



LAB ARCHITECTS™

INNOVATE. ANALYSE. ACHIEVE

AN ISO 9001:2015 | 14001:2015 | 45001:2018 CERTIFIED CO.

LAB ARCHITECTS™ is a leading provider of advanced laboratory equipment and trusted certification services, dedicated to supporting scientific research, industrial testing, and quality assurance across a wide range of industries. Our mission is to empower laboratories, research institutions, and manufacturing enterprises with reliable, high-performance solutions and internationally recognized certifications that ensure accuracy, regulatory compliance, and continuous innovation. Through our commitment to quality, technical excellence, and customer satisfaction, we strive to be a trusted partner in advancing scientific and industrial progress.



SCIENTIFIC LABORATORY

- Agriculture Plant Laboratory
- Rice Milling Plant Laboratory
- Pulses Milling Plant Laboratory
- Flour Processing Plant Laboratory
- Dairy Plant Laboratory
- Pesticide Testing Laboratory
- Rice Bran Testing Laboratory
- Fertilizer Testing Laboratory
- Spices Processing Plant Laboratory

CONSULTANCY FOR CERTIFICATION

ISO 9001:2015 | ISO 14001:2015 | ISO 45001:2018 | ISO 22000:2018 | APEDA LICENSE
MSME LICENSE | EIA CERTIFICATE | FSSAI LICENSE | BIS CERTIFICATE | BRC CERTIFICATE
ORGANIC CERTIFICATION FOR MANUFACTURER (NPOP, NOP & EU) & SQF CERTIFICATION

www.labarchitects.in

MESSAGE FROM FOUNDER & MD



Mrs. Snehal Reddy is the Founder & Managing Director, bringing over 20 years of extensive experience across the construction and food industries. With a strong Experience background and proven expertise in financial management, business development, and strategic planning, she has played a pivotal role in establishing and growing successful business ventures.

At **LAB ARCHITECTS**, we believe that precision, quality, and innovation are the foundation of scientific and industrial progress. Since our inception, our vision has been to build a trusted organization that empowers laboratories, research institutions, and industries with reliable equipment, calibration, certification, and technical solutions that meet the highest standards of quality and compliance.

Our journey has been driven by a commitment to excellence, customer satisfaction, and continuous improvement. We understand the critical role that accuracy and reliability play in research, testing, and manufacturing processes, and we remain dedicated to delivering solutions that help our clients achieve operational excellence and regulatory compliance.

As we continue to grow, we remain focused on embracing innovation, strengthening our capabilities, and building long-term relationships with our customers, partners, and stakeholders. Our success is a reflection of the trust and support we have received from our clients, the dedication of our team, and our unwavering commitment to quality.

On behalf of the entire Lab Architects family, I extend my sincere gratitude to all our customers, partners, and associates for their continued confidence and support. We look forward to serving you with integrity, professionalism, and excellence for many years to come.

Mrs. Snehal Reddy
Founder & Managing Director
Lab Architects

AGRICULTURE PLANT LABORATORY

KETT PM 450



PM 450 Instant Grain and Seed Moisture Meter.

Instant Grain and Seed Moisture Meter Portable, Non-Destructive, Battery-Powered.

Technical Specifications:

Calibration : Covers wheat, corn, barley, soybeans, coffee (green, roast, parchment, dry cherry), nuts, seeds, and more — ready to use out of the box.

No Sample Preparation Required: Measures whole samples directly, eliminating the grinding and husking that competitive instruments require.

True Portability with Built-In Compensation: Battery-powered (4 AA), under 3 lbs. A fixed 240 mL sample cup and integrated load cell automatically determine density, while a thermistor in the sample cell reads actual grain temperature — both compensations happen instantly during the pour, with no operator adjustments.

KETT HB 610

The KETT HB-610 is a rugged, portable electrical resistance moisture meter designed to measure grain and agricultural products including raw cashew nuts, kernels, coffee, corn, and rice directly while still inside the bag. It features a separate load-type probe, automatic temperature compensation, and a large LCD display.

Technical Specifications:

Measurement Method: Electrical resistance

Product Applications: Primarily used for seeds, pulses, corn, rice, and wheat.

Design: Features a sensor and body physically separated so you can apply necessary force to the probe without damaging the main unit.

Usability: Includes a 4-inch LCD, an upper-limit moisture alarm function, and an automatic power-off mode to save battery.

Environment: Automatically compensates for varying environmental temperatures via a built-in thermistor to ensure accuracy.



LAB DRYER (10 BOXES TO 200 BOXES)



Laboratory box and tray dryers are essential for moisture testing, sample conditioning, and R&D processing. Capacities range from small 10-box laboratory analysis models to 200-box (or 200 kg/hr) industrial batch units. Configurations vary from simple electric tray ovens to precision humidity-controlled drying cabinets.

Technical Specifications:

Measuring Method: Advanced Heat & Convection Drying Method for Accurate Moisture Analysis.

