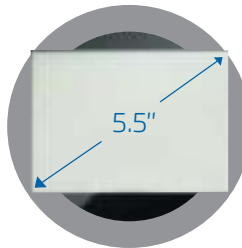


- **CAL Check™**
(edge® pH measurement only)
edge® features Hanna's exclusive CAL Check™ technology to warn you if the electrode bulb is not clean or if the buffers are contaminated during calibration.

edge® design features



- **Capacitive touch keypad**
edge® features a capacitive touch keypad that gives a distinctive, modern look. Since the keypad is part of the screen, your buttons can never get clogged with sample residue.



- **Easy to read LCD**
edge® features a 5.5" (14 cm) LCD display that you can clearly view from over 5 m (16.4'). The large display, with its wide 150° viewing angle, provides one of the easiest to read LCDs in the industry.



- **Zero footprint**
Using the wall mount cradle (included), edge® can be placed on a wall, leaving zero footprint on the benchtop space. The cradle has a built-in connector to power edge® and charge its batteries.



- **3.5 mm probe Input**
Plugging an electrode in has never been simpler; no alignments or broken pins, simply connect the 3.5 mm plug and begin. Digital electrodes are automatically recognized.



- **Sleek design**
Incredibly thin and lightweight, edge® measures just 1/2" (12 mm) thick and weighs just 8.8 ounces (250 g).

Accepts pH, EC and DO edge® compatible probes



K1100F

Automatic Kjeldahl Analyzer

Hanon K1100F Automatic Kjeldahl Analyzer is an automatic device integrating distillation and titration functions designed based on classic Kjeldahl nitrogen determination method. It' s equipped with the latest core control system, powerful automation and high-quality components, can easily achieve automatic waste discharge and cleaning of digestion tubes and titration cups, control steam supply and real-time detection of condensation temperature. High-accuracy charging pump and titration system ensure test results accuracy, and multiple fluid level detection gives smooth test process.



Characteristics

- Automatic distillation, titration, calculation, printing, drain and cleaning function, safety and saving-time.
- Visibletitration cup design gives operatorreal-time control of the whole test process.
- Steam flow is controllable, satisfying differenttest requirements.
- Regent barrel enjoys fluid absence warning function, ensuring smooth test going.
- High-precision charging pump and titration system ensure test results accuracy.
- Large LCD touch screen gives visual operationand abundant information,enabling user to have a good commandof it.
- USB or RS485 interface is optional for PC connection.
- Distilled liquid temperature is detected real time. Emergency stop against temp anomaly.
- Double distillation modelmeets different experiments, to retard the speed of acid-base reaction.
- Digestion tube fast drain function is used to avoid operator touch distilled hot reagents, protecting operators.
- Printer is built in.

Complete microcomputer control

Automatic completion of distillation, titration,calculation, printing, waste discharge and multiple protections, i.e.failure self-detection,hints of condensed water shortage, displacement of safety door and digestion tube and so on.

Large LCD Touch Screen Panel

Large LCD touch screen gives visual operation and abundant information,enabling user to have a good command of it.



K1100F

Complete compatible design
Compatible with congeneric products perfectly

Performance advantage

- Compatible with $\phi 42$ mm digestion tube
- Titration while distillation, enhance the efficiency rapidly.
- User friendly design, color touch screen, easy for operating
- Faster ARM system, faster operating rate
- Digester model SH220F and SH420F is matching K1100F, with $\phi 42$ digestion tube



Technical data

| | |
|---|---|
| Measuring range | 0.1mg ~ 240mg N |
| Analysis time | 5 ~ 10min/sample |
| Reproducibility | Average value relative error $\leq \pm 0.5\%$ |
| Recovery | $\geq 99.5\%$ |
| Burette volume | 1.0 μ L/step |
| Sample capacity | solid ≤ 5 g/sample, liquid ≤ 20 mL/sample |
| Water consumption in the distillation process | 1.5L/min |
| Data storage capacity | 1800 groups |
| Power supply | 220VAC $\pm 10\%$, 50Hz |
| Power | 2Kw |
| Net weight | 38Kg |
| Dimensions | 455mm \times 391mm \times 730mm |



K9860

Automatic Kjeldahl Analyzer

K9860 Automatic Kjeldahl Analyzer is an automatic device integrating distillation and titration functions designed based on classic Kjeldahl nitrogen determination method. It's equipped with the latest core control system, powerful automatic degree and high-quality components, can easily achieve automatic cleaning of digestion tubes and titration cups, control steam supply and have real-time detection of condensation temperature. High-accuracy charging pump and titration system ensure test results accuracy, and multiple fluid level detection gives smooth test process.

Characteristics

- Automatic cleaning ensure operator safety and save time.
- External titration cup design gives operator real-time control of the whole test process.
- High-precision charging pump and titration ensure test results accuracy.
- The temperature of distilled liquid is detected real time. If the temperature of distilled liquid is abnormal, to ensure the accuracy of experiment's result, instrument will stop working.



Features

- High accuracy dozing and working: adopt 4 KNF pumps work for dozing, measurement liquid volume.
- Easy Maintenance: Pre-install functions of cleaning, include receiving cup cleaning, alkali pipeline cleaning, boric acid pipeline cleaning, acid washing, steam bottle evacuation. support customer make the routine maintenance easily.
- High titration accuracy, up to 2.0μL/step.
- Integrated printer on the instruments



Technical data

| | |
|---|---------------------------------------|
| Measuring range | 0.1mg ~ 240mg N |
| Analysis time | 5 ~ 10min/sample |
| Reproducibility | Average value relative error ≤±0.5% |
| Recovery | ≧99.5% |
| Burette volume | 2.0μL/step |
| Sample capacity | solid ≧5g/sample, liquid ≧20mL/sample |
| Water consumption in the distillation process | 1.5L/min |
| Data storage capacity | 1000 groups |
| Power supply | 220VAC±10%, 50Hz |
| Power | 2Kw |
| Net weight | 38Kg |
| Dimensions | 455mm×391mm×730mm |



K9840

Auto Kjeldahl Distiller

Hanon K9840 Auto Kjeldahl Distiller is designed to determine nitrogen content of samples based on the Kjeldahl nitrogen determination method. Fully intelligent software is able to complete sample distillation within minutes, boasts automatic reagent quantification and filling, automatic test. The distillation and condensation automatic cleaning system further enhances measurement precision; explicit interface is easy for operation. It is widely used in food processing, feed production, tobacco, livestock, soil fertility, environmental monitoring, medicine, agriculture, scientific research, teaching, quality control and other fields for the test of nitrogen or protein content, can also be used for the test of ammonium, volatile fatty acid / alkali, and so on.

Characteristics

- Display: 4.3 inch color screen.
- Manual/Automatic mode changeover free.
- Automatic Alkali pipeline washing function.
- Automatic or manual filling mode is optional according to test need.
- Distillation time can be edited freely, and automatic alarming upon completion.
- Automatic cleaning of control system and distiller, ensuring high measurement accuracy.
- Intelligent design of nitrogen tube peripheral facilities including safety designs and displacement hint.
- Intelligent cooling water control system achieves cooling water control and test.
- Emergency stop operation is able to deal with unexpected accidents.
- Automatic fault detection and intelligent audible and visual alarm system are available.
- Calibration Function: Dilution water calibration, Alkali solution calibration, Boric acid solution calibration, washing flow calibration.
- Safety door, digestion tube and cooling water condition is displayed at real time when running.
- Testing model is built in, for detect most functions condition.



Features

- Automatic accurate distribute alkali and boric acid solution.
- Perfect safety protection system gives distiller and tubes measurement and protection against over temperature and over pressure.
- Calibration Function: Dilution water calibration, Alkali solution calibration, Boric acid solution calibration, Washing flow calibration.
- Safety door, Digestion tube and cooling water condition is displayed at real time when running.



| Technical data | |
|---------------------------|---|
| Measuring range | 0.1mg ~ 240mg N |
| Recovery | ≥ 99.5% |
| Sample capacity | solid ≤ 6g/sample, liquid ≤ 16mL/sample |
| Distillation speed | 3-6min/sample |
| Cooling water consumption | 1.5L/min |
| Operating mode | Manual/automatic mode |
| Display modes | 4.3" LCD screen |
| Power supply | 220VAC±10%, 50Hz |
| Power | 1.3KW |
| Net weight | 30Kg |
| Dimensions | 400mm×385mm×735mm |



SH420F Kjeldahl Digestion System

Hanon SH420F Graphite Digester adopts globally advancedhigh-temperature infrared radiation heating technology and microprocessor control platform,accurate temperature control and quick temperature rise. It has two kinds of temperature rise mode: linear and curve temperature rise mode, and offers 20 digestion programs for control of temperature rise curves.

Neutralization system is including ternary filtration functions, condensation, neutralization and filtration. The product adopts high-quality anticorrosive Pumps, low noise, strong suction, reduce exhaust emissions, eco-friendly.

Characteristic

- 20positions enhance working efficiency rapidly.
- Graphite block have longer life after special anti-oxidation processing and heating more uniform.
- Corrosion-resistant design.
- It adopts advanced PID temperature control technology,high accuracy heating up to 400℃ only 25minutes.
- Multi-protection, Over-current protection, high temperature warning, overload protection.
- It adopts 5.7" color screen, easy for use.
- Standard configuration with waste gas collection hood WD03.
- Temperature control model , program control, curve and linear temperature rise.

S402 Exhausting System

- Mould design, compact appearance.
- Absorption device area is translucence design, easy for inspection and changing.
- Suction pressure is adjustable when become negative, to avoid acid gas spilling oremptying.
- Anticorrosion vacuum pump, low noise, large suction, reduce wasted gas exhausting and environmental friendly.
- Ternary filtration system (water condensation, alkali neutralization and active carbon filtration) ensure perfect neutralization and absorption performance. PTFE anticorrosion pipe design, improve using life.



S402



SH220F Kjeldahl Digestion System

SH220F Graphite Digester includes globally advanced technology, features quick digestion, high efficiency and easy for use, etc., It' s widely used in such fields as food, medicine, agriculture, forestry, environmental protection, chemical engineering, biochemistry, as well as universities, research departments and so on, for sample digestion prior to the chemical analysis of soil, feed, plants, seeds, minerals etc., suitable for matching K9840 analyzer.

Characteristic

- 20 positions, enhance working efficiency rapidly.
- Corrosion-resistant design.
- It adopt advanced insulation technology, eco-friendly, reduce energy intensity maximum limitedly.
- Multi-protection, Over-current protection, high temperature warning, overload protection.
- LCD display.
- It's used with microwave reaction system, pretreat for microwave digestion or removing acid after digestion.
- Linear and curve temperature rise mode, up to 5 stages temperature setting.
- Curve temperature rise and linear temperature rise two temperature control modes.

The SH220F has two temperature control modes: curve heating and linear temperature heating. It can edit and store 10 groups of digestion programs. Each group can set up a segment temperature and time gradient of up to 5 to meet different experimental needs of users.

Note:“●”with the same technical index;“—”without

| Technical data | | |
|---------------------------|--|-------------------|
| SH420F | | SH220F |
| Temperature range | Room temperature +5 - 450 ℃ | ● |
| Temperature accuracy | ±1 ℃ | ● |
| Heating method | Infrared heating and high-purity graphite conduction | ● |
| Heating insulation method | unique air duct insulation technology | ● |
| Digestion tube capacity | 300mL | ● |
| Capacity per batch | 20pcs/batch | ● |
| Power supply | 220 VAC±10% 50HZ | ● |
| Power | 3600W | ● |
| Dimensions | 515mmX458mmX730mm | 515mmX421mmX211mm |
| Net weight | 40Kg | 25Kg |



SH220F

Graphite block have longer life after special anti-oxidation processing.

It adopt advanced PID temperature control technology, high accuracy heating up to 400℃ only cost 20minutes.

WD03 Gas Collection Hood

Using PFA sealed cap, longer life, dealing effect well.

Clip-on sealing cap, easy for changing.

Specialized water jet vacuum pump is adopted, don' t need electric power.

Drip tray design, reduce corrosion damage from acid solutions.



SOX606

Auto Fat Analyzer

SOX606 Automatic Soxhlet Extractor, designed based on the Soxhlet extraction principle with weight method to determine the fat content. It has five extraction methods to meet different demands from customer. The whole metal heating module, heating up fast, good effect, low power consumption; access to all-round water temperature, flow control, environmental protection more economical; built-in ether leak detection device to ensure experimental safety. It is widely used in agricultural, food, chemical, environment and other areas, especially for the drug, soil, sludge, cleaner and other substances in the extraction of soluble organic compounds.

Features & Advantages

- Apply to all organic solvents to satisfy all demands.
- Automatic Soxhlet standard method, it customized by glass and PTFE, which can block all impurities and possess high rate of accuracy.
- One click manipulation for start and pause, that makes operation with high proficiency.
- Analyzer allows its controller to adsorb on any surface that made by iron.
- Vertical screen, more humanization.
- In-built 5 methods of extraction, handy operation.
- Preset common reagent options, one-click manipulation for repeated trials.
- The overall heating module, that possesses features of warming faster, favorable effect and low power consumption.
- Full temperature and flow control for environmental and economy.
- In-built ether leak detection device to ensure experiment safety.
- Efficient solvents recovering system for reduce experimentation cost.



Automatic extraction

One touch to start extraction, lifting, pre-heating, extraction, dilution, solvent recovery automatically.

In-built 5 unique methods of extraction, handy operation.

Include Soxhlet Extraction, Soxhlet Hot Extraction, Continue Flow Extractioin, Hot Extraction, CH Standard methods.

Apply to all organic solvents

Customized by glass and PTFE, which can block all impurities and possess high rate of accuracy, apply to all organic solvents, satisfying the requirements of users.

ECO- friendly and conservation

Full temperature and flow control for reduce consumption of condensed water.

Technical data

| | |
|----------------------|-----------------------------|
| Temperature range | Room temperature +5℃ ~ 300℃ |
| Measuring range | 0.1 ~ 100% |
| Temperature accuracy | ±1℃ |
| Reproducibility | Relative error 1% |
| Sample weight | 0.5 ~ 15g |
| Capacity per batch | 6pcs/batch |
| Solvent cup volume | 150mL |
| Solvent recovery | ≥85% |
| Controller | External via cable |
| Power supply | 220VAC±10%, 50Hz |
| Display | 7 inches color touch screen |
| Power | 2.6KW |
| Dimensions | 650mm×380mm×720mm |
| Net Weight | 50Kg |



SOX406

Semi-auto Fat Analyzer

Hanon SOX406 Fat Analyzer is based on the Soxhlet extraction principle and integrates such functions as soaking, extraction, leaching, heating, condensation and solvent recovery. It features sealed metal bath heating with automatic temperature control, ensuring uniform heating and safe operation; six samples can be tested at the same time, and optimal temperature can be selected according to the difference between reagent boiling point and ambient temperature so as to achieve quick analysis; reagents can also be recycled to reduce test cost; and soaking, extraction and solvent recovery can be done in one step. Therefore, this device is characterized by reasonable design, stable performance, good reproducibility, high accuracy, easy operation, saving time and effort, and so on.

Scope of application:
SOX406 Fat Analyzer can quickly separate one substance from solid or semi-solid mixtures, can determine the soluble organic compounds contained in foods, feeds, medicines, soil, sludge, polymers, fiber products, petrochemical products, detergents, rubber, plastics and other materials.

Characteristics

- Integral metal heating, wide scope and high precision of temperature control.
- Electric circuit is isolated from the extraction space, ensuring device security.
- Timer and timing functions are available.
- Over-temperature alarming and timer reminding functions are available.



- Triple alarms i.e. sound, light, LCD screen word prompts are available.
- Abundant interface contents give simultaneous display of given temperature, actual temperature, given time and heating time.
- The lifting connection of linear bearing conduction technique gives smooth and comfortable lifting operation.
- Intelligent man-machine dialogue control system.
- Exclusive air insulation technique leaves the case in room temperature, has thermal insulation and temperature maintenance two functions.
- 4.3" LCD screen and microcomputer control system are adopted.

Technical data

| | |
|---------------------------|---|
| Temperature range | Room temperature+5℃ ~ 280℃ |
| Measuring range | 0 ~ 100% |
| Temperature accuracy | ±1℃ |
| Sample weight | 0.5 ~ 15g(generally 2 ~ 5g,depending on sample) |
| Capacity per batch | 6pcs/batch |
| Solvent cup volume | 80mL |
| Solvent recovery | ≥80% |
| Shortened extraction time | 20 ~ 80% |
| Power supply | 220VAC±10%, 50Hz |
| Power | 1KW |
| Dimensions | 650mm×320mm×715mm |
| Net Weight | 35Kg |



F800

Hanon F800 Fiber Analyzer is with advanced design, easy operation and flexible application. It can be used in conventional Weende method to analyze crude fiber and Van Soest analysis to wash the fiber. Applies to plant, feed, food and other agricultural products as well as the determination crude fiber, neutral detergent fiber (NDF), acid detergent fiber (ADF), hemicellulose and acid detergent lignin (ADL).

Features and Advantages

- Hidden solution barrel pull structure designed to facilitate dosing operation, provide the safest fiber analysis.
- Corrosive liquid is not in contact with any pump body, to avoid waste discharge pump susceptible to corrosion phenomena.
- The crucible recoil function designed to prevent sample in the crucible can not caking filtration.
- With dosing overflow protection function , to prevent dosing corrosive liquid overflow due to operator error, protect the safety of the operator.
- Adjust the crucible heating power in time, enabling customers to control the heating rate easily and low down the energy consumption, ECO-friendly.
- Having a built-in pre-heating function, greatly reducing the whole experiment time.
- Provide five various specifications crucible specifications to meet the needs of different samples for standard configuration.
- Can detect crude fiber, neutral detergent fiber (NDF), acid detergent fiber (ADF), hemicellulose and acid detergent lignin (ADL).



Precise control experiment

Test time can be set free, clockwise and countdown timing functions are available, real-time reminder end of the experiment, the experimenter to facilitate precise control experiment, save test time, improve efficiency.

Integrated infrared heating technology

Advanced integrated infrared heating, more uniform heating of the crucible fast, more consistent sample extraction, higher extraction recovery, thereby improving the accuracy of test results.

Optional peripheral accessories: cool extractor. Experiments can go fat, washed with acetone extraction after detection of acid lignin and other steps.

Technical data

| | |
|---------------------|--------------------------------------|
| Measurement range | 0.1% ~ 100% |
| Sample weight | 0.5g ~ 3g |
| Repeatability error | Crude Fiber Content below 10%, ≤0.4% |
| | Crude Fiber Content above 10%, ≤1% |
| Capacity | 6 pcs/batch |
| Pre-heating time | 10-12min |
| Heating to boiling | 13-15min |
| Display | 7 inches touch color screen |
| Rated power | 2.2KW |
| Power supply | 220 VAC ±10% 50Hz |
| Dimension | 776mm×476mm×644mm |



Auto Digital Polarimeter

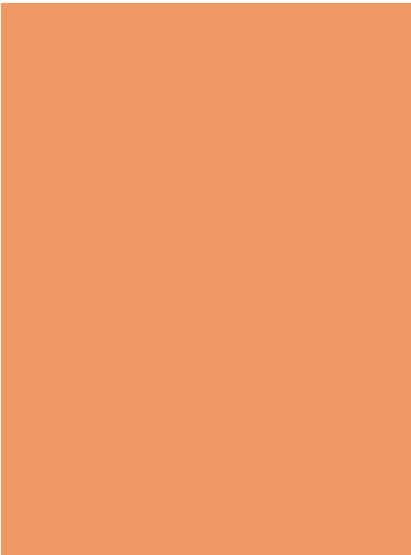
P810/P850/P810 Pro/P850 Pro

P Series Polarimeter with automatic photoelectric inspection technology, boasts accurate and reliable measurement, convenient operation. By detecting the optical rotation, the density, content and purity of substances can be analyzed and determined. It' s widely used in pharmaceutical, petroleum, food, chemicals, flavors, spices, sugar marking and other industries , and universities and research institutes.

New upgraded models: P810 Pro/ P850 Pro adopt brilliant Android system and communication ports, let new models meet FDA CFR21 part 11.

New P810 Pro/ P850 Pro New Characteristics

- Adopt a 8 inch TFT touch screen, with the Android system, let the operating easier.
- Meet FDA 21CFR part11.
- User ID management function. Users ID are available for adding, deleting and jurisdiction setting.
- Timing measuring and graphic display function, displaying the samples optical rotation changing dynamic process.
- 8GB room for data storage.
- Classify and synchronous result searching function is convenience for user's result searching.
- 3 USB port for U-Disk, keyboard mouse connecting. And WiFi for connecting printer. Let operating much easier.



Features

Peltier Temperature Control

The Peltier system automatically controls the sample temperature in the max range from 10 °C to 50 °C.

User Calibration System

Additional Standard polarization tubes with software for calibration by user.

