Technology

Your definitive partner for comprehensive solutions in the biotechnology, pharmaceutical and cosmetics industries



Business Unit Technology

From the discovery phase to formulation development and up-scaling, DKSH ensures the delivery of safe and effective products that address diverse healthcare needs and consumer demands

DKSH Technology is a leading provider of Market Expansion Services, proficient across various industries. As a total solutions provider and system integrator, we serve our customers as a one-stopand provide customized technology solutions. We provide professional after-sales services as well as cover the entire product life cycle including installation and commissioning, final acceptance testing, production start-up support, training, maintenance, repair, spare parts and consumables supply as well as trade-ins. We operate as a trusted link between suppliers from Asia, Europe or America and customers in Asia, enabling suppliers to expand their markets.



Sales and services are our core competencies. Our sales, service and application specialists are highly trained and dedicated to deliver complete, integrated laboratory solutions to our customers. Industry-specific expertise, in-depth process knowledge and complementary product-service portfolio enable us to stand out as a total solutions provider.

Business Line Scientific Instrumentation

Business Line Scientific Instrumentation supplies a wide range of industries and sectors with advanced and innovative laboratory equipment, scientific instruments, life science products, consumables, professional technical services as well as applications support of the highest quality and integrity.

Your partner for comprehensive safety, quality and productivity solutions

Many manufacturing processes in pharmaceuticals, cosmetics biopharmaceuticals industries such as ingredients selection formulation preparations, material packaging and shelf storage involve a complex flow of materials. Producing effective and high quality products with reasonable investment in these industries reliable, required comprehensive and validated lab equipment. Especially in Malaysia,

having the right equipment in compliance with the National Pharmaceutical Regulatory Authority (NPRA) standards is essential.

The documented regulation applies to cosmetics. pharmaceuticals, and biopharmaceuticals industries to ensure the standard is being practiced as below:

For cosmetics:

Good Manufacturing Practices (GMP) in accordance to the ASEAN Guidelines for Cosmetic Good Manufacturing Practice.

For pharmaceuticals and biopharmaceuticals:

- CGMP and GMP
- FDA (CPG Sec. 490.100 Process Validation Requirements for Drug Products and Active Pharmaceutical)
- OECD Good Laboratory Practice (GLP)
- United States, Europe and Japan Pharmacopeia

The formulation process in drug and food manufacturing involves preformulation, product development, bio-availability and bioequivalence studies, clinical trials, efficacy studies, quality control, and sample production. It aims to modulate material properties through a series of unit operations.

Market specific applications

With our profound market knowledge we are best positioned to serve our customers according to their needs. We provide products and services to the following industries across Malaysia.







Biotechnology



Dies and molds



Healthcare and hospitals



Metals, minerals and mining



Chemicals, oil and gas, plastics and polymers



Pharmaceutical and cosmetics



Education and academics



Food and beverage



Semiconductor and electronics



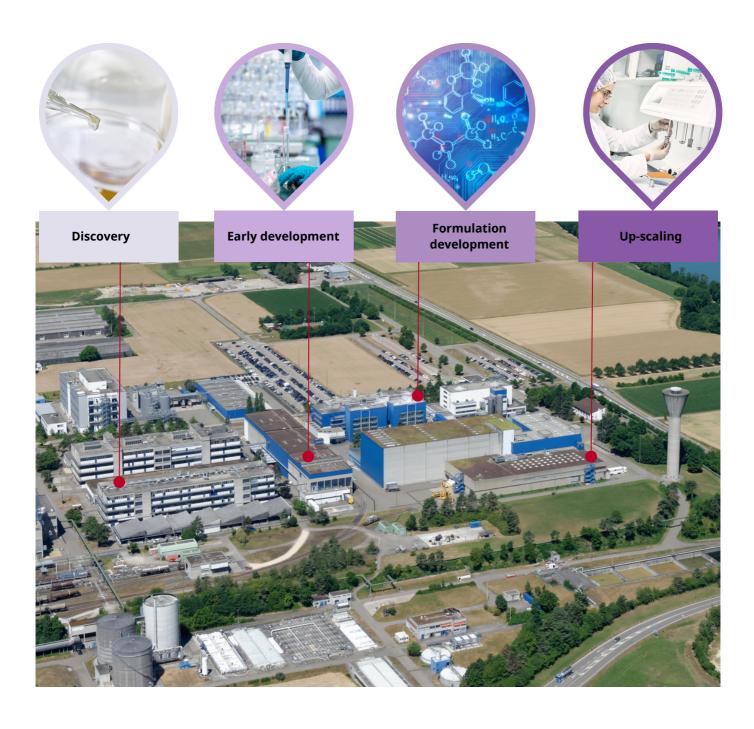
Energy and environment

Analytical solutions for laboratory processes



The pharmaceutical industry plays an important role in healthcare all over the world. It consists of many public and private organizations that discover, research, develop and manufacture commercial medicine for humans and animals. Current science and technology development accelerating the processes innovative pharmaceutical products with improved therapeutic activities and reduced possible side-effects. This can be achieved by having a complete platform for product validation services, supported by a wide range of analytical capabilities including advanced surface analysis and expert knowledge.

DKSH - Your reliable partner for efficient production processes



Key advantages of efficient production

With efficient production processes, you can achieve several benefits and improvements within a business or manufacturing environment. Some of the key advantages include:



Enhance

Operational quality and productivity of entire facility



Increase

Employee satisfaction and productivity



Reduce

Operational costs



Achieve

Continuous improvements



Meet

Regulatory compliance



Maximize

Your facility performance

Integrated solution from discovery to product development and formulation



Research and development

Occuring early in the value chain, product innovation is one of the most important aspects in the pharmaceutical, cosmetic, and biopharmaceutical industries. Innovation can arise from new active ingredients, of actives with combinations synergetic effects formulation technolgies, product delivery, and even new claims. At DKSH, we are experienced in providing total laboratory solutions for product

research and development. Our solutions are innovatively designed and widely versatile to:

- Improve the quality of pre-clinical and clinical trials of pharmaceuticals, and cosmetics products
- Enable researchers to have a better understanding of the inner workings on the molecular level of drugs, therapeutics pharmaceuticals, biopharmaceutical products, and cosmetic treatments
- Enhance the development of new active ingredients from natural resources (eg. plants)
- Build up confidence in the theoretical and practical analysis of new cosmetic product formulations
- Refine the development of functionalized nanomaterials, including nanomedicine, nanotreatments and nanotherapeutics

Malvern Panalytical Mastersizer Range Laser Diffraction Particle Size Analyzer

Key features:

- Particle size measurement of a broad range of sizes - from 10 nm to 3.5 mm, and excellent submicron resolution with rapid measurement time
- Provides an accurate, reproducible measurement for materials with broad particle size distributions
- Single dashboards interface that allows real-time optimization of each measurement, with edit-

- in-place report designed for customized data handling
- Samples can be measured in wet dispersions or dry powders

Key applications:

 Nanoparticle and macroparticle size distributions for drug delivery research, quality assurance, and control of powdered and liquid cosmetics



Malvern Panalytical Zetasizer Ultra Particle Size Analyzer

Key features:

- Multi-Angle Dynamic Light Scattering (MADLS) enables characterization of multicomponent nanoparticle dispersions with improved resolution
- Adaptive Correlation in Zetasizer provides enhanced accuracy and speed in particle size and molecular size distribution analysis by dynamically adjusting measurement parameters, resulting in more precise and efficient results