Measuring Time: 30 Minutes to 1 Hour (Depending on Paddy Moisture Content)

Applicable Commodities: Paddy, Rice Grains, and Agricultural Samples

Sample Capacity: 250 Grams

Application: High-Precision Moisture Testing for Paddy Quality Control, Procurement Centers, Rice Mills, and Agricultural Laboratories.

AUTOMATIC SAMPLE DIVIDER/BLENDER (SS MAKE)

The Automatic Sample Divider/Blender (Stainless Steel Make) is a precision laboratory sample preparation system designed for accurate and homogeneous sample division using the scientifically proven Coning and Quartering Method. Engineered for efficiency, consistency, and reliability, the equipment ensures representative sample preparation for quality analysis and laboratory testing.

Applications :

- Grain sample preparation
- Procurement and inspection activities
- Research and development
- Representative sample division and blending
- Laboratory quality analysis
- Seed testing and grading
- Food quality control



RICE MILLING PLANT LABORATORY

KETT RICETER FV 209



The Kett FV-209 Grain Moisture Meter is an elite, cost-effective solution for evaluating valuable grain moisture content. With a ravishing digital LCD display and opulent one-touch operation, it provides accurate readings (0.5%) using capacitive moisture measurement.

Technical Specifications:

Moisture Range: 6% to 40% (varies depending on grain type)

User Interface: Simple one-touch operation

Operating Temperature: 0°C to 40°C

Accuracy: ±0.5% (depending on grain type)

Measurement Method: Capacitive Moisture Measurement

Power Supply: 9V Battery

Suitable for: Various grains including rice, wheat, barley, and more

KETT WHITENESS TESTER C-600

C-600 Rice Whiteness Tester

Instant Rice Whiteness Measurement Blue LED, Fixed-Quantity Sampling, Milling-Degree Insight.

Technical Specifications:

Instant reading: Whiteness value displays in under a second, ready to measure about 20 seconds after power-on.

Milling-degree insight: Whiteness correlates with milling percentage, so one measurement tells you how far the rice has been processed.

Repeatable sampling: The fixed-quantity shooter and sample cup load a consistent volume every test, cutting operator-to-operator variation.

Low maintenance: Blue LED light source runs cool and long-lived; only the glass filter needs routine cleaning.



KETT SINGLE GRAIN MOISTURE METER PQ-520

PQ-520 Single Kernel Grain & Rice Moisture Meter

Desktop single-kernel testing for moisture distribution. Measure kernels one at a time and see how the moisture is spread across your sample.

Technical Specifications:

Per-kernel measurement: Each kernel is tested individually, then results combine into an average plus a full moisture distribution histogram.

Sustained throughput: Processes 10–1,000 kernels per sample at up to 150 kernels per minute, ideal for repeated testing.

Rice industry focus, extended: Calibrated for long and short grain milled, brown, paddy, jasmine, parboiled, and sticky rice, plus wheat and barley.

Data ready: RS-232C output for the optional thermal printer; USB output with optional PDL-01 data logger software for direct PC capture.



RICE ANALYZER

The Rice Analyzer is an advanced, AI-enabled grain quality analysis system designed for accurate, fast, and reliable assessment of rice and agricultural commodities.

Technical Specifications:

User-Friendly Operation: Features an intuitive interface with minimal training required and plug-and-play installation on modern PCs and laptops.

Fast and Accurate Performance: Delivers accurate, repeatable results in 40–60 seconds for reliable batch quality assessment.

High Productivity: Built for 24*7 operation, enabling continuous quality control and process monitoring.

Ideal for Remote and Offline Operations: The analyzer operates fully offline with secure local data storage and automatically syncs data to the cloud when internet is available, making it ideal for decentralized and rural operations.



RICE MILLING PLANT LABORATORY

LAB HUSKER (TAIWAN MODEL)



The Lab Husker (Taiwan Model) is a precision laboratory dehulling machine specifically designed for efficient and accurate removal of husk from paddy samples. Widely used by rice mills, grain laboratories, seed testing centers, research institutions, and procurement agencies, this robust and reliable equipment delivers consistent dehulling performance while preserving grain integrity.

Applications:

- Paddy dehulling and milling yield analysis
- Rice quality control and inspection
- Laboratory testing and research applications
- Procurement quality evaluation
- Seed processing and grading
- Educational and agricultural research institutions
- Rice mill process optimization

LAB POLISHER

The Lab Polisher is a high-precision laboratory rice polishing machine designed to simulate commercial rice milling and polishing processes under controlled laboratory conditions. Utilizing an advanced Multi-Stage Abrasive Polishing Method, the system efficiently removes bran layers from brown rice samples to produce polished rice with exceptional consistency and accuracy.