Large Color Touch Screen

Large color touch screen display and innovative software interface give extremely convenient device operation and data acquisition. P810/P850 adopt a 5.6inch touch screen, P810 Pro/ P850 Pro adopt 8inch touch screen.

LED Light Source

High brightness LED lights with service life exceeding 100000 hours. To void the light source exchanging.

Technical data

| | P810 | P850 | P810 Pro | P850 Pro |
|------------------------------------|--|---------------------|---------------------|---------------------|
| Measuring range | ±89.99°Arc; ±259°Z | | | |
| Measuring Model | Optical Rotation; Specific Rotation; Concentration; Sugar Degree | | | |
| Min.reading | 0.001°(optical rotation) | | | |
| Accuracy | ±0.01° (-45°≤ optical rotation ≤ +45°); ±0.02° (optical rotation< - 45° or optical rotation > + 45°) | | | |
| Repeatability (standard deviation) | 0.002°(optical rotation) | | | |
| Min. Transmittance | 1% | | | |
| Light Source | LED | | | |
| Wavelength | 589.3nm LED | | | |
| Temperature Control | No | Peltier | No | Peltier |
| Temperature Control Range | | 15℃～30℃ | | 10℃～50℃ |
| Temperature Control Accuracy | | 0.3℃ | | 0.3℃ |
| Communication Port | USB; RS232 | USB; RS232 | USB×3,RS232, Wi-Fi | USB×3,RS232, Wi-Fi |
| Data Storable | 1000 | 1000 | 8GB | 8GB |
| 21CFR Part 11 | No | No | Yes | Yes |
| Display | 5.6inch | 5.6inch | 8inch | 8inch |
| Sample Cell | Upto 200mm | Upto 200mm | Upto 200mm | Upto 200mm |
| Graphic | No | No | 4hours | 4hours |
| Power | 220V AC (±10%) 50Hz | 220V AC (±10%) 50Hz | 220V AC (±10%) 50Hz | 220V AC (±10%) 50Hz |
| Calibration System | Option | Option | Option | Option |



A670 / A630

Auto Digital Refractometer

Hanon A670/A630 Automatic Refractometer adopts high-performance CCD light-sensitive part, it can automatically measure the refractive index(nD) of transparent, translucent, dark, viscous and other types liquid sample, also can measure sugar degree(Brix) of sugar solution. It’ s accurate, reliable, fast, easy operation. Full compliance with FDA 21CFR part.11. A670 innovative use of cloud service systems, all the data from instrument can update to cloud server, especially for group company or government customer, automatic refractometer has a wid range of use, within the field of factories, university and related scientific research institute, petroleum, oil, pharmaceutical, paints, food, daily chemical, sugar and geological prospecting industries.



A670

Characteristics

- Completely meet the requirements of user ID classification & tracking, E-signature, and Data tamper-proof, which listed in FDA 21CFR part.11.
- High measuring resolution up to 0.00001(nD)/0.01%(Brix) (A670 only).
- Peltier accurate temperature control system is built-in, accuracy up to 0.02℃.
- Measuring prism is made of high hardness sapphire glass, of excellent properties against corrosion and scratches, free for clean and durable.
- High-resolution CCD detector offers automatic measurement, avoiding personal errors, having higher accuracy; transparent, translucent liquids or ropiness liquids samples are all available.
- High brightness LED light source with service life more than 100000 hours.
- 7-inch colour touch screen with Android system and 4GB RAM let methods and data expanding excellent.
- 2 x USB, 1 x RS232, 1 x Ethernet, can be easily connected, printer and network to facilitate users to export data or backup.

Multiple Samples Suitability

Automatic Refractometer is widely used on kinds of industries, it is one of the most common instruments in the oil industry, pharmaceutical industry, paint industry, food industry, daily chemical industry, sugar industry, geological exploration or institutions.

Perfect Measuring Prism

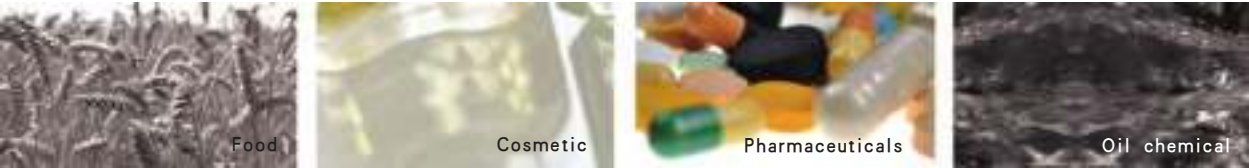
Measuring prism is made of high hardness sapphire glass, of excellent properties against corrosion and scratches, free for clean and durable.

High Performance CCD Sensor

High-resolution CCD detector offers automatic measurement, avoiding personal errors, having higher accuracy; transparent, translucent liquids or ropiness liquids samples are all available.

Ultra Long Life Light Source

LED cold light source with the long working life more than 100000 hours



Technical data

| | A670 | A630 |
|--|---|-----------------------------------|
| Refractive index measuring range (nD) | 1.30000-1.70000 | 1.3000-1.7000 |
| Measured value error (nD) | ±0.0001 | ±0.0002 |
| Measurement resolution (nD) | 0.00001 | 0.0001 |
| Scope of sugar solution mass fraction (Brix) | 0-100% | 0-100% |
| Measured value error (Brix) | ±0.1% | ±0.1% |
| Measurement resolution (Brix) | 0.1%/0.01% | 0.1% |
| Temperature control mode | Peltier | Peltier |
| Scope of temperature measuring | 0-100 ℃ | 0-100 ℃ |
| Temperature control range | 5-80 ℃ | 10-50 ℃ |
| Temperature control accuracy | ±0.02 ℃ | ±0.1 ℃ |
| Interface | RS232/USB/SD card/U disk/Internet/wi-fi | RS232/USB/SD card/U disk/Internet |
| Data storage capacity | 4GB | 4GB |
| Display modes | 7 inches, TFT touch screen | 7 inches, TFT touch screen |
| Power supply(Power adapter) | 110V~240V(12V,10A) | 110V~240V(12V,10A) |
| Power | 45W | 45W |
| Net weight | 12kg | 12kg |
| Dimensions | 365mmX300mmX150mm | 365mmX300mmX150mm |



MP420/MP430 Melting Point Apparatus

MP450/MP470/MP490 Auto Melting Point Apparatus

MP420/MP430 Video Melting Point Apparatus, and MP450/MP470/MP490 Auto-matic Video Melting Point Apparatus, perfectly integrate video technology into melting point measuring. It not only provides users with reliable melting point test result, but also intuitively displays temperature curve and real-time video image, and achieves the function of save, replay the video,stamp video and so on. It also provides better help for users to observe melting process of sample.

Features

Visual and Automatic Determination

It includes a color display to observe the phase transition, is equipped with a video camera and a video replay function which allows reviewing the melting point determination. It also suit for color samples, which tradition automatic melting point apparatus not available.

Available Testing 4 Samples Concurrently

Max concurrent sessions 4 samples each batch, record and track each result independently, meet FDA 21CFR part 11 requirements.

Multi-user ID Classify Function

Adopt User ID management function. Users ID are available for adding, deleting and jurisdiction setting.



All Screen Design

Adopt a 8 inch capacitive touch screen, with the brilliant Android system, let the operating easier.

Amazing Data Processing & Exporting

The methods, atlas and detailed result are available for storage. Connecting printer or all data export are both available.

Compliant with GLP, GMP(EU,UPS&CN) and FDA 21CFR part 11

| Technical data | | | | | |
|--------------------------|--------------------------------|--------------|-----------|-----------|-----------|
| | MP420 | MP430 | MP450 | MP470 | MP490 |
| Position Capacity | 4 | | | | |
| Magnification of lens | 8 | | | | |
| Display | 8 inch capacitive touch screen | | | | |
| Temp Range | 300℃ | 350℃ | 350℃ | 400℃ | 400℃ |
| Temperature resolution | 0.1℃ | | | | |
| Temp Accuracy | ±0.4℃ (<200℃) ±0.7℃ (<300℃) | | | | |
| Temp Gradients | Step-less setting at 0.1℃--20℃ | | | | |
| ID classify | No | 20 | 20 | 30 | 100 |
| Camera&Video | Camera | Camera&Video | | | |
| Video Replay | Manual | Manual | Automatic | Automatic | Automatic |
| Model | No | Yes | | | |
| Graphic | 0 | 0 | 100 | 200 | 500 |
| Methods Storage Capacity | 0 | 30 | 30 | 80 | 200 |
| Rom Capacity | 8GB | 16GB | 16GB | 32GB | 128GB |
| FDA CFR21 part 11 | No | Yes | No | Yes | Yes |
| Communication Ports | USB×3,RS232, Wi-Fi, RJ45 | | | | |



Guide Line Automatic Titrator

1. Which industry field does titrator mainly used in?

Automatic Titrator belongs to general laboratory infrastructure, usage range is very wide. It can be used in food, medicine testing, disease control, inspection, water treatment, petroleum, chemical, marine, power, environment protection, new energy, teaching, scientific research and other related fields.

2.How to identify the accuracy of Titrator?

Identify the accuracy of Titrator by testing a standard sample of known concentration.

3.What is zero-dead volume solenoid valve?

Hanon Titrators, adopt the top-level solenoid valve, ensure solenoid valve switching on or off with no residual liquid, make the instrument obtain more accurate titration precision.

4.How ong should we replace the electrode?

According to the use frequency of customer and service life of the electrode, we should consider replacing electrode first when the result occur large deviation or parallelism is not good.

5.What's the consumable of Titrator during normal usage?

The consumable of instrument mainly measure electrode and reagent required in the daily experimental process.

6.What's the requirements of the laboratory environment for Titrator?

Ensure normal power of work and smoothness of experimental platform, no interference of strong magnetic field.

T860 Auto Titrator

Hanon T860 Automatic Titrator is a lab titration device with high analysis accuracy under the principle of potentiometric titration. It with modular design and consist of three parts: volume titration device, control device and measuring device. The titration methods include macro titration, micro titration, volume setting titration, EP, etc.

Characteristics

- Zero-dead volume solenoid valve, changing easily for PTFE burette.
- Ultrathin stirring device, adopt coil realize magnetic Stir.
- Accuracy closed-loop control for volume.
- High-accuracy burette accurate to 0.005mm.
- Simple design, discrete stirring unit, detachable easily.
- LCD touch screen.
- Wide operating voltage range 110~240V, apply to global client.

Specification

| | | |
|------------------|----------------------|---------------------|
| Measurement mode | MEAS | pH/mV |
| | CAL | pH calibration |
| | SET | End point setting |
| | MET | monotonic titration |
| Burette | Volume | 15mL/25mL |
| Stirring | Mode | magnetic |
| | Titration cup volume | 100mL |
| Electrode | mv/pH | 1 x BNC |
| | Reference | 1 |
| | PT1000 | 1 x NTC |
| Communication | USB | 1 |
| | Stirrer | 1 |
| | Power | 1 |
| | Printer | 1 |

Technical

| | | |
|-------------|----------------------|-------------------------|
| mV/pH | Measurement range | ±1,999 mV 0.00~14.00 pH |
| | Resolution: | 0.1 mV / 0.01 pH |
| | Error | 0.2 mV / 0.02pH |
| PT1000 | Measurement range | 0-100 ℃ |
| | Resolution: | 0.1 ℃ |
| | Error | 0.2 ℃ |
| Burette | 15 mL tolerance | ±0.025mL |
| | 25 mL tolerance | ±0.035mL |
| | Dosing Repeatability | 0.20% |
| | mV Repeatability | ≤0.2mV |
| Controller | Display | 7" inch touch screen |
| Information | Weight | 10 Kg |
| | Power | 110-240V,50/60 Hz |





T960 Auto Titrator

Hanon T960 Automatic Titrator meet the demand of mult complex liquid inlet automatically. There is no need to add solution manually. With the most secure built-in burette, to avoid contact with harmful chemicals which protect user security; Cloud services , connect via the Ethernet port ,to achieve the sharing between the instrument and Hanon huge database.Lead the laboratory instruments to Cloud generation.

Characteristics

- Multi-Channel modular combination, combine up to 4 dosing units & 6 channels work at same time.
- 3 standard burettes (5ml/10ml/25ml) available for options according to different application.
- Unique built-in dosing unit to avoid the harmless chemical leak.
- Multiple self-checking function to avoid mis-operating.
- Flexible application edit functions, users can storage your own titration mode according to your testing and use the storage mode next time with one click.
- RS232/USB port,with networked CAN bus communication functions.
Can work with external 16-samples auto-sampler, making the multitasking operation much easier.

Mixed synchronous inlet system

The world's leading Mixed synchronous inlet system with 4-channel sample inlet simultaneously, supports expand up to 6 channels. Totally automatic in add titrant, any combination of additives or auxiliary agents.

Built-in burette

The most secure built-in burette, burette built in the instrument and can be observed though the window during the test to avoid the harmless chemical leak. Burette volume is optional:5ml/15ml/25ml

Cloud Service

With ethernet interface,it can storage the database to the cloud server.Lead the laboratory instruments to Cloud generation.

Titration platform diversification

Flexible to work with independence titration stand or 16 auto-sampler, multi-tasking operating through 16 auto-sampler can be fully automated, the whole process without staff to monitor, improve the work much more efficiency.

Note:“●”with the same technical index;“○”optional

Technical data

| | T960 BASIC | T960 PRO | T960 PLUS |
|---|--|----------|-----------|
| MV measurement range | -2000.0MV ~ +2000.0MV | ● | ● |
| MV measurement | Resolution 0.1MV , Accuracy0.1MV | ● | ● |
| pH measurement range | -20.000PH ~ +20.000PH | ● | ● |
| pH measurement | Resolution 0.001PH , Accuracy 0.003PH | ● | ● |
| Temperature measurement range | -5 ~ 120 ℃ | ● | ● |
| Temperature measurement accuracy | ±0.1 ℃ | ● | ● |
| Communication mode | 2*USB/RS232/Ethernet | ● | ● |
| Maximum quantity of extended titration module | 2 | 4 | 6 |
| Maximum quantity of charging module | 2 | 4 | 4 |
| Burette volume | 5ml 10ml 25ml | ● | ● |
| Burette resolution | 1/48,000 | ● | ● |
| Time of the burette charging | 16 seconds (100% charging speed) | ● | ● |
| PC control | ● | ● | ● |
| Electrode connector type | mv/pHmeasurement electrode connetor/refer- ence electrode connector/PT1000 tempera- ture electrode connector | ● | ● |
| Auto-Sampler | 16 positions (Optional) | ○ | ○ |

HN200

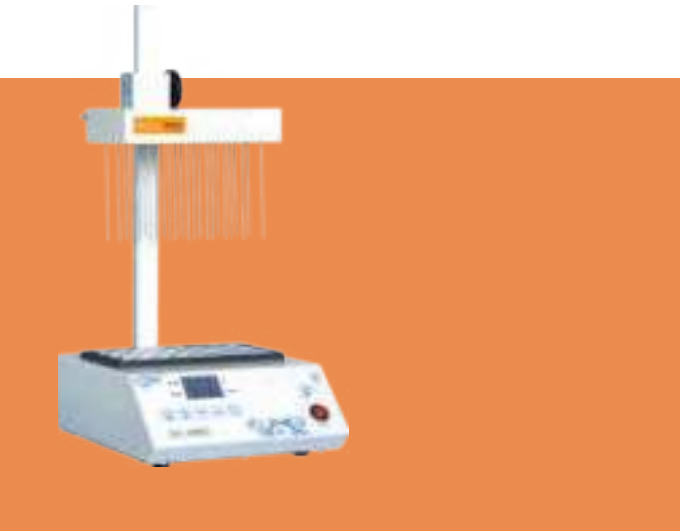
Sample Concentrator

Hanon HN200 Sample Concentrator is mainly used in the concentration of samples in batches, such as drug screening, hormone analysis, liquid/gas phase, as well as mass spectrum analysis.

The use of sample concentration instead of the commonly used rotary evaporimeter for concentration, can have simultaneous concentration of dozens of samples, which can short the sample preparation time greatly, and has the advantages of time-saving, easy operation and fast.

Characteristics

- Sample visualization.
- Module optional, with 5ml /12 hole, 5ml /24 hole, 20ml /12 hole, 20ml / 24 hole.
- Automatic fault detection and alarming.
- Built-in over-temperature protection device.
- Flow-meter pressure reducing valve is optional.



Each blowing needle can be controlled independently,the height of gas cavity is adjustable

| Technical data | |
|----------------------|---------------------------------|
| Temperature range | Room temperature +5℃~180℃ |
| Heating time | ≤30min (from 40℃ to 180℃) |
| Temperature accuracy | ±0.5℃(40-100℃) ±1℃(100~180℃) |
| Display accuracy | 0.1 |
| Display mode | LED display |
| Nitrogen flow | 0-10L/min |
| Nitrogen pressure | ≤0.1MPa |
| Dimensions | 280mmX240mmX500mm |

i Series UV-VIS Spectrophotometer

i2/i3/i5/i6/i7/i8/i9

i2 Visible Spectrophotometer



- 1.Standard scanning software can directly complete functions of Quantitative;Kinetics;Wavelength Scan; Multi Wavelength; DNA/Protein and Data processing.
2. Can establish calibration curves and implement associated tests. The instrument internal can be stored with 200 groups of data and 200 standard curves.
3. Suspended posture optical system design, strengthen and thicken the bottom plate to eliminate the vibration or transformation's impact on the optical system.
4. Automatic wavelength calibration and automatic deviation repair.
5. Tungsten and Deuterium lamp can be changed easily, without adjustment.
6. Standard with PC software.

i3 UV-VIS Spectrophotometer



- 1.Standard quantitative software can directly complete photometric analysis, quantitative test and processing of analytical data.
- 2.Can establish calibration curves and implement associated tests. The instrument internal can be stored with 200 groups of data and 200 standard curves.
- 3.With calibration curve method, we can establish multiple-point standard curve directly, on basis of which we can measure the concentration of the unknown sample.
- 4.With coefficient method, we can implement sample measurement directly after inputting coefficient of the curvilinear equation.
- 5.Automatic wavelength calibration and automatic deviation repair.
- 6.Deuterium and tungsten lamp can be changed easily, without adjustment.
- 7.Standard with PC software

i5 UV-VIS Spectrophotometer



- 1.The main unit and PC software can independently implement functions of Quantitative;Kinetics;Wavelength Scan; Multi Wavelength; DNA/Protein and Data Printing.PC software can complete the function of data processing.
- 2.Strong function of data processing makes user editing can be easier and more convenient.
- 3.Suspended posture optical system design, strengthen and thicken the bottom plate to eliminate the vibration or transformation's impact on the optical system.
- 4.Adopt synchronous sine institutions, high accuracy of the wavelength, repeatability.
- 5.Standard with PC software



i6 UV-VIS Spectrophotometer



- 1. The Main unit and PC software can independently implement functions of Quantitative; Kinetics; Wavelength Scan; Multi Wavelength; DNA/Protein and Data Printing; PC software can complete the function of data processing.
- 2. Suspended posture optical system design, strengthen and thicken the bottom plate to eliminate the vibration or transformation’s impact on the optical system.
- 3. 24-bit high speed and high precision A/D conversion, and improve the sensitivity of the instrument.
- 4. The core components are imported from Germany and Japan.

i7 UV-VIS Spectrophotometer



- 1. The Main unit and PC software can independently implement functions of Quantitative; Kinetics; Wavelength Scan; Multi Wavelength; DNA/Protein and Data Printing; PC software can complete the function of data processing.
- 2. Suspended posture optical system design, strengthen and thicken the bottom plate to eliminate the vibration or transformation’s impact on the optical system.
- 3. 24-bit high speed and high precision A/D conversion, and improve the sensitivity of the instrument.
- 4. The core components are imported from Germany and Japan.
- 5. 0.5/1/2/4nm bandwidth can be adjusted automatically.

i8 Double-Beam UV-VIS Spectrophotometer



- 1.Double beam optical system.
- 2.The Main unit and PC software can independently implement functions of Quantitative;Kinetics;Wavelength Scan; Multi Wavelength; DNA/Protein and Data Printing.PC software can complete the function of data processing.
- 3.Suspended posture optical system design, strengthen and thicken the bottom plate to eliminate the vibration or transformation's impact on the optical system.
- 4.24-bit high speed and high precision A/D conversion, and improve the sensitivity of the instrument.
- 5.The core components are imported from Germany and Japan.
- 6.The best optical system, based on top structure design, top technological requirements and top raw materials.
- 7.Standard with PC software

i9 Double-Beam UV-VIS Spectrophotometer



- 1.Double- beam optical system.
- 2.The Main unit and PC software can independently implement functions of Quantitative;Kinetics;Wavelength Scan; Multi Wavelength; DNA/Protein and Data Printing,PC software can complete the function of data processing.
- 3. Suspended posture optical system design, strengthen and thicken the bottom plate to eliminate the vibration or transformation’s impact on the optical system.
- 4.24-bit high speed and high precision A/D conversion, and improve the sensitivity of the instrument.
- 5. 0.5/1.0/2.0/4.0/5.0 bandwidth can be adjusted automatically
- 6. The core components are imported with original packaging.
- 7. The best optical system, based on top structure design, top technological requirements and top raw materials.
- 8. Standard with PC software