Key applications:

- Characterize biomolecules, nanoparticles, and colloids for research, drug development, and clinical applications
- Provides insights into the surface charge of particles vital for predicting stability, dispersion behavior, and potential interactions between particles in pharmaceutical formulations



Microfludics Lv1 Low Volume Microfludizer Processor

Key features:

- Equipped with Ceramic Interaction Chamber™ with stainless steel enclosure
- Electric/hydraulic drive method
- Designed with 10 ml syringe-type feed and collector reservoirs
- Small sample size requirements (1-6 ml)
- Easily cleanable no disassembly required

 Near total sample recovery and quiet operation

Key applications:

 Facilitates micronization, homogenization, and formulation of pharmaceutical compounds, ensuring uniform particle size and distribution, ultimately enhancing drug bioavailability and efficacy



Malvern Panalytical Spraytec Aerosol / Droplet Analyzer

Key features:

- Measure across a wide size range (0.1 – 2000 microns) without requiring constant optics changes
- Resolve rapid changes in droplet size over time, by measuring up to 10,000 measurements a second
- Deliver accurate, concentration independent results using a patented multiple scattering analysis
- Automated software and advanced analysis features

ensure repeatable aerosol measurements can be made at high spray concentrations

Key applications:

- Inhaler development, nasal and ophthalmic sprays in pharmaceutical industry
- Haircare products, sunscreen and perfume sprays in cosmetic industry



Malvern Panalytical OMNISEC Multi Detector GPC/SEC

Key features:

- Market leading advanced multidetector size exclusion chromatography system
- Combines measurements from four detectors that generate results for an accurate concentration profile, absolute molecular weight, and structural data to improve food quality production
- Increase productivity with easyto-use intuitive software

Key applications:

- Protein and biopharmaceutical characterization analysis
- Drug formulation development
- Cosmetic ingredient analysis
- · Monitor emulsion stability
- Develop sunscreen formulation



Malvern Panalytical Nanosight Pro Nanoparticle Tracking Analyzer

Key features:

- Updated system features an ergonomic grip for easier, comfortable laser insertion, suitable for all hand sizes
- Offers minimal setup, smart installation and an intuitive interface, making it usable in any lab context
- Advanced optical setup guarantees accurate positioning, high detection sensitivity, and repeatable data through precise alignment

- Development of drug delivery system
- Viral vaccine research
- Nanotoxicology and biomarker detection
- Protein aggregation research
- Extracellular vesicle characterization for various disease state studies



Malvern Panalytical Morphologi 4-ID Particle Size and Shape Analyzer

Key features:

- Broad particle size range from 0.5 μm to >1300 μm
- 20+ morphological parameters deliver a highly-detailed description of particles
- Automated 'Sharp Edge' analysis enables detection of even low contrast particles
- Includes a Raman spectrometer, which provides componentspecific chemical identification in addition to particle size and particle shape

Key applications:

- Quality control and formulation development in pharmaceutical manufacturing
- Raman spectroscopy enables rapid and detailed analysis of particles, aiding in the detection of contaminants, as well as characterization of raw materials and finished products



Malvern Panalytical MicroCal PEAQ-DSC Automated

Key features:

- Gold standard stability-indicating technique requiring minimal assay development
- Direct and label-free measurement of biomolecular native-state stability in solution
- Standard 96-well plate format for high capacity and easy loading, with thermostatically-controlled storage of up to 6 plates
- Automated cell filling and cell cleaning functions permit unattended operation

 Fully integrated autosampler enables unattended analysis of up to 50 samples per day

Key applications:

- Biotherapeutic discovery, development and manufacturing
- Biosimilarity and biocomparabilty
- Characterization of antibody drug conjugates and vaccines



Malvern Panalytical MicroCal PEAQ-ITC Automated

Key features:

- User-friendly design tools assist in selecting experimental run parameters
- All binding parameters (affinity, stoichiometry, enthalpy and entropy) in a single experiment
- Quick to first result with minimal assay development, no labelling, no immobilization and no molecular weight limitations
- Sensitivity to investigate any biomolecular interaction using as little as 10µg of protein

- Characterization of molecular interactions of small molecules, proteins, antibodies, nucleic acids, lipids and other biomolecules
- Drug Discovery (Hit validation, lead optimization & SAR)
- Tool for structural biology
- Co-crystal structure optimization



Malvern Panalytical Claisse LeNeo Fusion Instrument

Key features:

- Fully automated instrument with ready to use 10 preset fusion programs that ensure high fusion success rate
- User-friendly touch screen interface feature allows the adjustment of all settings and fusion parameters
- Automated safety door locks to prevent operator contact with high heat
- Reduce corrosive chemical handling such as hydrogen fluoride

Key applications:

- Raw material analysis
- Quality control of finished products
- Preparation of glass disks for XRF analysis and liquefied sample solutions for ICP and AA analyses
- Metal determinations in cosmetics samples by using peroxide fusion and borate fusion for ICP-OES determination



Surface Measurement Systems Inverse Gas Chromatography - Surface Energy Analyzer (iGC-SEA)

Key features:

- The world's most advanced, and only purpose-built commercial iGC instrument
- Implement gas-solid technique for characterizing surface and bulk properties of powders, particulates, fibers, films and semi-solids
- The software suite is designed to analyze surface energy heterogeneity, isotherm properties, and related physical thermodynamic parameters

Key applications:

- Provides access to unique physiochemical information for pharmaceuticals cosmetics and personal care products
- Correlation between drugbinder adhesive strengths and tablet performance
- Measure surface roughness of pharmaceutical powders
- Surface characterization and determination of adsorption isotherms of fragrances



Surface Measurement Systems Dynamic Vapor Sorption Analyzer

Key features:

- The world leader in water/vapor sorption technology for physicochemical characterization using kinetic systems
- Wide operational temperature range (5-85 °C) and uniform temperature enclosure
- Next-generation control and evaluation software for the most advanced experimental design and data analysis
- Multiple sorption/desorption and sample drying cycles
- Diffusion and permeability measurements
- Optional IR, Raman, and video imaging

- Vapor sorption of polymorphic compounds and their stabilities
- QC analysis of packaged dry cosmetics



Malvern Panalytical MicroCal PEAQ-DSC

Key features:

- Gold standard stability-indicating technique requiring minimal assay development
- Direct and label-free quantification of biomolecular native-state stability in solution
- Measurement of very tight binding constants, up to 10⁻²⁰M⁻¹
- Manual system with pipette and cleaning device
- Compliant to 21 CFR Part 11 and Annex 11 regulations

Key applications:

- Measures enthalpy (ΔH) and temperature (Tm) of thermallyinduced structural transitions of molecules in solution
- Characterization and selection of the most stable proteins or potential candidates in biotherapeutic development



Malvern Panalytical MicroCal PEAQ-ITC

Key features:

- User-friendly guided workflows with embedded help videos give any level of user the ability to generate high quality data
- High signal to noise gives more confidence in accessing data quality
- Automated washing with detergent of the sample cell and titration syringe
- Quick to first results with no assay development, no labeling, no immobilization and no molecular weight limitations

 Directly measures millimolar to nanomolar affinities (KDS) (10⁻² to 10⁻⁹ M)

Key applications:

- Characterization of molecular interactions of small molecules, proteins, antibodies, nucleic acids, lipids and other biomolecules
- Measure all binding parameters (affinity, stoichiometry, enthalpy and entropy) in a single experiment



LUM LUMiFuge® Dispersion and Stability Analyzer

Key features:

- Enables direct accelerated stability testing through high centrifugal force
- Measures extinction of light through the sample in real-time using STEP-Technology®
- Work with high sample concentrations and a wide range of temperatures
- Run up to 8 samples simultaneously

- Pharmaceutical dispersion formulation
- Used in the invention of saltfree emulsion for the treatment of dry eye and other ocular conditions (patent pending)
- Creaming rate and emulsifier efficiency in cosmetic products



Integrated solution from discovery to product development and formulation



Product development and formulation

For a proficient administration of active pharmaceutical and therapeutic components, we offer comprehensive laboratory solutions for researching formulation development, encompassing :

- Improving the formulations of liquids, semi-solids, solids, and sprays
- Aiding in the advancement of novel drug delivery systems, which includes the integration of drugs into microparticles, microcapsules, nanoparticles, and nanocapsules

Enhancing formulation optimization, bolstering stability, refining flavor and aroma, optimizing drug delivery, and augmenting drug absorption, among other aspects.