Applications:

- Rice polishing quality evaluation
- Head rice yield determination
- Research and product development
- Rice appearance and whiteness testing
- Quality control and assurance programs
- Milling yield and recovery analysis
- Degree of polish assessment
- Export quality verification



PORTABLE PADDY HUSKER



The Portable Paddy Rice Husker is a compact, high-efficiency laboratory machine for rapid paddy quality assessment, delivering accurate and consistent measurements of hulling efficiency and broken rice percentage for rice mills, research institutes, procurement agencies, and grain testing laboratories.

Technical Specifications:

High Efficiency: Achieves over 97% hulling in one pass & up to 100% in two passes.

Sample Preservation: Designed to husk paddy without damaging the brown rice; the broken rice rate is kept below 3%.

Adjustable Operations: Allows for adjustable spacing of the rubber cots (0-3 mm) depending on grain size.

Time-Saving: A 20g paddy sample takes only about 30 seconds to process.

Built-In Separation: Automatically separates the brown rice from the husks into designated collection boxes.

LAB RICE LENGTH GRADER

The Lab Grader is a precision laboratory machine that accurately grades and separates rice grains by size using a multi-sieve grading process, delivering reliable results for rice mills, grain laboratories, exporters, research institutes, and quality control departments.

Applications:

- Rice grading and classification
- Head rice and broken rice analysis
- Grain size distribution studies
- Quality control and assurance
- Procurement quality evaluation
- Research and development activities
- Milling performance assessment



RICE MILLING PLANT LABORATORY

UNIVERSAL MOISTURE METER



Universal Moisture Meter is a high-precision instrument designed for rapid and accurate moisture testing of a wide range of agricultural commodities using advanced Electrical Resistance Measurement Technology.

Applications:

- Grain moisture testing
- Procurement quality inspection
- Storage and warehousing management
- Agricultural trading
- Seed quality assessment
- Food processing quality control
- Laboratory testing and research

SATAKE MILLING METER MM1D

Satake Milling Meter MM1D is a highly accurate and portable rice quality analysis instrument designed for the rapid measurement of Whiteness Value and Milling Degree of polished rice. Utilizing advanced optical measurement technology, the instrument provides precise and repeatable results within seconds, making it an essential tool for rice mills, exporters, quality control laboratories, and research institutions.

Applications:

- Rice whiteness measurement
- Rice quality control
- Export quality inspection
- Procurement quality assessment
- Milling degree evaluation
- Process optimization in rice milling
- Research and laboratory analysis



OGA TA-5 DIGITAL GRAIN MOISTURE METER



OGA TA-5 Digital Grain Moisture Meter is a portable, high-precision instrument manufactured in Japan for fast and accurate moisture testing of paddy, rice, wheat, barley, and other grains. Its compact design and quick operation make it ideal for farmers, grain traders, rice mills, procurement centers, storage facilities, and quality control laboratories.

Technical Specifications:

Direct Measurement: Provides moisture readings in under 10 seconds with automatic temperature compensation.

Auto-Calculation: Automatically calculates the average moisture content of your samples.

User-Friendly Display: Features a clear, backlit LCD screen and easy-to-press touch buttons.

MITUTOYO VERNIER CALIPER (JAPAN)

Mitutoyo (Japan) is a global industry leader in precision measuring tools, renowned for their unparalleled accuracy, durability, and smooth sliding action. Their calipers are widely used across machine shops, laboratories, and manufacturing floors to precisely measure outside/inside diameters, depth, and steps.

Technical Specifications:

Material: Hardened, corrosion-resistant stainless steel.

Accuracy: Ranges from ± 0.02 mm to ± 0.05 mm depending on the model.

Range: Commonly available in 150 mm (6-inch), 200 mm (8-inch), and 300 mm (12-inch) capacities.

Jaws: Flat jaws are standard, though carbide-tipped versions are available for better wear resistance.



RICE MILLING PLANT LABORATORY

LTJM YIELD TESTER



LTJM-2099 Yield Tester is a portable, laboratory-grade instrument designed for rapid evaluation of rice milling quality. Widely used in rice mills and agricultural laboratories, it accurately determines milling yield, whiteness, and broken rice percentage by efficiently dehushing and polishing paddy samples in a single test cycle.

Technical Specifications:

Sample Capacity: ~170g - 200g

Power Rating: 550W - 750W

Working Voltage: AC220V ± 10%, 50Hz

Weight: ~13kg - 16kg .

Product: Paddy & Brown Rice

CRACKNESS BOARD WITH MAGNIFYING GLASS

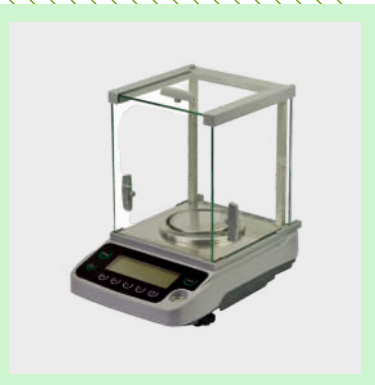
A magnifying glass is a simple optical instrument featuring a convex lens mounted in a frame with a handle. It produces an enlarged virtual image of an object. It is widely used to examine small details or focus light.

