

# **BENKE Near-Infrared Process Analyzer NIR-4**

Credible Solutions for the Oil and Gas Industry



## Near-Infrared Analyzer

To remain competitive, today's refiners must employ all optimization and product control techniques available. The use of online spectrometers beside online physical property analyzers is one of the key features to reach those objectives because they measure additional parameters, based on more compound specific properties, in the process directly.

The Benke NIR-4 Analyzer measures near-infrared (NIR) absorption spectra of the samples to predict additional parameters, e.g. RON, MON, Aromatic content, Olefin content, FAME, PIONA, Cetane number etc, via chemometric models.

- Industry-leading performance
- Simultaneous determination of multi-properties
- Freely configurable with an easy to use software
- Optional mechanical 6-port and optical 5-port multiplexer
- Optional automated sampling of outliers for subsequent laboratory measurements

BARTEC BENKE developed a unique true dual beam flow through cell, which contains a full-fledged reference channel for the NIR analyzer. Only this concept assures the best possible drift compensation. An optionally available automated cleaning system removes the requirement for regular wash and validation cycles. This leads to industry-leading performance and robustness of the measurement. With the freely configurable, easy-to-use software

and the optional 6-port mechanical multiplexer and 5-port optical multiplexer it is the perfect addition for even the most challenging multiple component measurements. Applications for the NIR-4 are e.g. monitoring the streams at Atmospheric Distillation Units, Naphtha Steam Cracker and Catalytic Reformer as well as monitoring at final product blending and terminal blending stations.



## Special Features

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Short cycle time (typically below 1 minute)

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Ideal analyzer for Advanced Control Systems

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Highest payback for customers when combined with Advanced Control Systems

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Full-fledged reference channel concept for best possible drift compensation

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Fully temperature-controlled Ex p enclosure for the spectrometer optics

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Optimized mechanical enclosure set-up to remove potential vibrations from environment

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Lower capital investment, lower operating costs

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## Available Options

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6-port mechanical multiplexer (mMUX) with automated sample stream switching

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5-port optical multiplexer (oMUX)

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Automated measuring cell cleaning with rinsing liquid, subsequent drying (inert gas) and baseline scan

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Automated sampling of outliers

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Manual sampling port

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Sample Conditioning Systems (SCS)

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Automated Validation System

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Liquid Sample Recovery Units (LSRU)

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Remote access via Ethernet (VDSL or FOC is)

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MODBUS interface, digital I/O and analog I/O

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Remote maintenance interface

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**Make your decision for a strong partner!**  
**Choose BARTEC also for:**

- Fast Loop Systems
- Sample Conditioning Systems
- Validation Systems
- Recovery Systems
- Chillers
- Air Conditioning Systems/HVAC
- Pre Commissioned Analyzer Shelters/Turn-Key Solutions

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