In the case of cosmetic products, achieving the desired texture is crucial during formulation development as it significantly influences customer satisfaction through factors like appearance, tactile experience, and overall comfort of the final product.

At DKSH, our offerings are tailored to assist customers in delving into formulation development, where we meticulously analyze rheology, shear properties, and viscosity textures. across diverse extends to refining established formulas for products emulsions, ointments, lotions, oils, gels, gel-creams, and scrubs. We optimizing in stability, elevating skin feel, and ensuring adherence to regulatory requisites, thereby fortifying customer satisfaction and product excellence.

Proveris Kinaero® High-throughput PMDI Fire-Down System

Key features:

- Devices or canisters are held securely within the precisionengineered Universal Cassettes allowing for proper actuation every time and in every position
- Programmable modes of actuation—force limited, velocity driven time- or position-based for achieving patient-user target results
- Set and Forget rapid life testing
 —10-device capacity for Canister-only or Device-specific cassettes
- Large touchscreen display for user-friendly method entry and operation
- Low-maintenance, long-lasting, multi-filtration system

- Consistent actuation control ensures high-quality reproducible results
- Easy-to-use software that supports compliance submission

Key applications:

- In-vitro inhalation drug analysis
- Predictive clinical assessment
- Bioequivalence and IVIVC studies
- Hand actuation studies
- Formulation screening
- Spray pattern
- Aerodynamic assessment of nebulized aerosols



Questron Technologies - QPrep Automated Dilution System

Key features:

- Provides an integrated solution for precise sample dilutions, transfers, dispensing and sample transfers and standards preparation
- Designed to handle precise reagent delivery for a large number of samples in multiple rack configurations
- Built-in NIST Traceable calibration continuous flow of dual syringe pump
- Capable of handling HF solutions with Teflon syringe option
- PTFE coated rigid graphite probe for accuracy of vial access and ease of cleaning

- Spikes sample with internal standards
- Performs multiple dilutions
- Prepares calibration and QC standards
- Serial dilutions and aliquot transfers
- Consistent and precise reagent addition
- Adds reagents consistently



Proveris Vereo® Automated Actuators System

Key features:

- Designed to replicate patient actuation of devices through automated actuation
- Accurate control of actuation by force or position allows spray devices to be actuated precisely and consistently
- Provide robust, automated actuation; the preferred method for completing regulatory required in vitro tests.

Key applications:

- Drug design and development
- Product specifications
- Characterization studies
- Stability studies
- Bioequivalance
- Quality control



Proveris SprayVIEW® Measurement System

Key features:

- Single system for both development and QC ensures seamless method transfer after regulatory approval
- Easily integrates with the complete family of highperformance Vereo®
 Automated Actuators to test the full range of orally inhaled and nasal devices
- Accurately captures the true shape of a spray pattern using a unique algorithm
- Robust analysis of spray pattern and plume geometry required by U.S. FDA compliance documentation (2003 BA/BE Draft Guidance)

- Greatly reduces bioequivalence development time for generic products
- Flexible system hardware configuration for testing both spray pattern and plume geometry of orally inhaled and nasal devices

- Inhalation drug delivery development
- Aerosol characterization
- Respiratory drug development
- Nasal drug delivery



Biostep HPTLC-Applicator AS30

Key features:

- Accurate sample application as dots or lines
- Spray-on-technique
- For TLC/HPTLC plates up to 20 x 20 cm
- Adjustable volume dispensing ensuring accuracy in the analysis of food components
- Multiple sample application on the same HPTLC plate, saving time and resources

Key applications:

- Ingredient analysis for cosmetics
- Formulation development for new pharmaceutical drugs
- Pharmacology and drug discovery studies on metabolism, pharmacokinetics and drug interactions
- Nutraceutical and dietary supplements
- Clinical and healthcare by analyzing clinical samples such as blood and urine



Microfluidics LM20 Microfluidizer® High Shear Fluid Processor

Key features:

- Achieve unmatched particle/droplet size reduction or cell disruption performance at lower process pressures
- Precise temperature control
- Higher product yields after sterile filtration with tighter particle size distribution
- Save on development time in pilot-/production scale with linear volumetric scale-up
- Enhanced repeatability with easyto-use digital pressure control

Key applications:

- Particle size reduction in pharmaceuticals - micronize active APIs (pharmaceutical ingredients) for better bioavailability, enhanced drug dissolution rates and improve drug formulation
- Emulsification of immiscible liquids, resulting in stable emulsion
- Microencapsulation of drugs effectively extends shelf-life, and offers time-release benefits



Microfludics M110P Microfluidizer® Electric Benchtop Laboratory Homogenizer

Key features:

- 'Plug & Play' electric Laboratory homogenizer
- Designed to reliably achieve continuous pressures up to 30,000 psi maximizing energy efficiency
- Processing diverse fluids, including oil-in-water emulsions and solids-in-liquid suspensions
- Highest shear rates in the market
- Guaranteed scalability

- Cell disruption in pharmaceuticals and biotechnology research
- Nanoparticle production in drug delivery systems and cosmetics
- Liposome production
- Minimize agglomeration in cosmetics to achieve a smooth product texture



Biochrom 30+ Amino Acid Analyzer - Physiological System

Key features:

- Gold standard in dedicated amino acid analysis
- Clinical laboratories worldwide trust this well documented classical amino acid analysis method based on ion exchange chromatography with post column derivatization with Ninhydrin
- Allows quantitative analysis of up to 56 amino acids and derivatives

Key applications:

 Detection and monitoring of in-born errors of metabolism, PKU testing, clinical analysis, proteomics, drug synthesis, infusion fluids, protein hydrolysate, and quality control



LAMY First PRODIG CP 1000 Viscometer

Key features:

- CP-1000 stand for cone-plate measurement
- Inbuilt software for programming
- Data recording and USB transfer
- Integrated temperature probe
- Compatible with RheoTex software
- Display of viscosity limits according to mobile and speed
- LIMS function
- QC limits function

Key application:

- Measure viscosity of various formulations such as creams, lotions, and syrup
- Product stability testing on ingredient separation or degradation
- Study of rheological properties of different substances and develop new pharmaceutical and cosmetic formulations



SI Analytics Titrator TitroLine® 7800 Basic Unit with Magnetic Stirrer

Key features:

- Automatic wireless recognition of SI Analytics ID electrodes guarantee accurate calibration and measurements
- High resolution pH/mV-electrode and temperature inputs for pH, ISE, redox (ORP) or photometric titrations
- Perfect for non-aqueous titration such as acid and base numbers in oils (TAN and TBN)
- Dosing with up to two connected piston burettes per method

- Quality control of raw materials including acids ,bases, and additives
- pH determination
- Acid-base titration
- Active ingredient assays
- Formulation development
- Cosmetic ingredient testing
- Cleaning validation to ensure equipment and containers are thoroughly cleaned and free of residues



Malvern Panalytical Empyrean X-Ray Diffractometer

Key features:

- PreFIX modules with pre-aligned fast interchangeable X-Ray modules are flexible, fast, and future-proof, allowing users to switch between standard geometry and top performance modes quickly
- PIXcel³ is a multipurpose X-Ray detector that can measure powders, nanomaterials, and solid objects, providing superior resolution, speed, and maintenance-free data collection
- The ScatterX78 attachment is a compact, ergonomic tool for nanomaterial analysis, providing

complementary information on crystalline phases and nanocrystallite size, ideal for weakly scattering samples

Key applications:

- Compatibility study between end product (tablet) and pharmaceutical excipients used in solid dosage forms
- Predicting polymorphs of pharmaceuticals
- Online monitoring of polymorph growth



Malvern Panalytical Epsilon 4 Benchtop XRF Spectrometer

Key features:

- Offers non-destructive elemental analyses of impurities in active pharmaceutical ingredients and excipients in line with the recommendations in ICH Q3D, USP<232>, USP<233> and USP<735>
- FingerPrint, a positive material identification solution, is available for the analysis of

impurities and detection of possible counterfeit drugs

Key applications:

- Pharmaceutical formulation development
- Pharmaceutical manufacturing and quality control
- In-vitro bioequivalence (IVBE)
- API development
- Analytical instrument qualification
- Research and discovery



Biolin Scientific Attension Theta Flow

Key features:

- Designed for reliable and repeatable measurements of wettability and adhesion
- Offers interfacial dilatational rheology
- With liquid handling customization options
- User-friendly interface for experimental setup, data acquisition, and analysis

- Measure contact angle and surface tension
- Surface free energy analysis
- Adsorption studies
- Contact angle measurements of drug compounds
- Wetting properties of a contact lens



Schmidt + Haensch VariRef - Refractometer

Key features:

- This fast, durable bench-top refractometer is ideal for high throughput applications in the sugar, food, and beverage industries, requiring temperature correction and high throughput
- Shallow sample well for easier cleaning as to reduce the problem of cross contamination between samples for accurate measurements
- Offers a sapphire prism for high mechanical and chemical durability

Key applications:

- Extraction, mixing, preparation, purity testing, crystallisation and dissolution monitoring
- Monitoring of chemical reactions as well as impurity detection
- Measurement of betaine concentration used in the production of liquid soap, pharmaceutical shampoos, and efficient cleansing agents as well as detoxifiers, foam stabilizers, and viscosity modifiers



Schmidt + Haensch VariPol Digital Polarimeter

Key features:

- Basic Polarimeter especially designed for pharmaceutical applications – 21 CFR Part 11 ready
- Modular configuration
- Multi-user concept and remote control via internet browser
- Peltier system for automatic temperature control
- Constant precision over the whole measuring range, space saving
- Energy saving durable LEDs
- · ELN; LIMS ready

Key applications:

- Determination of essential oil concentration in cosmetics
- Measuring the essential oil concentration or content in cosmetics
- Determination of the enantiomeric ratio in pharmaceutical products
- Measure lipids for vaccine production
- Purity control in buffer and cell culture media production



SI Analytics Viscometry Autosampling System AVS® Pro III

Key features:

- Fully automatic and highly precise measuring station.
- Time measurement with an accuracy of ±0.01 s
- ProClean system eliminates the need for manual filtration of samples
- Configurable for individual use, including rinsing, solvents, and viscometers

- Viscosity measurement for lotions, creams and pharmaceutical formulations
- Texture and flow control
- Quality control of drug products
- Research and development in pharmaceutical and cosmetic formulations



ASD LabSpec 4 Hi-Res Analytical Spectrometer

Key features:

- Designed for analysis of materials that are characterized by sharp spectral features that may require more resolute spectral data for accurate detection and identification
- The 6nm spectral resolution in the SWIR range (1001 nm – 2500 nm) is crucial for detecting and identifying compounds with narrow spectral features, such as pharmaceuticals and cosmetics

Key applications:

- Pharmaceutical analysis and quantitative chemical Aaalysis
- Counterfeit drug detection
- Nutraceuticals and dietary supplements
- Cosmetics and beauty products



Biolin Scientific Force Tensiometer (Sigma 700/701)

Key features:

- Automated system, measurement performed with one click
- Optimal choice especially for powder wettability and contact angle experiments
- Real-time data visualisation
- The OneAttension Software provides all measurement modes, full automation, easy measurement setup and live results

Key applications:

 Wettability characterization for fabrication of coated tablets utilizing The Washburn method



Schmidt + Haensch ATR L Dispersion Refractometer

Key features:

- Seven wavelengths fixed with full range of visible light
- Measurement of solid samples possible
- Automatic dispersion measurement
- Powerful, internal peltier temperature control guarantees the fastest measurements with highest accuracy
- Able to discriminate ingredients with the same refractive index

- Emulsions of creams and lotions by measuring peptides-and triglycerides in water
- Concentration determination of active ingredients, solutes, or additives in liquid formulations
- Comparative analysis to ensure product uniformity
- Formulation optimization by achieving desired transparency and clarity

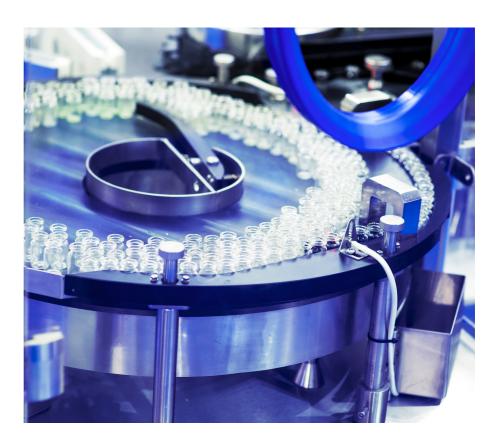


Integrated solution from discovery to product development and formulation

Manufacturing

At DKSH, we offer and deliver advanced and innovative solutions focused on optimizing production efficiency, ensuring Good Manufacturing Practice whilst compliance maintaining consistent product quality. Our wide array of solutions extend from offline testing and online quality control to on-site analysis to help you fulfil the most stringent quality standards and industry requirements.

Equipped with unrivalled industrial expertise and experience, we know how to optimize your manufacturing processes and maximize your return of investment by reducing operating cost, improving productivity and minimizing production downtime via risk mitigation and preventative analysis.