Applications:

- Crackness in Brown Rice
- Identified Admixture in Paddy / Rice
- Easy to use
- Portable Device
- XXX Zoom



DIGITAL WEIGHING SCALE



Laboratory Digital Weighing Scales (often called analytical or precision balances) are designed for exceptional precision, capable of measuring down to fractions of a milligram (0.1 mg or 0.0001 g). They isolate measurements from environmental interference using integrated draft shields.

Applications:

- Sample Preparation
- Density Determination
- Purity Analysis
- Differential Weighing
- 10 gm to 1000 kg

SAMPLING PROBES

Grain sampling probes (or spears/tries) extract representative samples from bulk grains (like wheat, rice, and corn) to test for moisture, purity, and quality. They are inserted into stockpiles, bags, or silos, and their rotating double-tube design captures distinct layers before being sealed and removed.

Applications and Uses :

- Quality & Moisture Inspection
- Contamination Detection
- Soil & Fertilizer Analysis
- Lab and Field Testing
- Available in 6 inches to 50 inches



PULSES MILLING PLANT LABORATORY

KETT PM 650



The PM650 provides instant, non-destructive moisture measurement plus sample density (g/l) readout for grains, seeds, coffee, nuts, tea, and over 150 other products. RS232C output connects to printers or PCs for documentation and traceability. This is essential where test records matter.

Applications:

Measurement Principle: Capacitance (Di-Electric)

Measurement Range: Moisture - 1-40% Product Dependent

Accuracy: +/- 0.5% (under 20%)

Features: Automatic density & temperature compensation, autpower off, average.

Communications: RS232C, Printer output

Power: 4AA Batteries

PULSES ANALYZER

Pulses Analyzer is an advanced, AI-enabled grain quality analysis system designed for accurate, fast, and reliable assessment of pulses and seed commodities.

Applications:

- High-Precision Grain Quality Analysis
- Consistent and Standardized Grading
- Enhanced Decision-Making
- Improved Operational Efficiency
- Regulatory and Export Compliance
- Complete Offline Operation with Optional Cloud Synchronization



LAB CLEANER / GRADER



Laboratory cleaners and graders process small batches of pulses and seeds (usually 25–150 kg/hour) to separate impurities like dust, chaff, and oversized or undersized kernels.

Applications:

Designed for pulse procurement

Light Impurities (Dust/Chaff): Lifted out via the aspiration fan.

Oversize Material: Trapped on the top scalping screen.

Undersize Material: Passed through the lower grading screens.

Final Graded Product: Discharged through a dedicated clean-seed spout.

Easy to use and maintenance free

KETT FD 720 MOISTURE ANALYZER

The Kett FD-720 Infrared Moisture Analyzer is a high-precision, mid-class universal moisture balance. It utilizes the Loss on Drying (LOD) method, a primary gravimetric reference standard that systematically weighs, heats, and measures the weight loss of a sample to calculate its precise moisture or solid content.

Technical Specifications :

Measurement Range: 0 to 100% (wet base/solids) or 0 to 500% (dry base).

Balance Readability: 1 mg (0.001 g) resolution, utilizing a specialized "Uniblock" system.

Moisture Content Resolution: Configurable between 0.1% and high-resolution 0.01%.

Sample Capacity Range: 0.5 g to 120 g, allowing large or low-density samples to be tested.



FLOUR PROCESSING PLANT LABORATORY

KETT PR-930 MOISTURE METER



KETT PR-930 Moisture Meter is a highly specialized, portable diagnostic instrument designed specifically for measuring moisture content in both flour and grains.

Technical Specifications:

Measurement Principle: Resistance-based electrical conductivity.

Factory Calibrations: Pre-calibrated for wheat flour, rice flour, whole wheat, milled rice, and paddy rice.

Testing Style: Completely non-destructive testing with zero sample loss or grinding required.

Power Source: Battery-powered for total field portability.

Display: Built-in backlit LCD displaying clear moisture percentages and computed averages

LAB SIEVE SHAKER

Laboratory Sieve Shaker is a precision particle size analysis instrument designed for accurate grading and separation of materials. It efficiently processes particle sizes ranging from 20 μm to 125 mm using controlled vibration, tapping, and timing mechanisms, ensuring reliable and repeatable test results.