Note:“—”without

| Technical data | | | | | | | |
|----------------------------|-------------------------------------|---------------------------------|--------------------------|--|---------------|------------------------------|---------------|
| | i2 | i3 | i5 | i6 | i7 | i8 | i9 |
| Wavelength Range | 320-1100nm | 190-1100nm | 190-1100nm | 190-1100nm | 190-1100nm | 190-1100nm | 190-1100nm |
| Bandwidth | 2nm | 2nm | 1.8nm | 1.8nm | 0.5/1/2/4nm | 1.8nm | 0.5/1/2/4/5nm |
| Wavelength Accuracy | ±0.5nm | ±1nm | ±0.5nm | ±0.1nm (D2 656.1nm); ±0.3nm (Full range) | | | |
| Wavelength Reproducibility | ≤0.2nm | ≤0.3nm | ≤0.2nm | ≤0.1nm | ≤0.1nm | ≤0.1nm | ≤0.1nm |
| Photometric Accuracy | ±0.3%T | ±0.5%T | ±0.3%T | ±0.2%T | ±0.2%T | ±0.2%T | ±0.2%T |
| Photometric Repeatability | 0.15% T | ≤0.2%T | ≤0.15%T | ≤0.15%T | ≤0.15%T | ≤0.15%T | ≤0.15%T |
| Straylight | ≤0.05%T | ≤0.05%T | ≤0.05%T | ≤0.03%T | ≤0.03%T | ≤0.03%T | ≤0.03%T |
| Stability | ±0.0001A/h(500nm) | ±0.001A/h(at 500nm) | | | | ±0.0004A/h(at 500nm) | |
| Baseline Flatness | ±0.001A/h | ±0.0005A | ±0.001A | ±0.0015A | ±0.0015A | ±0.001A | ±0.001A |
| Noise | ±0.0005A/h | ±0.001A | ±0.0005A | ±0.0005A | ±0.0005A | ±0.0005A | ±0.0005A |
| Photometric Range | "0-200%T, -0.3~–3A, 0-9999C | | | | | 0-200%T, -4.0~–4.0A, 0-9999C | |
| Wavelength setting mode | Automatic | Automatic | Automatic | Automatic | Automatic | Automatic | Automatic |
| Scanning speed | — | — | High,Middle,Low,Optional | | | | |
| Output | USB Port | | | | | | |
| Printer port | Parallel Port | | | | | | |
| Display | LCD(320*240) | | | | | | |
| Light Source | Tungsten Lamp | Deuterium&Tungsten Halogen Lamp | | | | | |
| Detector | Silicon Photodiode | | | | | | |
| Power | 220V AC ±10%/50Hz or 110V AC / 60Hz | | | | | | |
| Dimension | 460x380x180mm | 420x300x160mm | 460x380x180mm | 470x370x180mm | 470x370x180mm | 625x430x210mm | 625x430x210mm |
| Weight | 15Kg | 13Kg | 20Kg | 20kg | 20kg | 28Kg | 28Kg |

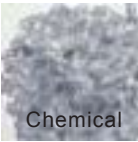
Industries



Food



Pharmaceuticals



Chemical



Rubber



Steel



Refrigerated and Heating Circulator

Hanon F Series Refrigerated and Heating Circulator can be widely used in oil, physical, chemical, pharmaceutical, environmental protection and other fields of science, precision temperature control equipment.

Application:Experiment that need heating and cooling,Fermentation Tank,Polarimeter,Refractometer,Spectrophotometer,Electrophoresis System,Chromatographic Column,Viscometer,Rotation Evaporation Instrument,Rheometer.

Characteristics

- Convenience function: Parameters memory function, temperature correction.
- ECO-refrigerant R134a and high quality compressor guarantee the cooling system eco-friendly and powerful.
- Low Noise design: use high quality compressor and mute pump.
- Robust water tank: ultra-slushing and rust-proof.
- Bright LCD temperature display.
- Compact design, removable venting grid for convenient cleaning to maintain cooling performance and drain off water.



Note:“●”with the same technical index

| Technical data | | | | |
|--------------------------------|-----------------------|----------------|-----------------|-----------------|
| | FCL6-05 | FCH6-05 | FCL6-20 | FCH6-20 |
| Working temperature range | -5 °C ~ 100 °C | -5 °C ~ 200 °C | -20 °C ~ 100 °C | -20 °C ~ 200 °C |
| Temperature control | Fuzzy PID | ● | ● | ● |
| Temperature stability | ±0.03 °C | ● | ● | ● |
| Temperature sensor | PT100 | ● | ● | ● |
| Display resolution | 0.1 °C | ● | ● | ● |
| Heater capacity | 2000 W | ● | ● | ● |
| Cooling capacity | 250W | ● | ● | ● |
| Refrigerant | R134a | ● | ● | ● |
| Pump capacity Pressure | 0.35 bar | ● | ● | ● |
| Pump Flow rate | 10L/min | ● | ● | ● |
| Ambient temperature | -20 ~ 70 °C | ● | ● | ● |
| Output | RS232/RS485(optional) | ● | ● | ● |
| volume | 6L | ● | ● | ● |
| Bath opening L x W (cm) | 16x 16 | ● | ● | ● |
| Bath dimensions L x W x H (cm) | 32 x 18 x 15 | ● | ● | ● |
| Dimensions L x W x H (cm) | 40 x 25 x 65 | ● | ● | ● |
| Power supply | 220VAC±10% 50Hz | ● | ● | ● |
| Weight (kg) | 25 | ● | ● | ● |

Recirculating Chiller

FC1200

Corollary Equipment

Kjeldahl Apparatus, Soxhlet Extractor, Crude Fiber Analyzer, AAS, ICP-MS, Electrophoresis System, Rheometer, Automatic Synthesizer, Fermentation Apparatus, Rotary Evaporator, Extraction and Condensation Device, SPE Apparatus.

Characteristics

- Cooling system adopt TECUMSEH compressor in order to ensure cooling efficiency, and reduce noise.
- PID temperature controlling technology is adopted. Cooling method is not the traditional stat-stop type, EEV technology improve the stability.
- Over-temperature protection and auto-alarm function is used in refrigeration control system to avoid damage temperature medium caused by abnormal liquid temperature value.
- Water level observation window and automatic water level detection device, automatic alarm when low liquid level.
- Water current detection device is adopted. When external cycle closed or blocked, internal cycle will be switched automatically.
- High performance circulating water pump guarantee the long time continuous running, and good sealing avoid leakage. The pressure of pump is 0-1.5 par, adjustment is available by rotary knob. Pressure value is displayed.
- Color LCD screen display more running data and dynamic identifier. Easy to monitor.



| Technical data | |
|---------------------------|---------------------------------|
| Temperature control range | 5 °C ~ 40 °C |
| Temperature control | HOT gas by-gas and PID combined |
| Temperature stability | ±0.3 °C |
| Temperature sensor | PT100 |
| Display resolution | 0.1 °C |
| Pump flow rate | 20L/min |
| Cooling capacity | 1.2Kw |
| Refrigerant | R134a |
| Pump Pressure | 0-1.5 bar,adjustable |
| Pumping head | 15m |
| volume | 8L |
| Dimensions L x W x H (cm) | 55 x 40 x 65 |
| Power supply | 220VAC±10% 50Hz |





Recirculating Chiller

FC1500



Characteristics

- High-brightness, large color 5.5-inch LCD display.
- Molded water tank, uni-body with 316 stainless steel, anti-rust, anti-corrosion.
- Motor driven mold turbine quiet pump 10L/min, fully realized hydro-power separation.
- Compact structural layout with removable grille for easy maintenance and drainage.
- Using advanced fuzzy PID temperature control technology, it can accurately and quickly achieve stable temperature control effect.
- Compressor refrigeration, R134a environmentally friendly refrigerant, avoiding environmental pollution and harm to experimenters.
- Multiple protection design: over current protection, high and low temperature protection, over temperature protection, low liquid level sound and light alarm, prevent dry burning protection.

Technical data

| | |
|----------------------------|-------------------|
| Model | FC1500 |
| Temperature control range | 5℃～100℃ |
| Temperature stability | ±0.05℃ |
| Display resolution | 0.1℃ |
| Temperature control method | Fuzzy PID |
| Temperature sensor | PT100 |
| Heating power | 2000W |
| Cooling power | 1500W |
| Refrigerant | R134a |
| Pump flux | 10L/min |
| Pump pressure | 0.35bar |
| Volume | 10L |
| Dimensions LxWxH(cm) | 555mm×350mm×750mm |
| Power supply | 220 VAC ±10% 50Hz |
| Working condition | 10℃～25℃ |
| Weight | 40kg |



INSTALAB® 700

INSTALAB® 700 NIR Analyzer

The Instalab®700 analyzer offers reliability and accuracy in fixed filter testing that is simple to operate and affordable.

Quality design and construction ensures the most reliable NIR results available. The Instalab®700 has a patented rotating sample cup which virtually eliminates problems associated with sample non-homogeneity. The cup rotation is computer controlled, with 120 readings taken at 3° intervals and averaged for each wavelength.

Completely customizable, it allows you to change filters to adjust the bandwidth for product constituents, including protein, cellulose, sugar, ash, starch, oil and fat, alcohol, cotton, and polyester. The Instalab®700 is an analytical upgrade from the Instalab®600 series, which means that existing Instalab®600 calibrations can be ported to the new Instalab®700 unit.

The Instalab®700 is dependable in design and built for trouble-free operation in any environment – from lab to production line.



Benefits and Features:

- Easy to use
- Intuitive color touch screen, eliminating operator training
- Tungsten halogen light source
- Memory storage for numerous calibrations
- Stable circuitry eliminates electrical drift and ensures nonvolatile storage of calibration constants, eliminating the need for an auxiliary power source.
- Thermoelectrically cooled photo detector eliminates temperature drift
- Sample cup interchangeability
- Communication capabilities-
 - Supports both USB and RS232 standard printers. This includes multiple baud rates with custom header and footer.
- File Management-
 - Storage of 3000 records
 - Export analysis data
 - Product calibration loading via USB memory stick
- USB, Ethernet Ports-
 - Multiple ports for software upgrades, USB devices, printer and peripherals such as mouse and scanner
- Improved drawer design-
 - Easily removed for cleaning
- Larger optional open sample cup
- Simple slope and Bias adjustment

Product Applications:

- Grain processing
- Flour milling
- Ethanol production
- Feed processing
- Meat processing
- Dairy processing

Constituents:

- Protein
- Fat
- Moisture
- Fiber
- Ash and more



DICKEY-john®
CORPORATION



Color touchscreen
display



Easy to use



Interchangeable
sample cup



USB / Ethernet Ports
located on back of unit



USB Ports located
on front of unit

INSTALAB®700



Standard sample cup



Small Open sample cup



Liquid sample cup



Large Open sample cup

Unit Specifications

| | |
|-------------------------------|---|
| Weight: | 31 lbs/14.06 kg |
| Dimensions: | (Height) 13.93 in/35.4cm, (Width) 15.52 in/39.42 cm, (Depth) 14.25 in/36.19 cm |
| Power Requirements: | 110/120 VAC, 50 to 60 Hz, <100 Watts |
| # of Optical Filters: | 4 to 10 |
| Serial Computer Interface: | RS-232-C and USB |
| Printer: | Optional |
| Sample Integration Technique: | Rotating cup |
| Filter Bandpass | Approximately 10nm |
| Light Source: | Tungsten Halogen |
| ETL Mark: | UL61010-1 |
| Humidity: | 5% RH to 95% RH to 27.7° C noncondensing decreasing linearly to 60% RH at 35° C decreasing linearly to 50% at 40° C |
| Altitude: | Up to 2000 meters |
| Operating Temperature: | 10 - 40° C (machine accuracy specification 10° C - 35° C) |
| Storage Temperature: | -20° C to +60° C |
| Calibration Storage: | Flash memory |
| Typical Analysis Time: | 10 seconds |
| Detector: | Thermoelectrically cooled lead sulfide (Pbs) |
| Reference Measurement: | Through entire optical system, against ceramic disk |
| Gain Setting: | Automatic for reference gain, calibration file controls gain or sample |
| Diagnostics: | Diagnostic screens for troubleshooting indoor use only |

Declaration of Conformity

The Instalab 700 is in conformity with the provisions of the following directives and regulations.

- EN2006/95/EC Low Voltage Directive
- EN2004/108/EC EMC Directive
- EN61010-1 Safety requirements for electrical equipment for measurement, control, and laboratory use operating at a maximum altitude of 6562 feet (2000 meters)
- CAN/CSA - C22.2 NO. 61010-1 2nd Edition including Amendment 1
- ETL Mark UL61010-1

Falling Number

Models and Accessories

Introduction

The Falling Number method is the international standard for determination of sprout damage in grain and flour. These pages will give background information on sprout damage and why it is important, as well as introduction to the science behind the method.



FN 1310
The basic model. Allows users to buy an original Perten system at a value price.



FN 1500
The perfect system for a smaller flour mill. Integrated printer and data output.



FN 1700
The work horse. A dual system which is suitable for grain elevators or large flour mills.



FN 1900
The top model with all features included. A dual system for high volume users.



Shakematic 1095
Remove operator influence on results and reduce total analysis time by using the Shakematic automatic sample mixer.

Aquamatic 5100

A revolution in Moisture Testing



The Aquamatic 5100 is probably the most accurate moisture meter on the market. It is based on recent research by the US Department of Agriculture and in their comparisons the new technology was about twice as accurate as one of the most commonly used grain moisture meters. In addition to moisture, the Aquamatic also determines specific weight and temperature.

Whereas previous moisture meters would need several calibrations per grain type, the Aquamatic only needs one calibration for all grains and oilseeds. And whereas previous moisture meters would need frequent calibration updates, you should never have to update the calibration in the Aquamatic. These improvements have been made possible by two important advances - the use of 150 MHz technology and the UMA (Unified Moisture Algorithm).

Features and benefits

Superior accuracy - Save money by paying the right price for the grain you buy

Moisture and bulk density - Save time with one instrument for two tests

No calibration updates necessary - Save time and costs

One calibration for all products - Easier to use and no mistakes

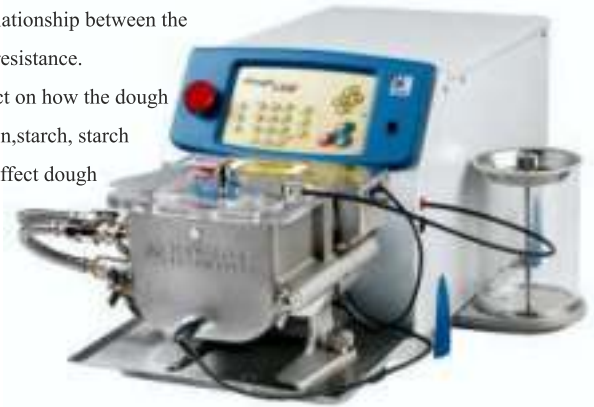
Dough Lab

Wheat flour doughs are nonlinear viscoelastic materials, and as such there is a complicated relationship between the strains imparted during mixing (stretching, shearing, compression and relaxation) and dough resistance.

A number of factors related to processing conditions and flour type will also have a large effect on how the dough behaves. Variations in water and protein content, changes in the fibrillar structure of the protein, starch, starch damage, pentosans, gluten strength and the actions of enzymes on the dough components all affect dough behaviour.

Features

- Modernised instrument for flour and dough quality assessment
- Integrated, automated, safe
- Runs standard test: Same results as Farinograph
- Programmable energy tests for speed/efficiency, flexibility and difficult samples
- micro - doughLAB 4g sample size for wheat breeders
- Traceable calibration for ISO requirements
- Good repeatability



- Rapid test results better suit modern mixing
- Compatible with a variety of bowls (300g, 50g and Farinograph bowls)
- doughMAP for “virtual blending”

Glutomatic

The world standard determining gluten quantity and quality



Applications

Breeding
Grain Trading and Handling
Flour Milling
Baking

Features and benefits

Determine gluten quantity and quality - Improve the quality of your finished products

Official world standard - Ensure that trade contracts are fulfilled

For flour and grain - Determine gluten characteristics both for wheat and flour

Measure true gluten - Only the Glutomatic can measure true gluten. In a number of situations protein content is not indicative of gluten characteristics.



Laboratory Mills

Convenient and rapid sample preparation



The type of sample preparation depends on the requirements in the analysis to be made. For this reason it is important to select the correct preparation for the analysis in question. Perten Instruments can offer two types of Laboratory Mills, the hammer type mill and the disc type mill.

Disc mills are used when grinding samples for moisture determination, whereas hammer mills are used for most other applications, such as Falling Number, Glutomatic and NIR analysis for example.

Features and Benefits

Falling Number and Gluten Index - Officially approved mills for Falling Number and Gluten Index sample preparation.

High sample homogeneity - Improves repeatability and accuracy of analytical results

Robust design - Excellent durability and very low cost of ownership

Suitable for grains, oilseeds and more - Flexible mills for grinding of many different sample types.

Rapid Visco Analyzers

RVA models

RVA – StachMaster2 (4 profiles, stand alone)

RVA – TecMaster

Speed: 20 – 1000 rpm

Viscosity Range: 40 – 12,000 cP

Viscosity Accuracy: $\pm 0.3\%$ for standard



RVA applications & uses in flour milling

- Wheat/ wholemeal quality
- Flour quality
- Effects of treatments, formulation, processing
- Segregation QC – “Fitness for purpose ”
- Product development
- Predict final product quality

RVA – 4500

Speed: 20 – 2000 rpm

Viscosity Range: 20 – 50,000 cP

Viscosity Accuracy: $\pm 0.3\%$ for standard



RVA benefits

| Feature | RVA | Benefit |
|-------------|------------------------------|--|
| Fast | 3 - 13 min | Efficiency, rapid ROI |
| Traceable | cP | Verifiable results |
| Convenient | Small sample, disposable can | Lower operation costs |
| Easy to use | Automated test & report | Quick to learn Reliable results |
| Secure | ER/ES, pdf reports, p/w | ISO 9000 compliance FDA 21 compliance |
| Flexible | Many apps | Future proof investment |
| Approved | AACC, ICC, RACI, FTWG | Proven reliability, acceptable for trade |

Texture Analyzer - TVT 6700



The TVT 6700 applies controlled conditions of stress or strain to food and other samples to measure a complete texture profile. It accurately measures compressive and tensile force and position over time using standard test modes including single and multiple cycle compression, tensile strength, compress-and-hold, extend-and-hold, fracturability and springback to describe product texture. Data is captured as a graph and stored in a tabular data base for analysis and export to spreadsheet programs.

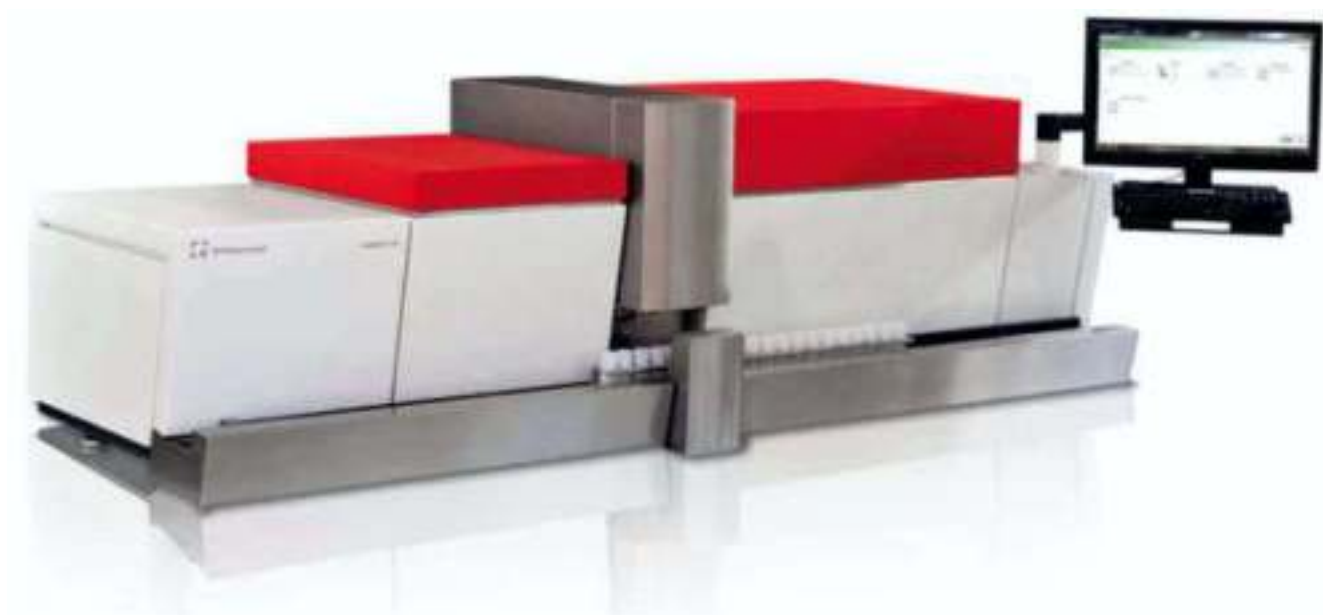
BVM Volume Measurement



It is operated using a menu-based computer interface. A sample is placed on a rotating support inside the instrument and its volume is measured using a laser on the end of a rotating arm. The BVM VolCalc software calculates the volume, dimensions, weight and density of the sample and shows the results together with a three-dimensional drawing of the sample. Results can also be stored in a database for further processing, or transferred to another computer.