Hielscher UIP1000hdt Industrial Grade Homogenizer

Key features:

- Powerful homogenizers (1000W, 20kHz) for lab testing and industrial liquid processing
- Equipped with colour touch display, remote control, automatic recording, SD card and temperature sensors for precise process control and operation comfort
- Requires little maintenance and easy setup
- Capable of 24/7 operation under high load

- Facilitate emulsion formation in cosmetic formulations
- Generate nanoemulsions with enhanced stability and bioavailability for drug delivery systems
- Assist in the breakdown of components in pharmaceutical formulations
- Particle size reduction of active ingredients, pigments and additives for improved product performance



Malvern Panalytical On-line Particle Size Analyzer (Insitec Dry for Pharmaceutical Processes)

Key features:

- Insitec systems measure particles in the size range 0.1 μm to 2.5mm
- Base model hardware manufactured to cGMP standards and compatible with CIP/SIP requirements to meet specific manufacturing specifications
- Simple integration with existing control platforms to simplify development of automated control protocols

 Close loop" feature allows direct feedback to control board and settings adjustment giving a more guaranteed results to ensure the mill operates closer to target limits

Key applications:

 Insitec Dry laser diffraction analyzers can be configured to suit practically every dry particulate process



LTE Multipurpose Autoclave

Key features:

- Automatic sliding doors with safety edge and auto-retract system
- Pre/post vacuum system which employs a high efficiency liquid ring vacuum pump
- Air ballast system for fast and safe processing of fluids
- Water jacket for exceptional cooling efficiency
- Steam jacket for optimum drying performance

- 8-program user-friendly touchscreen control system (upgradeable to 20 programs)
- Internal data archiving with 5000 cycle capacity

Key applications:

 Stream sterilizing for laboratory apparatus and materials in R&D



Lauda Integral XT Process Thermostat

Key features:

- New generation of successful Integral XT process thermostats for professional temperature control in the temperature range from -90 to 320 °C
- Electronically controlled, magnetically coupled eight-stage LAUDA Variopump allows optimum thermal connections
- Modern TFT display directly on the device or remotely

- Bioreactor and sample preparation in biotechnology
- Reactor temperature control and process engineering in pharmaceutical
- Medical laboratory and medical device



Water systems and solutions

Our water solutions and technology focused on engineering design, project management and execution of construction projects for water and wastewater applications.

We provide the pharmaceutical, biotechnology and cosmetics industries with the most comprehensive water systems that meet these standards through compliance with:

- USP and Ph. European standards
- cGMP requirements
- GAMP validation control systems
- FDA requirements
- ISPE Engineering Guide
- CE
- IPPC environmental requirement



Your purified water is much more than a waste product - it is also a recyclable resource. Water scarcity and conservation of water resources influece your production and effluent treatment costs. We use the latest technologies available to to enhance manufacturing efficiency and lower costs while maintaining process reliability and product excellence.



From product development to project management and service provision, we uphold high standards. Furthermore, Our dedicated team remains attuned to evolving market needs, guaranteeing exceptional service delivery. Choosing DKSH means placing your trust in a seasoned and reliable partner.

Laboratory Water Purification Systems

Neptec Halios 6 | 12 Lab Water System

Key features:

- Modular-designed and available in 6 or 12 l/h
- Meets and exceeds Type 1 and Type 2 water directly from tap water
- Compact and efficient production unit with minimum operating costs
- External tabletop dispenser with ergonomic design
- Innovative user interface with large intuitive touchscreen and real-time TOC monitoring
- Integrated leak-water detector
- Superior deionization and TOC removal

- Type 1 essential for critical applications such as HPLC (High-Performance Liquid Chromatography), molecular biology, cell culture, and analytical chemistry
- Type 2 suitable for general laboratory applications like preparing reagents, buffers, and media, as well as for use in autoclaves and other laboratory equipment



Neptec RO alpha PLUS Lab Water System (Type 2 or 3 Water)

Key features:

- Up to 400L/h
- Smart monitoring permanently monitors all values, pressure and flowrate parameters, and displays deviations from specifications to ensure optimal performance
- Automatically monitored and controlled through a comfortable 2-line LCD display
- 10.1" high-resolution touch display with user-friendly touchscreen
- An integrated prefilter protects the RO membrane from impurities in the feed water

 Utilizes high-quality components to maintain optimal water quality and prevent downtime, while sensors safeguard it from dry running

Key applications:

- Type 2 prepare solutions and reagents, glassware washing, equipment sterilization,heating and cooling systems
- Type 3 cleaning and rinsing, cooling systems



Neptec RO beta PLUS Lab Water System (Type 2 Water)

Key features:

- Modular-designed, providing high flexibility to adapt to your specific needs from 500 to 1100L/h
- Graphic TFT display (800×480, touch panel) with user-friendly touchscreen with automatic temperature compensation feature
- Built with highest quality components to provide the maximum water quality while maintaining latest industrial standard

 Complies with appropriate standards such as ASTM, CLSI and DIN EN 285 & 15883

Key applications:

 Pharmaceutical industry drug formulation, cleaning and sterilization Life science labs - cell culture and tissue culture, molecular bio techniques eg. PCR and DNA sequencing



Comprehensive Life Science Solutions

DKSH Advancing Life Science Solutions

Within the domain of life sciences. where every discovery carries the potential to transform our world, DKSH stands as an unwavering beacon of excellence and innovation. Dedicated to driving scientific progress, healthcare breakthroughs, sustainable advancements through a profound commitment to quality, expertise, and global collaboration.

At DKSH, we provide an extensive and diverse portfolio of cutting-edge laboratory instruments, reagents, consumables, and equipment that cater to the most intricate needs across the life sciences spectrum. From genomics to pharmaceuticals, our solutions empower researchers, healthcare professionals, and organizations to pioneer new horizons.



Sustainability and Innovation

In a world where sustainability is paramount, DKSH champions innovation and environmental responsibility. We strive not only to deliver groundbreaking scientific solutions but also to ensure that they contribute to a sustainable future for all. It's a commitment that defines our path.

Join us in charting a course to scientific excellence, innovation and sustainability. With DKSH as your ally, you'll navigate the intricate landscape of Life Science with confidence and purpose, contributing to a world enriched by the power of knowledge and discovery.

Biolin QSense Omni QCM-D

Key features:

- Configure up to 4 independent measurement channels
- Real-time monitoring of adsorption, desorption, and interaction between molecules and surfaces
- Temperature controlled measurement chamber -Patent-pending
- Guided workflow takes you through experiment set-up with Qsoft software
- Correct and repeatable sensor position

- Biomolecular interaction studies
- Biopolymer adsorption and conformation
- · Lipid membrane studies
- Cell-material interactions
- Thin film characterization
- Biofouling and antifouling studies
- Drugs interaction screening



BTX ECM 2001 Electrofusion and Electroporation System

Key features:

- Separate electrofusion and electroporation functional menus for streamlined protocol programming, data organization and navigation
- Advanced user-defined electrofusion protocols enable users to independently combine up to 19 AC protocol steps and up
- Convenient pre-set electrofusion protocols for common hybridoma, embryo manipulation, and nuclear transfer applications

 Electrofusion and electroporation quick start menus for speedy access to most used 3-step electrofusion and most used 1-step electroporation parameters

Key applications:

- Mammalian cell transfection
- In-vivo, In-utero & In-ovo transfection
- Embryo manipulation
- Hybridoma production



Corning Media, Sera and Reagents

Media

 Helps create an optimal environment for all stages of cell culture growth and scaling and broad selection of vessels, surfaces, and media support your research, development, and production needs

Sera

Corning's cell culture sera Fetal Bovine Serum (FBS) or
Fetal Calf Serum (FCS), satisfy
multiple applications, from
cell culture research to
complete bioprocess
production

Supplements and reagents

 Corning's supplements and reagents optimize cell culture conditions, ensuring healthy growth, protecting against contamination, and aiding in cell dissociation for effective research.