Technical Specifications:

Sieve Diameters: 75 mm to 500 mm (commonly 8 inches or 200 mm)

Stack Capacity: 6 to 10 full-height sieves (plus lid and collection pan)

Motion Types : Electromagnetic (3D throw), mechanical (Ro-Tap oscillating/tapping), or sonic

Particle Rang: 20 μm (microns) up to 125 mm

Timer Control: Digital/analog controls, adjustable from 1 to 99 minutes

Power Supply: 110V or 220–240V AC, 50/60Hz



KETT C-130 POWDER WHITENESS TESTER



KETT C-130 Powder Whiteness Meter is a high-precision, laboratory-grade instrument specifically designed to instantly measure the whiteness, purity, and color quality of powdered substances

Technical Specifications:

Measurement Principle: Reflectance photometry via Dual Blue LEDs (45° illumination / 0° detection).

Measurement Range: 5.0 to 120.0 whiteness units.

Measurement Speed: Results are delivered in just 2 seconds.

Resolution & Accuracy: 0.1 resolution with an accuracy variant of $\pm 0.1\%$.

Sample Size Required: Approximately 5.5 grams (a 59% sample volume reduction from older models).

UV-VIS SPECTROPHOTOMETER

A UV-Vis spectrophotometer (Single Beam / Double Beam) evaluates flour quality by measuring absorbance and reflectance across ultraviolet and visible light spectrums.

Applications :

Flour Color & Whiteness: Measures diffuse reflectance in the 400-500 nm range to evaluate pigments (e.g., carotenoids) and grade the flour by hue (CIE)

Additive Quantification: Detects and measures bleaching agents like Benzoyl Peroxide at specific wavelengths (e.g., 235 nm).

Contaminant Detection: Analyzes residues of flour improvers like Potassium Bromate utilizing chemical reagents and standard calibration curves.

Nutritional Analysis: Quantifies iron levels in fortified flour using compleximetric methods and determines total carbohydrate concentration.



VIDEO METER SLS



Videometer SLS is a fast, non-contact measurement technology designed for laboratory and production use. It characterizes viscous products and translucent solids by combining Sub-surface Laser Scattering (SLS) and Surface Graininess Texture to determine properties like viscosity, mouth-feel, and air bubble distribution.

Applications :

Sub-Surface Laser Scattering: Measures light penetration and scattering with dual-wavelength lasers to assess product structure and composition.

Surface Graininess Texture: It uses multiple LED spots to reflect off the surface, calculating the graininess, gloss, and structural patterns.

Speed: The system provides complete analysis in as little as 2 seconds.

Non-Destructive: The analysis occurs without altering or destroying the sample, allowing for reliable, reproducible testing.

STEROGLASS WATER ACTIVITY METER

Water Activity Meter is an essential quality control instrument for the food, pharmaceutical and cosmetic industries. It accurately measures WA for shelf-life studies, R&D, and quality control, helping identify causes of product deterioration, texture changes, and quality defects.

Technical Specifications :

Measurement Range: 0.030 to 1.000

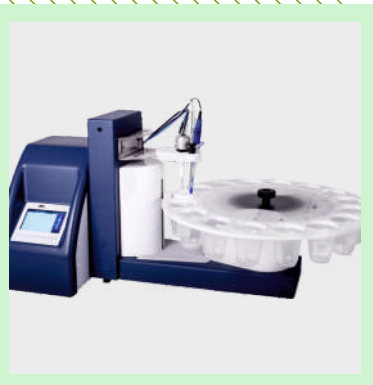
Technology: Primary dew point sensor that measures actual free water rather than relying on secondary parameters.

Temperature Control: Fully regulates sample temperature, typically between 15° C and 50° C.

User Interface: Features a 7-inch color touchscreen with an intuitive graphical interface, data export capabilities, and user tracking.



FLASH AUTOMATIC TITRATOR



Flash Automatic Titrator is an ultra-compact, easy-to-use instrument designed for precise acid-base, redox, argentometric, and complexometric potentiometric titrations. It features an intuitive graphical interface and GLP-compliant operation for reliable laboratory analysis.

Technical Specifications :

Burettes & Pumps: Supports up to two automatic high-accuracy burettes and up to three peristaltic pumps.

Automation: Can be connected to the AS Plus Autosampler (available in 14, 18, and 30 positions) for hands-free analysis.

Interface: Features a 7-inch color touchscreen with real-time on-line graphics. A 4-color LED indicator provides easy-to-read instrument status.

KETT NIR COMPOSITION ANALYZER - KLJ 700

KETT NIR Composition Analyzers are non-destructive, near-infrared instruments that simultaneously measure multiple organic components—such as moisture, fat, protein, sugar, and coat weight—in seconds.

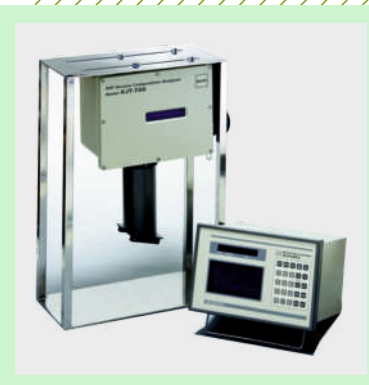
Technical Specifications :

Component Testing: Capable of measuring up to four (and sometimes up to nine) organic components simultaneously in a single scan.

