SpectraStar™ XT-R

HIGH-PERFORMANCE EXTENDED RANGE NIR ANALYZER

Fast and High-Performance Extended Range NIR for All Laboratory and At-Line Applications

The SpectraStar XT-R Near-Infrared (NIR) Analyzer offers outstanding accuracy and reliability for rapid compositional analysis of solid, slurry or liquid samples. Typical constituents measured are moisture, protein, and fat, as well as more difficult parameters such as sugars, fibers, ash, lignin and fatty acids.



OUTSTANDING PERFORMANCE

SpectraStar XT analyzers are based on a scanning monochromator platform offering high signal to noise ratio and the best spectral quality available. The XT-R analyzer scans across a broad spectral range to accurately predict a wide variety of constituents in complex sample types.

READY TO USE CALIBRATIONS

The SpectraStar XT-R has many ready-to-use calibrations available for common applications and constituents. Calibrations are continuously updated for quick implementation and to ensure accurate results across broad sample ranges.

For processed foods, snack foods, dairy products, feed and feed ingredients, forages, and animal meals, Unity calibrations provide accurate and reliable results for your specific products and applications.

RELIABLE RESULTS

Each SpectraStar XT-R includes patented TRUE ALIGNMENT® Spectroscopy (TAS) technology which detects and corrects any instrument changes due to shock, temperature, or lamp changes. User-level monitoring and alignment of the instrument aligns the XT-R to calibrated standards for consistent results over time and across locations.

POWERED BY **TAS**

TRUE Alignment®

SPECTROSCOPY

SPECTRASTAR XT-R FEATURES

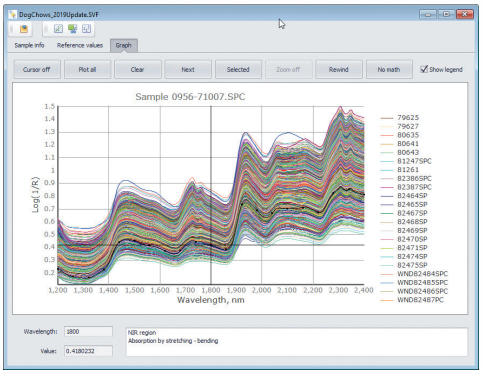
- Dual detector design and patented data processing for extended wavelength range.
- Broad wavelength coverage supports calibrations for fibers, sugars, fatty acids, starch and other difficult constituents as well as moisture, protein and fat.
- Maximum spectral information is ideal for custom calibration development.
- Products include animal feeds and ingredients, pet foods, processed food, ingredients, snack foods, oilseeds, forage and confectionery.



SpectraStar™ XT-R

PROVEN TECHNOLOGY

The SpectraStar XT-R analyzer uses proven near-infrared (NIR) technology to deliver highly accurate results to quality laboratories and production floors. NIR analyzers are used daily in thousands of locations to ensure quality through the entire production process.



NIR technology offers many advantages over other techniques including:

- **Fast -** samples are analyzed in under a minute
- **Simple -** little or no sample preparation is required
- **Safe -** uses no dangerous chemicals to purchase or dispose
- **Easy to implement -** minimal training is required
- **Reliable -** offers accurate, operator-independent results

ULTIMATE VERSATILITY

The SpectraStar XT-R analyzer has a stand-alone design and small form factor for easy placement almost anywhere. With a sealed case and touch-screen monitor, the XT-R is ready for both the laboratory for routine testing and research as well as the production floor for in-process testing or final product release. Results are presented in under a minute for fast turn-around and immediate feedback.

SpectraStar Analyzers are ideal solutions for every step of your production process including:

- Incoming raw material testing to verify ingredient quality and support claims
- In-process testing ensuring proper batch or continuous processing conditions
- Final product verification to ensure product quality and label or specification claims

EASY TO USE SOFTWARE



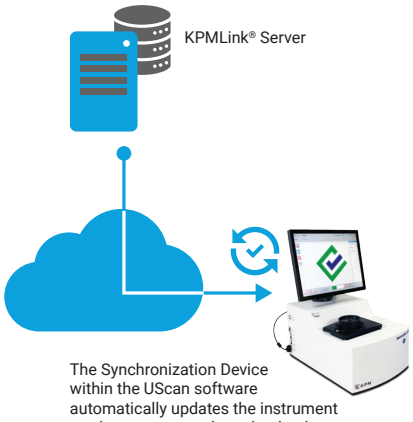
The SpectraStar XT-R comes complete with UScan™ software incorporating an intuitive graphical interface with multiple display options including an SPC chart for easy product monitoring. UScan was designed for easy operation and minimal training requirements for routine operators. A 17” touch screen makes sample analysis as easy as a couple finger touches.

UScan uses a reliable SQL database for secure storage and traceability of all settings and sample data, and LIMS options make real-time data transfer to external systems seamless.

KPMLink® CLOUD-BASED MANAGEMENT SOFTWARE

KPMLink® is an intuitive software suite designed for streamlined configuration of product settings, efficient management of calibrations, and synchronization of SpectraStar XT Series NIR analyzers globally. KPMLink® offers users and managers access to complete diagnostic history for each instrument, thereby providing detailed health information and instilling confidence needed for making decisions on collected measurement data.

KPMLink® makes it easy to ensure all SpectraStar analyzers within your organization are operating at exact standards and at consistent configurations, regardless of location or local expertise.



The Synchronization Device within the UScan software automatically updates the instrument as changes are made to the database hosted on the cloud server.

