



LabService Providers

LABORATORY EQUIPMENT & INSTRUMENTATION PRODUCT CATALOGUE

-  AUTOCLAVES & STERILISERS
-  WASHERS
-  POLARIMETERS, REFRACTOMETERS, DENSITY METERS
-  PARTICLE SHAPE & SIZE ANALYSERS
-  CENTRIFUGES
-  INCUBATORS
-  FTIR ACCESSORIES
-  OVENS & FURNACES
-  FRIDGES & FREEZERS
-  CHAMBERS & CABINETS

-  METERS
-  WATER SYSTEMS
-  TITRATORS
-  BATHS, SONICATORS, CIRCULATORS
-  SHAKERS & STIRRERS
-  ASPIRATORS & LIQUID HANDLING
-  GENERATORS
-  FREEZE DRYERS & LYOPHILISERS
-  DAIRY, FOOD & BEVERAGE



QUALITY
ISO 9001:2015
NSAI Certified

INTEGRATED LABORATORY EQUIPMENT SUPPLY, SERVICE & SUPPORT



LabService Providers is an independent, Irish laboratory equipment sales and service company. We specialise in providing equipment and instrumentation for a wide range of laboratory environments nationwide. We carefully tailor solutions to meet each client's specific equipment needs.

Our objective is to deliver total peace of mind and a maximum return on capital equipment investment. We leverage our equipment sourcing knowledge and service expertise to offer our Pharmaceutical, Research, Healthcare, Dairy and Food laboratory clients real support in maintaining compliant, cost effective, and efficient operations.

LET LABSERVICE PROVIDERS EXPLAIN JUST HOW EASY IT CAN BE TO SOURCE, MAINTAIN AND REPAIR YOUR CRITICAL LABORATORY EQUIPMENT.

ONE SOLUTION

Just one call to meet all your equipment and service needs.

FLEXIBILITY

A collaborative approach with product and service packages tailored to your agenda, budget, and schedule.

CONSISTENT SERVICE

From a dedicated account manager and service engineer with a thorough knowledge of your processes.

COST SAVINGS

Competitively priced, high quality products and services that will have a positive effect on your bottom line.

PEACE OF MIND

Straightforward access to high quality equipment and responsive support services from a trusted source. We get the job done right, first time, every time.

MAXIMUM PERFORMANCE

Well-managed maintenance services, accelerated response times, and excellent first-time fix rates for maximum equipment up-time and reliability.



LEADING LABORATORY EQUIPMENT



LabService Providers offers a comprehensive portfolio of leading laboratory equipment and instrumentation directly from carefully selected, internationally respected manufacturers.

We have partnered with leading brands so that we can offer a range of equipment suitable for all environments, needs and budgets.

We take immense pride in the quality of the equipment and instrumentation we provide. We continually enhance our knowledge of the products we supply so that we can offer a truly responsive service to meet all of our client's needs – before, during, and after purchase.



This catalogue features many – but by no means all – of the brands, instruments and equipment we have available. Be sure to contact us with your enquiries or if you are unable to find the perfect product to meet your needs.

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AUTOCLAVES & STERILISERS



TABLE TOP AUTOCLAVES

- Available in 6 sizes (25L, 40L, 65L, 10Ll, 15L, 200L).
- Fits on any standard laboratory bench.
- Stainless steel construction.
- Compact with square, space saving chamber and small footprint.
- Large loading capacity of up to 4 x 5000ml Schott bottles.
- Easy to use, colour touch screen.
- Integrated printer for batch documentation.
- Secure door locking mechanism and inflatable door seal.



VERTICAL AUTOCLAVES

- Available in 4 sizes (80L, 96L, 133L, 150L).
- Stainless steel construction.
- Low loading height.
- Lifting and pivoting mechanism with electric drive and a lifting capacity of 30kg. Rotates 360°.
- Closed floor plan with water detector and aquastop.
- Rapid water re-cooling system with air circulating fan for fast and water-saving cooling of liquid media in open and closed containers.
- Maintenance rollers as standard.
- Easy to use, colour touch screen.
- Integrated printer for batch documentation.
- Secure door locking mechanism and inflatable door seal.



FLOOR STANDING AUTOCLAVES

- Available in 3 sizes (72L, 150L, 200L).
- Stainless steel construction
- Available in a "Pass-through" design with a gas-tight partition (bioseal). Using an optional display on the unloading side, the autoclave can be fully operated from both sides.
- Ergonomic loading height with transport and batch carts.
- Touch screen control with user friendly software.
- Lifting and pivoting mechanism with electric drive and a lifting capacity of 30kg. Rotates 360°.
- Integrated steam generator separate from the sterilisation chamber for rapid heating and cooling.
- For the sterilisation of pathogenic substances in level S2/S3 laboratories, a steam-sterilisable exhaust air filter (retention rate for gases: 0.01 µm), with inline condensate sterilisation is stipulated.
- Steam air mixture method for the sterilisation of securely closed bottles and pressure sensitive materials.
- Closed floor plan with water detector and aqua-stop.
- Rapid water re-cooling system with air circulating fan.
- High performance vacuum pump for optimal ventilation of sterilised materials.
- Windows compatible, SteriLog documentation software for automatic data processing in a graphic / numeric PDF log.
- Integrated USB socket and batch printer.
- Accessories include stainless steel sterilisation baskets, pails and containers.





LARGE PRODUCTION AUTOCLAVES

- High performance, cost effective production autoclaves for use in laboratory, pharmaceutical and food industries.
- Wide range of options, chamber and exterior dimensions to provide solutions for every field of application.
- Autoclaves delivered to customer specific specifications available.
- 6H Series provides chamber volumes from 640 to 1,234 litres; 8H Series provides chamber volumes from 1,080 to 2,463 litres; 10H Series provides chamber volumes from 1,580 to 3,087 litres. Further chamber sizes are available on request.
- Siemens SPS control S7 series 300.
- House Steam version for connection to a central steam supply with steam management system or Own Steam version via an integrated pure steam generator.
- Pit installation version available for ground level loading.
- Double door version with gas tight separation for safety laboratories and clean rooms.
- Fast water re-cooling via large double shell.
- Connection to house supplied ring cooling system for water saving (up to 80%).
- Re-circulation fan shortens cooling time and provides sterilisation in a steam-air mixture.
- Hot water sprinkler process for fast, gentle sterilisation of liquids in closed vessels.
- Spray cooling for rapid cooling of liquids in closed vessels.
- Exhaust air filter with condensate inactivation for sterilisation of infectious goods (S2, S3). Filter retention rate: > 99.5% 0.02µm.
- Vacuum pump set with water saving device for safe evacuation of air from sterile material by means of single-stage or fractional prevacuum – for dry removal of sterile material.
- Transport and charge trolley for ergonomic loading and unloading.
- GMP compliant to DIN 58950 and FDA regulations.
- Documentation Features: network compatible digital charge recording and user management system in connection with Siemens WinCC FDA 21 CFR Part II compliant; 6-channel colour line recorder for control-independent batch documentation on 120mm wide plain paper; 10-channel screen recorder for FDA 21 CFR Part II compliant digital batch documentation, network compatible; USB stick for storing up to 1,000 charges; Sterilog documentation software for direct documentation of the sterilisation process on a PC (via ethernet interface); Qualification DQ, IQ and OQ according to DIN 589510 and FDS, HDS, SDS.

WWS30 TWIN WASH STERILISER

- Optimal solution for wash water inactivation.
- Two-chamber system enables interruption free hand washing.
- Water is filled into one chamber and sterilised in the second.
- 2 x 30 litre chambers.
- 1600 x 900 x 900 mm.
- Includes mirror, eye shower, 2 wash basins, sewage lift appliance.
- Touch screen control.
- Automatic and manual options.
- Integrated document printer to meet stringent record keeping regulations (charge number, date & time, temperature & pressure course, individual process steps).
- Connect PC via a standard RS232 interface and document process steps via Windows compliant software.

STEAM BOY PURE STEAM GENERATOR

- CPU controlled, high-quality heating elements with touch screen adjustable steam pressure.
- Steam output / hour: 23kg (Steamboy 18); 102kg (Steamboy 80).
- Max. operating overpressure: 5,0 bar (both models).
- Max. temperature: 155°C (both models).
- Heated feed water tank for reduction of inert gas.
- Fill level measurement without mechanical components and independent of water quality.
- Short heating time.
- 1.4571/AiSi316Ti stainless steel pressure container.
- 1.4404/ AiSi316L stainless steel steam valves and pipes.
- Brushed-finished 1.4301/ AiSi 304 stainless steel case and support frame.
- Complies with DGRL 2014/68/EU.
- Optional extras: automatic steam generator blow down with conductivity measurement, heat recovery; connection to building control system; water recycling.

HIGH PRESSURE AUTOCLAVES

- A range of standard high pressure autoclaves suitable for use in environments including product development in the food industry, quality control for aging tests, laminating touchscreens in electronics.
- Pressure Range: 0 – 20 bar.
- Temperature Range: 25 – 250°C.
- Diameter: 400 – 1400mm.
- Volume: 60 to 5000 litres.
- Fastening: Bayonetlock from Ø 500mm automatic.
- Material: high grade steel 1.4571/ AiSi 316 or 1.4404/AiSi316L.
- Standards: 2014/68/EU & AD2000 od. ASME Code Section VIII 2015.
- Heated or non-heated.
- Stirrers – circulating air ventilators.
- Saturated steam, air steam mix.
- Complete control systems.
- Snap buckles.

In addition to the standard range of Producton and High Pressure Autoclaves, Zirbus custom manufacture vessels to meet individual customer needs.



WASHERS



SERIES 26-PH WASHERS

- 316L stainless steel, pharma grade washer suitable for cleanroom use.
- Modular design concept for customised solutions to meet specific user requirements.
- Optimised footprint for side by side applications.
- 4 options available: (1) double door washer with swiveling hatch doors; (2) double door washer with vertical sliding doors; (3) single door washer with swiveling hatch door; (4) single door washer with vertical sliding door.
- Dead-leg free chamber design with radiused corners and electrically (mirror) polished washing chamber.
- Self-draining re-circulation pumps (e.g. Hilge).
- Final rinse options.
- Diaphragm valves (e.g. Gemu, Sisto) fitted with TriClamp connections for WFI (water for injection) and WPU (purified water).
- Orbitally welded piping with TriClamp or aseptic sterile flanges (e.g. Sudmo, Neumo).
- High performance drying unit with H13 filter as last element in the airflow.
- Non stainless parts are FDA approved.
- State-of-the-art SPS controllers (e.g. Siemens S7).
- Data acquisition according to 21CFR Part 11 guidelines.
- Extensive documentation and IC/OQ support including FAT and SAT.
- Conforms with cGMP, GAMP and FDA guidelines.



SERIES 38-PH WASHERS

- 316L stainless steel, pharma grade washer suitable for cleanroom use.
- Modular design concept for customised solutions to meet specific user requirements.
- Optimised footprint for side by side applications.
- 4 options available: (1) double door washer with swiveling hatch doors; (2) double door washer with vertical sliding doors; (3) single door washer with swiveling hatch door; (4) single door washer with vertical sliding door.
- Dead-leg free chamber design with radiused corners and electrically (mirror) polished washing chamber.
- Self-draining recirculation pumps (e.g. Hilge).
- Final rinse options.
- Diaphragm valves (e.g. Gemu, Sisto) fitted with TriClamp connections for WFI (water for injection) and WPU (purified water).
- Orbitally welded piping with TriClamp or aseptic sterile flanges (e.g. Sudmo, Neumo).
- Non stainless parts are FDA approved.
- High performance drying unit with H13 filter as last element in the airflow.
- State-of-the-art SPS controllers (e.g. Siemens S7).
- Data acquisition according to 21CFR Part 11 guidelines.
- Extensive documentation and IC/OQ support including FAT and SAT.
- Conforms with cGMP, GAMP and FDA guidelines.





SERIES 22 WASHERS

- Compact, under counter laboratory washer (900 x 815 mm).
- Suitable for cleaning, disinfection and drying.
- Available with or without integrated drying unit.
- Available in stainless steel as required.

SERIES 25 WASHERS

- Cleaning, disinfection and drying unit suitable for long glassware / washing goods.
- Available with or without integrated drying unit.
- 4 options available: (1) double door washer with swiveling hatch doors; (2) double door washer with vertical sliding doors; (3) single door washer with swiveling hatch door; (4) single door washer with vertical sliding door.
- Available in stainless steel as required.
- Racks for direct nozzle injection.
- Racks for indirect spraying through the rotating washing wing of a rack from the bottom.
- Washing temperature up to 93°C.
- Drying temperature up to 110°C.
- Special washing chamber heights available from +150 to +250 mm.
- Capacity can be increased with a separate, dedicated hot air drying cabinet.

SERIES 28 WASHERS

- Wide chamber, cleaning, disinfection and drying unit.
- Designed for high capacity and cleaning of animal cages or machine parts.
- Available with or without integrated drying unit.
- 4 options available: (1) double door washer with swiveling hatch doors; (2) double door washer with vertical sliding doors; (3) single door washer with swiveling hatch door; (4) single door washer with vertical sliding door.
- Available in stainless steel as required.
- Single, two or three level selections available.
- Upper treatment levels with telescopic rack support is optional.
- Racks can be used at all washing levels.
- Racks for direct nozzle injection.
- Racks for indirect spraying through the rotating washing wing of a rack from the bottom.
- Racks for pipette cleaning.
- Flow chamber for pipettes and (glass) tubes.
- Customised racks for machine parts.
- Washing temperature up to 93°C.
- Drying temperature up to 110°C.
- Special washing chamber heights available.
- Capacity can be increased with a separate, dedicated hot air drying cabinet.



POLARIMETERS, REFRACTOMETERS, DENSITY METERS



VARIPOL SERIES POLARIMETERS

- Compact, fast measuring, precise laboratory polarimeter for pharmaceutical and chemical laboratories.
- 430 x 300 x 160 mm (without optional touch screen display).
- Measurement scales: ° Optical rotation, ° Specific rotation, °Z International Sugar Scale, % Concentration (g/mL, g/100mL, g/L), further scales definable.
- Measuring range: $\pm 89.9^\circ$
- Resolution: 0.005° (Varipol C); 0.001° (Varipol B).
- Precision: $\pm 0.01^\circ$ (VariPol C); $\pm 0.005^\circ$ (VariPol B).
- Repeatability: $\pm 0.01^\circ$ (VariPol C); $\pm 0.005^\circ$ (VariPol B).
- Sensitivity: up to OD 3.
- Wavelength: 1 or 2 wavelengths fixed, standard 589 nm. Also available 365, 405, 436, 546, 578.
- Measurement time: 6 to 8 seconds over entire measuring range.
- Measuring tubes: Up to 100 mm length; standard tubes micro tubes, compact tubes. Also available in glass, stainless steel, titan.
- Temperature measurement: Pt1000 sensor (device) / NTC sensor (Quartz control plates and tubes).
- Temperature range: 10°C to 40°C .
- Resolution / Precision: $\pm 0.01^\circ\text{C}$ / $\pm 0.1^\circ\text{C}$.
- Peltier temperature regulation: 18°C to 25°C (VariPol C); 10°C to 40°C (VariPol B).
- Fortified aluminium core.
- Integrated quality and calibration checker.
- Peltier system for automatic, precise temperature control.
- Automatic wavelength calibration for measurement precision.
- Gear free polarisation detection for constant SuH precision over the entire measurement range.
- Rotatable sample tubes and quartzes standards for cleaning and performance validation.
- Tension free design for fast cleaning of sample tubes.
- Seamless sample room for fast rinsing without deposits.
- Optimised electronic components for low power consumption and standby mode.
- Energy saving durable LED's - maintenance free during the instrument's life - for reduced downtime and maintenance costs.
- 21 CFR part 11 ready.
- International Pharmacopoeia, OIML, ICUMSA, Australian Standard K157 compliant.