Distance Tolerances: Specifically designed as a standard in-line model that handles fluctuating distances between the sensor and the product exceptionally well.

Design & Weight: Features an industrial grey/black enclosure and weighs approximately 11 kilograms.

Light Source: Employs a Tungsten lamp with a lifespan of 20,000+ hours.



KETT INFRARED MOISTURE ANALYZER – FD 800



KETT FD-800 Infrared Moisture Analyzer is KETT flagship loss-on-drying instrument, designed to safely test difficult-to-dry liquids, pastes, and powders.

Technical Specifications:

Measurement Method: Loss on drying (LOD) using a Mid-wave Infrared Quartz heater.

Accuracy & Resolution: Minimum moisture content readability and weight display to 1mg.

Sample Capacity: 0.1 to 120g. Temperature Range: 30 to 250°C.

Data Connectivity: Equipped with an RS-232C interface for documenting and exporting data to a PC or printer.

NIR COMPOSITION ANALYZER- KB 270

KB-270 NIR Composition Analyzer by KETT is a desktop near-infrared instrument that measures up to four organic components (such as moisture, fat, protein, and sugar) simultaneously in under 10 seconds.

Technical Specifications:

Measurement Time: Results are displayed in less than 10 seconds, with normal tests taking ~7 seconds and continuous mode refreshing every 0.5 seconds.

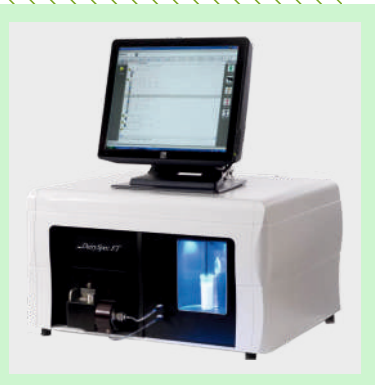
Multi-Component: Measures parameters like moisture, fat, protein, water activity, and coat weight all from a single non-destructive test.

Calibration: Stores up to 50 built-in analytical curves for instant switching between different products.

Design: Utilizes a Tungsten lamp with an enclosed, rotating sample dish to automatically seal out ambient light for precise, repeatable accuracy.



DAIRY SPEC FT



Dairy Spec FT FTIR Milk Analyzer stands out for its ease of use and versatility, making it the ideal solution for fast, reliable dairy composition testing across raw and processed products.

Technical Specifications:

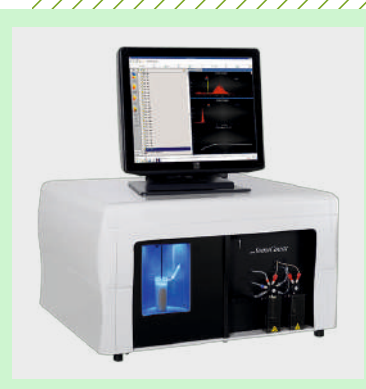
- No complex sample preparation - place the sample under the pipette and start the analysis.
- Up to 64 parameters measured simultaneously in <1 minute.
- Real-time, reagent-free spectral standardization for stable calibration transfer, enhanced robustness, and qualitative/adulteration screening.
- Embedded sample preheating for consistent, reproducible results.
- Fully translated, user-friendly software interface.
- Comprehensive system monitoring with alerts for errors or suspicious results.

SOMACOUNT FC

SomaCount FC uses flow cytometry to accurately and rapidly enumerate the number of somatic cells in milk.

Applications:

- Method based on fluorescence flow cytometry,
- Extremely accurate: fully complies with ISO 13366/IDF 148A standards for somatic cell counting,
- Low operating and maintenance costs,
- Built-in quality control protocol,
- Support and remote access,
- Centralized database (LIMS),
- Customizable software interface,
- Built-in automatic rinsing and cleaning function,



PESTICIDE TESTING LABORATORY

HPLC

An **HPLC** machine for pesticide testing separates and quantifies trace residues (e.g., carbamates, organophosphates) in food, water, and soil. It typically utilizes a QuEChERS sample extraction method followed by an analytical run through a reverse-phase C18 column, paired with a UV-Vis, DAD, or Fluorescence detector for accurate measurement.

Features & Specifications:

1. Solvent Delivery System (Pump)

Type: Quaternary or Binary gradient pump with online degassing capabilities.

Flow Rate Range: 0.001 to 10.0 mL/min.

Flow Precision: $\leq 0.07\%$ relative standard deviation (RSD).

Operating Pressure: 6,000 psi (approx. 400 bar) for standard HPLC, upgradable to 10,000 psi (approx. 700 bar) or higher.

2. Autosampler (Injector)

Sample Carryover: Less than 0.005%.

Temperature Control: Integrated sample cooling (4°C to 40°C) to prevent pesticide degradation before injection.