SpectraStar™ XT-R

READY TO USE CALIBRATIONS

The SpectraStar XT-R has many calibrations available to ensure robust and reliable results out of the box. Calibrations include ingredient, dairy, processed food, forage, feed and feed ingredient calibrations. Users can purchase ready-to-use calibrations individually by property (such as moisture or protein) or in ready-made product bundles from the **KPM Web Store.**

- Bakery By-Product
- Barley
- Blood Meal
- Butter – Salted
- Butter – Unsalted
- Canola Flakes
- Canola Meal
- Canola Seeds
- Cheese – Cheddar
- Cheese – Various
- Chocolate
- Cocoa Beans
- Cocoa Butter
- Cocoa Liquor
- Cocoa Nibs
- Cocoa Powder
- Cookies
- Corn
- Corn Flour
- Corn Germ
- Corn Gluten Feed
- Corn Gluten Meal
- Corn Meal
- Corn Silage
- Corn Starch - Dry
- DDGS
- Egg Powder
- Feather Meal
- Feed – General
- Feed – Poultry
- Feed – Swine
- Fish Meal
- Flour – Clear
- Flour – Hard Wheat
- Flour – Soft Wheat
- Frozen Finished French Fries
- Hay – Alfalfa
- Hay – Grass
- Hay – Mixed
- Ice Cream Mix
- Infant Formula Powder
- Liquid Whey
- Liquid WPC
- Malted Barley
- Meat & Bone Meal
- MPC 56
- MPC 70
- Mustard Flour
- Mustard Seeds
- Neonatal Milk
- Olive Oil
- Olive Pommace
- Olives - Crushed
- Petfood Dry Kibbles
- Pita Chips
- Pork Meal
- Potato Chips
- Potatoes – Raw/Dried
- Poultry Meal
- Processed Cheese
- Raw meat blend
- Rice (Brown)
- Rice (White)
- Sausage
- Skim Milk Powder
- Soybean Meal
- Soybean Seeds
- Soybeans
- Soybeans (Amino Acids)
- Soybeans (Fatty Acids)
- Sugar Beet Shavings
- Tortilla Chips
- Wheat – Ground
- Wheat Midds
- Wheat Seeds
- Whole Milk Powder
- Whole Oats
- Whole Peas
- WPC Powder

UCAL™ 5 CALIBRATION CUSTOMIZATION & MANAGEMENT PLATFORM

The UCAL™ 5 NIR Calibration Platform is a powerful, user-friendly software that simplifies the creation, validation, and deployment of custom NIR calibrations. Operating directly in a web browser, on a Windows PC, or via a company server, it makes advanced chemometrics accessible to both beginners and experienced analysts. The platform seamlessly integrates with KPMLink® cloud-based management software, allowing teams to instantly push finalized calibrations out to a network of connected SpectraStar XT analyzers.



- **Guided 4-Step Workflow -** Effortlessly brings users from initial sample scanning to a finished calibration file.
- **UCAL Autopilot™ -** Automatically builds an optimized comparison calibration from your raw data using standard settings.
- **UCAL Insight™ -** Analyzes data, calibrations, and validation results to flag anomalies and check your work before publishing.
- **Flexible Deployments -** Supports private or team-shared cloud storage alongside a library of over 250 pre-built standard and customizable calibrations.

ORDERING INFORMATION

The SpectraStar™ XT-R analyzer can be ordered ready-to-use with pre-loaded Unity™ Calibrations or with UCal™ 4 calibration software for custom applications.

Part Number	Description
US-SPSR-XTR	SpectraStar XT-R NIR Analyzer including dual detector monochromator, rotating top window configuration, built in Windows 10 computer with 17" touch screen, UScan software, WiFi dongle, multi cup adapter, ring cup/powder cup ring and TAS Standards.

CALIBRATION OPTIONS

Part Number	Description
US-CALB-1000	Unity calibration for single product type, all constituents.

ACCESSORIES *A variety of sample and software accessories are available*

Part Number	Description
US-LGOP-0001	Large open cup with plunger
US-RTIR-0016	Large open cup sample ring
US-SRCP-0025A	Small round cup, 25 mm height
US-ISIH-0307	Ring cup
US-LIQK-0003	Kit for measuring liquid samples, 0.3 mm pathlength
US-UCAL-0401	UCal 4 Calibration software with 1 year calibration support
KPMLink-0001	One (1) year of KPMLink® User License and one Instrument License, access to training course via the KPM Academy for one user.
KPMLink-0002	Additional KPMLink® User License



SPECIFICATIONS

Light source	Tungsten halogen lamp with MTBF rating of 10,000 hours, user changeable
Measurement mode	Reflectance or transflectance
Detector	High Performance ultra-cooled InGaAs extended range detectors
Optical bandwidth	10.0 ± 0.3 nm actual FWHM
Absorbency range	Up to 3 AU
Analysis time	10 – 60 sec.
Wavelength accuracy	< 0.02 nm to traceable standard reference material
Wavelength precision	< 0.005 nm
Wavelength range	680 - 2600 nm
Number of data points	1920
Photometric noise full range	< 20 µAu
Instrument case	Powder coated aluminum, completely sealed, no venting or fan
ISO 12099 compliant	Animal feedstuffs, cereals and milled cereal products - Guidelines for the application of near infrared spectrometry
Built-in computer	Windows 10 Professional, SSD
Networking	LIMS compatible, HDMI port, 4 USB ports
Ambient temperature	1 - 40°C
Ambient humidity	< 95% RH, < 85% RH recommended

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