COMBISCOPE FTIR 600HP

The CombiScope™ FTIR 600HP Dairy Analyzer provides the highest sample throughput available for the routine Analysis of Cow, Goat, Sheep, and Buffalo Milk.



ANALYZES AT SPEED OF 600 SAMPLES PER HOUR.

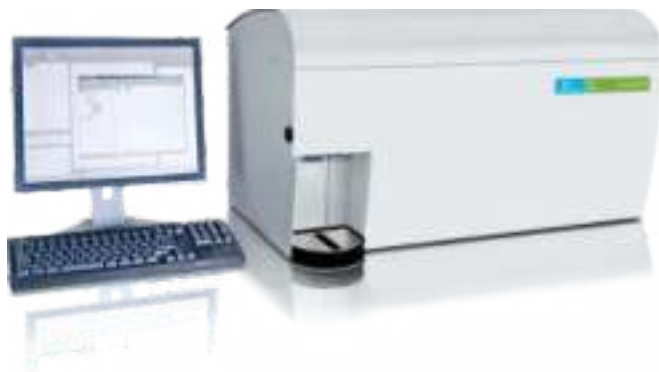
It determines **Fat Protein, Lactose, Total Solids, NPN-CU and Somatic Cell Counting**. The system consists of a **Component Analyzer (Lactoscope FTIR)**, a **Somatic Cell Counter (SomaScope LFC)** and a **Sample Handling System**.

Patented Interferometer ensures accuracy and minimizes maintenance and calibration for component analysis. Somatic Cell counter utilizes an LED light source to eliminate source wear and gains adjustments. Conveyor System has several sensors built in to monitor sample quality. Sample head is controlled by electromagnetic drive, so there is no wear. Can be used with barcode or RFID coded samples.

The CombiScope FTIR 600HP incorporates many industry-first technologies that allow operators to increase lab capacity, throughput, and business opportunities.



LACTOSCOPE FT-A



MEASURING TIME OF 30 SECONDS PER SAMPLE

The Lactoscope FT-A is our most versatile **Liquid Dairy Products Analyzer** capable of testing a wide range of **Dairy Products; Milk, Creams, Whey concentrates, Ice-creams and Yogurt Mixes**. The latest hardware innovations allow to easily test the most challenging Dairy Products, such as creams with 55% Fat other viscous products.

LACTOSCOPE FT-B



The Lactoscope FT-B Milk Analyzer determines Butter Fat, Protein, Lactose, Total Solids, SNF (Solids not Fat). It is designed to answer the needs of the small-medium dairies and milk collection points that want to test Milk, Whey and Creams with up to 40% Fat.

MEASURING TIME OF 45 SECONDS PER SAMPLE

DIETARY FIBER



TDF Fiber Analyzer

Three Runs - 9 samples in duplicate/day/shift.

The ANKOM Total Dietary Fiber Analyzer creates a new standard for **Nutritional Labeling, Quality Control, and Research**. By automating one of the most tedious analytical methods, the ANKOM Analyzer reduces labor and per sample costs, while increasing accuracy and precision. An advanced computer controlled multichannel pump automates the addition of chemical solutions, enzymes and rinses.

- Automates AOAC 985.29, 2001.03, & 991.43 (AACC 32.07.01).
- UPGRADE available to support AOAC 2009.01 and 2011.25.
- Faster, Technician-free Filtering & No Clogged Filters.
- Reduced per Assay Costs & Labor Cost.
- Computer Controlled Operation which eliminates Water Baths and Filtration Flasks.

CRUDE/ DETERGENT FIBER

Batch Process up to 24 samples

The ANKOM2000 Fiber Analyzer provides increased automation to enhance laboratory operations and reduce labor costs. Fibre test results can be determined for **Acid Detergent Fiber, Neutral Detergent Fiber, and Crude Fiber** for all **feeds and forages**.

- Fully Automated Operation
- Automatically Adds Solutions & Rinses
- Accurate and Precise Results
- Microprocessor Controlled with LCD Readout
- Easy-to-use/Labor Saving



200 Fiber Analyzer

The ANKOM200 is accurate and precise when compared to conventional fibre methods. Most elements of technician variability are eliminated and there is no separate filtration step, so consistent results are achieved time after time..

- Crude Fiber, ADF and NDF determinations.
- Accurate and Precise Results.
- **Batch Process up to 24 samples.**
- Economical and Efficient.
- Eliminates Variability.
- Low Cost/Labor Saving.
- Easy to Use.

CRUDE FAT



ANKOM XT15 Extractor

Batch process of up to 15 samples at a time and is capable of up to 150 samples per day.

The XT series low cost provides an affordable high-volume solution. Also 90 °C temperatures accelerate extraction kinetics, reducing most extraction times to under 40 minutes.



ANKOM XT10 Extractor

- Official Crude Fat Extraction (AOCS Am 5-04).
- Totally Automatic Operation.
- **Up to 150 Extractions per Day.**
- Microprocessor Controlled with LCD Readout.
- Solvent Recovery at a rate of ~97%.
- Solvent Usage per Sample ~ 0.5 ml.
- No Vent-hood Required.

TOTAL FAT/ HYDROLYSIS & RD DRYER

Batch Hydrolysis of up to 15 samples at a time.

The ANKOM HCl Hydrolysis System provides an easy method for performing the Hydrolysis step in **Total Fat/Oil Analysis**. The technician inserts up to **Fifteen samples** into the vessel, adds the **Acid solution** and follows the system screen prompts.

- Automated High Volume Hydrolysis
- Includes ANKOM RD Dryer w/acid neutralizing filter, H35 Blotter & 100 - XT4's
- Microprocessor Controlled with LCD Readout
- Closed system
- Automatic Rinse cycles
- Small Footprint



HCl Hydrolysis System

IN VITRO INCUBATION

Filter Bag Technology enables Batch Processing of 100+ samples per run

The Daisy Incubator employs filter bag technology, which encapsulate samples and prevent filtration errors. Filter Bag Technology also enables batch processing of 100+ samples at a time. Most elements of technician variability are eliminated, providing precise and consistent results time after time. It offers a quantum leap in processing ease, because the operator works with four digestion vessels rather than 100 test tubes.

- Accurate Digestibility Studies
- Economical - Reduces labor >50%
- Eliminates Technician Variability
- Small Footprint - Conserves Counter Space



Daisy Incubator

Modular and Expandable (up to 50 modules per set).

The ANKOM RF Gas Production System provides an easy to use method for **Monitoring and Measuring gas production**. The system consists of sample bottles in **250ml, 500ml or 1000ml sizes**, RF pressure sensor modules. Current and potential applications include, but are not limited to **Ruminant Nutrition, Human Digestion, Yeast Vitality / Activity, Biomass to Energy, Biodegradability, Soil Quality, and more**. Each module supports gas sampling and optional liquid sampling during the process.

- Easily measure kinetics of microbial metabolism.
- High sensitivity pressure measurement & Data interface with Excel for graphing.
- Remotely control pressure release & Gas sampling capability.



RF Gas Production System



CHOPIN Technologies, Tripette & Renaud subsidiary, is specialised in methods and equipment for the quality control of cereals, flours, and their by-products.

Infraneo



Infraneo is the essential infrared analyse that enables you to perform fast, simple, accurate and reliable analyses of all the quality parameters of the grain, in less than 1 minute.

- * Guarantee of an accurate and reliable transaction base.
- * Classification of the products according to their final use.
- * Verifying the conformity of the products to their specification schedule.

The advantages of the Infraneo :

Speed

All the analyses are performed in less than 1 minute, irrespective of the number of parameters measured.

Versatility

On this one appliance, you are able to analyse both the whole grain and the powdery products.

Reliability

By means of the auto control system (SAM), the robust quality and the stability of performance over time is guaranteed.

Alveo Lab



AlveoPC



Applications :

For Storage Operators

Secure the buying and selling of wheat and our usingan international reference

Monitor wheat quality upon reception

Select and classify wheats according to their future use

Detect insect contaminated wheat

For Bakers

Monitor the conformity of incoming flour

Test new compositions

Control additives

For Millers

Optimize the blends of wheat and flour

Adapt the flour for its final use by accurately measuringout additives and improvers

Control the different flour fractions

MIXOLAB

The Mixolab is the essential tool, which enables you to achieve complete information on your flour characteristics in one single test, by anticipating its behaviour during both kneading and baking.

- * Identification of the flour that is not in conformity with the established reference.
- * Selection of the flour according to its final use and the manufacturing process.
- * Reduction of bread-making tests to the dubious samples only.
- * Help developing formulations by assessing the effect of the additives and ingredients.

* Acknowledged efficiency :

Complies with ICC 173, AACC 54-60.01 and NF V03-765 standards (equivalent to BIPEA testing circuit no. 25).

The advantages of the Mixolab :

Completeness

In a single test, you achieve a complete analysis of the behaviour of the dough when cold (proteins) and also when hot (starch), as well as the interactions between the different constituents of the flour.

Simplicity

Through total automation of the analysis, controlled by computer, this test enables you to optimise the use of your time.

Versatility

This appliance can be used in production in order to optimise the kneading process by sampling the dough on line (use off-line).



Sdmatic

The SDmatic is a standardised tool that is indispensable for rapid, simple, accurate and reliable analysis of damaged starch in less than 10 minutes.

- * Checking the quality of the flour.
- * Improving the yield of the dough by adjusting the hydration of the flour.
- * Verifying the regularity of the flour and therefore the quality of the finished products.
- * Reducing the problems of stickiness during production by identifying any flour that is not to specification.
- * Optimising the production costs associated with the excessive consumption of energy, and verifying the correct adjustment of the cylindrical appliances (parallelism, wear).

The advantages of the SDmatic

Simplicity

The extreme ease of use of this fully automated tool renders this system usable by all, with no need for additional qualifications, requiring neither enzymes nor complex equipment.

Speed

Analysis of the damaged starch is effected in less than 10 minutes and stops automatically on completion of the test.

Versatility

The SDmatic can be adapted to your needs. Your calibrations can be customised with the support of the Applications Laboratory.

Flexibility

Enables you to compare your results in relation to those achieved by other methods, making it possible to retain your current references, through a choice of the units proposed



Rheo F4

Unique solution to analyze in one single test the dough proofing properties.

Applications :

Optimize proofing time and determine the best time for products to be placed in the oven

Select and monitor yeast activity

Evaluate the impact of additives (amylase, vital gluten, etc.) on your recipes

Analyze the proofing properties of frozen dough, the impact of salt reduction on proofing and on the volume of finished products

Analyze the properties of gluten free recipes





Chromatography Columns

PEEK™ Fingertight Fittings

One-Piece Fittings

- Universal fitting, suitable for most HPLC connections
- Fingertight to 5,000psi
- Inert and biocompatible
- Excellent chemical resistance
- Void free connection
- Usable with stainless steel and PEEK tubing
- Compatible with all column end fitting types



The following one-piece PEEK™ fingertight fittings are universal fittings for use with all HPLC columns. They are convenient, easy to use and biocompatible.

HI-050 is probably the most commonly used fitting in HPLC. They can be used at temperatures up to 150°C. Unlike stainless steel fittings, PEEK fingertight fittings do not permanently lock into place on the tubing, avoiding potential dead volume connection problems. They have 10-32 threads and are designed for use with all 1/16" o.d. tubing

| Description | Qty/pack | Cat. No. |
|--|----------|--------------|
| PEEK fingertight fitting, natural, 10-32, for 1/16" o.d. tubing | 10 | HI-050X □'45 |
| PEEK fingertight fitting, natural, 10-32, short, for 1/16" o.d. tubing | 10 | HI-048 □'46 |
| PEEK fingertight fitting, natural, 10-32, long, for 1/16" o.d. tubing | 10 | HI-031 □'46 |

membraPure

Fully automatic Amino acid analyzer with inert gas supply
autosampler with 4x48 Standard vials or 4 micro plates
online peak identification



Amino Acid Analyzer



IONUS

Ion chromatograph

fast analysis

modular, compact, mobile

supersensitive conductivity detection

Wide Selection for Diverse Applications from A&D



A&D ...Clearly a Better Value
A&D Company, Limited
<http://www.aandd.jp>

* Refer to Scales - A&D E1-PB1-0210

Features

Fast and uniform heating with halogen lamp and innovative SRA technology
 High repeatability with the Super Hybrid Sensor (SHS) technology
 Accuracy verification with Sodium Tartrate Dihydrate (comes with MS, MX, and MF)
 Low moisture content measurement at 0.001% resolution (MS)
 Calibration function for heating temperature (for MS and MX only)
 Various measurement programs
 Selectable heating modes
 Translucent window for progress check
 Memory function for measurement conditions
 Quick reference card provided

Moisture Analyzers



Specifications

| Model | | MS-70 | MX-50 | MF-50 | ML-50 |
|---------------------------------------|-------------------------------|--|-----------------|---------------|---------|
| Measurement method | | 400 W straight halogen lamp heating system with SRA filter and SHS weighing technology | | | |
| Maximum Space weight capacity | | | | | |
| Min. display | Moisture Content | 0.001%/0.01%/0.1% | 0.01%/0.1% | 0.05%/0.1%/1% | 0.1%/1% |
| | Weight | 0.0001 g | 0.001 g 0.002 g | 0.005 g | |
| Repeatability (Standard Deviation) | Moisture Content (over 1g) | 0.05% | 0.1% | 0.2% | 0.5% |
| | Moisture Content (over 5g) | 0.01% | 0.02% | 0.05% | 0.1% |
| | Weight | 0.0005 g | 0.001 g | 0.002 g | 0.005 g |
| Drying Temperature | | 30 to 200 C° | 50 to 200 C° | | |
| Measurement unit | | Wet base / Dry base / Dry content / Ratio / Weight | | | |
| Sample Pan Size (diameter) | | 85 mm | | | |

Analytical Balances

GH Series

Capacity 250g - 120g
Resolution 0.1mg - 0.01mg
Motor-driven Internal Calibration
Automatic Self Calibration
Data Memory Function - Store up to 200 measurements
Trade Approval in selected capacities and resolutions



GR Series

Capacity : 310g ~ 120g / Resolution : 0.1mg ~ 0.01mg
Requires 30% less footprint space
Fully automatic self-calibration
Data memory function - Store up to 200 measurements



HR-i Series

Capacity 320g - 220g
Resolution 0.1mg - 0.01mg
Standard RS-232C
Multiple Weighing Units
ID Number



HR Series

Capacity : 310g ~ 60g / Resolution : 0.1mg ~ 0.01mg
Large weighing chamber holds up to a 250mm volumetric flask
Wide angle LCD display
Conformity to GLP with I.D. and serial number output



Precision Balances

FZ-i Series

Capacity 3200g - 120g
Resolution 0.01g - 0.001g
• Legal for Trade - One Touch Automatic Calibration
• Compact SHS Weighing Sensor - 1 Second Stabilisation
• B5 Size Footprint for Use in Narrow Space
• Optional USB Interface



FZ-iWP Series

IP65 compliant, dust and water proof
One touch automatic calibration
Compact, B5 size footprint



X-I WP Series

Capacity 3200g - 120g
Resolution 0.01g - 0.001g
• "Accident Proof" - IP-65 Water/Dust Proof Balance with a "mg" Resolution
• Newly Developed Compact SHS Weighing Sensor - 1 Second Stabilisation
• Newly Developed Overload Protection Mechanism
• Optional USB Interface



FX-i Series

Compact, B5 size footprint
Fast, 1 second stabilization
Shock absorber function



Single Channel Electronic Pipettes



Automatic operation assuring high precision for everyone at all times
Reduced physical strain with light and short key strokes using the forefinger
Easy calibration (adjustment) by yourself – User CAL function*1*2



ADVANCED BOMB CALORIMETERS

CAL3K-U Oxygen Bomb Calorimeter System

A UNIVERSITY FOCUSED BOMB CALORIMETER:

– Our most affordable entry-level system is specifically manufactured for university applications. If you require fast, robust, and accurate results, but need to analyze less than 8 samples per hour, this is the calorimeter for you.

APPLICATION: The CAL3K-U is the University Edition in the CAL3K range, mainly suited for universities and educational institutions.



CAL3K-A Oxygen Bomb Calorimeter System

The CAL3K-A is the companion to the CAL3K-AP, but with external oxygen filling. This instrument was designed for harsh production environments where the automatic filling is not desired. It is faster than the CAL3K-AP, but less automated. Like the CAL3K-AP, it uses a combination of the Isothermal and Adiabatic calorimetry methods, while still using the dry method, i.e. it is waterless. The minimum determination time is down to 4 minutes.

APPLICATION: It excels in a production environment where 12 samples/hour is a standard performance. It applies to all industries and laboratories where a sample can be ignited to determine the calorific energy. Like the CAL3K-AP it applies to food processing, feed stock composition, material and waste analysis, quality control, recycling and alternative energy harvesting.





CAL3K-AP Oxygen Bomb Calorimeter System

AN AUTOMATED SYSTEM WITH MINIMUM OPERATOR INPUT – Our top of the range product is the most automated calorimeter with a repeat sample speed of 7 minutes. Faster speeds are available on request. The CAL3K-AP is used in factories and scientific laboratories alike and requires a minimum of space and installation. It uses no water and requires ~0.5 watt to operate.

APPLICATION : The CAL3K-AP is useful when a sample can be burned (ignited) and the released heat needs to be measured. It applies to food processing, feed stock composition, material and waste analysis, quality control, recycling and alternative energy harvesting.

OPTIONS : Multiple vessels, and multiple coolers to suit your application.

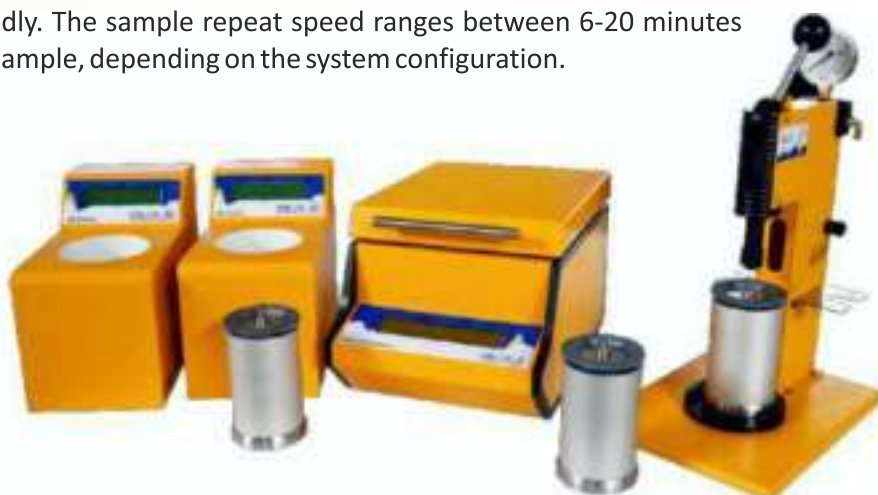


CAL3K-F Oxygen Bomb Calorimeter System

A HIGHLY EXPANDABLE SYSTEM TO GROW AS YOUR LAB GROWS - The CAL3K-F is a flexible system for low to high throughput without compromising on accuracy and repeatability.

APPLICATION : A flexible system typically used in Food/Feed Analysis, Alternative Energy, Scientific Determinations, Coal and Oil Production, Research, Universities and Quality Assurance. In short : wherever the calorific value of a solid or liquid sample must be determined.

Start off with the entry-level system containing the calorimeter, bayonet bomb vessel and oxygen filling station, and grow your system as your budget grows to an advanced system containing 2 air coolers (3K-2) and 3 bayonet bomb vessels (3K-5). The advanced system can complete up to 8 - 10 samples per hour. Part of the CAL3K-F system is the external oxygen filling station (3K-3). The waterless cooler (3K-2) is a powerful air cooler with the ability to rapidly cool the bomb vessel, yet remain environmentally friendly. The sample repeat speed ranges between 6-20 minutes per sample, depending on the system configuration.





CAL3K-S Oxygen Bomb Calorimeter System

The Cal3k-S Bomb Calorimeter is a powerful entry level system for low throughput without compromising on accuracy and repeatability. The Cal3k-S calorimeter has a compact size, low energy consumption and boasts a large list of features with an unbeatable price tag.