3. Column Compartment (Oven)

Temperature Range: 10°C to 80°C (or ambient to 80°C).

Capacity: Must accommodate at least two 25–30 cm analytical columns.
Temperature Precision: $\pm 0.1^\circ\text{C}$.

4. Detectors

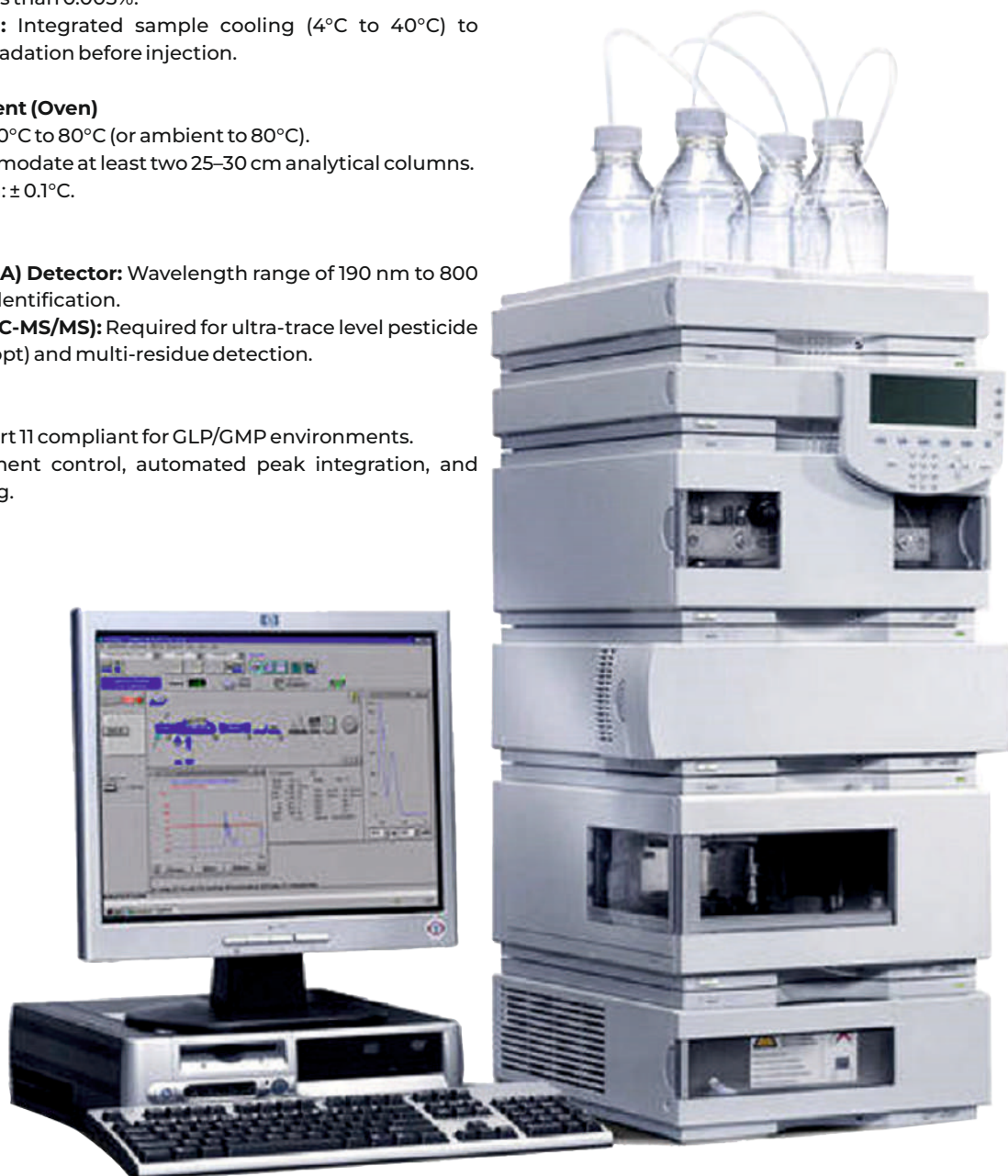
Photodiode Array (PDA) Detector: Wavelength range of 190 nm to 800 nm for multi-residue identification.

Mass Spectrometry (LC-MS/MS): Required for ultra-trace level pesticide residue analysis (ppb/ppt) and multi-residue detection.

5. Data & Software

Compliance: 21 CFR Part 11 compliant for GLP/GMP environments.

Features: Full instrument control, automated peak integration, and customizable reporting.



RICE BRAN TESTING LABORATORY

SOXHLET FOR RICE BRAN OIL



Soxhlet extraction is the standard laboratory method used to determine the maximum crude fat and oil content in rice bran. The process involves continuously cycling a hot organic solvent (such as hexane or petroleum ether) through a porous thimble containing dried rice bran, dissolving the oil into the solvent.