POLARTRONIC M TOUCH

- High performance, fully automatic circle polarimeter for continuous measurement.
- Modular, flexible and user friendly.
- Robust design suitable for tough environments.
- High resolution ($0,001^\circ/0,01^\circ\text{Z}$).
- Highly accurate ($\pm 0,005^\circ$ / $\pm 0,015^\circ\text{Z}$) and reproducible measuring results over the entire measuring range ($\pm 360^\circ$ / $\pm 259^\circ\text{Z}$).
- Robust metal housing.
- Large 7" TFT touchscreen.
- Long lasting LED light source.
- Pre-installed user methods.
- Internal measuring data storage.
- Extremely low noise.
- Easy to calibrate via certified Quartz Control Plates (SQCP, TQCP).
- Remote diagnostics and servicing.
- Documentation according to GLP/GMP, 21 CFR part 11 ready, corresponding software optionally available.
- Audit trail function (history logging), report generation, electronic signature, encrypted data storage and archiving.
- Data transfer to Excel.



Schmidt + Haensch offer a wide range of polarimeter accessories including: sample tubes and sample room covers, volume handling and flow through accessories, quartz control plates etc.



VARIREF REFRACTOMETER

- Next generation refractometer.
- Modular and user friendly.
- 310 x 220 x 235 mm (without display); 310 x 220 x 150 mm (with display).
- Single sample or flow through measurement (with optional compartment door).
- Ambient T-Control (ATC) takes temperature variations and the ambience of the instrument into account.
- 5" or 7" touchscreen optional.
- Double isolated peltier system provides rapid temperature control.
- Fast and precise measurements.
- Flat shape ideal for easy cleaning.
- Optional covered version available for optimal product life.
- Remote operation via PC/tablet/smartphone available.
- LED light source.
- Multi-point calibration for the entire measurement range ensures optimal precision.
- Virtually maintenance free – self checking for cleanliness, temperature, calibration etc.
- 21 CFR part 11 ready; ELN; LIMS ready.
- Conformance: International Pharmacopoea, ASTM, AOAC, DIN, FDA, ICUMSA.



VARICONTROL

- Control and display unit: several instruments can be controlled from a single platform.
- Optimal connection to internal systems and auxiliary devices.
- Suitable for S+H Polartronic Touch Series, VariPol, VariRef.
- 250 x 175 x 170 mm.
- Intuitive interface based on the three-click concept.
- Statistically analyse measurement data in real-time or retrospectively.
- 7" touchscreen.
- Remote operation via PC/tablet/smartphone available.
- 10 years data storage.
- 21 CFR Part 11 ready.



DIGITAL HANDHELD REFRACTOMETER

- Digital, handheld refractometer (Brixmeter), ideal for field analysis.
- 2 measurement scales: Brix with automatic temperature correction (ATC);
- Refractive Index.
- 115 x 54 x 30 mm.
- Weight: 85 Grams (without batteries).
- Easy to use and reliable.
- Applications include honey, wine, saline, glycol, DEF.
- Automatic temperature compensated brix value within +5 to 70°C.
- Application specific scales.
- 5-digit, full view LCD screen for measurement of liquid media from low to high viscosity.
- Results displayed in 2 seconds.
- Holster carry case optional.



VISUAL HANDHELD REFRACTOMETER

- Visual, handheld refractometer, ideal for field analysis of fruit and vegetables as well as the rapid, on-the-spot control of process streams.
- Easy to use for the determination of the refractive index of liquid media of low or high viscosity.
- Various models available: 4 ranges Sucrose (%Brix); % Oechsle; % Salinity; Urine Scale (g/dl).
- Resolution and precision - model and user dependent.

Schmidt + Haensch offer a wide range of refractometer accessories including: digital thermometer, sample room cover, flow through compartment door, certified reference materials (CRM)..

EDM SERIES DENSITY METERS

- For continuous density measurement in a range of applications.
- 320 x 235 x 218 mm.
- Can be operated as a stand-alone device or in combination with a large colour-TFT
- High precision, fast temperature measurement.
- Facilitates achieving a consistent manufacturing process and tighter tolerances on results – for reduced costs and enhanced quality levels.
- Rugged, sealed, single-piece system for long life and durability.
- Intuitive software and large colour-TFT touchscreen interface for
- reduced protocol setup times and powerful troubleshooting capabilities.
- Automatic detection of gas bubbles.
- Accurate temperature control programs for use in difficult environmental conditions.
- Integrated reference oscillator.
- Multiple reference alcohol tables.
- Precision density resolution.
- USB, Ethernet, Serial output.
- Optional moisture and air pressure sensor.
- Can be combined with other S+H laboratory instruments such as refractometers to facilitate complex analyses.

EDM 5000

- Measuring time: < 30 sec.
- Min. sample volume: approx. 1.5 ml.
- Filling: by injection.

Density

- Resolution: 0.00001 g/cm³
- Precision: ± 0.00005 g/cm³
- Repeatability: ± 0.00002 g/cm³

Temperature

- Resolution: 0.001 °C
- Precision: ± 0.03 °C
- Repeatability: ± 0.01 °C

EDM 4000+

- Measuring time: < 10 sec.
- Min. sample volume: approx. 1.5 ml.
- Filling: by injection.

Density

- Resolution: 0.0001 g/cm³
- Precision: ± 0.0001 g/cm³
- Repeatability: ± 0.0001 g/cm³

Temperature

- Resolution: 0.01 °C
- Precision: ± 0.05 °C
- Repeatability: ± 0.02 °C



Schmidt + Haensch offer a range of density meter accessories including: connecting tubes, luer adapters, dry air cartridges.

PARTICLE SHAPE & SIZE ANALYSERS



LABORATORY & PRODUCTION IMAGE ANALYSIS



PARTAN MINI

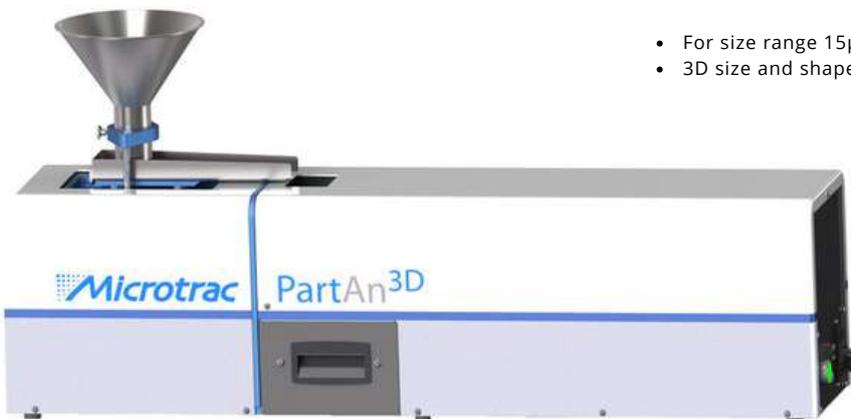
- Fine particle size and shape analyser.
- Characterizes >30 morphological parameters.
- Measurement of dry particles ranging in size from 4µm to 4,500µm.
- Utilises compressed air to disperse fine powders.
- Analyses 100 images per second with a high-speed, high-resolution camera.
- Rugged design with a compact footprint.
- Enclosed optical system reduces downtime for maintenance.

PARTAN 3D & 3D PRO

- Characterizes >30 morphological parameters including 3D.
- Measurement of dry particles ranging in size from 15µm to 35,000µm.
- 3D size and shape for particles ranging in size from 35µm to 35,000µm.
- Analyses 100 images per second with a high-speed, high-resolution camera.
- Rugged design adaptable to any laboratory setting.
- Enclosed optical system reduces downtime for maintenance.

PARTAN 3D PRO

- For size range 15µm to 35,000µm.
- 3D size and shape for particles ranging in size from 35µm to 35,000µm



PARTAN 3D MAXI & 3D MAXI PRO

- Characterizes >30 morphological parameters including 3D.
- Measurement of dry particles ranging from 280µm to 127,000µm.
- 3D size and shape for particles ranging in size from 35µm to 35,000µm.
- Analyses 100 images per second with a high-speed, high-resolution camera.
- Rugged design adaptable to any laboratory setting.
- Enclosed optical system reduces downtime for maintenance.

PARTAN 3D MAXI PRO

- 3D size and shape analysis for large materials ranging in size from 280µm to 127,000µm.



PARTAN SI & SI PRO

- Wet particle size and shape analyser integrated proven laser diffraction technology.
- Provides visual (image) validation of agglomeration.
- Measures size distribution of particles from 0.01µm to 280,000µm.
- Measures >30 morphological parameters of materials ranging from 5µm to 1500µm.
- 3D size and shape for particles ranging in size from 35µm to 35,000µm.
- Sample recirculatory with various speed settings.
- Inline sonication provides a high degree of flexibility for sample dispersion.
- Rugged design adaptable to any laboratory setting.
- Enclosed optical system reduces downtime for maintenance.

PARTAN SI PRO

- Particle size and shape analyser for wet dispersions ranging in size from 5µm to 1500µm.
- Suitable for integration into any process loop.
- Features a proprietary sample extraction process that ensures optimal conditioning of materials.
- Scalable volume requirement to meet a wide range of analysis needs.

3D MEASUREMENT SOFTWARE

- Powerful, patented 3D measurement software for unparalleled analysis capacity.
- Classification function allows users to focus on areas that need improvement or duplication to increase overall production quality.
- Compare multiple parameters to make critical decisions about the quality of material.
- Permanent configuration of a Standard Operating Procedure —ideal for multiple users across multiple shifts.
- Identify and isolate parameters of interest for further investigation.
- Report on all filters to provide a more detailed understanding of areas of interest during the analysis.
- Exclude filters from measurement and limit reporting to necessary data.
- Easy data export to 3rd party software platforms
- Comprehensive reporting for R&D and methods development. (Choose a number of channels and channel widths; choose from >30 morphological parameters in 1 to 6 tabular columns; streamline and lockdown for at-a-glance QC "pass/fail"; image library querying).

DUSTMON

- Measures dust index of granular and powder products.
- Determines quantity of dust created - even low dust concentrators.
- Eliminates risk of excessive dust created by products.
- Calculates particle size distribution
- Uses light obscuration to determine the length of time it takes for dust to settle.





NANOTRAC WAVE II

- Accurate particle size zeta potential analyser ideal for characterising nanoparticles.
- Enhanced optical signal for superior accuracy compliments of Reference Beating – available only from Microtrac.
- Unique probe design, fixed optics, and 180° back-scatter collection enables fast and precise measurement across the widest concentration range – from ppm to near solids (40 % w/v).
- No “A priori” or advance knowledge of the particle size distribution required.
- Measure Zeta Potential closer to iso-electric point by eliminating errors caused by electro-osmotic flow.
- ZP measurement ranges from -200 to +200mV
- User definable data presentation modes.
- Distribution – standard volume particle size distribution.
- Ensures data consistency when transitioning from “legacy” instrument.
- Simultaneous measurement of size and concentration.
- Removable sample cell – available in Teflon or stainless steel.
- 150 µl sample volume required – ideal for high value materials.
- Peltier temperature control device.
- Multiple flow cell options – ability to connect a titrator.



NANOTRAC WAVE II Q

- Nanoparticle size analyser that accurately measures colloidal systems across widest concentration range on the market from ppm to 40% w/v
- Measures particle size from 0.8 to 6,500 nanometers.
- Simultaneous measurement of size and concentration.
- Cuvette error detection alerts.
- No blank measurement or prior knowledge of size distribution required – simply load cuvette and measure.
- Peltier temperature control device.
- Compatible with 5 cuvette volumes (Macro; Glass; Semi Micro; Micro; Stainless Steel / Sapphire).
- Compliant with ISO 22412 and CFR21 Part 11.



NANOTRAC-FLEX

- In-situ particle size analyser with fast and accurate analysis capability.
- Ideal for measuring particles across a wide concentration ranges using minimal sample volume.
- External probe with 180° back-scatter grants the flexibility to measure suspensions from sub-nanometer to several microns, in-situ or on a laboratory bench.
- Turn any vessel into a sample cell – the external probe allows you to dip and measure.
- Numerous probe lengths available from 1.0 meter to 3.5 meters
- Small sample volume required, as low as 5 µl
- Amplified optical signal for unparalleled accuracy and sensitivity, compliments of Reference Beating – only from Microtrac.
- Measures particles ranging in size from 0.8 to 6,500 nanometers.
- No “A priori” knowledge of the particle size distribution is required.
- Simultaneously measure size and concentration.
- Universal solvent compatibility.
- Molecular weight determination.
- Compliant with ISO 22412 & CFR21 Part 11.

SYNCHRONOUS SIZE & SHAPE ANALYSERS

MICROTRAC SYNC

- Synchronises size and shape measurement in one instrument.
- Integrates the world's leading laser diffraction and dynamic image analysis technology in one instrument.
- Measurement from 0.01 to 4000 microns.
- Advanced design for unsurpassed dispersion of wet or dry material.
- Fast and easy switch between wet and dry measurements.
- Easy to use, integrated DIA and LD FLEX software.
- Powerful reporting that integrates particle size and shape data.
- One run yields PSD with more than 30 size and shape parameters - one sample, one bench, one sample path, one sample cell, one analysis.
- Significantly reduced troubleshooting time on unexpected particle size.
- Optimal viewing and qualification of particles.
- Ease of use with integrated SOPs, no set up time and no learning curve.
- Ease of changeover from wet to dry facilitates multiple users running a variety of materials.
- Optimal quality control by adding shape to size specifications.



