



IN COOPERATION WITH



LT-NIR ANALYZERS

for Laboratory and Process Measurements

LT-NIR analyzers provide the measurements you need – where you need them. Be it in a chemical plant, refinery, in the pharmaceutical industry, brewery, or elsewhere. Measure liquids, solids, slurries and powders with unparalleled flexibility.

• Lab Analyzers: Improve Efficiency

Benchtop systems can measure key chemical and physical properties rapidly and accurately. Reduce your lab expenses and testing times compared to traditional assays. The simple test procedure allows for greater experimental repeatability and does not require special operator skills.

• In-Line Systems: Real-Time Analytics

LT-NIR process systems provide the same high quality measurements directly in process. Monitor changing process conditions in real time and adjust as necessary. With the capability to measure 20 points with a single analyzer, gain knowledge of the whole process. Validate quality and performance at all stages – raw materials, reactions, blending, coating and final product.

• Communication: Easy Integration

LT-NIR instruments are designed for direct integration into existing control systems via the LTBUS automation and communication software. The analyzers communicate directly via standard protocol such as Modbus and 4-20mA. Benchtop analyzers offer standard TCP/IP connection for integration to LIMS.

• Measuring Tools for All Conditions

The full range of NIR Analyzers comes complete with probes or cells designed for your measurement needs. Whether you have high temperature or pressure, chemical compatibility, sterilization or other requirements, LT Industries has measuring accessories designed to meet your process requirements.

Key Features

- Measure solids, liquids and slurry
- Measure up to 20 process points
- Clean-in-place, sterilization-inplace, stainless, non metallic and autoclavable probes available
- Probes and flow cells for continuous processes
- Automation and communication software for easy integration into existing control systems
- Fully automated user interface
- Remote diagnostic capability
- Protection against dust, water, hot or cold temperatures

Benefits

- Fast, non-destructive measurement
- Reduction of laboratory expenses
- More intelligent process control
- Continuous quality verification
- Rapid return on investment

Selected Listing of Measurements

Pharmaceutical	Downstream Pharmaceutical - Tablets, Lyophilized Products, Drying, Final Product Quality, Additives, Mixing Blending Processes, Process Analytical Technology (PAT) Applications	% Active Ingredient, Lyophilized Products, Drying, Reactors, Water Content, Granulation, Coating, Final Product Quality, Additives, Homogeneity, Bound/Unbound water, Coating thickness, Defect Identification, Dissolution, Hardness, Particle Size, Polymorphism, Power analysis, Product characterization
	BioPharma/BioProcesses - Cell Culture, Microbial Fermentation, Algae, and others	Amino Acids, Titer, Acetate, Acetic Acid, Ammonia, Ethanol, Glucose, Glutamate, Glutamine, Lactate, Methanol, Dry Cell Weight, OD600, Amino Acids
	Raw Material ID	Utilize libraries of 1000's of products for accurate Identification of raw materials, liquids and powders. Measure quality parameters of incoming materials
Chemical & Industrial	Chemical - Acetates, Acidic Solutions, Aldehydes, Amines, Carbon Fiber, Resins, Chemical Precursors/Raw Materials	% Concentration of key ingredients, Molecular Weight, Acid Number, Density, Extent of Reaction, Moisture, Molecular Weight, Specific Gravity, Viscosity
	Adhesives - Adhesives, Sealants, and Tape	Hardener Mix Ratio, Adhesive Strength, Moisture, Degree of Cure, Acrylic Properties, Coating Weight
	Various - Fertilizers, Plywood/pressboard, Phosphates, Pulp & Paper, Inks, Paper	Nitrogen, Isopropanol, Kappa Number, Adhesive, Moisture
Polymers & Plastics	Resins, PET, Polyamides (Nylon), Polyethylene, Polypropylene, Silicone, Vinyl, PMMA, Polyesters, Polyols, Amines, Hot Melt, Rubber, Precursors, Finished Products	Molecular Weight, % Concentration, Acid Number, Crosslinking, Density, Extent of Reaction, Hydroxyl Number, Intrinsic Viscosity, Moisture, Molecular Weight, Monomers, Hindered Amine
BioFuels	BioDiesel - Vegetable Oil, Fish Oil, Recycled Grease, In Process Biodiesel, Finished B100, Blended Fuels, Recovered Methanol, Glycerin, and more	Mono- Di- and TriGlycerins, Acid Number, Cetane Number, Cloud Point, Cold Filter Plugging Point, Density, Distillation Temperature, Esters, Flash Point, Free Fatty Acid, Kinematic Viscosity, Methanol Content, Transesterification Reactions, Water
	Ethanol - Raw Materials, Cellulosic, Corn or Sugar Cane Processes, Finished Products, Recovered and In Process Products	Acetic Acid, Ammonia, Arabinose, Brix, Cellulose, Denaturant, Ethanol, Glucose, Galactose, Lactic acid, Lignin, Maltose, Moisture, Solids, Xylan, Xylose, Protein, Starch, pH, Biomass, Gum, Dextrins, Ash
	Algae - In Process Algae Growth, Finished Product, Extracted Oils	Algae Strain, Nutrient Quality, Lipid Production, Cell Mass, Pigment, Moisture, Glycerides, Fatty Acid Content, Finished Oil and Biodiesel Properties
Food & Beverage	Beverages - Beer, Wine, Spirits, Juices, Soda, Teas, Powdered Mixes	Brix, Alcohol, Fat, Solids, Lactose, Moisture, Protein, Blend uniformity, Product Quality
	Sweeteners - Corn Syrup, Starch, Molasses, Cane Juice, Sugar	Brix, Sucrose, Fructose, Conversion Potential, Moisture
	Foods - Crackers, Chips, Cookies, Biscuits, Pretzels, Pasta, Meat, Seafood, Cereals, Bread, Salad Dressing	Sugar, Fat, Protein, Moisture, Acid, Salt, Degree of Bake, Saturated/unsaturated Fats and Oils, Iodine Value, Anisidine Value, Fatty Acid Profiles, FFA, TFA
	Dairy - Milk, Butter, Cheese, Ice Cream, Yogurt, Whey, and Powdered Products	Fat, Protein, Total Solids, NFS, Lactose, Adulteration, Moisture, added water
	Flavor, Fragrances & Spices	Raw Materials, In-process blending, finished product qualification, Salt, Moisture, Sugar, Oxidation, Volatile Oil, Protein, Fat, Purity, Aromatic Oils, Place of Origin
	Agricultural - Corn, Potatoes, Coffee Beans, Soy Beans, Sugarcane, Wheat, Fruits, Feed & Flour Milling, Oil Seed Processing	Protein Measurements, Starch, Sugar, Brix, Moisture, Fatty Acid Profiles, Color, Dry Mater, Lignin, Fat, and a variety of product quality measurements

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