Technical Specifications:

Capacity ranges from 250 mL to 1000 mL, with industrial models up to 20 L.

Extraction bodies, flasks, and condensers are made from durable, thermal shock-resistant borosilicate glass.

Samples are placed in cellulose, glass microfiber, or PTFE extraction thimbles.

Uses electric heating mantles or metal baths for uniform heating.

Temperature range: Ambient to 400°C.

Available with analog, digital PID, or microcomputer controllers featuring programmable heating.

FFA / ACID VALUE ANALYSIS KIT

FFA (Free Fatty Acid) and Acid Value (AV) analysis kits are essential for determining the hydrolytic degradation, freshness, and quality of edible and cosmetic oils. Testing methods generally use either titration with alkaline solutions, colorimetric assay reactions, or semi-quantitative test strips for on-site monitoring.

Technical Specifications:

Measurement Principle: Photometric absorption or electrochemistry (measures color change corresponding to oleic acid concentration).

Measuring Range: 0 - 2% (extendable up to 20% with dilution) as Oleic Acid equivalent.

Resolution: 0.01% FFA.

Testing Time: 3 to 5 minutes per sample.



INSTANT BRAN OIL & FFA ANALYZER



Instant Bran Oil & FFA Analyzer is an advanced, non-destructive desktop meter that uses near-infrared (NIR) reflectance to instantly measure components like Oil Percentage, Moisture, FFA & Fiber.

Features & Applications :

Multi-Component Analysis: Measures up to four organic compositions or parameters simultaneously in a single, non-destructive test.

Zero Sample Prep: Tests solids, liquids, and pastes without grinding, chemicals, or specialized training.

Instantaneous Results: Normal measurements take about 7 seconds, with continuous measurements refreshing every 0.5 seconds.

Expanded Calibration Storage: Stores up to 50 internal calibrations to instantly switch between various products and parameters.

Connectivity: Equipped with USB, RS-232C (for printers), and LAN ports for straightforward data export and PC software integration.

User-Friendly Design: Features a built-in Organic EL display, password protection for secure operations, and a tungsten lamp light source.

DIGITAL HOT AIR OVEN

Digital Hot Air Ovens are ideal for laboratory sterilization, drying, and testing. They feature double-walled construction, high-grade insulation, forced air circulation, and digital PID control for uniform temperatures from 50°C to 250°C.

Applications:

- With digital temperature meter.
- Available in SS/MS.



SCIENTIFIC LABORATORY EQUIPMENTS



FRICTION & WEAR TESTERS



ON-LINE GRAIN MOISTURE TESTER



PAPER MOISTURE TESTERS



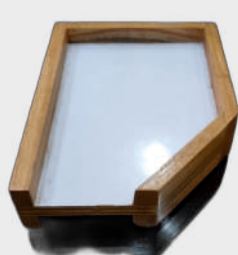
UNIVERSAL MOISTURE TESTER



WOOD MOISTURE TESTERS



DRY NOODLE MOISTURE METER



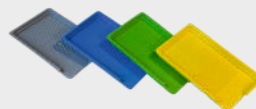
DOUBLE SIDED SAMPLE PLATE



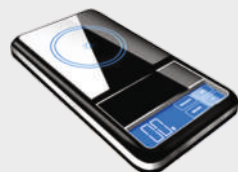
WOODEN BROKEN SIEVE



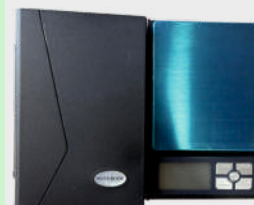
BRASS BROKEN SIEVE



PLASTIC BROKEN SIEVES



ELECTRONIC POCKET SCALE



ELECTRONIC NOTE BOOK SCALE



WEIGHING SCALE (5KG TO 100KG)



COOKING PLATES BLACK & WHITE



LAB ASPIRATOR



BRASS SAMPLE DIVIDER



HAND MAGNIFYING GLASS



KETT SAMPLING SPOON



MICROSCOPE



DIGITAL PH METER

CONSULTANCY FOR CERTIFICATION



Food Certification is a formal process that verifies food products, manufacturing facilities, and processes comply with established food safety and quality standards. It helps ensure products are safe for consumption, hygienically produced, and meet all applicable regulatory requirements. Certification enhances consumer confidence, strengthens brand credibility, and facilitates access to domestic and international markets. It also demonstrates an organization's commitment to maintaining consistent quality, food safety, and regulatory compliance.

LAB ARCHITECTS' Consultancy services help food businesses achieve compliance with national and international food safety standards. We provide end-to-end guidance for certification, including documentation, process implementation, gap analysis, internal audits, and regulatory compliance. Our expert consultants ensure a smooth certification process while improving food safety practices, operational efficiency, and customer confidence. We support businesses in obtaining certifications that enhance market credibility and business growth.





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INNOVATE. ANALYSE. ACHIEVE

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