MICROTRAC S3500

- Tri-laser, red, multi-detector, multi-angle optical system.
- Ideal for general purpose PSD.
- Measures from 20nm to 2800µm.
- Algorithms that utilise Mie compensation and Modified Mie calculations for non-spherical particles.
- 1-2-3 red laser configurations available.
- Up to 3 red 780 nm lasers.
- Wet/dry capability.
- Legacy calculation mode available.
- Enclosed optical path ensures complete protection of the optical components leading to little or no operator intervention.
- Small bench footprint.

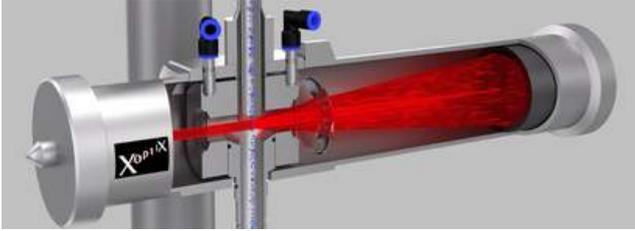


Xoptix

INTELLISIZER

- High quality laser diffraction instrument designed to withstand the challenges of process environments (IP65).
- Size range: 0.1-3000 microns.
- Sampling rate/resolution: 2000/second/16 bit.
- Constructed with high stability lasers, high specification optics and custom designed detectors inside a precision optical bench.
- Kinematic optical mounts.
- State of the art electronics and intelligent, self-maintaining software.
- Measures the complete particle size distribution 2000 times per second.
- 24/7 continuous monitoring of the production process with real-time results and a wide range of sampling options.
- Detailed reporting and data output with a glance, easy to interpret trend data on any time point.
- Integrated functionality for results feedback to PLC/DCS for closed loop control.
- Output available, to meet individual user requirements, from 4-20 ma current loop to Ethernet communication with control PLC/DCS via the industry standard OPC UA protocol.
- Automated separator control for guaranteed in-spec product production and increased throughput from the mill.
- Unique, patented self-monitoring, self-diagnosing and self-cleaning technology guarantees maximum instrument uptime with optimal performance and reliability.
- Ceramic components for increased durability and low maintenance.





PHARMASIZER

- Online particle size analyser for the Pharmaceutical industry for production optimisation and consistent, reliable, repeatable results.
- Integrates quickly and easily into any production facility and reports in real-time (including size distribution graphs) to the process operators / PLCs in a fully closed loop turnkey solution.
- Fully GAMP compliant with materials certification and traceability.
- Software is compliant with 21 CFR Part 11.
- Real-time monitoring (2000 times per second) of particle sizes 0.1 μm to 1100 μm for optimal process monitoring and control.
- Fully automated sampling sequences for bespoke monitoring.
- Constructed from 316L stainless steel.
- All material contact surfaces are electro-polished to Ra 0.5 μm or better.
- Plus connections and O-rings are product specific.
- Clean in Place (CIP) options available.
- ATEX options available.



XO550L WET MEASUREMENT

- Combined, fixed sizing and sampling module for inline measurement.
- Suitable for measuring particles in liquid suspension from 1.2 to 950 microns.
- Sampling system to remove a sample from the process and replace it for real-time particle size measurement with zero product loss.
- Compact, rugged analyser offering a small footprint, high performance and economical solution.
- High stability lasers, high specification optics and custom designed detectors.
- Designed in consideration of ISO 13320.

XO500P DRY MEASUREMENT

- Combined, fixed sizing and sampling module for inline measurement.
- Suitable for measuring particles in air from 1.2 to 550 microns.
- Sampling system to remove a sample from the process and replace it for real-time particle size measurement with zero product loss.
- Compact, rugged analyser offering a small footprint, high performance and economical solution.
- High stability lasers, high specification optics and custom designed detectors.
- Designed in consideration of ISO 13320.



CENTRIFUGES

Hettich

EBA 200 / 200S

- Compact clinical centrifuge offering performance and safety for small sample volumes.
- Versatile, 8-place, fixed angle rotor.
- Adjustable LCD display for convenient and fast operation.
- Supports 19 application configurations (standard, blood tube, paediatric, urinalysis, conical up to 50 ml) with additional, custom packages available.
- High performance S Version: 8,000 RPM fixed angle rotor; rapid separation for quick turnaround of time sensitive samples; RCF of 6,153 – making it ideal for STAT, PPP and Coag; achieve consistent platelet counts in minutes for PPP.
- Maximum capacity of 8 x 15 ml.
- Max.RPM/RCF: 6,000/3,461 / 8,000/6,153 (S Version).
- External Dimensions: 228 x 261 x 353 mm.
- Internal Dimensions: 9 x 10 x 14 mm.
- Weight: 9 Kg / 11 Kg (S Version).
- Full range of accessories available.



EBA 270

- Small centrifuge with inbuilt, 6-place, 90° swing-out rotor.
- For flat separation of all blood, SST/gel, urine and paediatric tubes.
- Ideal for off-site draw locations, physician's office laboratories and veterinary offices.
- Includes 6 adapters 13 x 75/100 mm, 6 adapters 16 x 75/100 mm, 6 adapters paediatric.
- Maximum capacity of 6 x 15 ml.
- Maximum RPM/RCF of 4,000/2,254.
- Temperature control – ambient.
- External Dimensions: 239 x 326 x 389 mm.
- Internal Dimensions: 9 x 13 x 15 mm.
- Weight: 14 Kgs.
- Full range of accessories available.



MIKRO 185

- Combines small footprint with unmatched capacity.
- Suitable for hospitals, paediatric hospitals, blood centres, university laboratories, forensic laboratories, paternity testing laboratories as well as pharmaceutical and food laboratories.
- Accommodates 12, 18 or 24 samples and is suitable for a wide range of tasks due to a maximum RCF of 18,845 and choice of four rotors.
- Spin column kits (mini-preps) can also be used due to the specific design of the 1213-A rotor.
- RPM: 200 - 14,000 min.
- Adjustable up to 10,000 RPM in increments of 10, above in increments of 100.
- Noise level of ≤ 54 dB(A).
- Impulse button for short centrifugation.
- Plastic housing with metal lid (including a viewing port) and light alloy chamber.
- One hand lid lock and lid dropping protection with emergency lock release.
- Imbalance monitoring and switch off.
- Backlit panel with actual values of all parameters.
- Audio and visual indication of completion.
- Full range of accessories available.





MIKRO 200 / 200R

- Designed for rapid results in molecular biology.
- One of the fastest microliter centrifuges in its class.
- Suitable for hospitals, paediatric hospitals, blood centres, university laboratories, forensic laboratories, paternity testing laboratories as well as pharmaceutical and food laboratories.
- Maximum RCF of 21,382, with up to 30 tubes, facilitates rapid processing of samples and optimal separation.
- Rotors designed to spin microliter and PCR tubes.
- Spin PCR mini-kits including spin columns and microliter tubes to sediment subcellular particles or bacteria.
- Spin paediatric tubes as well as PCR mini-kits including spin columns and lipemic samples.
- Low noise level of 54 dB(A).
- Available with refrigeration and a temperature range from -10 °C to +40 °C (200R Version).
- Dimensions: 275 x 344 x 260 mm | 281 x 553 x 260 mm (200R).
- Maximum capacity of 30 x 1.5 / 2 ml.
- Maximum RPM of 15,000 min⁻¹
- Weight: 11,5 Kg / 28 Kg (200R).
- Full range of accessories available.



ROTANTA 460RC / 460RF

- Floor standing / under bench centrifuge with a choice of 8 rotors.
- High throughput and suitable for large laboratories such as blood banks or busy clinical laboratories.
- Medical Device according to directive 93/42/EC.
- 28 individual acceleration and deceleration stages.
- 98 programmable steps.
- Small blood bag systems can be accommodated for autologous blood donations.
- One rotor takes multiple tube types, bottles, blood bags and plates so no time wasting rotor change is required.
- Both units include refrigeration with a temperature range from -20 °C to +40 °C.
- Maximum capacity of 4 x 750 ml.
- Maximum RCF of 24,400.
- Maximum RPM of 15,000 min⁻¹.
- Weight: 140 Kg / 164 Kg.
- Dimensions: 554 x 697 x 683 mm | 554 x 697 x 961 mm.
- Speciality rotors and accessories for ASTM, Babcock, Schlenk and Chrome bath tubes.
- For PCR maxi / 96 kits – a unique, high speed plate rotor spinning SBS format plats at up to 6,446 RCF is available as well as accessories for cell cultures.
- Metal housing and lid (with viewing port), and stainless steel chamber.
- One hand lid lock and lid dropping protection with emergency lock release.
- Automatic rotor recognition.
- Imbalance monitoring and switch off.
- Audio and visual indication of completion.
- Full range of accessories available.

ROTIXA 500RS

- Compact, floor standing centrifuge for high-throughput processing of blood collection butts as well as blood bag centrifugation.
- Suitable for use in hospitals, haematology laboratories, blood centres, veterinary laboratories, clinical laboratories, environmental laboratories, university laboratories as well as in the chemical, Dairy and automobile industries.
- Durable, reliable unit with long service life and a choice of 5 rotors.
- Medical Device according to directive 93/42/EC.
- 19 individual acceleration and deceleration stages.
- 89 programmable steps.
- High sample capacity and maximum RCF of 18,038.
- Accommodates 4 bottles up to 1,000 ml, speciality racks, as well as containers and vessels for various applications.
- Specially designed buckets keep blood bags upright during centrifugation for improved separation of blood components.
- Speciality rotors and accessories for ASTM, Babcock, Schlenk and Chrome bath tubes.
- High capacity accessories for plates and racks available for an array of assays.
- Includes refrigeration with a temperature range from -20°C to +40°C.
- Metal housing and lid (with viewing port), and stainless steel chamber.
- One hand lid lock and lid dropping protection with emergency lock release.
- Automatic rotor recognition.
- Imbalance monitoring and switch off.
- Audio and visual indication of completion.
- Full range of accessories available.



UNIVERSAL 320 / 320R

- Compact, versatile, general purpose, benchtop centrifuge with an autoclavable bio-containment lid.
- Choice of 18 rotors.
- Eliminates the need for a dedicated cyto-centrifuge with associated cost and bench space savings.
- 9 individual acceleration and 10 deceleration stages and 9 programmable steps.
- Accommodates virtually all centrifuging tasks including plates, blood tubes, cell culture, microliter and cytology.
- Suitable for use in small laboratories, hospitals, physician's office laboratories, veterinary laboratories, cell culture laboratories, research laboratories, as well as in the Pharmaceutical and Food industries.
- Suitable for spinning blood tubes and urine tubes in swing out rotors as well as in angle rotors.
- Unique bio-seal, 12-place clip rotor or the flexible and economic two-step accessories.
- Up to 8 x 50ml conical tubes for the passaging of cells in cell culture possible.
- Also spins microplates for solid phase assays.
- Available with refrigeration and a temperature range from -20 °C to +40 °C (320R Version).
- RPM: 500 - 16,000 min⁻¹ adjustable in increments of 10.
- Maximum RCF of 24,900.
- Maximum capacity of 4 x 200 ml / 6 x 94 ml.
- Noise level of 48 dB(A).
- Metal housing and lid (with viewing port), and stainless steel chamber.
- One hand lid lock and lid dropping protection with emergency lock release.
- Automatic rotor recognition.
- Imbalance monitoring and switch off.
- Impulse button for short centrifugation.
- Audio indication of completion.
- Full range of accessories available.





ROTINA 380 / 380R

- High speed, compact, bench-top centrifuge.
- Wide array of accessories for multiple applications in just one rotor.
- 9 individual acceleration, 10 deceleration stages and 98 programmable steps.
- Size and performance makes it ideal for most clinical research and industrial laboratories.
- Suitable for hospitals, paediatric hospitals, blood centres, university laboratories, forensic laboratories, paternity testing laboratories as well as pharmaceutical and food laboratories.
- Ideal for laboratories processing large quantities of blood collection tubes in swing-out rotors and angle rotors.
- Equipment for medium sized PCR kits available as well as for 5ml conical tubes reaching 4.800g.
- 50ml conical tubes for the passaging of cells in cell culture possible.
- Also spins microplates for solid phase assays.
- Available with refrigeration and a temperature range from -20 °C to +40 °C (380R Version).
- Maximum capacity of 4 x 290 ml.
- Maximum RCF of 24,400
- Maximum RPM of 15,000 min⁻¹
- Weight: 51 Kg / 81 Kg.
- Dimensions: 457 x 600 x 418 mm | 457 x 750 x 418 mm.
- Metal housing and lid (with viewing port), and stainless steel chamber.
- One hand lid lock and lid dropping protection with emergency lock release.
- Automatic rotor recognition.
- Imbalance monitoring and switch off.
- Audio indication of completion.
- Full range of accessories available.



MIKRO 220 ROBOTIC

- Compact, high performance, robotically operated microliter centrifuge.
- PC activation for automated processes and optimised workflow.
- Ideal centrifuge for sample preparation in Life Science research laboratories, as well as for daily routine tasks in medical diagnostics or industrial quality control.
- Continuous status communication.
- High speed (up to 18,516 x g).
- 90° swing-out rotors for microliter and HPLC tubes.
- Samples are precisely positioned under a hatch in the lid for extraction. An optical encoder allows positioning to within 0.5 mm.
- Spins tubes up to 2.0 ml quickly and safely.
- Maximum RCF of 18,516; Maximum RPM of 13,000 min⁻¹.
- Dimensions: 410 x 414 x 267 mm.



ROTINA 380 ROBOTIC

- Compact, high performance, robotically operated microliter centrifuge.
- PC activation for automated processes and optimised workflow.
- Available in bench-top and under bench versions.
- Available with or without temperature control.
- 48 blood tubes and 6 microtiter plates
- Samples are precisely positioned under a hatch in the lid for extraction. An optical encoder allows positioning to within 0.5 mm.
- Continuous status communication.
- Ideally suited as an automated workstation for routine clinical chemistry.
- Suitable for high throughput clinical laboratories, large hospital laboratories, pharmaceutical laboratories, food laboratories, genetic engineering laboratories,
- Suitable for centrifuging microtiter plates and blood collection tubes, STAT samples.
- Suitable for automated sample preparation prior to FACS analysis or flow cytometry in fields such as genetic or pharmaceutical research.
- Maximum RCF of 4,696 x g; Maximum RPM of 5,100 min⁻¹.
- Dimensions: 470 x 579 x 447 mm.

