

**Robust . Reliable . Accurate**

# Handheld Miniature AOTF-NIR Analyzer



- Non-destructive Analytical Testing and Inspection
- Brimrose Analytical Software - Snap32!
- Multi-point, Multi-component Capability



Brimrose Corporation of America  
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Luminar 5030

## ■ Rugged Hand-held Analytical Instrument for Process Quality Control

Brimrose has developed a portable platform for conducting non-destructive and contact/non-contact analytical testing and inspection that extends versatility from the laboratory to the production floor and to the field.

The Brimrose Solid-state Luminar 5030 "Hand-held" Miniature AOTF-NIR (Acousto-Optic Tunable Filter-Near Infrared) Analyzer is a rugged hand-held analytical instrument that utilizes Brimrose's high performance AOTF-NIR technology. By delivering rapid, multi-component analysis for a wide variety of applications that include diffuse reflectance measurements of powders, pellets, liquids, web-based and solid products, use of the Luminar 5030 offers a new powerful tool for quality control and process troubleshooting. Additional probe attachments allow to use same analyzer for liquid transmission measurements.



Diffuse Probe Attachment (optional)

### ■ Measurement

- Moisture
- Fat/Sugar/Protein
- Active Ingredients
- Coating Weight
- Blend Assay
- Recycled Plastic ID



### ■ Key Features

- Dual Beam, Pre-aligned Lamp Assembly, InGaAs Detectors
- Fast Scanning Speed - 16,000 wavelengths/sec
- SNAP32! Brimrose Analytical Software with Brimrose MACRO Language
- 6mm Diameter Sample Area at 40mm Sampling Distance

### ■ Real-time Applications

- On-line Blend Uniformity
- FBD in Micro-encapsulation and Drying Process
- Incoming Raw Material Inspection
- Agricultural/Food: On-line food analysis for fat, protein, moisture, starch, etc.
- Polymer: Measurements of pellets and resins
- Paper and Textile Goods: On-Line thickness measurements
- Measurements of Tobacco and Tobacco Leaves
- Wine and Grape Applications: Measurements for Brix, pH, TA, etc.



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## ■ Technical Data Specifications

Spectrometer Name	Luminar 5030 Handheld AOTF-NIR Analyzer
<b>Spectral Range Options</b>	600-1100 nm, 850-1700 nm, 900-1800 nm, 1100-2300 nm
<b>Measurement Modes</b>	Diffuse Reflection, liquid transmission with probe attachment
<b>Spectral Resolution</b>	2-10 nm
<b>Wavelength Accuracy</b>	± 0.5 nm
<b>Wavelength Repeatability</b>	± 0.01 nm
<b>Wavelength Increment</b>	Software Selectable 1-10 nm
<b>Ambient Light Rejection</b>	> 10 <sup>6</sup>
<b>Vibration Immunity</b>	Blenders, Agro field operations, e.g. vineyards
<b>S/N at 70% Range</b>	< 30µabs in reflectance and transmission, for <5 seconds integration time
<b>Wavelength Access Time</b>	< 66 µsec
<b>Photometric Range</b>	3.5 AU
<b>Linearity</b>	Better than 0.15%
<b>Signal Digitalization</b>	16-bit A/D (1 part in 65,536)
<b>Sampling Speed</b>	16,000 wavelength/sec
<b>Sampling Area</b>	Ø6 mm
<b>Sampling Distance</b>	40 mm
<b>Diagnostic</b>	10 Built-in monitoring sensors
<b>Power Requirements</b>	12VDC, (24VDC special order), 90Watts, 110VAC 60Hz, 220VAC 50Hz
<b>Outputs</b>	PC Interface via Ethernet connection
<b>Software Package</b>	Windows-based analytical software for data acquisition
<b>Options:</b>	<b>Accessories:</b>
<ul style="list-style-type: none"> <li>➤ Battery Operation</li> <li>➤ Display</li> <li>➤ Liquid Probe Attachment</li> <li>➤ Powder Probe Attachment</li> <li>➤ Wireless Communication</li> <li>➤ Gravity Switch</li> </ul>	5030O: L-shape mounting plate with 1.5" Sapphire Window Assembly for Quick dismounting of Optical module 5030E: Mounting Plate for Electronics module for quick dismounting of Electronics module 731-09: Liquid Transflectance measurements with selectable path lengths 731-10: Diffuse Reflectance measurement with Sapphire ball 731-S: Stand with Rotating cup



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