- Cell culture
- Bioproduction
- · Stem cell culture
- Virology and vaccine production
- Molecular biology
- Drug discovery
- Tissue engineering
- Cancer research
- Immunology
- Primary cell culture
- Biotechnology research



Cytek® Aurora Flow Cytometer

Key features:

- Up to 67 detection channels (64 fluorescence channels, FSC, blue laser SSC, and violet laser SSC)
- Proprietary high sensitivity Coarse Wavelength Division Multiplexing (CWDM) semiconductor detector arrays, enabling more efficient spectrum capture for dyes emitting in the 365-829 nm range
- SpectroFlo® software offers an intuitive workflow from QC to data analysis with technologyenabling tools that simplify running applications

Key applications:

- Immunology research
- Cancer research
- Stem cell research
- Cell signaling
- · Apoptosis and cell viability
- Microbiology study
- Cell cycle analysis
- Drug discovery
- Virology
- Neuroscience
- Clinical diagnostics



Nicoya OpenSPR Instruments

Key features:

- Designed for label-free molecular interaction using Surface Plasmon Resonance (SPR) technology
- Provide real-time binding analysis
- High sensitivity enables detection of low concentration analytes and measures weak binding interaction

Key applications:

- Protein-protein interaction
- Antibody-antigen interaction
- Nucleic acid interaction
- Lipid membrane studies
- Biomolecule kinetics
- Biomarker analysis
- Characterization of binding affinities
- · Biopharmaceutical development
- Cell signaling studies



SI Analytics Titrator TitroLine® 7800 Basic Unit with Magnetic Stirrer

Key features:

- Automatic wireless recognition of SI Analytics ID electrodes guarantee accurate calibration and measurements
- High resolution pH/mV-electrode and temperature inputs for pH, ISE, redox (ORP) or photometric titrations
- pH stat titrations
- Volumetric KF titrations

- pH measurement and adjustment for biological samples, cell cultures, and enzymatic reactions
- Buffer solution preparation involving DNA, RNA and cell cultures
- Redox titration to determine the concentration of redox-active substances, such as antioxidants, enzymes and cofactors



ICSPI nGauge Atomic Force Microscope

Key features:

- Data collection in 2-minutes
- Accessible with just three clicks, providing user-friendly 3D nanoscale imaging
- Fast Scanning capture routine scans in 80 seconds
- Simple benchtop set-up and plug-and-play operation
- Ultra-durable probes capable of hundreds of scans

Key applications:

- Gather information about biological samples in-vivo
- Non-invasive biopsy to check for skin diseases
- Study structural arrangement of biopolymers such as collagen



PacBio Onso Short-Read System

Key features:

- Enhanced sensitivity for rare variant detection
- 15× higher accuracy than SBS sequencers
- Contiguous reads through complex regions
- Low duplication rate, no index hopping
- Rapid conversion of existing P5/P7 libraries
- Seamless integration with existing short-read sequencing ecosystems

Key applications:

- Human genomics including rare disease, pharmacogenomics, neurogenomics
- Microbial genomics including infectious disease research
- Plant and animal genomics including agrigenomics, plant and animal biology
- Cancer research
- Gene therapy



PacBio Revio Long-Read System

Key features:

- Highly accurate HiFi sequencing
- 15× increase in HiFi read throughput
- High throughput of 1,300 human HiFi genomes per year
- Smart consumables for simple handling and less plastic waste
- Powerful compute with Google Health DeepConsensus onboard
- Google Health DeepConsensus on board

- Human genomics including rare disease, pharmacogenomics, neurogenomics
- Microbial genomics including infectious disease research
- Plant and animal genomics including agrigenomics, plant and animal biology
- Cancer research
- · Gene therapy



Sherwood Magnetic Susceptibility Balances

Key features:

- Measurement of various diamagnetic and paramagnetic materials
- A digital read-out simplifies magnetic susceptibility calculation, saving time and effort
- Compact, lightweight and portable
- Microprocessor-controlled balance detects magnetic properties of gases, liquids, and solids

Key applications:

- Measure the oxidation state of haemoglobin
- Investigate the magnetic properties of biological tissues, cells, or biomolecules
- Research on magnetic nanoparticles in biomedicine
- Study of magnetic materials in biosensors



Ubiquitome The Liberty16

Key features:

- A truly hand-held qPCR device
- A 16-well PCR block, allowing for simultaneously amplification of multiple samples, support standard 0.2 mL PCR tubes or plates
- Operates for up to three hours on re-chargeable battery power
- Bluetooth connectivity to a native iPhone app for access to test results

 Gold-standard results in less than 20 minutes

Key applications:

- Molecular biology research
- Microbial detection
- Infectious disease research
- Genetic studies
- Biotechnology and biomedical research



LabVantage - LIMS in Cancer Research

Key features:

- LabVantage LIMS, with embedded ELN and LES, helps cancer centers and CROs with:
 - (i) Robust curation
 - (ii) Collaboration and shared data
 - (iii) Resource utilization
 - (iv) Compliance with industry standards and regulation
 - (v) Streamlined tracking for invoicing, funding

- Sample and data management on biological samples including tissue specimens, blood samples, DNA and RNA samples
- Biobanking
- Workflow automation
- Data integration
- Clinical trials management
- Reporting and analytics



Biokar - Microbiology - Cell Culture, Media and Agar

Key features:

- Agar exhibits consistent gelling properties, allowing for uniform solidification of the culture medium
- · High quality and consistency
- · Sterility assurance
- Wide range of formulations
- Compliance with industry standards
- Specialized formulations for specific applications
- · Long shelf life

Key applications:

- Identification and isolation of pathogenic bacteria and fungi from clinical samples for diagnosis of infections
- Testing of raw materials, finished products, and manufacturing environments for microbial contamination to ensure pharmaceutical product safety and compliance
- Cultivation of microbial strains for the production of enzymes, vaccines and antibiotics







Ebro EBI 25 wireless data logger system

Key features:

- Up to 50 loggers can be connected per interface
- Ideal data loggers for routine monitoring
- IQ and OQ can either be carried
- Measurement range: -30 °C to +60 °C
- Measurement range: External probe -50 °C to +70 °C

Key applications:

- Corresponds to DIN EN 12830 standard an USP Chapter 1079
- Microbiological research facilities
- Pharmaceutical and vaccines
- Blood banks



Ebro TFN 520-EX Type K Thermocouple Thermometer

Key features:

- Ideally suited for temperature measurement in explosive areas, such as production or storage facilities, as well as laboratories
- Robust design for industrial use
- Available with one or two measurement channels
- Factory calibration certificate
- Approximately 5 years battery life time

- Glucose measurement in diabetes research
- Glucometer manufacturing settings
- Glucose measurement for lactate in exercise physiology and athlete training programs.