INCUBATORS



HETTCUBE INCUBATORS

- Economical, new generation incubators combining the advantages of natural and forced convection to provide a stable and uniform environment for cultures.
- Exterior fan for maximised throughput and limited airflow inside the incubator.
- Temperature maintained by radiated heat for even distribution and the elimination of hot spots for guaranteed optimum growth conditions.
- Gentle airflow and full temperature uniformity provides 30% more validated usable space than a traditional incubator with the same internal volume.
- 50% less floor space than a traditional incubator with a similar capacity.
- Independent temperature safety device (classes 3.1 and 3.2) included as standard.
- High performance insulation.
- Intuitive, flexible, touch screen (4.3") operation.
- View status of the device as well as any alarms and events for 4 week period.
- Flexible, customisable alarm and event settings / functionality.
- Process reliability – even during a power failure.
- High quality stainless steel interior and shelves.
- Shelves are easily removed for cleaning and autoclaving.
- Petri dish rack and Loewenstein shelf allow large numbers of cultures to be processed quickly and economically.
- Easy access via stable, telescopic tray system (HTS) which can be extended up to 70% horizontally.
- Practical door and control panel locking mechanism eliminates the risk of inadvertent parameter changes.
- Automatic door closing at an opening angle below 90°.
- Option of glass door available.
- Rear panel bushing (42 mm) for independent measurements and external devices.
- Remarkably low noise output of < 44 dB(A).



HETTCUBE 200 / 200R

- Temperature Range: 1 K above ambient temperature up to +65°C / 0°C up to +65°C.
- Exterior Dimensions: 710 x 825 x 970 mm (without bushing and door handle).
- Interior Dimensions: 535 x 690 x 420 mm.
- Internal Volume: 150 litres.
- Validated Usable Volume: 82 litres.
- Percentage Validated Usable Volume / Internal Volume: 54%.
- Trays provided: 2 (1 standard; 1 HTS).

HETTCUBE 400 / 400R

- Temperature Range: 1 K above ambient temperature up to +65°C / 0°C up to +65°C.
- Exterior Dimensions: 710 x 825 x 1425 mm (without bushing and door handle).
- Interior Dimensions: 535 x 690 x 850 mm.
- Internal Volume: 310 litres.
- Validated Usable Volume: 199 litres.
- Percentage Validated Usable Volume / Internal Volume: 64%.
- Trays provided: 3 (2 standard; 1 HTS).

HETTCUBE 600 / 600R

- Temperature Range: 1 K above ambient temperature up to +65°C / 0°C up to +65°C.
- Exterior Dimensions: 710 x 825 x 1990 mm (without bushing and door handle).
- Interior Dimensions: 535 x 690 x 1415 mm.
- Internal Volume: 520 litres.
- Validated Usable Volume: 351 litres.
- Percentage Validated Usable Volume / Internal Volume: 67%.
- Trays provided: 4 (3 standard; 1 HTS).





B9000 LABORATORY INCUBATORS

- High quality, modern design.
- Provided in 4 cabinet sizes (25L, 51L, 130L, 420L).
- Table top models are stackable.
- Largest model is freestanding with adjustable feet.
- Stainless steel interior housing and shelves.
- Glass inner door for easy inspection.
- Automatic safety thermostat.
- 2 LCD text displays.
- Touch button operation.
- Real-time software program – 2 temperatures.
- Temperature range to 100°C.
- PID temperature controller.
- Timer, data logger and keypad with pin code.
- Connect to external alarm system.
- 10-speed fan.
- USB Outlet.
- Sterilisation cycle.

SERIES 8000 COOLING INCUBATORS

- High quality, cooling incubators designed to provide accurate, reliable sample temperature control and minimum dehumidification.
- Cabinet available in two sizes (182L, 400L).
- Constructed of electrolytically galvanized steel sheets, coated with a grey epoxy polyester paint.
- Stainless steel interior housing and shelves, easily dismantled for cleaning.
- Easy to operate via a microprocessor-based controller.
- Air is blown through ducts surrounding the entire working chamber – resulting in minimum air movement and temperature deviations.
- Low dehumidification.
- Programmable - 20 temperatures.
- Alarm, data logging, ramping.
- Automatic safety thermostats.
- Digital calibration.
- Temperature range -9,9 - 70°C.



FTIR ACCESSORIES



QUEST ATR ACCESSORY

- Reliable, high performance, single reflection ATR spectrometer accessory that sets the benchmark in performance and value.
- High throughput and extended wavelength capability.
- Designed for laboratory spectroscopic sample analysis in the mid and far infrared.
- Innovative optical design and durable monolithic diamond ATR crystal option.
- Optical design based around all reflective gold-coated optics and features Synopti-Focal Array technology with precision moulded aspheric mirrors.
- Various interchangeable ATR crystal pucks available: high throughput diamond; extended wavelength diamond; ZnSe; Ge; Silicon; Specular Reflectance.
- Each puck made from hardened stainless steel and held in place magnetically making them easily interchangeable without requiring additional alignment.



PEARL LIQUID ANALYSER

- High specification liquid transmission accessory designed for laboratory spectroscopic sample analysis in the near and mid infrared.
- Greatly reduces the time and difficulty of liquid sample analysis.
- Handles viscous samples with ease.
- Innovative Oyster Cell assembly allows for fast sample application,
- holds the sample in horizontal plane, and easy cleaning between samples.
- Injection access port at the top Oyster so the cell assembly does not have to be fully opened for volatile samples.
- Two windows for sample viewing allowing the user to ensure no bubbles have been trapped.
- Designed to provide a more accurate path-length than can be achieved using a traditional liquid transmission accessory (path-lengths repeatable to significantly less than 1µm).
- Available in six pathlengths, 25µm, 50µm, 100µm, 200µm, 500µm and 1,000µm.
- Oyster Cells offered as either parallel or wedged cells eliminate troublesome fringing patterns.
- Can be fitted with quickly interchangeable ZnSe or CaF2 windows.



INFRARED MICROSCOPY SURVEY IR

- Infrared microscope designed to deliver the ultimate user experience across a broad range of microanalysis techniques.
- Unique ergonomic design affords seamless interaction between operator and instrument.
- Onboard FTIR spectrometer detector.
- Research grade visual images via 5 mega pixel CMOS colour video camera, 2592 x 1944 max. resolution.
- 2X optical magnification yields .7µm/pixel at sample plane.
- Transmission, reflection, and oblique illumination modes.
- IR Reflection, Attenuated Total Reflection, Diamond and Ge, and transmission modes available.
- Variable IR mask - 2000µm, 250µm, 160µm, 100µm, or 60µm fixed diameter.
- eSpot™ software control of visual illumination modes, visible illumination intensity, ATR contact alert, IR mask selection, and IR transmission/reflection modes.
- Manual coarse/fine z stage focus adjust and condenser focus.
- Manual x, y stage fits 1" x 3" standard microscope slides.
- Accommodates commercially available transmission cells including diamond compression cells.





MANUAL HYDRAULIC PRESS

- FTIR, KBr, and XRF pellet press (hand pumped) suitable for a wide range of laboratory press applications.
- Available in 15 and 25 ton load configurations and can be configured as 0-1, 0-2, and 0-5 tons for low pressure applications.
- Compact with a small footprint – making it ideal for benchtop and glove-box laboratory applications.
- Easy-to-read, dual scale gauge calibrated in UK imperial tons and metric tons.
- Adjustable pressure control valve affords reproducible load for repetitive applications.
- Rigid steel construction.
- Protective safety shield as standard.

AUTOTOUCH HYDRAULIC PRESS

- Automatic FTIR and XRF press for increased throughput in sample preparation.
- Available in 8, 15, 25 and 40 ton load configurations.
- Easy to use with fully programmable, microprocessor-controlled, power-assisted hydraulics.
- Use the touch screen controls to program the load for guaranteed load consistency.
- Suitable for laboratory and industrial environments.
- Small footprint, ergonomic design and low noise characteristic.
- Protective safety shield as standard – no pressure is applied until the shield is lowered.



APEX QUICK RELEASE

- Automatic eject pellet die for easy and rapid XRF sample preparation.
- Ejects pellets without user intervention.
- 32mm and 40mm pellet sizes.
- Patented, automatic pellet eject sleeve enables the release of the finished XRF pellet, without the requirement to reset the die at an inverted position, at the middle point of the sample pressing cycle.
- Improves consistency and quality by reducing the risk of human error.
- Improves throughput by reducing time spent disassembling dies and removing pellets.
- When used in conjunction with the Autotouch hydraulic press, pellet release steps can be programmed to automatically and seamlessly occur in sequence without manual intervention.

OVENS & FURNACES

Termaks ^{Gr 5}

TS9000 LABORATORY DRYING OVEN

- Available in 4 cabinet sizes (26 to 430 litres).
- Table top models are stackable and can be wall mounted.
- Largest model is freestanding with adjustable feet.
- Constructed of electrolytically galvanized steel sheets, coated with grey epoxy polyester paint. Stainless steel interior housing and shelves.
- Automatic safety thermostat.
- LCD text display.
- Automatic air valve setting.
- Touch button operation.
- Real-time software program - two temperatures.
- Extended temperature range to 250°C.
- PID temperature controller.
- Connects to external alarm system.
- USB outlet.
- 10-speed fan.
- Low energy consumption.



DRYING CABINET (NATURAL CONVECTION) TO 250°C

- Rapid, accurate drying cabinets suitable for materials and processes with high humidity.
- Provide high quality and safe drying, heating and tempering in laboratory and industrial environments.
- Chamber volume 23 to 715 litres.
- Temperature ranges from +10°C to +250°C.
- Patented air circulation system inside the chamber for homogeneous temperature. uniformity during all drying, heating and sterilisation processes.
- User-friendly, precise temperature control and fast temperature recovery post charging.
- Micro-processor controller with LCD display.
- Optionally available with natural thermal air circulation for exceptionally smooth, noise-free air stream in the chamber.
- Wide range of accessories and customisations available.

THERM **CONCEPT**
powered by innovation



VACUUM DRYING CABINET TO 200°C

- Rapid, smooth, ecological vacuum drying cabinets with noiseless operation.
- Suitable for drying thermal unstable and oxidation sensitive materials as well as awkward shaped parts and probes for heating.
- Chamber volumes of 26, 55 and 106 litres.
- Temperature ranges from +5°C to +200°C.
- User-friendly, precise temperature control and fast temperature recovery post charging.
- Micro-processor controller with LCD display.
- Wide range of accessories and customisations available including a base cabinet for vacuum station.





MUFFLE FURNACE TO 1300°C

- Universal muffle furnaces for a range of laboratory applications.
- Compact design with durable stainless-steel casing.
- Durable, high grade ceramic fibre insulation with low thermal mass.
- High mechanical durability, short heating cycles and low power consumption.
- Strong fire brick door collar to protect insulation against mechanical damage.
- High quality, long-life heating elements controlled by solid state relays for precise and noise-less temperature control (EN 60519-2).
- Heating wire embedded in ceramic plates for durability.
- Full range of accessories available.

CHAMBER FURNACE TO 1300°C

- High level of temperature uniformity inside the furnace chamber.
- Durable, high grade ceramic fibre insulation with low thermal mass.
- Double walled housing with rear ventilation to maintain low outer casing temperatures.
- Strong fire brick door collar to protect insulation against mechanical damage.
- Wear-resistant fire brick bottom insulation and ceramic bottom plate.
- Powerful heating elements on both sides for rapid heating rates.
- Heating elements on ceramic supporting tubes mounted in front of insulation for free heat radiation.
- Exhaust pipe in rear wall.
- Parallel guided safety door.
- High mechanical durability, short heating cycles and low power consumption.
- High quality, long-life heating elements controlled by solid state relays for precise and noise-less temperature control (EN 60519-2).
- Full range of accessories available.



FRIDGES & FREEZERS

GRAM

Biostorage you can depend on

BIOPLUS 500 FRIDGE / FREEZER

- Available in 4 cabinet sizes (26 to 430 litres).
- Table top models are stackable and can be wall mounted.
- Largest model is freestanding with adjustable feet.
- Constructed of electrolytically galvanized steel sheets, coated with a grey epoxy polyester paint. Stainless steel interior housing and shelves.
- Automatic safety thermostat.
- LCD text display.
- Automatic air valve setting.
- Touch button operation.
- Real-time software program – two temperatures.
- Extended temperature range to 250°C.
- PID temperature controller.
- Connects to external alarm system.
- USB outlet.
- 10-speed fan.
- Low energy consumption.

BIOMIDI 425 FRIDGE / FREEZER

- Cost effective, ergonomically designed 425 litre storage space.
- High capacity refrigeration system designed to flexibly meet the majority of bio-material refrigeration and freezer requirements.
- Available as a refrigerator RR (-2°C to +20°C) or freezer RF (-25°C to -5°C).
- White lacquered steel or stainless-steel construction.
- 600 x 731 x 1979/2000 mm.
- Weight 112 kg.
- Modules for shelves (25) and drawers (12).
- Vacuum insulated panel technology and safe closing system.
- Insulated inner doors.
- 1 access port (24.5 mm).
- Acoustic and visual high/low temperature alarms and door alarm.
- Low noise level and low power consumption.
- Full range of accessories and fittings available.

BIOCOMPACT II 610 FRIDGE / FREEZER

- Compact, highly reliable refrigerator / freezer for the stable storage of biomaterial.
- 695 x 868 x 1875/2075 mm.
- Versatile interior configuration and a selection of fixtures and fittings to meet a wide range of storage needs.
- Available as a refrigerator RR (+2°C to +20°C) or freezer RF (-25°C to -5°C).
- Features a top mounted compressor, high performance refrigeration system, finned tube evaporator and forced air distribution.
- White lacquered steel or stainless-steel exterior.
- ABS interior with stainless steel wall rails for mounting fittings.
- Automatic re-evaporation of defrost water.
- Gross volume 583 litres.
- Weight 114 kg.
- Modules for shelves (24) and drawers (12).
- Vacuum insulated panel technology and safe closing system.
- Insulated inner doors.
- 1 access port (24.5 mm).
- Acoustic and visual high/low temperature alarms and door alarm.
- Low noise level and low power consumption.
- Internal / external ATEX compliance.
- Full range of accessories and fittings available.





BIOBLOOD 500 FRIDGE / FREEZER

- Designed to meet the controlled storage requirements of blood, plasma and blood related products.
- Available as blood refrigerator (BR) +2°C/+6°C, Blood freezer (BF) -25°C/-5°C, and Plasma freezer (PF) -35°C/-5°C (PF 600/660W) and -40°C/-5°C (PF 425).
- Easy view of contents.
- 600 x 806 x 2025/2275 mm.
- White lacquered steel or stainless-steel exterior.
- Automatic re-evaporation of defrost water.
- Gross volume 500 litres.
- Weight 130 kg.
- Modules for shelves (52) and drawers (13).
- Vacuum insulated panel technology and safe closing system.
- Insulated inner doors.
- 1 access port (24.5 mm).
- Acoustic and visual high/low temperature alarms and door alarm.
- Low noise level and low power consumption.
- Full range of accessories and fittings available.

BIOULTRA UL 570 FREEZER

- Durable, long-life, ultra-low temperature cabinet with powerful, bottom mounted, cascade refrigeration system.
- White lacquered steel or stainless-steel construction.
- 856 x 979 x 1986/1996 mm.
- Weight 115 kg.
- Gross volume 570 litres.
- Consistent temperatures throughout the storage space and rapid temperature recovery on door opening.
- Vacuum insulated panel technology and safe closing system.
- Insulated inner doors.
- Temperature range -60°C to -86°C.
- 2 access ports (24.5 mm each).
- Low noise level and low power consumption.
- Full range of accessories and fittings available.