APPLICATION: An economical system is typically used in application where low sample analysis is required, like in Food/Feed Analysis, Alternative Energy, Manufacturing, Coal and Oil Production, Research, Universities and Quality Assurance. In short : wherever the calorific value of a solid or liquid sample must be determined, the Cal3k-S is the economical calorimeter of choice.

The CAL3K-S system includes a calorimeter, standard thread bomb vessel and oxygen filling station. A spare bomb vessel (3K-5S) can be purchased as a spare, however this will not increase the speed of the calorimeter system. The additional bomb vessel can be kept as a spare. The calorimeter system can complete 1 sample per hour. Part of the CAL3K-S system is the external oxygen filling station (3K-3), standard across all manual filling calorimeter systems. The CAL3K-S is a totally dry type calorimeter, making it environmentally friendly and energy efficient. The CAL3K-S also boasts the smallest carbon footprint in its class.



Digital Hand-Held "Pocket" Refractometer PAL

The PAL-1 is a completely new and redesigned digital hand-held instrument that will change the traditional conceptions of refractometers. The PAL-1's surprisingly compact size allows you to easily carry it around and use it indoors as well as outdoors. With its wide measurement range (Brix 0.0 to 53.0%) the PAL-1 works perfectly in measuring almost any fruit juice, food, or drink, such as soup, sauce, ketchup, tomato sauce, low-sugar jam, or marmalade



| | | | |
|--|---|--|---|
| | Light & Compact, 100g. Ergonomically designed for one-handed operation | | Sample size 2-3drops |
| | The speedy performance of the PAL is amazing. Simply put a drop of a sample on the prism surface and press the START key. The Brix value (sugar content / concentration) will be displayed in just 3 seconds. | | High temperature sample can be measured |
| | Protection class of the PAL is IP65. You can rinse off the sample by running water on the sample stage. The design allows the user to easily wipe off the sample. | | Revolutionary new feature ELI External Light Interference (ELI) - Patent Pending. |
| | The sample stage is designed to keep sample solutions from spilling out. | | Calibration with water only |
| | The Automatic Temperature Compensation function of the PAL-1 enables you to take measurement readings regardless of the ambient temperature. | | Convenient Storage case |

Other Digital Refractometers are:

The PAL -2 of measurement range Brix 45.0 - 93.0%, it can measure various high concentration samples such as jam, marmalade, jelly, honey and concentrated juice.

The PAL-3 of range (Brix 0.0 to 93.0%), it works perfectly for measuring almost any sample. The Full Range PAL-3 has the same great features as the PAL-1 and PAL-2.

The PAL-LOOP is a special model with new Continuous Measurement feature to give you extra method tailored to meet your needs - Since the measurement range of PAL-LOOP is Brix 0.0 - 85.0%, it can be used to measure almost any samples

Digital Hand-held "PEN" Refractometer PEN-PRO

The PEN-PRO has a measurement range of Brix 0.0 to 85.0% which can be used to measure almost any sample. There are 2 ways to measure with thePEN-PRO.Either dip the tip into the sample and press the START key OR press the START key and touch the tip into the sample. There is also the new feature to perform continuous measurements. The temperature range of the "Dip-Type" Refractometer PEN-PRO has been improved from 60°C to 100°C. No more wait ! Measure hot samples while in the cooking process, such as soups and sauces.



| Model | PEN-PRO | Cat.No. | 3730 |
|--------------------------------|--|-------------------------|---|
| Measurement Range | Brix 0.0 to 85.0% | Minimum lindication | Brix 0.1% |
| Measurement Accuracy | Brix± 0.2% | Measurement Temperature | 10 to 100°C (Automatic Temperature Compensation) |
| Ambient Temperature | 10 to 40°C | Power Supply | 1 × Size AAA alkaline battery |
| International Protection class | IP65 Dust-tight and Protected against water jets. Prism head IP67 Dust-tight and Protected against the effects of temporary immersion in water. | | |
| Measurement Time | 2 seconds | Dimensions & Weight | 16×3.8×1.8cm, 70g (Main Unit only) |
| Optional | <ul style="list-style-type: none"> • USB BATTERY CHARGER : RE-34801 • STRAP : RE-39410 * Calibration Certificate : Contact an ATAGO representative for details. | | |

Digital pH Meter and EC Meter

Digital pH Meter



| Model | DPH-2 | Cat.No. | 4320 |
|--------------------------------|--|--------------------------------|---|
| Measurement Range | 0.0 to 14.0pH | Resolution | 0.1pH |
| Measurement Accuracy | ± 0.1pH (2.0 to 12.0pH) | Temperature Compensation Range | 0.0 to 50°C (Automatic Temperature Compensation) |
| International Protection class | Ip67 Dust-tight and Protected against the effects of temporary immersion in water. | Power Supply | Watch battery (LR44) × 4 |
| | | Dimensions & Weight | 4.5 × 3.0 × 16.3cm, 90g (Main Unit only) |

Digital EC Meter



| Model | DEC-2 | Cat.No. | 4340 |
|--------------------------------|---|--------------------------------|--|
| Measurement Range | Conductivity 0.00 to 19.90ms/cm | Resolution | 0.1pH |
| Measurement Accuracy | Conductivity ±0.20mS/cm (At 0.0 to 10.0mS/cm) ±0.40mS/cm (At 10.10 to 19.90mS/cm) | | |
| Temperature Compensation Range | 0.0 to 50°C (Automatic Temperature Compensation) | International Protection class | Ip67 Dust-tight and Protected against the effects of temporary immersion in water. |
| Power Supply | Watch battery (LR44) 1.5V × 4 | Dimensions & Weight | 4.5 × 3.0 × 16.3cm, 90g (Main Unit only) |

RX- á series



Refractive Index

Refractive Index is a common quality standard measure for pharmaceutical or chemical products.

Measurements need to be taken at a constant temperature, commonly 20°C, 25°C, and 40°C. The RX-a units are equipped with the internal Peltier Thermo-Module, and measurement starts once the target temperature is reached.

Brix

Brix is measured for quality control purposes in the food and beverage industries. The RX-a units are widely used for fruit juice, condiments, jams, and honey. The RX-007a (minimum indication 0.001% Brix) is used for tea and unsweetened drinks.

Concentrations

The concentrations of industrial solutions are often monitored. Examples include water-based cutting oils and cleaning solutions, hydrogen peroxide, coolants, and alcohol solutions. Although the Brix scale is commonly used, user scales can also be programmed to display converted sample values.



The **FE253 pH Meter** is a general purpose portable pH/mV/ Temperature meter. One or two point calibration is achieved using traditional manual controls.

Manual and Automatic Temperature Compensation (ATC) are standard features.

The FE253/Kit option is ideal for field work with the Robust Carry case and full compliment of Probes and calibration solutions.

The FE253 can be used with any of the impressive range of combination or half-cell pH electrodes from EDT directION thus ensuring accurate pH measurement regardless of sample matrix.



The **FE257 pH Meter** is a flexible, portable pH meter offering a choice of manual or automatic control, 0.1mV resolution for ISE work and a recorder output.

Meter comes complete with pH electrode, ATC probe, carry case, buffers, 9V Battery.

The meter has error codes built in providing a simple diagnostic facility pointing the operator to the source of any fault.

The FE257 incorporate automatic buffer recognition and automatic temperature compensation (ATC) which ensures consistent error free calibration achieved with minimum fuss. Battery operation ensures total portability with the ability to perform Ion Selective Electrode (ISE) or Redox work by virtue of its 0.1 mV resolution. For direct concentration readouts using ISE's the Model DR359TX is the meter of choice.

The **BA350 pH Meter** is a very basic, bench pH meter. It measures pH only, using manual temperature compensation and despite its simplicity, affords the user pH measurements accurate to ± 0.01 pH units. Using the BA350 in the lab couldn't be easier.

The meter can be powered by mains or battery and is calibrated to one or two points using traditional manual. Once the calibration is set, sample pH may then be read directly from the display. The BA350 pH meter can be used with the complete range of combination or half-cell pH electrodes from EDT directION.

The BA350 is ideally suited to teaching laboratories and applications where temperature of buffers and samples doesn't vary greatly. Supplied with Buffer solutions electrode stand, UK mains adapter and a 9V battery.



The **RE357 pH meter** is a flexible pH meter offering a choice of manual or automatic control, a millivolt(mV) mode for ISE work and a recorder output.

Both the RE357 and the QC355 have built-in error codes providing diagnostics for poor slope or incorrect buffers etc.

Both meters can be ordered with an interface by adding the letters TX to the model number. To ensure maximum convenience the RE and QC models offer automatic buffer recognition and temperature correction. Both models can be battery or mains powered and have clear digital LCD displays. With the facility to measure millivolts to ± 0.1 mV these instruments can also be used for Redox and Ion Selective Electrode measurements. For direct reading concentration work with ISE's the Model DR359TX is the meter of choice. Supplied with ATC probe, buffers, stand, mains adapter and 9V battery

The **QC355 pH meter** has been designed for routine pH measurements with the emphasis on accuracy and consistency. Automatic Temperature Compensation(ATC), automatic buffer recognition and automatic calibration are standard. A stability indicator ensures that user bias is eliminated thereby providing consistent results.

The calibration clock ensures regular recalibration is performed so that good laboratory practise is adhered to.

The QC355 makes routine pH measurements simple and reproducible and has automatic buffer recognition for pH4, 7 and 10 buffers only. There is no millivolt (mV) mode for Redox or ISE work. For applications requiring buffers other than pH4, 7 and 10, a millivolt mode or manual temperature compensation the RE357 is the model of choice. The QC355 pH meter can be operated using either battery or mains power and is compatible with any of the pH electrodes offered by EDT directION.





Conductivity Testing

Many applications require a basic, easy-to-use conductivity meter.

The **FE280** is just that. A simple, routine instrument which allows conductivity to be measured across 4 ranges with full temperature compensation. The temperature coefficient is set at 2%/°C. Ideal for standard applications such as water quality measurements or spot checks on on-line equipment. The FE280 can be used with the full range of cells available from EDT Instruments. Supplied with Probe, calibration solution, stand, Mains adapter and 9V Battery



The **RE388TX** is an advanced, automatic, bench conductivity meter suitable for most conductivity applications. The RE388TX has automatic range selection over six ranges, readings may be displayed in uS/cm or uS/in. Errors arising from polarisation effects at the cell plate surfaces is minimised using the RE388TX which has inbuilt selection of the appropriate measurement frequency.

It is still important to choose the cell type most appropriate for the expected conductivity to this end a full range of cells are available from EDT directION.

Any non-linearity arising from polarisation may be corrected for by entering up to four calibration points, leading to increased accuracy over the range of the selected cell.

Apart from conductivity, the user is able to measure: resistivity; total dissolved solids; salinity and temperature.



Ba380 Accuracy of +1% Mains or battery operated Front mounted controls Robust, splash proof case Automatic temperature compensation Four ranges from 0-200mS/cm The BA380 is a basic, bench conductivity meter. It measures conductivity only, using automatic temperature compensation and despite its simplicity, affords the user measurements accurate to +1 %, Using the BA380 in the lab couldn't be easier. The meter can be powered by mains or battery and is calibrated to one point using traditional manual controls and a conductivity standard. Once the calibration is set, the user may select the appropriate range for the sample and read conductivity value directly from the display. The meter can be used with the complete range of conductivity cells from EDT Instruments.



The **GP383** is a general purpose meter. Conductivity and temperature measurements can both be achieved, temperature compensation being either manual or automatic. Once calibrated against a standard solution, the cell constant can then be inspected. Known cell constants may be entered directly. For greater accuracy, the temperature coefficient of a particular sample can be calculated and then entered. The GP383 has a recorder output for use with recorders or dataloggers. Accuracy of +1% Mains or battery operated Front mounted controls Robust, splash proof case Automatic and Manual temperature compensation Four ranges from 0-200mS/cm Temperature measurement Adjustable temperature coefficient (%/°C) Readout of cell constant Recorder output

Temp Range 5 to +100°C

Temp Resolution 0.1°C

Temp Accuracy ±0.5 °C



Ion Selective Electrodes

The **DR359Tx** is an advanced, ion concentration meter. The meter automatically calculates the relationship between two or more concentration standards and stores this in memory, allowing unknowns to be read directly. Anion/cation recognition is automatic and up to 5 calibration points may be entered, enabling the user to cover a wide dynamic measurement range with just one calibration.

The DR359Tx also provides full pH facilities including automatic calibration and temperature compensation. Error codes on all modes assist with troubleshooting whilst slope can be inspected to check the condition of electrodes and standards.

The RS232 interface allows direct printing of results or full external computer control.

The meter may be used with the complete range of combination and half-cell ion selective and pH electrodes available from EDT.





Sieves

Each sieve is individually made under the most stringent quality control procedures using only the finest materials

Test Sieves



Woven Wire Mesh Sieves

Endecotts woven wire mesh sieves are the most widely used test sieves for all types of laboratory sampling and particle size analysis. They are made with only the highest quality materials and are available in diameter sizes of 38, 100, 150, 200, 250, 300, 315, 350, 400, and 450 mm or in 3, 8, 12 or 18 inches. They can be supplied with aperture sizes ranging from 125 mm down to 20 microns in full or half height versions. Woven wire mesh sieves are available in frame materials of either brass or stainless steel.

Perforated Plate Sieves

Endecotts manufacture a wide range of perforated plate sieves for the many industries that require them. These are available in diameter sizes of 200, 300, 315, 350, 400 and 450 mm.

Aperture sizes range from 125 mm to 4 mm in square hole and 125 mm to 1 mm in round hole.

Wet Washing Sieves



- Available in 8 inch diameter by 4 or 8 inches deep or their metric equivalent
- Brass or stainless steel frames.
- Complete range of aperture sizes with optional support medium for fine mesh.

Grain Sieves



Specially manufactured to meet the requirements of ISO 5223
Used by Government Intervention Boards and similar organisations
Available in 200 mm diameter
Full or half height depths

Grid Sieves



300 mm x 300 mm made entirely of stainless steel
Strong, durable and anti-corrosive
Conforms to the requirements of EN 933-3:1997



Sieves Shakers

The low cost M100 is an excellent small laboratory shaker designed for 100 mm and 3" diameter sieves. It is robust, lightweight and provides the user with complete control over amplitude and vibration time.

* Common with all Endecotts shakers the M100 imparts the optimum vibration movement to the sieves to ensure rapid and accurate results.

* Fitted with an electromagnetic drive - the shaker is not only maintenance free but has no rotating parts to wear out. Another advantage of this type of drive is 'quiet operation'.

* Simply load the sieve stack, clamp into place. Set the 0 to 60 minute timer or select 'I' for continuous sieving. Set the amplitude setting to the optimum level for the sample under test.

The M100 will accommodate up to three 100 mm, 3" or 4" diameter sieves plus a lid and receiver.

M100



Minor M200



The Minor M200 has been designed and manufactured to combine low cost with the benefits of a well designed and engineered shaker incorporating many features usually found only on larger more expensive models.

It is ideal for the laboratory or plant since it is compact and genuinely portable (weighing only 17kg). There are no rotating parts in the Minor M200 consequently it is quiet in operation and maintenance free. The sieve stack is held firmly in position between the location and clamp plates by poly fibre straps, these allow the whole unit to be packed away in a space less than 200 mm high.

The Octagon D200 is ideal for laboratory or on site use. It is robust, compact and sufficiently lightweight to be portable. A digital display makes the setting functions very straightforward.

The Octagon is powered by an electromagnetic drive which has no rotating parts to wear making it maintenance free and extremely quiet in operation. The vibratory action produced by the power unit moves the sample over the sieve in a unique way producing faster more efficient sieving, while the rapid vertical movements also help to keep the apertures from blinding.

The Octagon's digital controller is used to set both the process time and the amplitude setting while a further control enables the vibration to run continuously or intermittently. Intermittent vibration improves performance and helps to clear apertures that may have become blocked. The controller will also set the duration of the 'on' and 'off' times of the vibration. The Octagon D200 Digital offers total flexibility enabling optimum settings to be established for virtually any material under test. The shaker is fitted with a new and totally unique clamping device which ensures sieves are held firmly without overtightening and allows them to be quickly removed and replaced. Non-metallic springs and anti-vibration mountings are fitted to isolate vibrations from work surfaces and reduce noise levels.

Octagon D200 Digital



Liquid Handling

dispenser



titration unit



titration unit



pipettes



pipettes



pipette filler



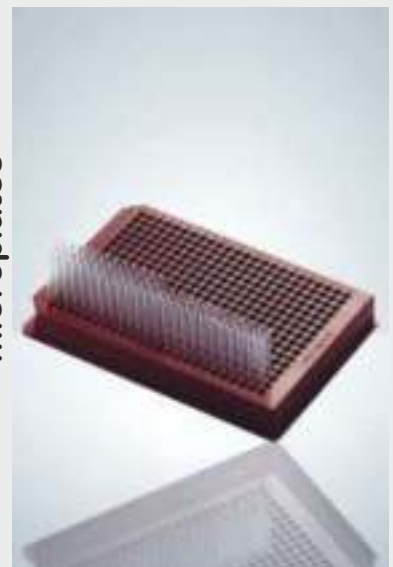
pipette filler



pipette filler



microplates



Heated Circulating Bath



Ambient +5 to 100°C
 Stability $\pm 0.05^\circ\text{C}$
 Temperature range 0 to 100°C
 Drain tap on ST baths (except 5L)
 LED display
 Simple dial & 2 key controls
 Fixed temperature cut-out
 120V & 230V models

Water Bath

Sub Aqua Pro



Ambient +5°C to 99°C
 0.1°C setting resolution
 Drain tap & transparent lid
 Timer & presets
 Adjustable over temperature alarm
 Suitable for use with heat transfer beads
 (excl. SAP2 & SAP2S)
 120V & 230V models available





Water Stills

Automatic water still – Model 700

It supplies an output of 4 litres per hour, with cut-out device. You have not to pay attention because it is automatic operation. High quality water (conductivity: $2 \text{ S} \cdot \text{cm}^{-1}$ at 20°C) without metallic ions and pyrogenes free. Safety thermostat protects still in the event of water supply failure.

Easy handling and cleaning. Bench or wall mounting.

- WATTAGE: 2,600 W

- VOLTAGE: 230 V



Automatic water still – Model 702

It supplies an output of 4 litres per hour, with cut-out device. You have not to pay attention because it is automatic operation. High quality water (conductivity: $2 \text{ S} \cdot \text{cm}^{-1}$ at 20°C) without metallic ions and pyrogenes free.

Safety thermostat protects still in the event of water supply failure.

Easy handling and cleaning. Bench or wall mounting.

- WATTAGE: 2,600 W

- VOLTAGE: 230 V

Automatic water still – Model 704

It supplies an output of 4 litres per hour, with cut-out device. Easy handling, designed for continuous use of distilled water. Safety thermostat protects still in the event of water supply failure.

Pyrogenes free. Boiler and heater made of stainless steel AISI 304, with lid and condenser of borosilicate glass, sealed by pressure.

- Water consumption: 50 – 60 l. / hora

- Dimensions: 18 cm. Ø x 43 cm. alto.



NEW easy distillation in metal cabin, HYDRO

4 liters of distilled water per hour for common applications

Flow control system for optimum water consumption

High purity, only borosilicate glass 3.3 (Duran, Pyrex, etc.) incontact with water

Water free of metallic ions and pyrogens, conductivity 2 uS/cm

Water stills, metallic

Made of stainless steel with thermostatic shield and epoxy painted finished.

Heat control system.

Level control system. Flow control safety cut-out. Easy cleaning.

| | DESA 1035 / 0035 | DESA 0075 |
|----------------------------|------------------|-----------------|
| - External dimensions. mm. | 250 x 222 x 542 | 260 x 260 x 610 |
| - Dimensions packaging mm. | 460 x 360 x 630 | 700 x 460 x 710 |
| - weight packed | 13 Kg | 16,5 Kg. |



Automatic Water Still-model 811

Output: 10 litres / hour.

Automatic apparatus and continuous output so you do not have to pay attention to its operation.

Safety thermostat protects still in the event of water supply failure. Easy cleaning, because it is not necessary to dismantle or move it thanks to a device highly simple that works pressing a button and turning a key so that

the apparatus is emptied totally. Level control system. Flow control safety cut-out. Easy cleaning.

- DIMENSIONS: 350 x 400 x 1.000 mm.

Universal Oven



Steriliser



Vacuum Oven



Hot air Incubator



Water Bath



COLD BEHAVIOR TESTER SERIES



State-of-the-art Peltier coolers have been adopted for cooling. The Peltier cooling system does not require a large chiller and methanol, making it a highly reliable, low-maintenance and eco-friendly system.

MPC series determines Pour Point(PP) and Cloud Point(CP) with a small specimen size and in a shorter test time. For PP determination, the unique "Air Pressure Method" prescribed in ASTM D6749 yields equivalent results to the conventional tilt method's and a much better repeatability/reproducibility.

