

SpectraStar

RTW Near-Infrared Analyzer Top Window Series



SpectraStar from Unity Scientific is the next generation, top of the line, full scanning NIR analyzer designed for the food, feed, agricultural, tobacco, dairy, industrial, and pharmaceutical industries.

BENEFITS

- Network ready
- Superior accuracy, precision, and stability
- Easy NIR database transfer from older equipment
- Easy to use and customize
- Low maintenance
- Small footprint

The SpectraStar™ is reliable and rugged enough for both the process floor and QC lab, yet powerful enough to be used as a research tool.

The top window design of the SpectraStar provides total flexibility for sample handling. The rotating sample platter provides accurate analysis of unground or partially ground materials by simply filling a cup and placing it on the window, or analysis can be done in a static mode. Samples can also be analyzed through a variety of sample cups, Petri dishes, beakers, or bags.

The SpectraStar rotating top window system is available in four wavelength configurations to give complete coverage of the NIR region. Covering the entire wavelength range is essential for accurate results.

The SpectraStar 2500-X and 2500 are research quality instruments that scan the NIR region up to 2500 nm. This allows calibrations and databases from monochromator-based systems of Bran+Luebbe, NIRSystems, Foss, Bruker, ABB Bomem, and Thermo to be easily transferred to the SpectraStar.

The SpectraStar 2400 is a workhorse instrument that scans the wavelength range of 1200-2400 nm. This wavelength range covers the same range used by older NIR filter instruments from Technicon, Bran+Luebbe, Perten, and DICKEY-john, meaning that calibrations from these systems can easily be transferred to the SpectraStar 2400.

The SpectraStar 2200 scans the wavelength range of 1100-2200 nm. This instrument is our entry-level offering and is great for customers where the loss of accuracy caused by not scanning to 2500 nm is not critical to the analysis.

For those customers who wish to develop and manage their own calibrations, the new UCal software is a powerful tool for managing databases and developing calibrations. UCal is designed to ensure that calibrations are accurate by using databases that have been properly optimized to contain the correct samples. The intuitive, state of the art software is simple to use, yet powerful enough for even the most advanced user.

SpectraStar™

SpectraStar RTW Near-Infrared Analyzer Top Window Series

How to Order

Simply choose the most appropriate wavelength range for the SpectraStar top window system that fits your application.

SpectraStar Model	Wavelength Range
2500-X	650 – 2500 nm
2500	1100 – 2500 nm
2400	1200 – 2400 nm
2200	1100 – 2200 nm

Each SpectraStar system features a built-in Windows based computer. All results and raw data are stored to the hard drive with date and time stamps. All information can be easily transferred via email to aid in the support process. The SpectraStar provides full network capability and is LIMS compatible. The system can be accessed remotely via the Internet or modem for data transfer, calibration transfer, configuration, or diagnostics.

The SpectraStar is extremely reliable and requires little maintenance. The instrument is small and portable and contains no air filter or fan. The SpectraStar lamp carries a 10,000 hour rating and can be changed by the customer. Instrument performance, calibrations, and networks of instruments can all be maintained through UniStar™ software, a next generation software package that simplifies the NIR support process.

SPECIFICATIONS**Technology**

Pre-dispersive scanning monochromator with nominal bandwidth of 10 nm (FWHH)

Light Source	Tungsten halogen lamp with MTBF rating of 10,000 hours User changeable via pre-aligned assembly
---------------------	----------------------------------------------------------------------------------------------------

Grating	Holographic NIR for use from 650-2500 nm
----------------	------------------------------------------

Detector	InGaAs (temperature stabilized)
-----------------	---------------------------------

Scan Time	Less than 0.8 seconds/scan
------------------	----------------------------

Analysis Time	10-60 seconds
----------------------	---------------

Data Interval	1 nm (improves data smoothing)
----------------------	--------------------------------

Photometric Range	3.0 Abs @ 680-2500 nm
--------------------------	-----------------------

Photometric Noise	20 micro AU at 1640 nm
--------------------------	------------------------

User Interface

Operating System	Windows 2000
-------------------------	--------------

Display	10 inch plus VGA with touch screen
----------------	------------------------------------

Software	InfoStar prediction and data management package
-----------------	-------------------------------------------------

Optional	Keyboard and mouse
-----------------	--------------------

Dimensions and Power Requirements

Size	W 330 mm x H 368 mm x D 381 mm (W 13" x H 14.5" x D 15")
-------------	----------------------------------------------------------

Weight	13.6 kg, 30 lbs.
---------------	------------------

Power Voltage	100-240 V ac, 50/60 Hz
----------------------	------------------------

Network Capabilities

OPC compliant
LIMS compatible
2 USB ports
1 Ethernet (RJ45) connector interfaces

Conclusion

The SpectraStar family of instruments is the best NIR solution for the food, feed, agricultural, tobacco, industrial, and pharmaceutical industries. SpectraStar delivers extensive wavelength range coverage to accurately measure even the toughest applications. Calibration databases can be created using CalStar software, can be transferred from any other brand NIR system, or can be outsourced from Unity's network of value-added service providers. A variety of sampling techniques can be used with either the SpectraStar rotating drawer or rotating top window to give the ultimate in sampling flexibility. The rugged design and small footprint of SpectraStar make it ideal for both the process floor and the QC lab. The SpectraStar family of instruments represents the best NIR solutions available.

**Unity Scientific, LLC**

117 Old State Road
Brookfield, CT 06804
USA

Phone: 540-338-8991

Fax: 540-338-8992

www.unityscientific.com

Email: info@unityscientific.com

Unity Scientific, SpectraStar, CalStar, UniStar, UCal, UScan, TransStar, QStar, InfraStar and UltraStar are trademarks of Unity Scientific, LLC. All other trademarks are the property of their respective companies.

©Copyright 2010 All rights reserved