NORDIC LAB



ULT U100 -86°C UPRIGHT FREEZER

- Under table, upright freezer.
- Optimal footprint for ease of installation.
- 830 x 595 x 630 mm. Net volume 91 Litres.
- Temperature range -60°C to -86°C.
- Audio and visual alarms.
- Contact for remote alarm. High / low temperature alarm.
- Digital controller with display.
- Porthole for external probe and CO2 backup.
- Prepared for external logging equipment.
- Galvanised, precoated steel outer with stainless-steel inner.
- 2 adjustable stainless-steel shelves.
- Automatic door vacuum release.
- Low cost of ownership.
- Limited maintenance and on-site service.
- Efficient cyclopentane insulation.
- Eco-friendly, NCFC-free Nature R refrigerant.
- ISO 9001, 14001 & 18001 OHSAS Certified.

ULT U250 -86°C UPRIGHT FREEZER

- Optimal footprint for ease of installation.
- 1,420 x 435 x 370 mm.
- Net weight 122 kg.
- Net volume 221 Litres.
- Temperature range -60°C to -86°C.
- Audio and visual alarms.
- Contact for remote alarm.
- High / low temperature alarm.
- Digital controller with display.
- Porthole for external probe and CO2 backup.
- Prepared for external logging equipment.
- 4 castors with brakes for ease of movement.
- Galvanised, precoated steel outer with stainless-steel inner.
- 5 adjustable stainless-steel shelves.
- Automatic door vacuum release.
- Low cost of ownership.
- Limited maintenance and on-site service.
- Dual cooling single stage compressor system.
- Efficient cyclopentane insulation.
- Eco-friendly, NCFE-free Nature R refrigerant.
- ISO 9001, 14001 & 18001 OHSAS Certified.



LT U250 -45°C UPRIGHT FREEZER

- Optimal footprint for ease of installation.
- 2,055 x 600 x 630 mm.
- Net weight 115 kg.
- Net volume 236 Litres.
- Temperature range -10°C to -45°C.
- High / low temperature alarm.
- Contact for remote alarm.
- Digital controller with display.
- Porthole for external probe and CO2 backup.
- Prepared for external logging equipment.
- 4 castors with brakes for ease of movement.
- Galvanised, precoated steel outer with stainless-steel inner.
- 5 adjustable stainless-steel shelves.
- Automatic door vacuum release.
- Low cost of ownership.
- Limited maintenance and on-site service.
- Efficient cyclopentane insulation.
- Eco-friendly, NCFE-free Nature R refrigerant.
- ISO 9001, 14001 & 18001 OHSAS Certified.

ULT C200 -86°C CHEST FREEZER

- Personal freezer for easy access and daily use in laboratories, hospitals etc. for storage of sensitive samples.
- Stable, reliable and durable with low power consumption.
- Optimal footprint for ease of installation and movement.
- 890 x 920 x 630 mm.
- Net weight 65 kg.
- Net volume 189 Litres.
- Temperature range -60°C to -86°C.
- Audio and visual alarms.
- Contact for remote alarm.
- High / low temperature alarm.
- Digital controller with display.
- Porthole for external probe and CO2 backup.
- 4 castors with brakes for ease of movement.
- Galvanised, precoated steel outer with stainless-steel inner.
- Low cost of ownership with limited maintenance and on-site service.
- Dual cooling single stage compressor system.
- Efficient cyclopentane insulation.
- Eco-friendly, NCFE-free Nature R refrigerant.
- ISO 9001, 14001 & 18001 OHSAS Certified.



CHAMBERS & CABINETS

Hettich



PSC 600 PHARMACEUTICAL STABILITY CABINET

- Compressor cooled stability cabinet with vertical airflow.
- Suitable for: pharmaceutical stability; cosmetics; shelf life testing.
- 710 x 980 x 2006 mm (without handle).
- 566 litre internal volume.
- Stainless steel interior and exterior (ANSI 304).
- Stainless steel, fully adjustable shelves/trays with a maximum configuration of 16 shelves (4 provided as standard).
- Precise temperature and humidity stability, accuracy, homogeneity.
- Ultrasonic humidity control.
- LED visual alarm.
- Energy consumption: 0,496 kWh at 25°C (rH +/- 60%)
- Conforms to ICH Q1A and GMP guidelines.
- Optional features: additional access ports; multiple PT100s for registration purposes; temperature and humidity sensors; door alarm; acoustic alarm; grid or solid shelves; drawers; console; castors.

PSC 1400 PHARMACEUTICAL STABILITY CABINET

- Compressor cooled stability cabinet with vertical airflow.
- Suitable for: pharmaceutical stability; cosmetics; shelf life testing.
- 1420 x 980 x 2006 mm (without handle).
- 1250 litre internal volume.
- Stainless steel interior and exterior (ANSI 304).
- Stainless steel, fully adjustable shelves/trays with a maximum configuration of 2x16 shelves (8 provided as standard).
- Precise temperature and humidity stability, accuracy, homogeneity.
- Ultrasonic humidity control.
- LED visual alarm.
- Energy consumption: 0,553 kWh at 25°C (rH +/- 60%).
- Conforms to ICH Q1A and GMP guidelines.
- Optional features: additional access ports; multiple PT100s for registration purposes; temperature and humidity sensors; door alarm; acoustic alarm; grid or solid shelves; drawers; console; castors.



PRC 1200 SL PLANT GROWTH CHAMBER

- Compressor cooled plant growth chamber on levelling castors.
- Suitable for: general plant growth research; plant tissue culture; seed research; drosophila research; entomology; in vitro plant studies.
- Easy clean, white coated, stainless steel interior and exterior.
- 910 x 1295 x 2050 mm (small footprint).
- 968 litre internal volume.
- Reproducible, wide spectrum daylight LED that does not decrease over time or at lower temperatures.
- Homogenous, dimmable lighting for excellent light distribution throughout the entire chamber.
- Light intensities: 200 µMol; optional 400 µMol.
- Flexible shelving system with no dark corners for maximised shelf area and growth height.
- Growth area of 15 shelves max (D 875 x W 625 mm = 9 m²).
- Minimal heat radiation on to the plants.
- Precise climate control.
- Internet connectivity.
- Up to 70% reduction in energy consumption.
- Optional features: ultrasonic humidity control; CO₂ supply system.

MPC 1400 MULTI-PURPOSE CABINET

- Fully customisable to meet individual specifications.
- Available as an incubator, cooled incubator, refrigerator, freezer.
- Suitable for: microbiological research; stability testing, short and long term materials storage; aging studies.
- 1420 x 885 x 2006 mm (without handle).
- 1250 litre internal volume.
- Homogeneity and stability according to DIN12880 < 0.5°.
- Easy clean, stainless steel interior.
- Includes 8 stainless steel shelves as standard (ANSI 304).
- Unique, red and green LED alarm system.
- Optional features: glass exterior door; adjustable ventilation; transit ports; extra temperature controller with timer; temperature cycle; multiple PT100s for registration purposes; door alarm; acoustic alarm; customised drawers; in built wall sockets; console, castors.



MPC 225/225 MULTI-PURPOSE CABINET

- Fully customisable to meet individual specifications.
- Dual compartment (250 litre internal volume per compartment).
- Available as an incubator, cooled incubator, or refrigerator.
- Suitable for: microbiological research; stability testing, short and long term materials storage; aging studies.
- 710 x 885 x 2010 mm.
- Homogeneity and stability according to DIN12880 < 0.5°.
- Easy clean, stainless steel interior.
- Includes 4 stainless steel shelves as standard (ANSI 304).
- Unique, red and green LED alarm system.
- Optional features: glass exterior door; adjustable ventilation; transit ports; extra temperature controller with timer; temperature cycle; multiple PT100s for registration purposes; door alarm; acoustic alarm; customised drawers; in built wall sockets; console, castors.

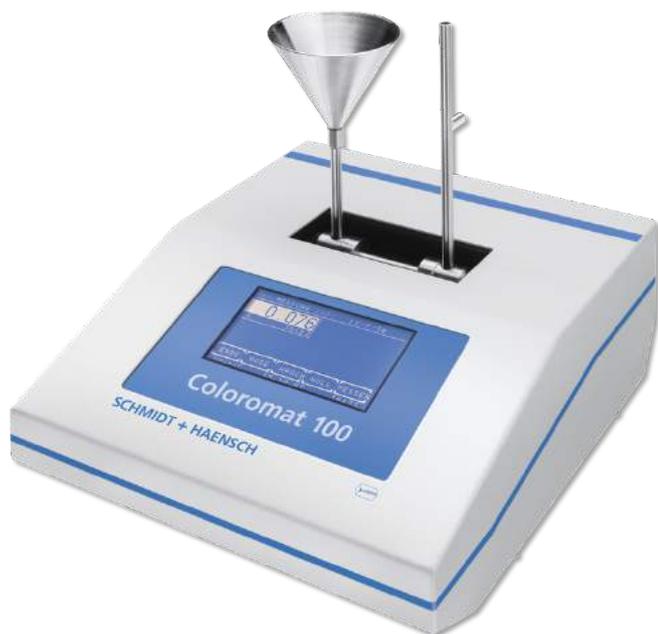
ENVIRONMENTAL CHAMBER

- 400L cabinet constructed of electrolytically galvanized steel sheets, coated with a grey epoxy polyester paint.
- Stainless steel interior housing and shelves.
- Provides simultaneous temperature, light and humidity control.
- Easy to operate and program via a microprocessor-based controller.
- Accurate temperature control and low air circulation inside the chamber is maintained via a conduct system designed to keep most of the air stream outside the working chamber.
- 20 Temperature settings.
- 20 humidity settings.
- 0 - 100% Light intensity settings.
- Adjustable alarm limits.
- Automatic safety thermostat settings.
- Digital calibration.
- Ultrasonic humidifier.
- Very low power consumption.

Termaks ^{SL}



METERS



COLOROMAT 100 COLORIMETER

- Digital, single beam photometer, with unique optical design, for the determination of liquid colour.
- Suitable for: enzymatic determination; colour measurement of liquid crystal sugar (ICUMSA); colour index determination of soft drinks and wine; determination of the colour of extracts; colour measurement of beer and wort; biocromate measurements; multi standard methods; simple extinction measurements; monitoring of colour changes as a function of time.
- Single or flow through measurement.
- Provides objective and repeatable measurements.
- Easy measurement of transmission, extinction and ICUMSA liquid colour units at the recommended, standard wavelength (420 nm).
- Continuous measuring mode with configurable sampling rate for monitoring colour changes in product streams as a function of time.
- Touch screen functionality (soft key and alphanumeric inputs) for easy handling.
- Pre-installed and customised wavelengths: 3 fixed wavelengths (420, 560, 720 nm); 6 customised wavelengths (in the range 420 – 900 nm).
- Generously proportioned sample compartment with flow through tubes (up to 100 mm) for easy filling and high through-put.
- Sample compartment open to top and bottom to avoid spillage.
- Software with capacity for 250 pre-programmed tests/methods.
- Remote control via PC available.
- Internal data storage of results (up to 2970 results of max. 99 samples).
- Data output to PC / printer.
- GLP/ GMP conformance documentation.

SI Analytics
a xylem brand



HANDYLAB 200

- Portable, analog meter - all-rounder ideal for field use.
- Waterproof casing with backlit, graphical display.
- Suitable for a range of applications including conductivity, salinity, TDS, and specific gravity.
- Auto-read functionality offers a stable measuring value.
- Measuring range: 0.00 – 1000 mS/cm; 0.000 – 1.999 μ S/cm; with cell constant K = 0.01 cm⁻¹; 0.0 – 19.99 μ S/cm; with cell constant K = 0.1 cm⁻¹.
- Storage capacity for up to 200 data sets for easy reference.
- Power supply: 4 x 1.5 V alkali-manganese batteries, type AA; or 4 x 1.2 V NiMH rechargeable batteries.



LAB 865

- Benchtop, analog pH meter (with documentation) for precise measurements.
- Ideal for pH measurements in QA laboratories requiring documentation for GLP.
- Measuring range: - 2.0 - 20.0 \pm 0.1 pH; $\dot{\sim}$ - 2.00 - 20.00 \pm 0.01 pH; $\dot{\sim}$ -2.000 - 19.999 \pm 0.005 pH; \pm 1200.0 \pm 0.3 mV. \pm (2000 \pm 1) mV; $\dot{\sim}$ - 5.0 - 105.0 \pm 0.1 $^{\circ}$ C.
- LCD graphical display with text menu for ease of use.
- CMC function to monitor the congruency of pH measuring and calibration range.
- USB interface for rapid, secure data transfer.
- Protection: IP43.
- Power supply: 4 x 1.5 V alkali-manganese batteries, type AA with operating time of approximately 2500 operating hours; or 4 x 1.2 V NiMH rechargeable batteries; or Power pack: Ktec KSAC.

WATER SYSTEMS



GENIE PURIST

- Ultrapure water system for Type 1 ultrapure water from RO, distilled or deionised water.
- Main applications include: HPLC mobile phase preparation; preparation of reagent blank solutions; sample diluent for GC, JPLC, ICP-MS, AA and other analytical techniques; preparation of buffers and culture media for mammalian cell culture; preparation of molecular biology reagents etc.
- Wireless communication for increased flexibility across greater dispenser distances.
- Robust, easy clean, scratch resistant touch screen with built in viewing angle and flexible placement for optimal control.
- Operate with gloves or wet hands.
- Compact, height adjustable dispenser on anti-skid base for one handed operation.
- Manual and volumetric dispensing, adjustable dispensing rate and water quality monitoring.
- RFID tracking of consumables and accessories for real-time Operational intelligence.
- Online TOC based on complete oxidation methodology.
- Full range of cartridges for applications including ultra-low TOC, low Mg, low boron, ICP and DI.
- Dual wavelength UV lamp eliminates bacteria and reduces TOC to trace level.
- Range of filters to remove specific contaminants.
- Feed water conductivity monitoring for optimal running conditions.
- Universal water level sensor to prevent pumping air.
- Optional, automatic system shut-off on water leakage.
- Full data print and export functionality.



