

# REINHELDT

## Reinheldt RHT-506

### High-Performance NIR Spectrometer

*Advanced Diffuse Reflection Analysis for Global Laboratory Standards*



### Overview

The **Reinheldt RHT-506** represents the pinnacle of German-engineered analytical precision. Designed for high-stakes laboratory environments, this specialized NIR system utilizes a sophisticated integrating sphere to deliver non-destructive, high-accuracy diffuse reflection measurements. Whether analyzing raw agricultural materials or finished textiles, the RHT-506 provides the reliable data necessary for rigorous quality control and research.

## Technical Features

- **Gold-Standard Precision:** Features an internal, gold-plated integrating sphere. This high-reflectivity surface ensures maximum light throughput and unrivaled measurement consistency across the full spectral range.
- **Automated Reference Logic:** Equipped with a built-in gold-plated background. The system performs automated background subtraction, eliminating environmental noise and ensuring "pure" sample data without manual intervention.
- **Dynamic Sample Handling:** To accommodate irregular or uneven particles, the RHT-506 utilizes auto-rotated sapphire sample cups (available in Large and Small formats). The sapphire construction ensures maximum durability and optical clarity.
- **Next-Gen Detection:** Powered by a high-sensitivity InGaAs 2-stage TE-cooled detector, providing an exceptional signal-to-noise ratio even in demanding conditions.

## Technical Specifications

Feature	Professional Specification
<b>Model Designation</b>	<b>Reinheldt RHT-506</b>
<b>Spectral Range</b>	12,500 – 4,000 $\text{cm}^{-1}$ (800 – 2,500 nm)
<b>Spectral Resolution</b>	$\leq 2 \text{ cm}^{-1}$
<b>Wavenumber Precision</b>	$< 0.02 \text{ cm}^{-1}$
<b>Interferometer Type</b>	High-Stability Cube Corner Interferometer
<b>Beamsplitter</b>	High-Grade CaF2
<b>Light Source</b>	Industrial-Grade NIR Light Source
<b>Laser System</b>	Solid-state laser (10-Year Operational Warranty)
<b>Data Interface</b>	High-speed Ethernet / USB 2.0 Adaptor
<b>Optical Connection</b>	SMA 905 Precision Connector
<b>Operating Environment</b>	5°C to 35°C (Non-condensing)
<b>System Compatibility</b>	Reinheldt Analysis Suite (Windows 7/10/11)

## Key Industrial Applications

The RHT-506 is optimized for high-throughput analysis in the following sectors:

- **Agriculture & Feed:** Rapid analysis of moisture, protein, and fat content in grains and livestock feed.
- **Dairy & Food Sciences:** Quality assurance for powders, solids, and processed food products.
- **Textile Engineering:** Precise identification of fiber composition and chemical treatments.
- **Custom Solutions:** Full OEM support and turnkey project integration available for specialized industrial workflows.



## Contact Reinheldt GmbH

*Partnering with industries to deliver precision-driven laboratory solutions*

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