

Instalab[®] 600 Series

Near Infrared Reflectance Analyzer



Exclusive
DICKEY-john Technology
Delivers Competitive-Edge
Performance

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DICKEY-john[™]
CORPORATION

The Technology

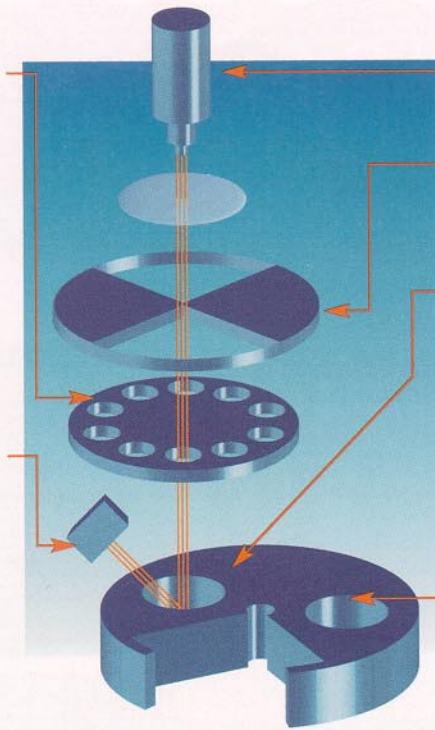
No company has more experience designing and building Near Infrared instruments than DICKEY-john. That experience is evident in the unique NIR technology of the DICKEY-john Instalab® 600 Series. This highly versatile instrument offers simple operation and unmatched reliability at a very affordable cost.

HIGH RESOLUTION FILTERS –

The Instalab's unique system of 10nm bandpass filters are customer-replaceable, greatly enhancing the flexibility of the instrument; replaceable filters speed up calibration while reducing costs and allowing the instrument to be quickly and economically reconfigured.

THERMOELECTRICALLY COOLED DETECTOR –

This exclusive DICKEY-john feature increases both sensitivity and dynamic range. The detector is obliquely mounted to minimize spectral reflectance error.



IR SOURCE – Field-proven, long-life tungsten halogen lamp.

CHOPPER DISK – Provides an alternating light source to enhance the stability of the reading.

PATENTED ROTATING SAMPLE CUP – The most effective means available for minimizing or eliminating the effects of sample geometry in non-homogeneous samples. The cup rotation is computer controlled, with 120 readings taken at 3° intervals and averaged for each wavelength of incident light.

CERAMIC REFERENCE DISK – This DICKEY-john design swivels into place when the sample drawer is opened – allowing the reference reading to be taken through the entire optical system.

The Competitive Edge

Performance and Reliability: Quality in design and construction of the Instalab 600 Series ensures the most reliable NIR results available. The rotating sample cup virtually eliminates the problems associated with sample non-homogeneity – studies indicate up to 3 times better than integrating sphere and other types of data collection technology. Reliability is further enhanced by a reference design that incorporates the entire optical system. An exclusive DICKEY-john feature, Optigain®, enables the user to adjust the gain for low-reflectance samples. Another exclusive, thermoelectrically cooled detectors, maximizes both sensitivity and dynamic range.

Dependability: The Instalab 600 Series is designed and built for trouble-free operation in virtually any environment – from the lab to the production line. The optics chamber is completely sealed and thermally isolated. An integrated, computerized self-test mode continuously monitors instrument performance and pinpoints errors. Calibrations are stored in a non-volatile EEPROM system that doesn't rely on battery backup. Automatic self-test procedures verify correct operation after each sample.

Flexibility: The unique sampling system makes the Instalab adaptable to nearly any solid or semi-solid substance. Replaceable filters allow the instrument to be adapted – easily and economically – for nearly any substance and any constituents, making the Instalab 600 Series ideally suited for both development work and for dedicated-instrument use. The replaceable filter feature also allows any change in filter configuration developed by a research scanning instrument to be easily implemented in satellite Instalabs for networking.

Economy: The Instalab 600 Series is competitively priced in relation to other instruments – many of which it significantly outperforms.

Service: DICKEY-john maintains a national service center with factory-trained technicians. Complete documentation is included for on-site service and repair. Plus, Instalabs can send data to a computer for data logging or calibration maintenance.