GENIE U

- Single, integrated unit for Type I ultrapure and RO water from tap water. (Meets or exceeds ASTM, CLSI, CAP, and ISO Type I water standards.)
- Main applications with ultrapure water include: HPLC mobile phase preparation; preparation of reagent blank solutions; sample diluent for GC, JPLC, ICP-MS, AA and other analytical techniques; preparation of buffers and culture media for mammalian cell culture; preparation of molecular biology reagents etc.
- Main applications with RO water include: glassware cleaning, washing machine for glassware, water bath water, autoclave, feed water for laboratory animals.
- Wireless communication for increased flexibility across greater dispenser distances.
- Online TOC based on complete oxidation methodology.
- Stable RO permeability over a wide range of water temperatures.
- Robust, easy clean, scratch resistant touch screen with built in viewing angle and flexible placement for optimal control.
- Operate with gloves or wet hands.
- Compact, height adjustable dispenser on anti-skid base for one handed operation.
- Manual and volumetric dispensing, adjustable dispensing rate and water quality monitoring.
- RFID tracking of consumables and accessories for real-time operational intelligence.
- Full range of cartridges for applications including ultra-low TOC, low Mg, low boron, ICP and DI.
- Dual wavelength UV lamp eliminates bacteria and reduces TOC to trace level.
- Range of filters to remove specific contaminants.
- Tank water level display from the continuous liquid level sensor on the storage tank.
- Feed water conductivity monitoring for optimal running conditions.
- Universal water level sensor to prevent pumping air.
- Automatic system shut-off on water leakage.
- Optional tank circulation mode to maintain stable water quality.
- Full data print and export functionality.





GENIE G

- Single, integrated unit for Type I ultrapure and Type II pure water from tap water.
- Combines optimised sequence of water purification technologies in a compact unit and is suitable for research professionals over a variety of applications using both Type 1 ultrapure and EDI pure water.
- Main applications with ultrapure water include: HPLC mobile phase preparation; preparation of reagent blank solutions; sample diluent for GC, JPLC, ICP-MS, AA and other analytical techniques; preparation of buffers and culture media for mammalian cell culture; preparation of molecular biology reagents etc.
- Main applications with EDI water include: preparation of chemical and bio-reagents; preparation of culture media; preparation of solutions for chemical analysis such as HPLC and ICP; for clinical analysers; medical device and equipment rinsing; serum and blood fractionation for ophthalmics.
- Wireless communication for increased flexibility across greater dispenser distances.
- Online TOC based on complete oxidation methodology.
- Stable RO permeability over a wide range of water temperatures.
- Exceptionally consistent and predictable high purity Type II water from the IonPure EDI electrodeionisation module.
- Robust, easy clean, scratch resistant touch screen with built in viewing angle and flexible placement for optimal control.
- Operate with gloves or wet hands.
- Compact, height adjustable dispenser on anti-skid base for one handed operation.
- Manual and volumetric dispensing, adjustable dispensing rate and water quality monitoring.
- RFID tracking of consumables and accessories for real-time operational intelligence.
- Full range of cartridges for applications including ultra-low TOC, low Mg, low boron, ICP and DI.
- Dual wavelength UV lamp eliminates bacteria and reduces TOC to trace level.
- Range of filters to remove specific contaminants.
- Tank water level display from the continuous liquid level sensor on the storage tank.
- Feed water conductivity monitoring for optimal running conditions.
- Universal water level sensor to prevent pumping air.
- Automatic system shut-off on water leakage.
- Optional tank circulation mode to maintain stable water quality.
- Full data print and export functionality.

SUPER-GENIE WATERSTATION

- Centralised workstation with daily pure water production (up to 7000 litres) from tap water.
- Designed to produce large volumes of RO, Type II pure water or ultrapure water.
- Quality of product water meets or exceeds standards defined by ASTM, CAP, CLSI, ISO 3696 / BS 3997, European and US Pharmacopoeia.
- **4 types available** to meet a range of needs: **(1) Super-Genie G:** produces Type I ultrapure and Type II analytical grade pure water directly from tap; production ranges from 30 to 250 l/h, with dispensing rate up to 2 l/min; incorporates IonPure EDI module. **(2) Super-Genie E:** produces Type II water directly from tap; Type II water production ranges from 30 to 250 l/h, with Type I water dispensing rate up to 2 l/min; incorporates IonPure EDI module. **(3) Super-Genie U:** produces Type I ultrapure and RO laboratory grade water directly from tap; RO water production ranges from 50 to 300 l/h with Type I water dispensing rate up to 2 l/min. **(4) Super-Genie R:** produces RO laboratory grade water directly from tap; RO water production ranges from 50 to 300 l/h with dispensing rate up to 2 l/min.
- Provides integrated control of water purification, storage and distribution for a single laboratory or laboratory network.
- Built in pre-treatment pack including prefiltration, chlorine removal and anti-scaling media.
- Optimised RO-reject water recovery loop to maximise efficiency.
- Automatic system shut off on water leakage.
- Integrated 100 litre reservoir – which can be upgraded to suit individual needs.
- Emergency by-pass loop for maximum operating reliability.
- Multi-language display.



TITRATORS

SI Analytics

a xylem brand

TITROLINE 7500KF

- Automatic titrator for volumetric Karl Fischer (KF) titrations.
- Also suitable for dosing tasks and sample preparation.
- Basic unit includes: 10ml interchangeable head; TM 235 KF titration stand with integrated stirrer and pump; titration vessel TZ 1770; micro double platinum electrode KF 1100 starter kit; power supply 100-240 V.
- Wide operating range of a few ppm – 100% water content.
- Polarizable electrode input for set endpoint titrations ("Dead-stop" + KF).
- Solvent addition and sample extraction achieved at the push of a button.
- High visibility and full colour display – easily viewed from a distance or extreme angles.
- Formula editor for custom calculations.
- Reagent data securely stored in the intelligent and interchangeable modules.
- Includes up to three USB, one LAN and two RS232 ports.
- Results exported as PDF, CSV or via network data transfer.
- Integrated user access security / password protection.



BATHS, SONICATORS, CIRCULATORS

BANDELIN

SONOREX SUPER

- A range of stainless steel, drip proof ultrasonic baths with capacities from 0.9 to 58.0 Litres to suit a variety of applications and sonication needs.
- Models with 45 to 90 litres capacity are long life with tanks constructed from welded 2mm titanium stabilized stainless steel (AISI 316L).
- PZT- large area oscillating systems.
- HF-Frequency 35 kHz.
- Timer for 1 to 15 minutes countdown, as well as continuous operation.
- Models available with in-built, thermostatically adjustable heating from 30-80 °C.
- Models available with heating fixed at 65 °C.
- Models available with oscillating tank composed of hard chromium stainless steel.
- Models available with drain cock included for easy emptying.
- Mains connection 230 V~ (±10 %) as standard; 115 V~ (±10 %), 50/60 Hz available on request.
- CE marked.

SONOREX DIGIPLUS

- A range of high power ultrasonic baths suitable for cleaning sensitive materials, mixing samples, homogenising samples for analysis, and rapid degassing of solvents for HPLC.
- Capacities from 3.0 to 28.0 Litres to suit a variety of applications and sonication needs.
- Power control from 20 to 100%.
- Thermostatically adjustable heating from 20 to 80 °C.
- LED display and excess temperature alert.
- Automatic, short-time extra ultrasound during the heating up period to avoid delay in boiling with switch-off functionality.
- Timer for 1 to 15 minutes countdown, as well as continuous operation.
- DEGAS - quick degassing functionality.
- SweepTec® - permanent sound field oscillation for even, gentle cleaning.
- Automatic safety shut-down 12 hours after last key-press.
- Filling level indicator.
- Drain valve for easy emptying and one-piece, welded drain bow.
- Liquid-tight mains cable and composite front housing for Protection class IP 33.
- CE marked.

SONOCOOL 255

- Designed for sample preparation use in pathology and analysis laboratories.
- Processes accelerating ultrasonic unit with simultaneous cooling to preserve the morphological structure of the sample.
- Fast, effective and suitable for use on heat sensitive samples in analysis laboratories as the cooling function means that exothermic reactions can be controlled.
- Compact design (360x605x85 mm).
- Capacity of 6.3 Litres.
- Long life unit with welded 2mm titanium stabilised stainless steel tank (AISI 316Ti).
- Glass lid for sample observation and easy cleaning.
- Fill level sensor for liquid control and dry run prevention.
- Thermostatically adjustable heating from 4 to 40 °C.
- LCD display of remaining time, actual temperature, pause / diagnostics, set time, set temperature, ultrasonic power.
- Serial interface for remote control (PC).
- CE marked.



SONOPLUS HD4000 ULTRASONIC HOMOGENISERS

- Series of ultrasonic homogenisers suitable for: disruption of cells without destroying the cell content; disruption of tissue, and mixed tissue; emulsifying of difficult to mix liquids such as oil and water (particle size in nm range); deagglomeration of nanoparticles in material research (nano-structured material) in medicine, biotechnology, automobile industry; acceleration of chemical reactions; dispersing; preparing samples for grain size determination or environmental analysis; homogenising cheese samples for determination of nitrates.
- The AMPLICHRON® system guarantees a constant amplitude for reproducible results independent of changing sample conditions.
- Settings within a range of 10 to 100% available.
- Control unit display of process parameters and sequences.
- Full control of ultrasound irradiation as well as an indication of probe wear.
- Adjustable pulsation allows cooling during rest intervals and limits temperature increase when processing heat sensitive samples.
- Continuous operation and constant sound radiation.
- Integrated timer for sonication duration, indication of elapsed time during continuous operation or remaining time in count-down mode.
- Direct and remote control functionality.
- User-friendly, easy-care, foil keypad.
- CE marked and medical device compliant to directive for in-vitro diagnostic 98/79/EG.
- **4 types available:** (1) **SONOPLUS HD 4050** for volumes from 0.5 to 100 ml and ultrasonic nominal output max. 50 W; (2) **SONOPLUS HD 4100** for volumes from 2 to 200 ml and ultrasonic nominal output max. 100 W; (3) **SONOPLUS HD 4200** for volumes from 5 to 1000 ml. and ultrasonic nominal output max. 200 W; (4) **SONOPLUS HD 4400** for volumes from 100 to 3000 ml. and ultrasonic nominal output max. 400 W.



B SERIES CIRCULATORS (BIG)

- Heating and cooling properties.
- Button operated deactivation of cooling function during heating to extend compressor life and reduce energy consumption.
- Wide internal usage areas and circulator capacity from 20 to 54 litres (model dependent).
- Optional, height adjustable shelf available.
- Contains environmentally and ozone friendly refrigerants.
- New generation, PID control mechanism for precise temperature control.
- Stainless steel structure.
- Easy liquid discharge system.
- Built-in liquid circulation system.
- Large LCD display for viewing from a distance.
- Custom external fluid circulation system.
- High temperature alarm system.
- Optional RS485 communication interface.



C SERIES CIRCULATORS (COMPACT)

- Sensitive heating and cooling device suitable for R&D studies, quality control processes, and general use.
- Contains environmentally and ozone friendly refrigerants.
- New generation, PID control mechanism for precise temperature control.
- Stainless steel structure.
- Easy liquid discharge system.
- Built-in liquid circulation system.
- Large LCD display for viewing from a distance.
- Custom external fluid circulation system.
- High temperature alarm system.
- Optional RS485 communication interface.





P SERIES CIRCULATORS (PROFESSIONAL)

- Advanced heating and cooling devices suitable for R&D studies, quality control processes, and general use.
- Button operated deactivation of cooling function during heating to extend compressor life and reduce energy consumption.
- Stainless steel bath structure.
- Contains environmentally and ozone friendly refrigerants.
- New generation, PID control mechanism for precise temperature control.
- Easy liquid discharge system.
- Built-in liquid circulation system.
- Large LCD display for viewing from a distance.
- Custom external fluid circulation system.
- High temperature alarm system.
- Optional RS485 communication interface.

S SERIES CIRCULATORS (SHORT)

- Heating and cooling properties.
- Wide and short, stainless steel bath structure.
- Contains environmentally and ozone friendly refrigerants.
- New generation, PID control mechanism for precise temperature control.
- Stainless steel structure.
- Easy liquid discharge system.
- Built-in liquid circulation system.
- Large LCD display for viewing from a distance.
- Custom external fluid circulation system.
- High temperature alarm system.
- Optional RS485 communication interface.



H SERIES CIRCULATORS (HEATER)

- Heating properties only.
- Operating temperature from +5°C to +250°C (depending on model).
- New generation, PID control mechanism for precise temperature control.
- Built-in liquid circulation system.
- Stainless steel structure.
- Easy liquid discharge system.
- Custom external fluid circulation system.
- High temperature and low liquid level alarm systems.
- Optional RS485 communication interface.



SHAKERS & STIRRERS

Hettich

3D SHAKER

- 3D shaker suitable for continuous use in life science, diagnostics, food and chemistry applications.
- Smooth 3D movement with little foam produced.
- Low noise level.
- Digital LED display of rotation speed and time.
- This is adjustable via the user friendly control panel.
- Maximum load of 5kg.
- Shaking frequency of 5-50 rpm/minute.
- Temperature working range of 0°C to +50°C.
- Timer: 0-120 minutes.
- Electrical connection: 100/240V, 50/60 Hz.
- Available with a range of platform dimensions, weight from 7.7 to 8.7 kg, and slope angles from 4° to 8°.



ORBITAL SHAKER

- Orbital shaker available with a large variety of accessories.
- Suitable for use in life science, diagnostics, food and chemistry applications.
- Digital LED display of rotation speed and time.
- This is adjustable via the user friendly control panel.
- Low noise level.
- Maximum load of 10 kg.
- Weight: 13.5 kg.
- Platform Dimensions: 350 mm x 400 mm
- Exterior Dimensions: 410 x 570 x 140 mm
- Shaking frequency of 50-400 rpm/minute.
- Shaking movement of 10mm.
- Temperature working range of 0 °C to +65 °C
- Timer: 0-120 minutes.
- Electrical connection: 100/240V, 50/60 Hz.
- Available platform configurations: double platform with anti-slip plate; double universal platform with 10 rollers; universal platform with 5 rollers; platform with anti-slip plate; platform of Erlenmeyer flasks; platform for separating funnels left or right side.
- Erlenmeyer flask holders available: 50ml; 100ml; 250ml; 500ml; 1,000ml; 2,000ml.



THERMOMIXER MHR13

- Single block, cooling/heating thermomixer with large temperature application range and programming options.
- Suitable for Life Science, Pharmaceutical, Medical Diagnostics, Food and Chemistry applications.
- Equipped with Peltier to heat or cool the blocks.
- Independent calibration for specific temperatures available.
- Extensive range of interchangeable, aluminium blocks (40 standard blocks plus custom made blocks).
- Smart control with 30 programmable steps: set program, cycles, steps, time, temperature, ramp time, shaking speed, interval shaking and pause.
- Orbital and linear shaking movements (3mm).
- Multi lingual controller.
- High degree of temperature display accuracy with a maximum 0.1°C deviation.
- Temperature operation range: Amb. +3°C to +130°C
- Temperature adjustable range: 0°C to +137°C
- Accuracy/resolution: ±0.1°C / 0.1°C
- Max. heating time: 11.5°C / min.
- Shaking frequency: MHR 13: 80rpm to 1500rpm.
- Orbit: 3mm orbital.
- Dimensions: 220 x 330 x 109mm.
- Weight: 6.5 kg.
- Full range of accessories available.