Premium laboratory consumables - where quality meets precision for exceptional scientific outcomes

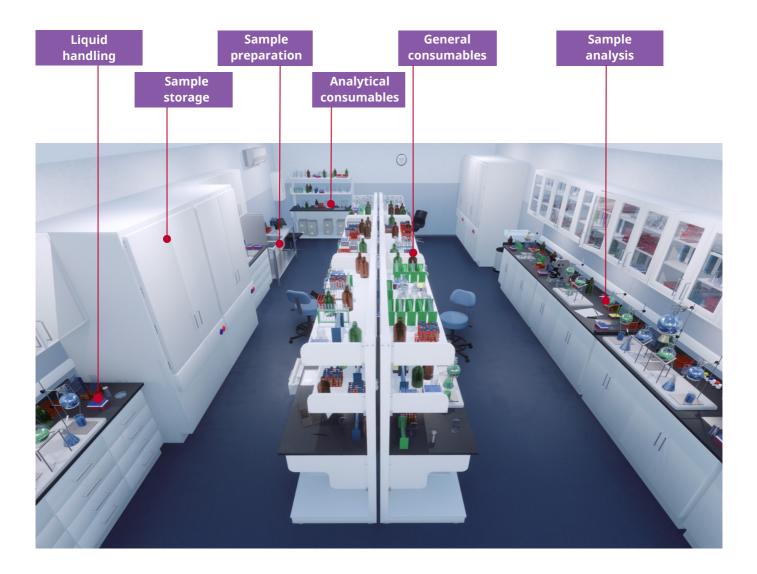


At DKSH, we are proud to bring you curated selection of premium laboratory consumables designed to elevate your scientific endeavors. Our commitment to excellence, quality, and precision drives us to offer a comprehensive range of laboratory consumables that cater to the diverse needs of researchers, scientist, and professional across various industries.

From cutting-edge glassware and chemicals to state-of-the-art instrumentation, our laboratory consumables are sourced from renowned global manufacturers, ensuring that you have access to the latest advancements in the field. We prioritize the use of reliable laboratory consumables that meet industry standards to ensure their critical role in research and analytical processes.

Whether you are conducting ground breaking experiments, quality control assessments, or routine testing, our premium laboratory consumables empower you with the confidence to achieve accurate and reproducible results every time. Let our top-tier laboratory consumables support your journey towards innovation and discovery.

DKSH - Your reliable partner for complete laboratory workflow



1.0 Analytical Consumables

IDEX HPLC / UHPLC tubings and fittings

 HPLC, UHPLC fittings and accessories - tubing, fittings and plugs and caps for low and high pressure applications



Foxx Lifesciences Lab Safety Systems

 EZWaste offers HPLC waste systems, PUREGRIP® ChromCap Assemblies, and Vactrap™ Vacuum Trap System, adhering to CDC safety recommendations, along with PPE, respirator masks, safety cans, safety funnels, and secondary containers







IDEX Pumps

Precision Dispense Pumps

 Provides high-precision pumps for low volume applications in mass spectrometry, gene sequencing, clinical chemistry, hematology, and IVD instruments. The V-Series pump offers precise dispensing and long-life performance, with custom-mounted valving and chemical compatibility

HPLC Pumps Components

 Offers high-quality HPLC pump components and subassemblies for various liquid chromatography applications, manufactured in their state-of-the-art facility



2.0 General consumables

Foxx Lifesciences Single Use Systems

• Single Use Systems (SUS) are utilized in the bioprocessing industry for various processes, including fluid handling bottle assemblies, bioprocess bags, carboys, and flask assemblies consist of fluid handling bottle assemblies, bioprocess bags, carboys assemblies, bottle and flask assemblies, Silicone and Thermoplastic (TPE) tubing, Plastic fittings, connectors, manifold assemblies, capsule filter assemblies, and many more



Foxx Lifesciences Glass Labwares

 Borosil® quality glassware products, manufactured from trusted USP Type 1, ASTM E-438/Type I/Class A borosilicate glass, offers exceptional mechanical strength, clarity, and reliability at competitive prices



Foxx Lifesciences Plastic Labwares

 Plastic laboratory products, including Bottle Top Dispensers, Cell Spreader, Cryo Vials, Desiccators, Laboratory Bags, Laboratory Racks, Measuring Cylinders, Pasteur Pipettes, Petri Dishes, Abdos Pipette Tips, BioPointe Pipette Tips, Plastic Beakers, Plastic Test Tubes, Sample Containers, Serological Pipettes, Soft Inoculation Loop, Storage Vials



3.0 Liquid handling

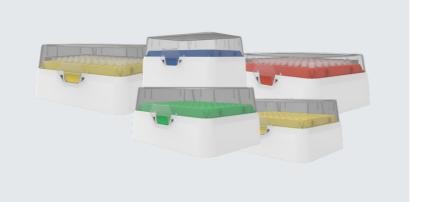
LabPRO Pipettes

The new LabPRO high precision micropipette and electronic pipette that offer both lock/unlock mechanism and tip ejection system in one. They are essential to users who relies highly on accuracy, especially those in the fields of molecular biology, microbiology, immunology, cell culture, analytical chemistry, biochemistry, and genetics



LabPRO Pipette Tips

 LabPRO Tips are designed, developed, and manufactured in order to fit LabPro pipettes perfectly but also all commercially available pipettes. They ensure optimal performance of your pipettes across the full volume range and are perfectly fit for manual or electronic, single or multichannel



LabPRO Bottle Top Dispensers

 LabPro Bottle Top Dispenser is a cost effective, safe, efficient, and durable bottletop dispenser, it has a re-circulation valve that redirects liquid into the bottle to allow bubble free dispensing without any loss of reagent. Its smooth and soft plunger mechanism makes it easy to use in a demanding laboratory environment



4.0 General Laboratory Equipment

Claind Gas Generator Systems

Hydrogen Generators

 Produce high-purity hydrogen gas for applications like gas chromatography (GC), fuel cells, and as a carrier gas in analytical instruments

Nitrogen Generators

 Produce high-purity nitrogen gas for applications such as LC-MS (liquid chromatography-mass spectrometry), LC-MS/MS, and other laboratory uses

Zero Air Generators

 Produce hyddrocarbon-free and particulate-free air for flame ionization detectors (FID) in gas chromatography and other analytical instruments



Leica Microsystems Microscopes

DM750 Binocular

 Ideal microscope for the versatile needs of professional training in medical, veterinary, and dental schools. It features EZStoreTM for easy carrying and easy lifting with EZGuide, which allows onehanded slide loading and reduces slide chipping

DM2700 M Upright Materials Microscope

 This material microscope combines high-quality Leica optics with state-of-the-art universal white LED illumination. It is an ideal inspection tool for all kinds of routine inspection tasks in metallography, earth science, forensic investigation, material quality control, and research



Ohaus pH and Conductivity Bench Meters

 Highly Reliable and User-Friendly pH Benchtop Meter and High-Performance Multi-Parameter Benchtop Meter for Standard Laboratory Applications



Schmidt + Haensch Refractometers

- Benchtop refractometers accurately measure refractive index, wavelengths, and scales in liquids and solids, providing precise concentration measurements and material identification with full traceability.
- Equipped with precision, coupled with modern design, robust materials, and an unrivaled longevity



Schmidt + Haensch Colorimeter

 The Coloromat® 100 is a reliable liquid color measurement tool with a continuous mode and configurable sampling rate, standardizing color changes in product streams at 420 nm



Schmidt + Haensch Density Meters

 The VariDens Series is a practical benchtop density meter that uses the oscillating U-tube principle to accurately measure density and concentration of pharmaceutical products, chemicals, and petrochemicals



LAMY Viscometers

 LAMY's viscometer product range includes rotational and capillary models, digital instruments, accessories, standards, and temperature control units. Advanced models offer data analysis software. Customization, calibration, and industryspecific options are available



LTE Scientific Laboratory Autoclaves

 LTE Scientific offers autoclaves, ovens, incubators, environmental chambers, glassware washers, and drying cabinets to fit various applications



Hermle Centrifuges

- Hermle specialized in the development and manufacturing of laboratory centrifuges. It is one of the key players in centrifugation worldwide, and certified ISO 9001 and ISO 13485 for IVD products
 - a) Micro Centrifuge
 - b) Universal Centrifuge
 - c) Compact Centrifuge
 - d) High Speed Centrifuge



LabTech Laboratory Freezer Dryers

 A LabTech freezer dryer is a laboratory equipment used for freeze-drying, a dehydration technique that preserves pershable materials like biological samples, pharmaceuticals, and food by controlling temperature and pressure.