AUTOMATIC DISTILLATION TESTER

AD-6 has 11 preset programs and allows the operator to add other 15 programs. Just by selecting the program and setting the sample then pressing the start button, AD-6 carries out the distillation test process automatically and prints out the results by the built-in printer.



Automated Abel Closed Cup Flash Point Tester



Test Methods ISO 13736, ISO 1516/1523, IP 170
Measuring Range +10°C to +110°C for abl-8a
-30°C to +110°C for abl-8l (with an optional chiller)
Ignition source Gas flame or Electric Coil
Temperature Sensor PT-100 in stainless steel sheath
Flash Detector CRC Thermocouple

RX-620SA determines **total sulfur in petroleum products**, such as gas oil, fuel oil, crude oil and naphtha, using energy dispersive X-ray fluorescence(EDXRF) method, which is an accurate, non-destructive, economical and yet quick method prescribed in ISO 8754 and ASTM D4294-03. Once a sample is set, the total sulfur is determined automatically in 300 seconds(typical). The model RX-620SA is a 12-sample carousel model. After its successful predecessors, this fourth generation has been developed to further improve the accuracy and ease of use.

HIGH PRECISION: Pulse height analysis(PHA) is automatically carried out before each measurement to adjust the system. This innovative system design has further improved the precision.

X-RAY SULFUR METER model RX-620SA



KINEMATIC VISCOSITY BATH Model KV-6



Model KV-6 has been designed for Model KV-6 manual determination of Kinematic viscosity. Microprocessor and built-in platinum resistance probe allows wide control range (20 to 150), one-touch temperature selection and on-screen temperature display. applicable viscometers: Cannon-Fenske or Ubbelohde type
Bath temp: preset at 25, 40, 50, 80 and 100C
Size/dryweight: 400W X 380D X 662H(mm) / 33kg

PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER Model APM-7

Model APM-7 automates Pensky-Martens Closed Cup (PMCC) flash point test. Cup cover and stirrer installed on an swing arm assembly for easy one-hand set-up More reliable and easy-to-maintain flash detector: a low mass thermocouple
Draft protection: an acrylic windshield: Quick cooling after test by a high velocity fan range: ambient to 370C
ignition source: gas flame with electric pilot or coils
Size/weight: 230W X 455D X 385H(mm) / 20kg



CLEVELAND OPEN CUP FLASH POINT TESTER Model ACO-7



Model ACO-7 automates Cleveland Open Cup (COC) flash point test. Dual electric pilots for gas flame: turns on and off automatically to turn on/off the gas flame. Easy-to-maintain ionization rings for flash detection
Quick cooling after test by a high velocity fan
range: ambient to 400C
ignition source: gas with 2 pilot electric coils
Size/weight: 230W X 455D X 385H(mm) / 20kg

CALORIMETER FOR PETROLEUM PRODUCTS Model ACL-2

Model ACL-2 automatically determines Saybolt, ASTM and other colors utilizing the Tri-Stimulus method prescribed in ASTM D6045, which generates equivalent test results with the conventional manual methods' with up to ten times better precision, in typically 10 seconds. Since no subjective judgment needs to be called, a perfect traceability is achieved.
Type: Tri-stimulus filter colorimeter
Colour scales: Saybolt, ASTM, Gardner and Platinum- Cobalt Scales
Sample Cells: Glass cells or optional flow cells
Size/Weight: 400W X 400D X 190H(mm) / 12.2kg





Power output: selectable between 125°/140°C. Special valve 115°/121°C available (0.7 - 2.7 bar / 10.2 - 39.2 psi overpressure). Solution of culture media (Agar) at 100°C

Venting: venting using flow process. Steam saturation: non-condensable gases <3% (as mandated in EN 13060)

Sterilisation material: solid instruments, liquids (culture media) bottles and devices, waste sterilisation

Size, loading: optimal usage of chamber volume thanks to loading from above. Even long instruments up to 42 cm (18 L version) can be processed

- See more at:

<http://www.certoclav.com/en/autoclaves/certoclav-el-autoclave.htm#c53>

Power output: freely selectable temperature from room temperature up to 140° C (up to 2.7 bar / 39.2 psi overpressure).

Venting: Venting using fractioned flow process. Steam saturation: non-condensable gases 3% (as required by EN 13060)

Autoclave items: solid instruments, liquids (culture media), bottles and devices, waste sterilisation. Any durable material for material tests and research. Acids can be autoclaved but do, however, lead to corrosion in the autoclave in the medium-term.

Size, loading: optimal usage of chamber volume thanks to loading from above. Even long instruments up to 42 cm (18 L version) can be processed

- See more at:

<http://www.certoclav.com/en/autoclaves/certoclav-multicontrol.htm#sthash.Rg37Sk2e.dpuf>



MRF 16/22

Microwave Assist Technology Furnace



CMAT – unique in being the first standard design Microwave Assist Technology (MAT) furnace.

- Maximum operating temperature : 1600°C ;
- 22 litre chamber capacity;
- 20 segment programmable PID control;
- Over-temperature protection;
- Independent control of microwave & radiant heating;
- Manual or programmable control of both heat sources;
- 9 kW radiant heating;
- 1.8 kW microwave heating source;
- Double safety interlock cuts power on door opening;
- Meets BS EN 60519-6:2002 Part 6.1 safety limits for microwave containment;
- RS232 communications.
- 220-208V Delta, 220-240V Delta, 380-415V 3-PH +N

1100°C, 1200°C & 1300°C Laboratory chamber furnaces (CWF)



Maximum operating temperatures of 1100°C, 1200°C or 1300°C

Chamber capacities of 5, 13 or 23 litres

Powerful free radiating coiled wire elements on both sides of the chamber ensure good thermal uniformity

Heats up to operating temperature in half of the time of traditional "slab" designs

Hard wearing refractory insulation inside chamber and around the entrance provides good resistance to abrasion

Hard ceramic hearth provides robust base, and can be replaced in the event of spillage

Vertical counter-balanced door keeps hot door insulation away from operator

Applications in quality control include, testing of component materials or finished products

Applications in tool making and maintenance include, heat treatment of metal tools and tool steels

Applications in coatings manufacturing include, testing coatings for resistance to fire, and longevity testing of finished coatings

750°C Air recirculating chamber furnaces (HRF)



Maximum operating temperature 750°C

Chamber capacities of 22, 112 & 324 litres

Heating is provided by resistance wire elements on both sides of the chamber

Powerful centrifugal fan and air guide system forces air over the elements & back through the chamber to ensure good thermal uniformity

Easy clean stainless steel inner chamber

Choice of PID controller or programmers

Applications in general industry include, low temperature ferrous metal heat treatment processes; annealing, tempering, normalising and stress relieving

(LHT) 400°C, 500°C & 600°C Laboratory high temperature ovens



The LHT ovens have maximum operating temperatures of 400°C, 500°C & 600°C

Chamber capacities of 30, 60 & 120 litres

Good temperature uniformity

Fast heat up and recovery times

Polished stainless steel interior

Stainless steel shelves with multi position settings

Choice of controllers & programmers

250°C / 300°C Fanned convection laboratory ovens (PF)



PF800 model shown (250°C maximum operating temperature)



Maximum operating temperature of 300°C with chamber

capacities of 30, 60, 120 & 200 litres

Maximum operating temperature of 250°C with chamber

capacities of 400 & 800 litres (PF400 & PF800)

30 - 120 litre models are bench mounted

400 & 800 litre models are floor standing

Excellent temperature uniformity

Fast heat up and recovery times

Stoving and curing option available

Moisture extraction option available

Peak oven showing MEO - moisture extraction option.





MIXER CATERING, KITCHENS, RESTAURANTS



- MOTORIZED bowl lifting
- Electromechanical control panel
- Mechanical gear box
- 3 synchronized speeds
- Timer
- Body of machine in cast iron
- Strengthened bowl
- Raised feet
- Strengthened bowl locking
- Rotative stainless steel protection grid
- Spout
- OPTION
- Bowl trolley

KNEADER



**80 KG OF DOUGH TILTING
UNIVERSAL KNEADER**

OVENS FOR BAKERY AND PASTRY



- Energy : electricity
- 10 levels - 400 X 600 mm
- Step between trays: 80 mm
- Max. temperature: 270°C
- Stainless steel body
- Monobloc
- Glass door
- Lighting
- Timer
- General switch
- Steam generator
- 3 heating turbine
- Adjustable feet height
- OPTION
- Support with slides

ELECTRIC CONVECTION OVEN - 10 LEVELS



All the service fittings are available with various options for fitting to suit the design. Available as follows:

Bench Mounted

Service mounted

Dropdown type Etc.

Special fittings are available for schools, where extra care and more safety features are recommended.

The services can be accessed at the workspace by using different channel systems. The system is selected to match the bench construction, type of services, space availability, required features etc.

All the service fittings are available with various options to suit the required designs. The fittings are mounted on service channels, service boxes or on the bench tops as per design and the client's requirements.

Epoxy resin

Phenolic resin

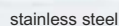
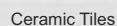
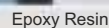
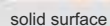
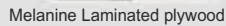
Ceramic Tiles:

Stainless steel:

Solid surface:

Melamine laminated plywood:

The worktop shall be made of water proof bonded furniture grade plywood of 24mm, 30mm, 36mm thickness and finished with high pressure melamine laminate of 0.9mm thickness on both sides. All edges shall be finished with 3mm thick PVC edging bonded by means of hot melt glue at 205degrees Celsius in the factory.





The EL-SIE

Our latest innovation in data logging

The EL-SIE is our breakthrough USB data logger, compatible with Mac or PC, and with no software needed to install. Just plug the logger into your computer's USB port; configuration and data analysis can all be done within your standard web browser. It's as easy as that!

In this range:



Temperature



Temp/RH



Pressure

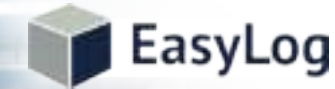
A next-generation data logger in a sleek, metal housing

- The EL-SIE range offers five model variants capable of measuring ambient temperature, humidity and pressure.
- Upload your data to an EasyLog Cloud account for powerful online graphing, analysis and report generation.
- The logger's large, clear display shows current, maximum and minimum readings, plus three coloured LEDs that indicate status at a glance.



▲ EL-SIE Graphing Screen

- Alarm functionality includes cumulative alarms, pre-alarms, delay before alarm triggering, and alarm hold options.
- Store over 1,000,000 readings
- Typical battery life is over one year using standard AAA alkaline batteries.



- **EL-SIE-1** Temperature data logger with display
- **EL-SIE-1+** High-accuracy temperature data logger with display
- **EL-SIE-2** Temperature and humidity data logger with display
- **EL-SIE-2+** High accuracy temperature and humidity data logger with display
- **EL-SIE-6+** High accuracy temperature, humidity, and pressure data logger with display

Next Generation USB Data Logger

EasyLog Cloud

Your Data. Anytime. Anywhere.

Access your vital data from any internet-enabled computer, tablet or mobile device with EasyLog Cloud. From single locations to worldwide operations, the system is perfectly scalable and can run through your existing wireless networks.

Critical events are notified to specific users in seconds via an alarm system that's easily tailored to your exact requirements.

Data is accessible 24/7 and powerful online tools make it simpler than ever to view, compare and analyse readings. An audit trail is automatically created that includes both system and data events.

System administration features allow you to set up and manage multiple account users, with individually assigned access to specific locations and functions.

Starter and Professional accounts are available, always flexible and with no locked-in contracts.

All EasyLog Cloud data is securely stored at a fully accredited data centre.



EasyLog Cloud App

Available for Android and Apple devices, the EasyLog Cloud app enables you to monitor and manage your wireless sensors on the go.

Key features include:

- Alarm and device status at a glance
- Favourites tab for your most important sensors
- View data, graphs and events
- Change sensor and alarm settings
- Free to download



Cloud-enabled Products

EL-MOTE ▶

Discrete, waterproof wireless data loggers



EL-WIFI ▶

Wireless data loggers with display



EL-SIE ▼

Upload data to the Cloud from the latest range of USB data loggers



The Power of IoT

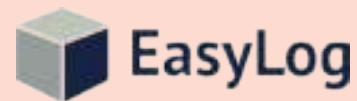
EL-MOTE

Remote, flexible data logging with years of battery life

The EL-MOTE WiFi data logger range combines an unobtrusive, waterproof design with replaceable measurement probes, up to two channels and 2 years of battery life.

24/7 monitoring and alerts in a simple-to-use package

- Simple device setup using our smartphone App
- Single and dual channel temperature and humidity recording using a choice of replaceable probes
- Configurable high and low alarms with on-board indicator and sounder
- Industry leading battery life of up to 2 years
- Discreet design with waterproof enclosure
- View and analyse multiple sensors, including graphing of historic data with EasyLog Cloud



Probes

This two-channel device supports replaceable probes.

Need a new probe? Don't purchase a new EL-MOTE. Probe accessories are available for the full EL-MOTE range.



▲ **T & T+ Probes**
External temperature probe. Standard and higher accuracy options.

▲ **TH & TH+ Smart Probes**
External temp/humidity smart probe. Standard and higher accuracy options.

▲ **TP & TP+ Probes**
External thermistor probe. Standard and higher accuracy options.

▲ **TC Smart Probe**
External thermocouple smart probe. K-Type supplied.

In this range:



Temperature



Temp/RH



Thermistor

EL-WiFi sensors & remote monitoring



The EL-WiFi range of temperature and humidity data loggers provides the capability to remotely monitor any environment. Data is uploaded using a standard WiFi network without the need to physically connect the units to a PC.

Each sensor features a rechargeable battery or can be permanently powered using a USB wall adapter. The large LCD screen displays real-time data, while the button cycles through the maximum and minimum readings.

The range includes data loggers for monitoring temperature, using internal and external temperature probes, and humidity. Sensors are also available in single and dual channel formats.

In this range:



Temperature



Temp/RH



Thermocouple



Thermistor

WiFi Sensors & Remote Monitoring

Remote Monitoring

When using a PC or laptop to configure and download data just isn't possible, Lascar have a variety of remote options covering a multitude of communication platforms.

Select Bluetooth, NFC or SMS options for seamless, remote communication with your data logger, using one of Lascar's easy to use Apps.

No need for a WiFi signal. Use your smartphone or tablet to configure your logging device, then let it log and use your smartphone or tablet again to collect the data. Simple, easy remote data logging.



EL-BT-2

Bluetooth temperature and humidity data logging



The EL-BT-2 data logger measures and stores over half a million temperature and humidity readings. The user can easily set up the logger and view downloaded data remotely on any suitable Android device via Bluetooth connection.

Downloaded data can then be saved, uploaded or emailed. The LCD screen on the device indicates

Bluetooth connection status as well as logger operation. The push button allows cycling of current, minimum and maximum recorded values.

The EL-BT-2 comes with rechargeable battery or can be used with a USB wall charger.

Wireless Alert

WiFi-enabled, wall-mountable temperature monitor



Wireless Alert TP measures temperatures between -40°C (-40°F) and 125°C (257°F), notifying the user via email whenever the temperature rises above or below the user-defined limits. This means that fast, corrective action can be taken to rectify a temperature issue, preventing damage to temperature-sensitive materials, or ensuring building occupant comfort. With easy set-up using the step-by-step guide in the free Wireless Alert App, the device can send out scheduled summary reports detailing minimum, maximum and average temperatures, as well as battery level, number of notifications sent, and the total time spent in alert mode. (App Store).

EL-SMS-2G-TP

Temperature monitor with SMS alerts



The battery operated EL-SMS-2G-TP is a temperature alert module communicating daily, weekly or monthly temperature summaries via SMS. Perfect for applications where instant notifications of alarm breaches is vital, high and low level alarms are set using the free Android or Apple App sending text messages to pre-selected phones when an alarm is triggered.

In this range:



Temperature



Temp/RH

EL-Vaccine Range

The Lascar range of EL-Vaccine monitoring kits come with a digital data logger, a glycol buffered temperature probe, and calibration test certificate. They also follow the appropriate guidelines of Centres for Disease Control and Prevention (CDC) and the NHS.

Added benefit of detachable vaccine probe for greater logging accuracy

All EL-VAC product versions come with a detachable probe in a glycol bottle. Suspending a probe in a sealed glycol bottle helps prevent sudden spikes in air temperature from compromising the readings, mimicking the rate at which vaccines react to temperature changes, providing the most accurate readings, and preventing false alarms.

- ✓ Detachable temperature buffered probe
- ✓ High/low alarms to alert out of range temperatures
- ✓ Display of current, min and max temperature and reset button
- ✓ Low battery indicator
- ✓ Accuracy $\pm 0.1^{\circ}\text{C}$ / $\pm 0.2^{\circ}\text{F}$
- ✓ Over 250,000 readings stored
- ✓ Data loops when memory is full
- ✓ User programmable logging rate
- ✓ Integral magnet to affix logger to outside of storage unit

In this range:



Thermistor

EL-WiFi-VAC

The EL-WiFi-VAC allows remote vaccine monitoring and data collection over a WiFi network, viewable from any internet enabled device including smartphone, tablet or PC using the EasyLog Cloud service. Set-up high and low alarms and receive instant email alerts when temperatures become too hot or cold in the fridge or freezer.

The logger can be battery powered or used with a USB wall adapter.

www.lascarelectronics.com/data-loggers



EL-WiFi-VAC2

The dual channel EL-WiFi-VAC2 can measure two areas at the same time - two areas of the same refrigerator, two refrigerators or perhaps a refrigerator and freezer.

The logger can be battery powered or used with a USB wall adapter.



EL-USB-VAC

This USB-based system allows continual temperature monitoring of refrigerated and frozen vaccines using a simple-to-use data logger and glycol bottle.

Simply name the device, choose samples rates and set high and low alarms using its free and easy-to-use software. Place the glycol bottle in the vaccine refrigerator and place the data logger on the outside of the fridge. View latest, highest and lowest logs from its integral LCD screen. An on-board red LED will flash if an alarm has been breached.

The logger is battery powered.

www.lascarelectronics.com/data-loggers



EL-GFX-VAC2

The EL-GFX-VAC2 is a Vaccine monitoring kit combining a high accuracy USB dual channel data logger with two glycol bottle probes allowing continuous measurement of two environments simultaneously.

The unit stores over 250,000 readings, has an on-screen display showing max, min and last log as well as an on-board graph of the data collected. Buttons allow the user to start, stop and restart the logger in the field and alarm breaches are registered with both LED and audible alarms.

The logger can be battery powered or used with a USB wall adapter.



21 CFR Compliance

Lascar's latest software offering allows users to store data in compliance with the regulations of 21CFR Part 11. As well as the core offerings of Lascar's existing EasyLog software, individual users can now be assigned specific permissions.

The readings collected from the data logger are stored in an encrypted format which cannot be edited. EasyLog 21CFR software provides a full audit trail of activities, with users able to add comments to specific readings before being approved by an authorised user. Electronic signatures are added to all of the reports to show who has started, stopped and approved the session data. The software is compatible with data loggers monitoring temperature, relative humidity and dew point.



▲ EL-21CFR-1-LCD
EL-21CFR-2-LCD
EL-21CFR-2-LCD+

▲ EL-21CFR-TP-LCD
EL-21CFR-TP-LCD+

▲ EL-21CFR-VAC

▲ EL-21CFR-TC

EL-21CFR USB

EasyLog 21CFR software is compatible with seven standalone USB devices monitoring standard temperature, relative humidity and dew point; temperature using an external probe; temperature using an on-board sensor and temperature using an external K type thermocouple.

In this range:



Temperature Temp/RH Thermocouple Thermistor



▲ EL-WiFi-21CFR-T
EL-WiFi-21CFR-TH
EL-WiFi-21CFR-TH+

▲ EL-WiFi-21CFR-TP
EL-WiFi-21CFR-TP+

▲ EL-WiFi-21CFR-DTP+

▲ EL-WiFi-21CFR-TC
EL-WiFi-21CFR-DTC

▲ EL-WiFi-21CFR-VAC
EL-WiFi-21CFR-VAC2

EL-21CFR WiFi

For users seeking a remote option, Lascar's EL-WiFi-21CFR Series provides WiFi-based sensors wirelessly capturing and storing data for access from any internet-enabled device. Products in the range measure temperature (via on board sensor, external thermistor probe or external thermocouple probe) or temperature, relative humidity and dewpoint.