TK 23 THERMOSTAT

- Double block thermostat with heating and cooling curves.
- Extensive range of interchangeable, aluminium blocks (40 standard blocks plus custom made blocks).
- Glass front with LCD screen and touch keys.
- Smart control with 30 programmable steps: set program, cycles, steps, time, temperature, ramp time, shaking speed, interval shaking and pause.
- Independent calibration for specific temperatures available.
- Temperature operation range: RT -16 to +100°C.
- Temperature stability: +/-0,1°C.
- Temperature display accuracy: 0,1°C.
- Maximum heating per minute: 11,7°C.
- Maximum cooling per minute: -11,5°C.
- Dimensions: 220 x 330 x 144 mm.
- Weight: 6.2 kg.
- Full range of accessories available.



ASPIRATORS & LIQUID HANDLING



MULTI-FUNCTIONAL, AUTOMATIC ASPIRATORS

- Models AA02, AA04, AA24.
- Compact devices designed for the controlled aspiration of liquids from tissue culture flasks, cuvettes, tubes, microtiter plates, nursery bottles, petri dishes, roller bottles.
- Vacuum pump suitable for filtrations.
- Automatic stop when the vacuum switch has reached the desired vacuum.
- Pump Housing Dimensions: 170 x 220 x 160 mm excluding tube holder (225 mm including tube holder).
- Electrical power 100 W and electrical connection 230 V, 50/60 Hz (115 V optional).
- AA 02/04 supplied with: membrane vacuum pump; 1 x 2 litre or 4 litre bottle with quick connection; 1x 3m hose with HEPA filter; bottle closures; handle with accessories including Luer Lock 90° angle adapter; 1x adapter for a diameter of 6,6 mm hose; an adapter for a 6 mm hose; 1 Luer Lock metal connector with hose to connect optional additional accessories.
- AA 24 supplied with 1 extra handle (including accessories) and a Y-distributor.
- Note: type AA 24 is supplied with 1 extra handle (with accessories) and a Y-distributor.
- AA 02 (2l bottle) / AA 04 (4l bottle) / AA 24 (4l bottle, 2 handles).
- System bottles autoclavable.
- Hoses can be shortened as required.
- Weight 5.5 kg.
- Available accessories: (8-channel adapter made of stainless steel; 4-channel adapter made of stainless steel; 8-channel plastic adapter; adapter for pipette tips; 1-channel adapter made of stainless steel, 60 mm; 1-channel adapter made of stainless steel, 150 mm; 1-channel adapter made of stainless steel, 200 mm; handle holder, stainless steel; foot switch; power cord (UK); safety filters (3 per pack); Y piece for hose connection.

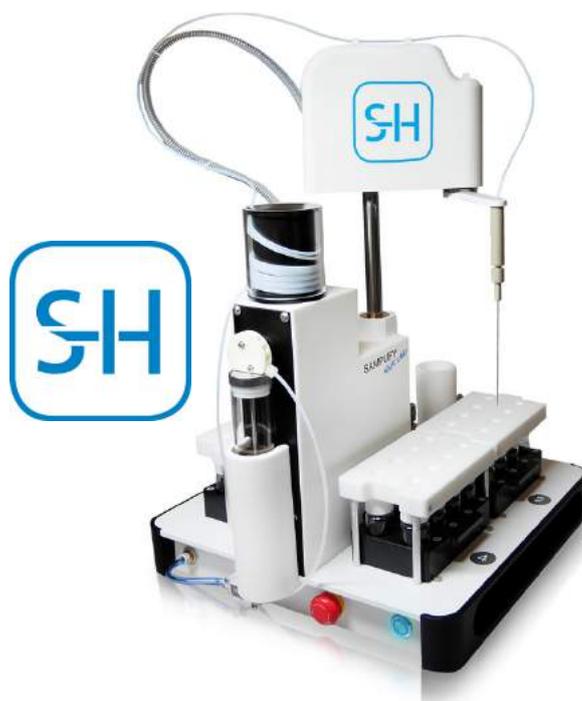


VACUUM CONNECTED ASPIRATORS

- Models AE02, AE04.
- Simple aspiration devices for a vacuum connection in the laboratory.
- Connect to an existing vacuum system.
- 2 litre (AE02) or 4 litre (AE04) bottle included.
- Quick lock adapters.
- Filter, ventilation insert and 3 ml silicon hose.
- Bottle holder and handle.
- Range of accessories available.

SAMPLIFY P AUTOSAMPLER

- For automatic, precise filling of S+H instruments - to fully support liquid handling daily workflow and high sample throughput.
- Compatible with all S+H refractometers, polarimeters, density meters and colorimeters.
- Automatic cleaning and rinsing cycles.
- Particularly developed for pipetting and dosing small volumes.
- Four customisable sample trays.
- Configurable parameters (sample volume, number, cleaning solution volume etc.) and settings depending on sample viscosities.
- Adjustable piping system and various capillaries.
- Powerful z-axis facilitates puncturing protective septa to maintain high levels of sample purity and long-term stability.
- Instant feedback of measurement values and data storage.
- Facilitates wireless communication to laptop / tablet.
- Adjustable cleaning regime with integrated membrane pump for the drying the complete fluidic systems.
- 50ml syringe, needle, adapter, tubing and needle washing unit.



GENERATORS



Leman Instruments



HYDROGEN GENERATORS

- Portable generators to meet a wide range of applications and laboratory environments without piping or gas cylinders.
- Maintenance free generators with low operating costs and a rapid return on investment.
- Low footprint with stackable casing.
- On demand process start without the use of caustic solution.
- 99.99995% H₂ from 100ml/min to 20L/min with adjustable pressure from 0.5 to 8 bar (depending on the model).
- Ultra-pure, contamination free Hydrogen, produced at low pressure from electricity and high quality distilled water.
- After production, H₂ is dried first by a passive dryer and then purified and dried by passing through a maintenance free PSA module.
- High resolution and detection limit with high pressure stability.
- Touchpad and colour display.
- High performance communication interfaces (RS485, Ethernet, WLAN options depending on the model) to create a flexible gas network with local or central control.
- Remote control from PC, phone and tablet.
- Software focused on guaranteeing safety, and providing automatic regulation, ease of installation and reliable communications.
- Enhanced safety with internal leak-test, automatic shut-down, over-pressure valve, H₂-cell current and voltage limits.

HYDRO65R

- Ultra-high purity Hydrogen generator for: combustion and carrier gas for gas chromatographs and FID.
- Suitable for almost any type of application requiring H₂ production.
- 15 month return on investment.
- Low functioning noise < 45dB(A).
- The Hydrogen produced is available 24/7 with constant purity of >99.99995%.
- The H₂ output pressure is regulated electronically and can be set from 0.5 to 7 bar.
- Models with outflows of 100, 160, 250, 500 & 600 Nml/min H₂ available.
- High performance communication interfaces USB and RS485 (Ethernet optional).
- 5L internal water tank.

HYDRO65L

- Ultra-high purity Hydrogen generator for: combustion gas for FID analysers; carrier gas for GC and GC/MS; reaction gas for ICP-MS; protection gas.
- Suitable almost any type of application requiring H₂ production in a laboratory environment.
- 2 year return on investment.
- The Hydrogen produced is available 24/7 with constant purity of 99.99995% at output flows of 100 to 600 Ncc/min (depending on the model).
- The H₂ output pressure is regulated electronically and can be set from 0.5 to 7 bar (7 to 102 psig).
- 5L internal water tank.

HYDRO65LS

- High flow, ultra-high purity Hydrogen generator for: combustion and carrier gas for gas chromatographs; combustion gas for FID; fuel cell research; protection gas.
- Suitable for almost any type of application requiring H₂ production.
- 1.5 year return on investment.
- Composed of one or two independent modules, connected in parallel and controlled by an RS485 internal bus (cogeneration).
- Easy supervision and diagnosis by module.
- The Hydrogen produced is available 24/7 with constant purity of >99.99995%.
- The H₂ output pressure is regulated electronically and can be set from 0.5 to 7 bar.
- Models with outflows of 1 to 4 L/min H₂ available.
- High performance communication interfaces USB, RS485 and Ethernet. Optional connection to internet.

HYDRO65LS2

- High flow, ultra-high purity Hydrogen generator for: carrier gas for gas chromatographs; fuel cell research; protection gas.
- Suitable almost any type of application requiring H₂ production.
- 1.5 year return on investment.
- Modular composition (1 L/min each) allows individual modules to be removed without interrupting production of other modules.
- Easy supervision and diagnosis by module.
- The Hydrogen produced is available 24/7 with constant purity of >99.99995%.
- The H₂ output pressure is regulated electronically and can be set from 0.5 to 8 bar.
- Models with outflows of 5, 10, 15 L/min H₂ available.
- High performance communication interfaces USB and RS485 (Ethernet, WLAN optional).
- 20L internal water tanks or optional connection to water distribution network.

NITRO20ELSD NITROGEN GENERATOR

- Portable Nitrogen generator to meet a range of applications and laboratory environments.
- Suitable for ELSD detectors requiring a high flow of dry and pure Nitrogen (> 99%) in a laboratory environment as well as: nebulising, sheath and drying gas for LC/MS; turbo vaporisers; Life Sciences research; cell culture; protection gas.
- Maintenance free and cylinder free with low operating costs and an 18 month return on investment.
- Low functioning noise.
- Based on the field proven Pressure Swing Adsorption (PSA) technology.
- The Nitrogen produced is available 24/7, contamination free and with constant purity.
- Dry, clean compressed air from on-board compressor or external source (depending on model) is filtered from particulates down to 5µm.
- Nitrogen is extracted from high efficiency CMS filters.
- Post extraction Nitrogen is filtered of remaining particulates down to 0.1 µm.
- Pressure is regulated electronically to the set value between 0.5 and 5 bar. (7 to 70 psig).
- Outflow of 10 L/min N₂.
- High performance communication interfaces (RS485, USB and Ethernet) deliver a highly flexible gas network with local or central control.
- Remote control from PC, phone and tablet.
- Software focused on guaranteeing safety, and providing automatic regulation, ease of installation and reliable communications.
- Enhanced safety with internal leak-test and automatic shut-down.



OXYSTATION 20LC OXYGEN GENERATOR

- Portable, high purity Oxygen generator to meet a range of applications and laboratory environments.
- Suitable for any application involving Oxygen.
- Maintenance free and cylinder free with low operating costs and an 18 month return on investment.
- Low functioning noise.
- The Oxygen produced is available 24/7, contamination free and with constant purity.
- High pressure stability.
- Excellent measurement reproducibility.
- Remote control from PC, phone and tablet.
- High performance communication interfaces (USB, RS485, Ethernet and WLAN) create a flexible gas network with local or central control.
- Software focused on guaranteeing safety, and providing automatic regulation, ease of installation and reliable communications.





AEROSTATION 50 TOC LC ZERO AIR GENERATOR



- Portable Zero Air generator with compressor to meet a range of applications and laboratory environments requiring an on-demand, independent supply of ultra-high purity, silicon free air.
- Suitable for: burning gas, zero gas and carrier gas for THC, TOC, BTX analysers; purge gas for FTIR.
- Maintenance free and cylinder free with low operating costs and a 15 month return on investment.
- Long life compressor with power economy function.
- Low functioning noise <58dB(A).
- High resolution and detection limit with high pressure stability.
- The silicon free AIR / UHP-AIR produced is available 24/7, contamination free and with constant purity.
- Compressed air from the internal, silicon and oil free compressor is passed through a hot catalytic chamber to filter from CO, CH₄ and HC.
- Based on the field proven Pressure Swing Adsorption (PSA) technology, all CO₂ and moisture are removed.
- Post purification, UHP Air is filtered of remaining particulates down to 0.1 µm.
- Pressure is regulated electronically to the set value, between 0.5 and 5bar.
- Models with outflows of 1.5, 2.0 and 3.0 L/min AIR available.
- Remote control from PC, phone and tablet.
- High performance communication interfaces (USB, RS485, Ethernet and WLAN) create a flexible gas network with local or central control.
- Software focused on guaranteeing safety, and providing automatic regulation, ease of installation and reliable communications.

FIDSTATION ULTRA LC MULTI GAS GENERATOR



- Portable generator with compressor to supply combustion gases for FID.
- FID Station composed of a high purity Hydrogen generator along with a Zero Air generator.
- Maintenance free and cylinder free with low operating costs and a 15 month return on investment.
- High resolution and detection limit with high pressure stability.
- Based on the field proven Solid Polymer Electrolyte (PEM) cell technology.
- On demand process start without the use of caustic solution.
- Hydrogen and Zero Air produced is available 24/7, contamination free and with constant purity >99.9999%.
- Output pressure is regulated electronically and can be set from 0.5 to 5 bar.
- Using Pressure Swing Adsorption (PSA) technology, compressed air is dried and filtered from pollutant gases.
- High performance communication interfaces (USB, RS485, Ethernet) create a flexible gas network with local or central control.
- Software focused on guaranteeing safety, and providing automatic regulation, ease of installation and reliable communications.
- Enhanced safety with internal leak-test, automatic shut-down, over pressure valve, current and voltage limits.
- 5L internal water tank.

FREEZE DRYERS & LYOPHILISERS



VACO2 SERIES LABORATORY FREEZE DRYERS

- Modular in design and suitable for a wide range of laboratory tasks.
- Units are available with either a -50°C condenser or -80°C condenser and all features / specifications are optional.
- Acrylic glass chamber including base plate and gasket.
- Stainless steel chamber for organic solvents.
- Aluminium rack with heated or unheated shelves.
- Drying trays.
- Chamber cover with vacuum connection (NS 29/32).
- Dry rack made of stainless steel with 3-way valve (NS 29/32).
- Ampoule adapter to extend the vacuum value for 16 ampoules.
- Closing system for closing vials under vacuum atmosphere.
- Vacuum control for setting a range of vacuum values.
- Vacuum pump (oil-sealed rotary vane pump or chemical hybrid vacuum pump).
- Touch screen control.
- Outer Dimensions: 490 x 450 x 4700 mm.
- Condenser Dimensions: Ø 200 x 180 mm (all models).
- Volume: 5.7 litres.
- Ice Capacity: 2kg / 24h (3 kg. max. capacity).
- Cooling System: one-stage, refrigerant according to the latest F-Gas regulation.