Lauda Ultracool Circulation Chiller

Key features:

- Provide precise temperature control in an extended operating temperature range from -10 to 35 °C and a temperature stability of ±0.5 K
- Equipped with an ethernet interface as standard and can be adapted to any customerspecific requirement

Key applications:

- Cosmetic formulation
- · Quality control testing
- · Extraction and distillation
- Reactor cooling
- Biotechnology in bioprocessing and fermentation



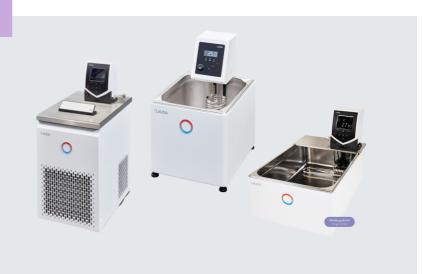
Lauda Cooling Thermostats

- Affordable cooling thermostats for maintaining temperature from -25°C to 100°C in the lab
 - a) Three-button operation with large, clearly legible LED display
 - b) Low--level protection with acoustic and visual alarm
 - c) Integrated timer function
 - d) Removal of front cover without tools
 - e) Automatic compressor control suppliers with strong cooling output only when needed up to 425 W



Lauda Heating Thermostats

- Heating thermostats from 25°C to 250°C for cost-effective temperature control thermostating in the lab
 - a) Three-button operation with large, clearly legible LED display
 - b) Operate in temperature range between 25°C to 250°C
 - c) Low-level protection with acoustic and visual alarm



Hielscher Ultrasonic Homogenizers

 Ultrasonic homogenizers are powerful tools to mix and homogenize solid-liquid and liquid-liquid suspensions.
 Ultrasonic homogenization is a mechanical process to reduce particles in a liquid so that they become uniformly small and evenly distributed



LTE Laboratory Incubators

IP Series Incubators

 The IP Series of incubators, combining traditional quality and modern manufacturing techniques, offers exceptional value for modern laboratory and process facilities.



Ohaus Lab Balances

Analytical Balances

 Precision instruments used in in scientific and laboratory settings for accurately measuring mass substances with high precision and accuracy

Precision Balances

 Well known for its exceptional accuracy and precision by providing fine readibility and a tare function with easy calibration and verification

Portable Balances

 Compact, lightweight weighing instruments designed for ease mobility and versatility in various settings



Sheldon Laboratory Ovens

Vacuum Ovens

 Highly accurate temperature control and gentle drying are perfect for heat-sensitive materials

Cleanroom Ovens

 Feature a welded stainless steel interior, adjustable shelves, rapid heat recovery, and LED digital displays for process information

Gravity Convection Ovens

 Ideal for processing powders and other products that may be disturbed by forced air

Forced Air Ovens

 Have a turbo blower-assisted airflow design and heavy-duty motors that offers excellent temperature uniformity and fast temperature recovery



High-Performance Ovens

• Engineered to meet the most critical temperature requirements. They are designed for continuous drying operations at temperatures up to 306°C



LabTech Liquid Nitrogen Generator

• Extremely easy to use with builtin low noise air compressor and
built-in Oxygen analyzer with
alarm. PSA technology
revolutionizes industrial, medical,
and laboratory applications by
eliminating the need for liquid
nitrogen tanker deliveries,
reducing costs, and preventing
evaporation and contamination
issues. The control system
provides operators with all the
necessary information to ensure
an efficient and consistent supply
of liquid nitrogen



LabTech Rotary Evaporators

With an innovative and ergonomic design, the EV series rotary evaporators include color digital display to monitor and control rotation speed/temperature, motorized vertical lift, evaporation flasks, on line sample adding through PTFE valve. The stand alone heating bath guarantees maximum safety in operations and easy maintenance



Lauda Shakers

LAUDA Varioshake offers
 various sizes and shaking
 motions for various
 applications and containers.
 With accessories like adhesive
 mats and platform
 attachments, these shakers can
 be adapted for standard tasks
 and individual requirements,
 making them easy to integrate
 in existing labs



Hielscher Ultrasonic Cleaners

 Ultrasonic cleaning is an ecofriendly method for cleaning continuous materials like wire, cable, tape, and tubes. It removes lubrication residues, disperses pollution particles, and prevents new adhesion, flushing away particles



Lauda Water Baths

Hydro Shaking Water Baths

 Reliable and universal water baths, featuring a high-quality stainless steel interior, are versatile and suitable for various applications, with bath volumes ranging from 4 to 41 litres and temperatures ranging from 25°C to 100°C



Lauda Circulation Chillers

Ultracool Circulation Chiller

• The LAUDA Ultracool circulation chiller, suitable for outdoor use, has a cooling capacity of up to 265 kW from -5 °C to 25 °C for industrial applications and is equipped with ready-to-operate "Plug & Operate" systems, a cold water container, a centrifugal pump, internal bypass, temperature sensing, integrated pressure switches, and galvanized steel panels

Microcool Circulation Chiller

• The LAUDA Microcool line of circulation chillers for reliable continuous operation in laboratory and research applications from -10°C to 40 °C features four compact models with LED displays and membrane keypads, offering cooling capacities of 0.25 to 1.2 kW. The centrifugal pump with magnetic coupling prevents seal issues



Neptec Halios Lab Water Systems

 The HALIOS series is modularly designed, providing high flexibility to adapt to your specific needs, make your work as pleasant and comfortable as possible, and maximize your lab productivity. It is designed for scientists working in pharmaceutical, clinical, academic, industrial, research, and government laboratories

HALIOS

a) Type 1 (Ultrapure Water) from pure water

HALIOS ID 6 | 12 with integrated dispenser

a) Type 1 + 2 (Ultrapure/Pure Water) from tap water



Kirsch Laboratory Freezers

 Kirsch Laboratory Freezers feature high-quality, pressurefoamed housing insulation with LABEX models for explosion protection and adjustable storage temperatures between -5°C and -30°C

FROSTER LABO 730 ULTIMATE FROSTER LABO 330 ULTIMATE

 Ultimate storage of laboratory samples down to -30 ° C: Elegant touchscreen made of glass, access control, KIRSCH-Airflow-Concept, automatic defrosting and much more

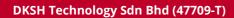
FROSTER LABO 530 ULTIMATE

 This laboratory freezer features re-circulating air cooling, rapid defrosting, and quick-freeze functions. Standard features include 5 shelves, with options for support rails, drawers, aluminium trays, and wire baskets

FROSTER LABO 730 PRO-ACTIVE FROSTER LABO 530 PRO-ACTIVE FROSTER LABO 330 PRO-ACTIVE

More time for your research:
 Safe and worry-free storage of your laboratory samples at -30
 °C. Guaranteed by the KIRSCH Airflow-Concept, automatic defrosting and much more





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