In this range:



Temperature Temp/RH Thermocouple Thermistor





Lascar Electronics Ltd UK
Module House
Whiteparish, Wiltshire
SP5 2SJ
United Kingdom

Sales Tel: +44 (0)1794 884567
Sales Email: sales@lascar.co.uk
Skype: lascaruk



www.lascarelectronics.com/data-loggers

Issue 5 01/2020

Handheld Polarimeter



Specifications

Optical

| Parameters | Unit | Specification |
|-------------------|--------|--------------------------------|
| Wavelength Range | nm | 1520 to 1610 |
| Input Power Range | dBm | -35 to +5 |
| SOP Accuracy | degree | < 2.0 |
| DOP Accuracy | degree | < +/- 5.0%, (+/- 2.0% typical) |
| Return Loss | dB | > 50 |
| Optical Connector | - | SC / UPC |

Environmental & Physical

| Item | Unit | Specification |
|------------------------------------|------|-------------------------|
| Operating Temperature | °C | 0 to 40 |
| Storage Temperature | °C | -20 to 70 |
| Relative Humidity (non-condensing) | %RH | 10 to 90 |
| Size (H x W x D) | mm | 88 x 192 x 35 |
| Weight With Jacket | lb | 1.2 |
| Power Supply | VDC | 9, batteries or adapter |

Ordering Information

L W 1 0 2 2 a

This product information is subject to change without notice.

Features / Benefits

- Handheld, lightweight design
- Large, dynamic range of measurement
- No moving parts and unlimited data logging
- Customized calibration options
- Precise, real-time display of SOP and Poincare sphere
- Cost-effective, efficient, portable, and reliable
- Built-in standard USB 2.0 interface
- Sleek, stylish design via rugged, durable housing
- Brilliant 3.5" color TFT display
- Bluetooth™ ready
- One CF type II expansion slot
- One SD / MMC expansion slot
- Built-in data storage management
- Touch screen and user-friendly interface

Applications

- Manufacturing
- Maintenance
- Administration (local or on-site)
- R&D / laboratory
- Quality assurance



Microplate Vortex Mixers



The Ideal Solution for Dependable Vortex Mixing of Microplates

OHAUS Microplate Vortex Mixers are perfect for mixing microplates throughout the speed range. All models are designed for continuous-duty use in the lab. Digital models offer a timer and exact speed control for applications that demand repeatable results and non-digital variable speed models are an economical alternative. The high-speed and small orbit of these mixers make them optimal for effectively mixing microplates.

Standard Features:

- Safe to mix at high speeds - the innovative locking design of the microplate accessories allows these mixers to safely operate throughout the entire speed range.
- These mixers utilize a high quality German-manufactured motor allowing for reliable, continuous-duty operation at any speed.
- Robust digital and non-digital models offer effective speed control from low rpm for gentle shaking to high-speed mixing for vigorous vortexing of samples.



Multi-Tube Vortex Mixers



Powerful Hands-Free Vortex Mixer for Efficient High-Throughput Mixing

OHAUS Multi-Tube Vortexers are ideal for hands-free, high-throughput sample processing. Interchangeable foam racks for vortexing tubes from 10 to 29 mm in diameter are available. Strong suction cup feet reduce motion and prevent sliding on the work surface for safe operation in the lab. Digital models offer exact speed control for applications that demand repeatable results. Non-digital variable speed models are an economical alternative.

Standard Features:

- Easily process up to 50 samples at one time - the Multi-Tube Vortex Mixer can be customized for your application with six different tube racks and a post- extension kit.
- The Multi-Tube Vortex Mixers feature either an easy to clean one-piece stainless steel housing that is perfect for clean rooms or a painted steel version for a more economical option.
- For challenging samples, enhance vortex action and create a more vigorous mix with the programmable pulse mode on the digital models. Adjust the pulse-on/pulse-off time interval to customize operation.

NIREx

The Integrated NIR solution for Fast and Accurate Analysis



- All kind of Solid and Semisolid Samples
- Measurement in 20"
- Low maintenance
- In Build Industrial PC
- Touch Screen
- Industrial & Robust design
- 3 years of warranty (NIR unit)

The NIREx is part of the New Generation of NIR devices from TecnoCientifica

It was designed with the last CCD InGaAs full simultaneous spectral detection technology. This integrated device is the solution for those industries that need to handle a large variety of samples and products. Strong, Fast and Robust is ideal for Quality and Process control.

Products:

Whole grains, meals, dairy products, flours, animal feed, bakery and much more

Constituents:

Moisture, Extract, Protein, Oil Fat (standard model). Also fiber, starch, sugar (with extended WL range model)





Prepare the sample into the cup



Insert Sample Cup



Get Results in 20 segundos

Sepctral Acquisition: by reflectance

Sample Processing: without contact

Products: Solids and Semisolids in General

Sample preparation: minimum - ground when is needed

Light Source: Tungsten– Halogen (6 watts) - 10000 hs of lifetime

Measurement Time: about 20 seconds

Detector: InGaAs CCD (512 or 256 pixels)

NIR Temperature Stabilization: Special TEC-NIR control(-24 °C +/- 0.1 °C)

Spectral Range (in nm): 900 to 1700 (512) - 900 to 2100(256) -

Spectral Resolution: ~ 4 nm

Reference Material: Spectralon

Dark Signal: Light Shutter– fully automatic

Communication: Serial / USB / Ethernet (RJ45) / VGA

Operation Software: Integrated

Screen: 12" Industrial Touch Screen

Sample ID: Alphanumeric

Historic Data: Database Exportable to Excel

Security: User Levels managed by password

Product Memory: No limits

Possible Analytical Adjustments: Slope – Bias – Moisture Basis Correction

Operation Temperature: 5 a 45 °C

Operation Humidity : < 85%

Voltage : 100 – 240 V, 50-60 Hz – automatic

Size: Length 450 mm – Height 270 mm – Width 285 mm

Weight: 20 kg

HISTAMINE

ELISA | LATERAL FLOW



Histamine (HA) is best known as a mediator of allergic reactions, but it is now recognized to participate in numerous other normal and pathologic processes.

HA is a heterocyclic primary amine and is the by-product of the decarboxylation of the amino acid L-histidine by the enzyme histidine decarboxylase. The latter is produced by certain bacteria that can be found in seafood. The most common fish species that tend to accommodate HA belong to the scombroid family of fish (tuna, mahi mahi, marlin, bluefish, sardines, anchovy, bonito, herring and mackerel). After the fish are harvested the bacterial growth results in increasing histidine decarboxylase amounts which in turn induces HA production. High levels of HA may cause scombroid poisoning in humans which consists of various symptoms, such as rash, nausea, vomiting, diarrhea, hypotension, heart palpitations and muscle weakness. Most controlling government agencies worldwide have regulations regarding the amount of HA allowable in fish and fish products. HA levels in fish of good quality are usually below 10 ppm. HA values between 50 and 200 ppm are acceptable depending on the fish species and the country.

The accurate and rapid determination of Histamine presence in fish and seafood products is quite important.

BIO-SHIELD HISTAMINE

Bio-Shield Histamine is an ELISA test for the quantitative determination of Histamine in fresh fish, canned fish, frozen fish and fish meal. The method does not require an acylation process while it provides a wide range of quantification.

Elisa kit characteristics:

- Competitive Quantitative ELISA test with single-break strip plate with 48 wells (6 strips) or 96 wells (12 strips)
- Limit of detection (LOD): 2 ppm
- Wide range of quantification: 2.5-200 ppm
- Low Procedure time: 20 mins
- No acylation process needed
- High specificity and sensitivity
- All reagents are in ready to use format
- Adjusted to the global legislation limits for Histamine
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: B6048/B6096

SYMMETRIC HISTAMINE

Symmetric Histamine is an innovative Lateral Flow test for the quantitative determination of Histamine in fresh fish, canned fish, frozen fish and fish meal. The method is the only fully quantitative rapid test for Histamine in the market.

Elisa kit characteristics:

- Lateral flow in dip stick format available in 24 and 48 test sticks
- Limit of detection (LOD): 5.3 ppm
- Range of quantification: 8-300 ppm
- Optional visual detection limit at 50 ppm
- Low procedure time (3 min)
- No acylation process needed
- Extremely high accuracy of the results
- Adjusted to the global legislation limits for Histamine
- Shelf Life: 12 months | Storage 2-8 °C

CAT.NUMBER: S9024/S9048



INSTALAB®700

INSTALAB® 700 NIR Analyzer

The Instalab®700 analyzer offers reliability and accuracy in fixed filter testing that is simple to operate and affordable.

Quality design and construction ensures the most reliable NIR results available. The Instalab®700 has a patented rotating sample cup which virtually eliminates problems associated with sample non-homogeneity. The cup rotation is computer controlled, with 120 readings taken at 3° intervals and averaged for each wavelength.

Completely customizable, it allows you to change filters to adjust the bandwidth for product constituents, including protein, cellulose, sugar, ash, starch, oil and fat, alcohol, cotton, and polyester. The Instalab®700 is an analytical upgrade from the Instalab®600 series, which means that existing Instalab®600 calibrations can be ported to the new Instalab®700 unit.

The Instalab®700 is dependable in design and built for trouble-free operation in any environment – from lab to production line.



Benefits and Features:

- Easy to use
- Intuitive color touch screen, eliminating operator training
- Tungsten halogen light source
- Memory storage for numerous calibrations
- Stable circuitry eliminates electrical drift and ensures nonvolatile storage of calibration constants, eliminating the need for an auxiliary power source.
- Thermoelectrically cooled photo detector eliminates temperature drift
- Sample cup interchangeability
- Communication capabilities-
 - Supports both USB and RS232 standard printers. This includes multiple baud rates with custom header and footer.
- File Management-
 - Storage of 3000 records
 - Export analysis data
 - Product calibration loading via USB memory stick
- USB, Ethernet Ports-
 - Multiple ports for software upgrades, USB devices, printer and peripherals such as mouse and scanner
- Improved drawer design-
 - Easily removed for cleaning
- Larger optional open sample cup
- Simple slope and Bias adjustment

Product Applications:

- Grain processing
- Flour milling
- Ethanol production
- Feed processing
- Meat processing
- Dairy processing

Constituents:

- Protein
- Fat
- Moisture
- Fiber
- Ash and more



DICKEY-john®
CORPORATION



Color touchscreen display



Easy to use



Interchangeable sample cup



USB / Ethernet Ports located on back of unit



USB Ports located on front of unit

INSTALAB®700



Standard sample cup



Small Open sample cup



Liquid sample cup



Large Open sample cup

Unit Specifications

| | |
|-------------------------------|---|
| Weight: | 31 lbs/14.06 kg |
| Dimensions: | (Height) 13.93 in/35.4cm, (Width) 15.52 in/39.42 cm, (Depth) 14.25 in/36.19 cm |
| Power Requirements: | 110/120 VAC, 50 to 60 Hz, <100 Watts |
| # of Optical Filters: | 4 to 10 |
| Serial Computer Interface: | RS-232-C and USB |
| Printer: | Optional |
| Sample Integration Technique: | Rotating cup |
| Filter Bandpass | Approximately 10nm |
| Light Source: | Tungsten Halogen |
| ETL Mark: | UL61010-1 |
| Humidity: | 5% RH to 95% RH to 27.7° C noncondensing decreasing linearly to 60% RH at 35° C decreasing linearly to 50% at 40° C |
| Altitude: | Up to 2000 meters |
| Operating Temperature: | 10 - 40° C (machine accuracy specification 10° C - 35° C) |
| Storage Temperature: | -20° C to +60° C |
| Calibration Storage: | Flash memory |
| Typical Analysis Time: | 10 seconds |
| Detector: | Thermoelectrically cooled lead sulfide (Pbs) |
| Reference Measurement: | Through entire optical system, against ceramic disk |
| Gain Setting: | Automatic for reference gain, calibration file controls gain or sample |
| Diagnostics: | Diagnostic screens for troubleshooting indoor use only |

Declaration of Conformity

The Instalab 700 is in conformity with the provisions of the following directives and regulations.

- EN2006/95/EC Low Voltage Directive
- EN2004/108/EC EMC Directive
- EN61010-1 Safety requirements for electrical equipment for measurement, control, and laboratory use operating at a maximum altitude of 6562 feet (2000 meters)
- CAN/CSA - C22.2 NO. 61010-1 2nd Edition including Amendment 1
- ETL Mark UL61010-1

MINI GAC® AND MINI GAC® PLUS

GRAIN MOISTURE ANALYZERS

.....

The most accurate handheld moisture tester that provides fast and easy results.

.....

Measuring grain moisture straight from the field has never been easier than with the DICKEY-john mini GAC® family of handheld grain moisture analyzers. These award winning handheld moisture testers offer the highest level of accuracy in their class, plus mini GACs are fast and easy to use.

The mini GAC Grain Moisture Analyzer family includes:

- mini GAC - for highly accurate moisture testing.
- mini GAC plus - the ONLY handheld moisture tester on the market that measures accurate test weight.

Features and Benefits:

- Simplifies operation with menu-driven interface
- Eliminates pre-weighing with an internal scale
- Avoids cumbersome screw caps that can cause grain damage and oily residue
- Measures over 450 types of grain and product
- Easily loads calibrations with a USB
- Tests hot or cold grain between 32 and 122°F
- Receives accurate measurements in a variety of conditions with automatic temperature compensation

Backed by the power of DICKEY-john:

When you buy a mini GAC and mini GAC plus, you get all the dependability and value you expect from DICKEY-john products. DICKEY-john's advanced technology and superior electronics are backed by a team of expert, in-house mechanical, electrical, software, and test engineers. All mini GACs are manufactured by DICKEY-john under strict quality control in an ISO 9001 certified facility. Made in the U.S.A.



DICKEY-john
CORPORATION

MINI GAC® AND MINI GAC® PLUS

GRAIN MOISTURE ANALYZERS



Unit Specifications

| | |
|---------------------------|--|
| Measurement method: | capacitance, conductance, internal scale, temperature |
| Moisture range: | 5 - 45 % (depending on grain type) |
| Grain temperature: | 32 - 122° F (0 - 50° C) |
| Temperature difference: | 36° F (20° C) instrument to grain sample |
| Temperature compensation: | automatic |
| Grain type: | whole grain, no sample preparation |
| Sample size: | 1 pint (0.47 L) |
| Display: | LCD (106 x 56 pixels) |
| Analyzer height: * | 11.9 in (30.2 cm) |
| Analyzer width: * | 4.8 in (12.2 cm) |
| Analyzer depth: * | 8.3 in (21.1 cm) |
| Weight (total): | 2 lbs 7 oz (1.1 kg) |
| Measured parameters: | moisture, grain temperature and test weight ** |
| Calibrations: | 20 grain calibrations (choose from over 450 calibrations that are available) |

Grain Temperature

Measurement Specification

| | |
|-------------------------------|---|
| Accuracy: | 1.0° F or 0.5° C |
| Temperature resolution | 0.1° F or 0.1° C |
| Test Weight Specifications ** | |
| Repeatability: | 0.5 lb/bu (0.6 kg/h) in commercial trade range, depending on grain type |
| Test weight resolution: | 0.1 lb/bu (kg/hl) |

Other Specifications

| | |
|------------------------|---------------------------|
| Operating temperature: | 40 - 113° F (5 - 45° C) |
| Humidity: | 5 - 95% non-condensing |
| Power: | 9 VDC battery (installed) |

* Measured with loader/striker in carrying position.

** Test weight specifications apply to the mini GAC plus only.

Moisture Measurement Specifications

| | |
|-------------------------|--|
| Moisture repeatability: | 0.2% moisture, depending on grain type, in commercial trade range, typical |
| Moisture resolution: | 0.1% moisture |



1. Fill loader



2. Empty loader
into analyzer



3. Level grain



4. Press button,
results in seconds



Package includes:
mini GAC, loader, 9 volt bat-
tery, carrying case, belt clip,
instruction manual and
1 year manufacturer's
warranty (mini GAC plus only)

**COMBINING ECONOMY AND
HIGH PERFORMANCE FOR
ESSENTIAL WEIGHING**



OHAUS Pioneer® Balance

The Pioneer PX combines essential weighing functionality with competitive performance, offering high accuracy and repeatability for applications in laboratory, industrial and education settings. The Pioneer PX is affordably priced, and intuitively designed for intelligent operation with a second line display for additional information, and USB and RS-232 connectivity for easy communication.



Top 5 Reasons the OHAUS Pioneer® Balance Belongs in Your Lab

- 1 2 Line Display**
A brightly lit dual line display shows the weight in an easy-to-read manner, while a dot-matrix second line provides additional information or guidance prompts to the user.
- 2 Durable Construction**
Featuring a cast metal lower housing, metal sub-pan, stainless steel weighing pan and removable draftshield or side doors, the Pioneer is durably constructed for long-term use, and suitable for a variety of applications.
- 3 Communication Ports (RS-232, USB)**
Standard RS-232 and USB device ports allow for easy connectivity to printers and other peripherals, allowing convenient capture of results. OHAUS' free data collection tool (SPDC) provides a simple solution to import this data directly in formats such as Excel, Access, .txt, .csv etc..
- 4 Internal Calibration***
Allows the balance to be quickly calibrated and adjusted with the push of a button, thereby eliminating the expense and maintenance of separate calibration weights.
- 5 Static Removal Bar****
A static removal bar along the top of the draftshield provides a convenient grounding location, allowing the user to discharge any static charge that may have accumulated prior to handling samples and weighing. This helps compliance with good weighing practices, while improving the stability and accuracy of results.

The OHAUS Pioneer

Competitive Performance at an Economical Price

The PX offers high accuracy and repeatability for essential weighing applications in laboratory, industrial and education settings at an economical price point.

Durably Constructed for Long-Term Use

Featuring a cast metal lower housing, sub-pan and stainless steel weighing pan, the PX is durably constructed for versatile, long-term use.

Designed for Simple, Intelligent Operation

The PX features a second line display for additional information or guidance, a static removal bar for convenient grounding, and USB and RS-232 connectivity for easy communication.

* InCal™ available on select models

** On draftshield models only

Pioneer[®]

Analytical and Precision Balances

A static removal bar (constructed of permanent static electric dissipative ABS) provides a convenient grounding location.



RS-232 and USB device ports allow for easy connectivity to PCs or PLCs. Equipped with a security lock to prevent theft.

Durably constructed of cast metal lower housing, metal sub-pan and stainless steel weighing pan for long-term use.

Four quick keys enable easy operation of multiple application modes.



Large viewing angle with bright backlit LCD display. 2 line display provides additional information or guidance prompts to the user.

Solutions for measurement and monitoring of water activity

AVOID STALE SURPRISES



FOOD



PHARMA



COSMETICS

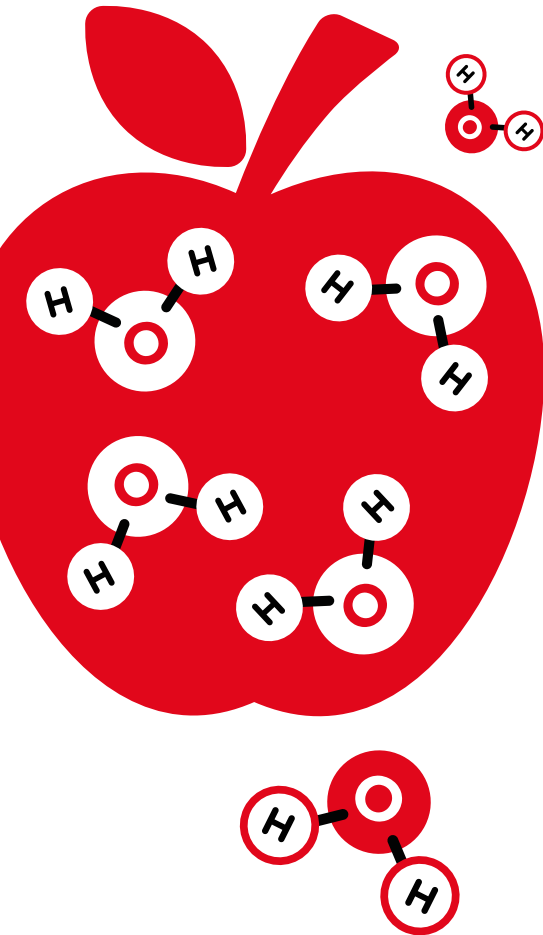


INDUSTRY

rotronic
MEASUREMENT SOLUTIONS

INTRODUCTION TO WATER ACTIVITY

Water activity is often called “free” or “non-chemically bound” water in foods and other products. Although these terms are easier to understand, they do not define all aspects of the concept of water activity.



THE CORRECT DEFINITION

“Water activity – a measure for the energy status of the water in a system” specifies the relationship between the water vapor pressure of a product and the saturation pressure of pure water at the same temperature. It is stated in “aw” in the range 0...1 aw and is an important indicator for product quality in the industrial production of, for example, plastics. The determination of water activity is also very important in the food, tobacco, pharmaceutical and cosmetics industries. Water activity should not be confused with the water content – the “chemically bound” water – of a product.



Texture



Taste



Color



Nutritional value



Shelf life

Water activity influences the following properties of a product:

- microbiological stability
- chemical stability
- enzymatic stability
- color, taste and nutritional value
- protein and vitamin content
- stability of the composition
- shelf life
- storage and packaging
- solubility and texture

INTERESTED?