SUBLIMATOR SERIES PILOT UNITS

- Series of standalone, pilot unit freeze dryers suitable for use in the laboratory or in product / process development (Sublimator 25).
- Food freezer dryer model available (Sublimator EKS-R).
- Compact, standalone unit with two chamber system.
- Visible capacitor.
- Rectangular drying chamber.
- Coolable and heat-able stainless-steel shelves.
- Air-cooling or water-cooling system.
- Wall mounting (gas tight).
- Isolator – glovebox coupling.
- Closing device for vials.
- Visualisation and PC control systems.
- Ex-protection version available (solvent ejection).
- Vacuum control, pressure rise measurement.
- CIP and SIP compatible.
- GMP-FDA compliant.



VACUUM DRYERS

- Round and rectangular drying chambers available up to 5m³.
- Two- chamber system with separate valve.
- Hinged and sliding doors available.
- Flexible sizes of shelves and distance up to 90m².
- Materials made of stainless steel 316Ti, 316L.
- Condenser for solvents.
- Automatic cleaning CIP.
- Process visualisation.
- Product trays.
- Explosion-proof version.
- GMP conformance.
- Documentation / Qualification.

ZT6 SERIES CENTRIFUGAL DRYERS



- Directly flanged to condenser up to -150°C.
- Solvent-resistant (DMSO, acetonitrile, ethanol, methanol).
- HPLC applications.
- Materials made of stainless steel 316TI, 316L.
- Condensers for solvents.
- Infra-red heating system.
- Process visualisation.
- Different product tracks possible (ASV-micro titter etc.).
- Explosion-proof version.
- GMP conformance.
- Documentation / Qualification.

MOPLANT MILK ANALYSER

- Solid, stainless steel, mobile workstation for using the Mojonnier process to test for butterfat and total solids in milk and other dairy products.
- Facilitates performing all the necessary steps - dissolving, extracting, centrifuging, pouring off, evaporating, drying, cooling, and weighing - in a single, ergonomically designed location.
- Streamlines operations and affords high degree of accuracy (better than 0.02%). Easy to install and low maintenance.
- Single and double models available: the double model has two hotplates, two vacuum ovens and two cooling chambers; the single model has one of each.
- **Hot Plate:** solid aluminium; explosion safe heating system; security glass cover; capacity for 8 dishes; electronic measuring and temperature control with digital display for each chamber.
- **Centrifuge:** electrically driven 680 rpm engine with timer from 0-99 minutes and 59 seconds; 2 removable buckets each for 4 extraction flasks according to Mojonnier; under-pressure with removal of vapours; automatic lock during centrifugation.
- **Cooling Chamber:** accurate, water cooled; pump-controlled cooling by hermetically closed refrigerating system and heating by electrical heating elements; water temperature follows the ambient temperature near the weighing balance by means of a PT-100 probe; electronic measuring and temperature control with digital display for each chamber; digital timer cooling period from 0-99 minutes and 59 seconds.
- **Vacuum Oven:** rectangular shape for optimal utilisation of the chamber; airtight door with solid hinges; aluminium hot plate with built-in heating system that covers the bottom; capacity for 8 dishes; electronic measuring and temperature control with digital display for each chamber; continues pressure of < 0,80 bar while pneumatic valves take care of depressurisation and re-pressurisation; digital vacuum meter; digital timer vacuum period from 0-99 minutes and 59 seconds.
- Available with or without side tables.
- Hettich Benelux shakers available.
- Enhanced safety via exhaust and overpressure systems.





COLONY COUNT V

- A flexible, user-friendly colony count instrument for intelligent, safe and accurate counting.
- Ergonomically optimised design.
- High quality magnifying glass with flexible holder.
- Unique Light Dispose Grating (LDG) for glare free, continuous illumination of the counting area.
- Adjustable background and side lighting.
- Menu guided operation and multi-functional graphical display.
- Acoustical and optical count signal.
- Optimal data storage and management.
- Wolffhugel disc grid 1cm² and 1/9 cm².
- GMP documentation support.
- Wide range of optional accessories including thermo printer, printer cable RS232, 2GB memory card, external counting marker, adapting elements for petri dishes.



MICRO III CENTRIFUGE

- For Dairy industry determination of fat in milk and milk products.
- 430 x 530 x 280 mm.
- Weight - 26 kg (including rotor without sleeves).
- Microprocessor control.
- Timer - 0-99 min.
- Heating - 600 W adjustable to 65°C.
- Gerber rotor with 8 or 12 butyrometer sleeves.
- Universal rotor with 8 Babcock sleeves.
- Strong, steel housing with acid-resistant paint work.
- Cover lock to secure during operation.
- Smooth running motor with elastic bearing.
- Speed control for optimal precision.
- Automatic imbalance shut-off.

COMPACT III CENTRIFUGE

- For Dairy industry determination of fat in milk and milk products according to Gerber and Babcock along with solubility determination according to Gerber and ADPI.
- 430 x 535 x 285 mm.
- Weight - 23 kg (including rotor without sleeves).
- Microprocessor control.
- Timer - 0-99 min.
- Heating - 600 W adjustable to 65°C.
- Gerber rotor with 8 or 12 butyrometer sleeves.
- Universal rotor without inserts (order separately).
- Strong, steel housing with acid-resistant paint work.
- Cover lock to secure during operation.
- Smooth running motor with elastic bearing.
- Speed control for optimal precision.
- Automatic imbalance shut-off.



MILK BUTYROMETER

- For Dairy industry determination of fat in milk.
- Made of borosilicate glass with plain or ring neck.
- Closed bulb with frosted label - without stopper.
- Accessories available.

SKIM MILK BUTYROMETER

- For Dairy industry determination of fat in skim milk according to Siegfeld / Sichler.
- Made of borosilicate glass with plain or ring neck.
- Closed bulb with frosted label – without stopper.
- Accessories available.



CREAM, ICE CREAM, CONDENSED MILK BUTYROMETER

- For Dairy industry determination of fat in cream, ice cream, and condensed milk according to Koehler / Roeder / Gerber and national standards.
- Cream butyrometer Koehler Gerber standard.
- Cream butyrometer Koehler according to national standards.
- Ice cream butyrometer Koehler.
- Ice cream butyrometer APHA-SMEDP 13 SPEC.
- Cream butyrometer Roeder with or without accessories.
- Condensed milk and ice cream butyrometer Roeder with or without accessories.
- Cream butyrometer according to national standards.
- Accessories available.



CHEESE & CURD BUTYROMETER

- For Dairy industry determination of fat in cheese and curd according to Van Gulik (with or without accessories), BS and IS.
- Made of borosilicate glass.
- Plain neck with closed or open bulb.
- Frosted label on bulb.
- Weighing method for 3g.
- Accessories available.



BUTTER BUTYROMETER

- For Dairy industry determination of fat in butter according to Roeder (with or without accessories).
- Made of borosilicate glass.
- Plain neck with closed or open bulb.
- Frosted label on bulb.
- Accessories available.



DRY MILK BUTYROMETER

- For Dairy industry determination of fat in dry milk according to Teichert (with or without accessories).
- Made of borosilicate glass.
- Plain neck with closed or open bulb.
- Frosted label on bulb.
- Accessories available.



BUTYROMETER ACCESSORIES

- Brass ring M/F stopper with sleeve or with ball.
- Nickel plated brass regulating pin for GERBAL-M stopper.
- Nickel plated brass regulating pin for GERBAL-F stopper.
- Conical rubber stoppers (available in large, small, double, single, with or without hole).
- AR glass beakers.
- Heat and chemical resistant, polypropylene or aluminium Butyrometer racks available in the following configurations: 12 (2 x 6 positions); 36 (6 x 6 positions); 36 (3 x 12 positions).
- Cleaning brush for Butyrometer scale and body.





CIA AUTOMATIC CRYOSCOPE

- Quiet, compact, durable, automatic 12 sample cryoscope for determination of freezing point (ISO 5764/IDF 108).
- Suitable for raw, pasteurised, UHT or sterilised whole milk.
- Suitable for semi skimmed and skim milk.
- 28 x 42 x 32 cm (measuring head down).
- Weight 11 kg.
- User friendly touch screen operation.
- Easy to calibrate with menu navigation.
- Data output to printer or PC.
- Cooling system with heat pipe.
- Test time 90 seconds (time mode 30 seconds).
- Sample volume 2.0 ml or 2.5 ml.
- Measuring range 0 to -1000 m°C/m°H.
- Repeatability +/- 2 m°C/m°H (1 S.D.).
- Ambient temperature 15 to 35°C with full sample throughput.
- Wide range of standard and optional accessories available, including: standard solutions, control solutions, heat transfer liquid, sample tubes with ring mark, test tube racks, printer with printer paper.

AW1 WATER ACTIVITY METER

- Suitable for use in a range of industries, including Food and Feed, Pharmaceutical, and Cosmetics.
- Facilitates routine measurements of water activity in laboratory and production environments to optimise product safety and quality.
- Fast and accurate according to the Dew Point measurement method.
- Durable, compact design (230 x 370 x 300 mm).
- Intuitive, touchscreen operation with graphical representation of the measurement process.
- Custom calibration.
- Measuring range 0.05 to 1.000 aw / < 10 to 50 °C.
- Measuring accuracy ± 0.003 aw / ± 0.2 °C.
- Temperature setting in increments of 0.01°C.
- Wide range of standard and optional accessories available, including: cleaning kit, plastic sample dish with lid, aluminium sample dish with lid, range of standard kits for control and calibration.



KJELDAHL COMPLETE SYSTEM



- Complete configuration for nitrogen determination including titration: workstation type ASE.
- Available in basic, exclusive and premium versions.
- Programmable digestion units for 12 samples simultaneously.
- Includes multi-level console, glass digestion vessels, frame, sample rack, and fume extraction hood.
- Heating and extraction hood with exhaust collector.
- Quartz infrared heaters reach a temperature of 830°C in 1 minute.
- Behr on-button operation for easy and quick programming.
- Menu navigation in multiple languages.
- 10 configurable programs for block temperature and digestion time.
- Store-able applications
- with a range of application possibilities: rack for reaction vessels with 250ml, 500ml and 750ml (500ml and 750ml suitable for nitrogen determination in water analysis).
- Easy conversion for various vessel sizes through the exchange of rack and fume extraction unit.
- Connection to water supply not needed.
- PTFE-coated double-head membrane pump.
- Integrated droplet separator.
- Gas wash bottles 2000 ml for cooling hot gases / neutralising.
- Transparent safety door with automatic safety switch in the event of overload or short circuit.
- Removable safety drip tray.
- Safety valve against excessive pressure in the steam generator.
- Programmable thermostat.
- Temperature-regulated steam heating phase and pressure control via solenoid valve.
- Transfer application-specific time/temperature profiles to multiple devices, PC.



KJELDAHL BLOCK DIGESTION SYSTEM

- Behr K blocks with high-quality, non-corrosive, stainless steel block casing.
- Optimally suited for nitrogen determination.
- Available product variants: digestion device for 100 ml vessels (K-Block mikro); digestion device for 250 ml vessels (K-Block standard); digestion device for 500 ml vessels (K-Block makro); digestion device for 100 ml and 250 ml vessels with lift (K-Block with automatic lift).



HYDROLYSIS DIGESTION DEVICE

- Connection ready, complete devices (available for 4 or 6 sample positions).
- Suitable for use in Food and Feed analysis.
- Includes cooling water distribution with condenser console and hoses.
- Condenser rack with drip gutter.
- 600 ml hydrolysis beaker.
- Behrotest quality glass.
- Cold fingers for crude fiber or hydrolysis.
- Individually adjustable heating positions with control lamps.
- Mains connection with control lamp.



RANDAL EXTRACTION DEVICE

- Compact, short path devices for gentle hot extraction.
- Suitable for use in a wide range of analysis environments including Food and Feed, Beverage, Oil and Fat, Agricultural analysis.
- Product variants: single place, four place, six place.
- Short extraction duration (typically one hour).
- 40-70% faster than the classic Soxhlet method (depending on sample material).
- Minimal solvent requirement.



SOXHLET EXTRACTION DEVICE

- Complete single extraction units with basic rack, heating device, holder, hoses and glassware (reaction flasks, extractor, Dimroth condenser for extraction).
- Flexible heating regulation.
- Direct introduction of solvent after extraction cycle into the reservoir.
- Available product variants: 30 ml extraction - 100 ml round bottom flask - RFK 30 cooler; 60 ml extraction - 250 ml round bottom flask - RFK 60 cooler; 100 ml extraction - 250 ml round bottom flask - RFK 100 cooler; 250 ml extraction - 500 ml round bottom flask - RFK 100 cooler; 500 ml extraction - 1000 ml round bottom flask - RFK 500 cooler; 1000 ml extraction - 2000 ml round bottom flask - RFK 1000 cooler; 2000 ml extraction - 5000 ml round bottom flask - RFK 2000 cooler; 5000 ml extraction - 10.000 ml round bottom flask - RFK 5000 cooler.



TWISSELMANN EXTRACTION DEVICE

- Complete Twisselmann extraction device available with single position, 4 positions, and 6 positions.
- 30-60% faster than the classic Soxhlet method (depending on sample material).
- Available product variants: compact system (single); serial heating device with round flask (4 places); serial heating device with flat bottom flask (6 places).

COMFORT LINE CRUDE FIBER EXTRACTION DEVICE

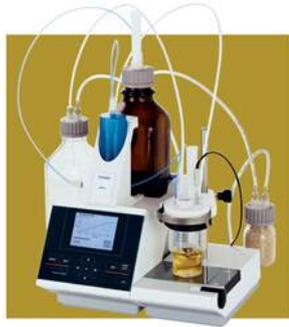
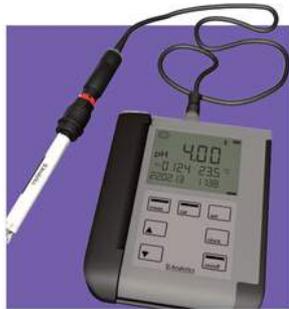
- User friendly, semi-automatic device for crude fiber extraction.
- Suitable for Food and Feed analysis.
- Boiling, rinsing and filtration in one device.
- Ensures optimum analytical reliability, high reproducibility, and rapid analysis.
- Suitable for: total crude fiber determination (European Weende feed analysis); neutral detergent fiber determination and acid detergent fiber determination (NDF and ADF fiber fractioning according to Soest); acid detergent lignin determination (ADL according to Soest); various components of fibers (cellulose, hemicellulose and pectin).
- Available with 4 or 6 sample positions to facilitate processing single or multiple samples.
- Manual operation of air and suction pumps optional.
- Practical sample rack for filter crucibles prevent sample loss during determination.
- Crucibles can also be used in cold extraction unit.



BASIC LINE CRUDE FIBER EXTRACTION DEVICE

- Manual device for crude fiber digestion.
- Suitable for Food analysis.
- Available product variants: filtration unit; suction device; digestion device.
- Available with 4 or 6 sample positions.
- Filter crucibles and adapters.
- Gaskets and connection screws.
- Determination pipe with connection nozzle or water jet pump – e.g. for the determination of crude fiber content in accordance with EN ISO6865.





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