Model 660

Utilizes the universally accepted standard set of six wavelengths commonly used to measure moisture, protein, starch, oil, etc. in food products.

Model 610FG

Ten selected filters designed specifically for use in measuring properties in feed and grain.

Model 610SB

Type accepted by the United States Department of Agriculture, Federal Grain Inspection Service (FGIS) for official measurement of protein and oil in soybeans. Also approved for official protein measurement in wheat. Equipped with ten filters required by FGIS.

Model 610MC

Ten most commonly used filters for NIR applications in food, feed, grain, meat, and dairy applications.

Model 610 Custom

Permits the customer to choose four specific filters from a selection of over 50 available wavelengths to supplement the six standard filters, allowing dedicated calibration for special product applications.

Data Collection & Regression Software

A communication package is available that permits transfer of log data to a computer for the development of specific calibrations.

The Capability

Near Infrared (NIR) technology offers an important alternative to wet chemistry – an alternative with a world of applications: control of incoming raw materials, process control, research, and much more. Virtually any solid or semi-solid material can be analyzed by the DICKEY-john NIR method.

With sufficient calibration data, the Instalab will provide accuracy comparable to laboratory results. In fact, in day-to-day operation, the Instalab is much more repeatable and precise than typical laboratory testing since operator technique is less critical and instrument error is minimal.

A wide variety of industries needing accurate and repeatable testing are looking to the DICKEY-john Instalab 600 Series. It's providing fast answers for grain elevators, grain mills, and oil seed extractors/processors. The dairy industry analyzes cheese, powdered products, and butter. In the meat industry, applications include analysis of raw ingredients and standardization of blends in processed meats. Other areas include pet food, fast food, processed food, and snack food. NIR has also been successfully adopted by pharmaceutical, petrochemical, tobacco, cosmetic, and textile manufacturers.



DICKEY-john Corp. REGRESSION & DATA COLLECTION		TUE 140V 2 1995			
MOBILE DATA EDIT	SAMP.	EDIT PRIO.	CREDIT CHG.	UNIT	SETUP
SAMPLE FILE NAME:	DATE:	PROJECT:			
SAMPLE INSTALAB		Number of samples: 8			
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11 0.00					
12 0.00					
13 0.00					
14 0.00					
15 0.00					
16 0.00					
17 0.00					
18 0.00					
19 0.00					

F2 - Back to Prod	F3 - Save	F4 - Recall Log	F5 - Print
F6 - Exit Log	F7 - Save	F8 - Exit Run Data	F9 - End Sample
F10 - Statistics	F11 - Name	F12 - Clear Data	F13 - Exit Run File



Model Specifications

Weight:	65 LBS./29.5 KG.	Filter Bandpass:	10 nm
Dimensions Height:	13.62 IN./34.6 CM.	Light Source:	Tungsten Halogen
Width:	22.25 IN./56.5 CM.	UL Listed/CSA Certified:	Yes
Depth:	16.35 IN./41.5 CM.	Calibration Storage:	Non-Volatile EEPROM (Electrically Erasable Programmable Read Only Memory)
Power Requirements:	102-132 VAC, 57-63 HZ or 187-242 VAC, 47-53 HZ	Typical Analysis Time:	10 Seconds
Wavelengths:	6 - 10 (Customer Replaceable)	Detector:	Thermoelectrically Cooled Lead Sulfide
Storage Capacity:	52 Constituent Matrix	Reference Measurement:	Through Entire Optical System, Against Ceramic Disk
Serial Computer Interface:	Standard (RS-232-C)	Gain Setting:	Customer-Adjustable, Using Optigain® Feature
Printer:	Optional	Diagnostics:	Self-Test, Automatically After Every Sample
Accuracy:	Exceeds Federal Specifications for NIR Instruments		
Sample Integration Technique:	Rotating Cup		



Corporate Headquarters, Auburn, Illinois USA

- A vertically integrated, manufacturing company established in 1966, DICKEY-john maintains control at every manufacturing operation to ensure quality at low cost.
- An industry leader and innovator, DICKEY-john developed the first NIR instrument in 1971.

Optigain® & Instalab® 600 - Reg. TM DICKEY-john Corporation
DICKEY-john™ - TM DICKEY-john Corporation

Authorized Distributor



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