Scan the QR code
for our water activity
video or visit
www.rotronic.com/aw



CONTENTS

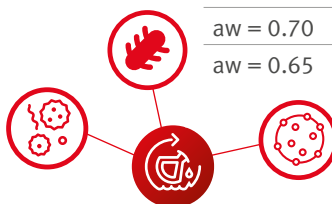
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APPLICATIONS

All forms of life depend on water. Water activity indicates the amount of water which is biologically available to microorganisms. Each species of microorganism (bacteria, yeast, mold...) has a minimum water activity value below which growth is no longer possible.

Water activity plays an important role for product quality in various fields, including:

- Industrial manufacturing
- Food industry
- Pharmaceutical and Cosmetics industry
- Tobacco industry
- Seed storage



| Water activity | Contaminant |
|------------------|--------------------|
| aw = 0.91...0.95 | Many bacteria |
| aw = 0.88 | Many yeasts |
| aw = 0.80 | Many mildews |
| aw = 0.75 | Halophile bacteria |
| aw = 0.70 | Osmiophile yeasts |
| aw = 0.65 | Xerophile mildew |

The US Food and Drug Administration (FDA) has adopted the concept of water activity for establishing limits beyond which certain types of foods are considered susceptible to mold and bacteria and have established the following table indicating which process control procedure can be used. It specifies pathogens of concern and control methods for various product categories (including examples of foods that may need to be evaluated for time/temperature control needs for safety).

| Product category (examples of possible foods for evaluation) | Pathogens of concern | Types of process control 1 (alone and in combination) |
|--|--|--|
| Meats and poultry (fermented sausage) | Clostridium botulinum ⁵ and Clostridium perfringens, Salmonella spp., enterohemorrhagic Escherichia coli, Campylobacter... | Time/temperature, pH, aw , preservatives, moisture protein ratio, fermentation, heat processing |
| Fish and seafood (smoked fish) | Vibrio vulnificus, Vibrio parahaemolyticus, Vibrio cholerae, C. botulinum ⁵ , L. monocytogenes, Salmonella spp., Shigella spp., S. aureus | Time/temperature, harvest site control, fermentation, pH, aw , water-phase salt, preservatives, drying, salting |
| Cereal grains and related products (fresh pasta, foccacia bread) | Salmonella spp., S. aureus, B. cereus, C. botulinum ⁵ | Cooking, aw , pH, preservatives, time/temperature |

The water activity (aw) in foods can be controlled by using various additives (humectants), using satisfactory packaging materials and by maintaining favorable maturation and storage conditions. Should too much water be available, there is a risk of microbial growth and water migration. Food manufacturers today must prove to the FDA that the water activity of a product has been reduced sufficiently so that bacteria can't grow.

The water activity (aw) of a product will always try to reach equilibrium with the surrounding atmosphere. Water will migrate inside the product from regions with a high aw value to the regions of low aw. Water will migrate until equilibrium is reached! Therefore it is crucial to measure the water activity level of all components of a product as well as the ambient atmosphere to ensure the quality of a product. Water migration may cause the following issues: clumping, change of texture, reduced shelf life.

Water activity data may be used when deciding whether a product requires testing or not. The United States Pharmacopeia (USP) <1112> states that pharmaceutical drug products with water activities well below 0.75 would be excellent candidates for reduced microbial limit testing for product release and stability evaluation. Proposals exist stating that products with a water activity of 0.6 or less would not require routine testing for objectionable organisms.

PRODUCTS

AwTHERM

Temperature-stabilized measurement

The AwTherm is a professional high-end laboratory analyser for temperature-stabilized measurement of water activity in the food, pharmaceutical, cosmetics and other industries.

The wide control range permits measurements to be integrated directly in the temperature controlled manufacturing or storage process. Water activity measurement reacts very sensitively to variances in temperature. Stabilizing the temperature prevents imprecise results due to external temperature influences. Tested at 25 °C, AwTherm therefore fulfills the requirements of ISO 21807 (Microbiology of food and animal feeding stuffs – Determination of water activity), which requires measurement at 25 °C.

Order code

AwTherm-PS14
AwTherm-PS40
AwTherm-SET
AwT-MHS
AwT-PS14
AwT-PS40



AwT-MHS: Interchangeable measurement head

Interchangeable measurement head

A further advantage of AwTherm is the removable measurement head, which means that the probe can be temperature calibrated or adjusted to achieve high precision.

User friendliness

In stand-alone use, the AwTherm excels with its easy handling and clarity and, together with the Rotronic HW4 software (FDA 21 CFR part 11 compliant), should be available in any laboratory.

Features

- Accuracy: ± 0.005 aw, ± 0.1 K
- Temperature control range: 0...60 °C
- High temperature stability: ± 0.01 °C / min
- Measurement repeatability: 0.002 aw
- Variable sample container sizes: 14 / 40 mm
- Interchangeable reference probes for cleaning or calibration
- Aw Quick function for fast measurement results (typically 4-5 minutes after reaching a stable temperature)
- Aw Equilibrium method available



Fully automatic aw measurement can be planned if the AwTherm is connected to the HW4 software. The instrument then moves to preset temperature points automatically and carries out a pre-selected Aw Quick or Aw Equilibrium measurement.

PRODUCTS

HYGROLAB C1

Laboratory application

The HygroLab C1 is a laboratory analyzer for water activity measurements with up to four interchangeable measurement heads. The possibility to combine measurement heads and insertion probes makes the HygroLab C1 extremely flexible.

Order code

HygroLab C1

HygroLab C1-SET-40



Validated software

The HygroLab C1 is easy and intuitive to use. It offers a high degree of user friendliness and the possibility to connect the benchtop display unit to a PC running Rotronic HW4 software (included in the SET) using a USB cable and via the Ethernet.

The HW4 software can be used to configure instruments and as a remote control for the complete system.

Features

- 4-channel benchtop display unit for the measurement of water activity, relative humidity and temperature
- Aw Quick function for fast measurement results (typically 4-5 minutes)
- Aw Equilibrium method available
- Multi-channel display
- Suitable for applications throughout industry
- Audible alarm to indicate completed aw measurement

HYGROPALM23-AW-A

Mobile application

As a mobile laboratory unit, the HygroPalm HP23-AW-A is perfect for on-site water activity measurements to determine the stability and preservability of the sample being analyzed. Like the HygroLab C1, the HP23-AW-A can also be used with measurement heads or insertion probes (two can be connected). The HygroPalm can be controlled externally using the HW4 software running on a PC.



Order code

HP23-AW-A

HP23-AW-SET-14

HP23-AW-SET-40

Portable and handy

The handheld instrument for measurement of water activity has the same functions as the HygroLab C1, but is handier in its portable version.

Features

- 2-channel handheld instrument with multi-channel display for measurement of water activity, relative humidity and temperature
- Aw Quick function for fast measurement results (typically 4 – 5 minutes)
- Aw Equilibrium method available
- Audible alarm to indicate completed measurement
- Saves up to 10,000 measured values
- Battery charging function via a USB mains adapter cable (AC1212)

PRODUCTS

AW MEASUREMENT HEAD HC2-AW

The aw measurement head was developed for use in combination with the HygroLab C1 and the HP23-A-AW handheld analyser. This digital probe enables quick and easy measurement of water activity. It can be calibrated via the HygroLabC1, HP23-A-AW or via the HW4 PC software.

The sample holder size is reduced to a minimum, thereby making it possible for humidity equilibrium to be reached quickly for all products being tested, while the metal housing ensures high temperature stability. All critical surfaces are made of chrome steel for minimal soiling.

You can find information on sample holders, disposable plastic sample containers and the clamp sealing mechanism under Accessories on the Rotronic website and in the main catalogue.

Order code

HC2-AW



AW MEASUREMENT HEAD HC2-AW-USB

This USB measurement head can be connected directly to a PC and comes in a set including software or as a single instrument for addition to a system.

The set HC2-AW-USB-SW contains the HW4 software with AW Quick function, thereby opening up all the possibilities of water activity measurement. It can be extended into a multi-station application with up to 64 measurement heads used with a powered USB hub.

Features

- Measurement range: 0...1.00 aw (0...100 %RH), -40...85 °C
- Direct USB PC connection

Order code

HC2-AW-USB

HC2-AW-USB-SW



CLAMP SEALING MECHANISM

Under certain circumstances additional mechanical sealing of the AW measurement station and sample holder may be necessary to prevent external conditions influencing the sample. The AW-KHS ensures a strong mechanical seal and is compatible with the WP-40 and WP-40TH sample holders.

Order code

AW-KHS



PRODUCTS

AW INSERTION PROBES HC2-P05, HC2-HP28, HC2-HP50

Direct measurement

This probe is suitable for direct measurement of water activity in bulk material samples such as powder, granulated materials, corn and grain. The HC2-HP is equipped with a robust stainless steel probe with a diameter of 10 mm and interchangeable sinter steel dust filter for measurement in dusty bulk materials. The HC2-P05 is the ideal measuring instrument for dust-free applications such as tablets, gel capsules and granulated plastics.

Features

- 5 mm insertion probe, for water activity measurement in dust-free bulk materials (P05)
- 10 mm insertion probe for water activity measurement in dusty bulk materials (HC2-HP28 and HC2-HP50)

Order code

HC2-HP05

HC2-HP28

HC2-HP50

P05

HP28

HP50

WATER ACTIVITY SETS

The different aw start sets contain everything needed to measure water activity and calibrate the measuring instruments to confirm sensor performance.

HP23-AW-SET-40



Order code

HP23-AW-SET-14

HP23-AW-SET-40

HygroLab C1-Set-40

AwTherm-Set

SAMPLE HOLDERS AND DISPOSABLE SAMPLE CONTAINERS

Sample holders and disposable sample containers

The sample holders ensure optimal temperature stability for the product. The WP-40TH sample holder can be combined with a water jacket for additional stabilization of the temperature.

The disposable sample containers (PS-14 and PS-40) ensure optimal utilization of the volume in the sample holder. They prevent the sample holders from coming into direct contact with the product being tested, thereby preventing soiling or cross contamination. The disposable sample containers also provide a convenient means of collecting and storing samples.

Order code

PS-14

PS-40

WP-14-S

WP-40

WP-40TH

PS-14

PS-40

WP-14-S

WP-40

WP-40TH





Setting New Standards in Laboratory & Industrial Weighing— The Next Generation of Scout Balances

Ideal for laboratory & industrial applications, the OHAUS Scout features an easy to navigate color touchscreen display & a slim design which allows stackable storage. Geared for superior performance with fast stabilization time and high resolution weighing results, these portable balances set a new standard for a broad range of weighing applications. Features also include superior overload protection and expanded connectivity options.

Standard Features Include:

- **Quick and Efficient Navigation with the Informative Color Touchscreen Display**
Large, resilient color touchscreen allows for effortless operation of the Scout through its informative icon driven menu structure, guiding the user through every step of the weighing application.
- **Fast Weighing Speed and High Resolution Deliver Repeatable and Reliable Results**
Stabilization time as fast as 1 sec means increased productivity in your facility. Equipped with advanced weighing technology, the Scout also ensures repeatable and reliable weighing results.
- **Superior Overload Protection & Stackable Storage Drive Overall Durability**
Integrated superior overload protection system rated at 10 times the capacity protects the balance in rugged and demanding environments. The space-saving, slim design allows for stackable storage.
- **Multiple Connectivity Options for Greater Flexibility in Communication**
With expanded connectivity options including RS232, USB Host, USB Device, Ethernet and Bluetooth[®], the Scout provides added versatility to your data collection and transfer needs.

Scout® Portable Balances

Navigate and Operate the Balance Easily with the Informative Touchscreen Display

Portable balance operation has never been easier, faster or as intuitive as the new OHAUS Scout with color touchscreen display. You'll navigate easily through the Scout's resistive touchscreen interface and icon-driven menu structure, maneuver efficiently in and out of application modes, change weighing units with a simple press of the screen and execute setup and calibration functions in no time. The OHAUS Scout with color touchscreen display creates a new level of unmatched efficiency and functionality in portable weighing.

A real-time clock function keeps accurate time even during power loss. Additionally, GLP/GMP tracking capabilities assist in the monitoring and reporting of data.

Increased Efficiency and Productivity in your Facility

It's all about accuracy and efficiency with the OHAUS Scout Touchscreen balance. Stabilization time as fast as 1 sec means increased productivity in the lab, or on the line. With improved resolution, you can count on extremely precise and repeatable weighing results time and time again.

Scout's Signature Durability Remains Unrivaled

You would expect nothing less from OHAUS than the most durable portable weighing product - that's why we've included our superior overload protection rated at 10 times the capacity of the balance, high strength stainless steel pan, impact-resistant pan support and integrated transportation/storage lock. We've even ensured that the high quality, resistive touchscreen is built to last. To complement our signature durability, the Scout Touchscreen is designed to be stackable when utilizing the included stacking and storage cover, which also protects the balance when not in use.

Versatile Data Collection and Transfer

With expanded connectivity options now featuring Bluetooth®, the OHAUS Scout offers more versatility for convenient data logging, communication and remote functionality. Utilize the Bluetooth® accessory to remotely control the balance from your mobile device or tablet for Android™**. Perform functions such as Zero, Tare, Print, Power Off and more. Other accessories include RS232, USB Device, USB Host and Ethernet. With the USB Host option, you can simply save and transfer data from the balance to a USB drive.

Draftshield Model Available

Scout's ingenious draftshield (1mg models only) was designed with an easy to remove top cover piece. This serves as a wind protection ring which keeps the weighing surface stable in rough environments, while maintaining weighing speed.

*The Bluetooth word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by OHAUS is under license.

**Android is a trademark of Google Inc.





Draftshield

Protects the sample from external influences, increasing the speed and repeatability of measurements



Connectivity

Expanded connectivity options including RS232, USB Host, USB Device, Ethernet and Bluetooth®



Security Slot

Integrated security slot prevents theft



Weigh Below Hook

The integral weigh below hook on the bottom of the Scout allows for density determination or specific gravity calculations



Lockswitch

The Scout can be locked into a specific configuration using the lockswitch

Color Touch Screen Display

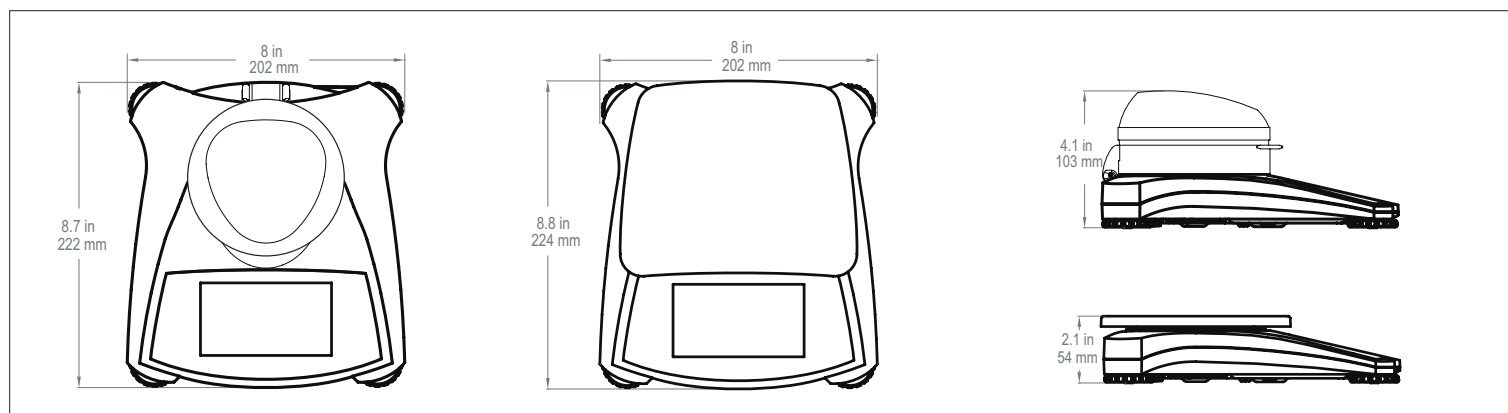
Informative icon-driven touchscreen display for easy navigation



Capacity & Readability by Weighing Unit

| Model | STX123 | STX223 | STX222 | STX422 | STX622 | STX1202 | STX2202 | STX421 | STX621 | STX2201 | STX6201 | STX8200 |
|---------------------|-------------------|-------------------|-----------------|------------------|-------------------------|--------------------------|--------------------------|----------------|-----------------------|------------------------|-------------------------|----------------------|
| Gram (g) | 120 × 0.001 | 220 × 0.001 | 220 × 0.01 | 420 × 0.01 | 620 × 0.01 | 1200 × 0.01 | 2200 × 0.01 | 420 × 0.1 | 620 × 0.1 | 2200 × 0.1 | 6200 × 0.1 | 8200 × 1 |
| Kilogram (kg) | / | / | / | / | / | 1.2 × 0.00001 | 2.2 × 0.00001 | / | / | 2.2 × 0.0001 | 6.2 × 0.0001 | 8.2 × 0.001 |
| Carat (ct) | 600 × 0.005 | 1100 × 0.005 | 1100 × 0.05 | 2100 × 0.05 | 3100 × 0.05 | 6000 × 0.05 | 11000 × 0.05 | 2100 × 0.5 | 3100 × 0.5 | 11000 × 0.5 | 31000 × 0.5 | 41000 × 5 |
| Newton (N) | 1.17679 × 0.00001 | 2.15744 × 0.00001 | 2.1574 × 0.0001 | 4.1188 × 0.0001 | 6.0801 × 0.0001 | 11.7679 × 0.0001 | 21.5744 × 0.0001 | 4.119 × 0.001 | 6.080 × 0.001 | 21.574 × 0.001 | 60.801 × 0.001 | 80.41 × 0.01 |
| Ounce (oz) | 4.23290 × 0.00005 | 7.76030 × 0.00005 | 7.7600 × 0.0005 | 14.8150 × 0.0005 | 21.8700 × 0.0005 | 42.3290 × 0.0005 | 77.6030 × 0.0005 | 14.815 × 0.005 | 21.870 × 0.005 | 77.600 × 0.005 | 218.700 × 0.005 | 289.25 × 0.05 |
| Ounce Troy (ozt) | 3.85810 × 0.00005 | 7.07320 × 0.00005 | 7.0730 × 0.0005 | 13.5030 × 0.0005 | 19.9335 × 0.0005 | 38.5810 × 0.0005 | 70.7320 × 0.0005 | 13.500 × 0.005 | 19.930 × 0.005 | 70.730 × 0.005 | 199.335 × 0.005 | 263.60 × 0.05 |
| Pennyweight (dwt) | 77.162 × 0.001 | 141.463 × 0.001 | 141.46 × 0.01 | 270.07 × 0.01 | 398.67 × 0.01 | 771.62 × 0.01 | 1414.63 × 0.01 | 270.1 × 0.1 | 398.7 × 0.1 | 1414.6 × 0.1 | 3986.7 × 0.1 | 5270 × 1 |
| Pound (lb) | / | / | / | / | 1.36690 × 0.00005 | 2.64555 × 0.00005 | 4.85020 × 0.00005 | / | 1.3670 × 0.0005 | 4.8500 × 0.0005 | 13.6685 × 0.0005 | 18.080 × 0.005 |
| Pound:Ounce (lb:oz) | / | / | / | / | 1lb:5.8700oz × 0.0005oz | 2lb:10.3290oz × 0.0005oz | 4lb:13.6030oz × 0.0005oz | / | 1lb:5.870oz × 0.005oz | 4lb:13.600oz × 0.005oz | 13lb:10.700oz × 0.005oz | 18lb:1.25oz × 0.05oz |
| Grain (grn) | 1851.88 × 0.02 | 3395.12 × 0.02 | 3395.0 × 0.2 | 6481.6 × 0.2 | 9568.0 × 0.2 | 18518.8 × 0.2 | 33951.2 × 0.2 | 6480 × 2 | 9570 × 2 | 33950 × 2 | 95680 × 2 | 126540 × 20 |

Outline Dimensions





Starter[®] 5000

pH Bench Meter



High Performance Bench Meter for Universal Applications

Backed by OHAUS' century-old commitment to providing precise measurement, the Starter 5000 provides accurate pH and ORP measurement for high-level experiments and research. Enhanced features, advanced technology, and high performance have been combined to support complex laboratory tasks requiring pH measurement.

Standard Features Include:

- **Various High-Level Capabilities Propel Powerful Performance**—With a 1,000 measurement memory, eight predefined buffer groups, and three endpoint modes, Starter 5000 provides various ways to achieve precise pH measurement.
- **Advanced Software and Technology Support Complex Applications and Intuitive Operation**—Starter 5000 has a user-friendly interface, similar to other smart devices used daily. With a large LCD touchscreen display, users will find themselves intuitively navigating through all applications.
- **Enhanced Features Offer Protection & Simple Use of this Advanced Meter**—Starter 5000 also has many features that promote ease of use, convenience, as well as protection, including a standalone electrode arm, IP54 housing and in-use cover.

WHY CHOOSE SCIAG

- High Availability.
- Fast implementation and delivery.
- Specialized staff.
- Impeccable and friendly support.



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