

## NIR Analyzers for Process Liquids

Verum NIR analyzers are targeting on-line, but also laboratory applications for monitoring of process liquids in several industrial applications:

- In Process/In-Line
- Laboratory
- Fast
- Non-destructive
- Multi-Channel Capability
- Analyzers & Probes for any process condition
- Chemical
- Fuels
- Oils
- BioFuels
- Food & Beverage
- BioPharma
- Pulp & Paper
- Much more...

Laboratory version of the analyzers serves for:

- Fast and easy testing of Crude Oils, Fuels, Acids, Polymers, and almost any liquid products
- Development of Online methods
- Online measurement in controlled environment

Delivery includes:

- General Purpose Style Analyzer
- Dip Probe and Fiber
- Software



Main features of the on-line process analyzers are:

- Online process control in real time
- Low maintenance
- No consumables
- Measurements directly in the process without pre-treatment
- 8 or 20 Channel Multiplexer
- C1D2 Rating
- Modbus RTU & TCP, 4-20 mA, Hart and other standardized protocols
- Sample temperature measurement
- Channel Components
  - Inline Probe (Standard)
  - Fiber Optic Cable
- Optional Items
  - Process Flow Cell
  - Hot Tap Probe
  - Other Communication Options
  - Enclosure Options (C1D1, General Purpose, ATEX)



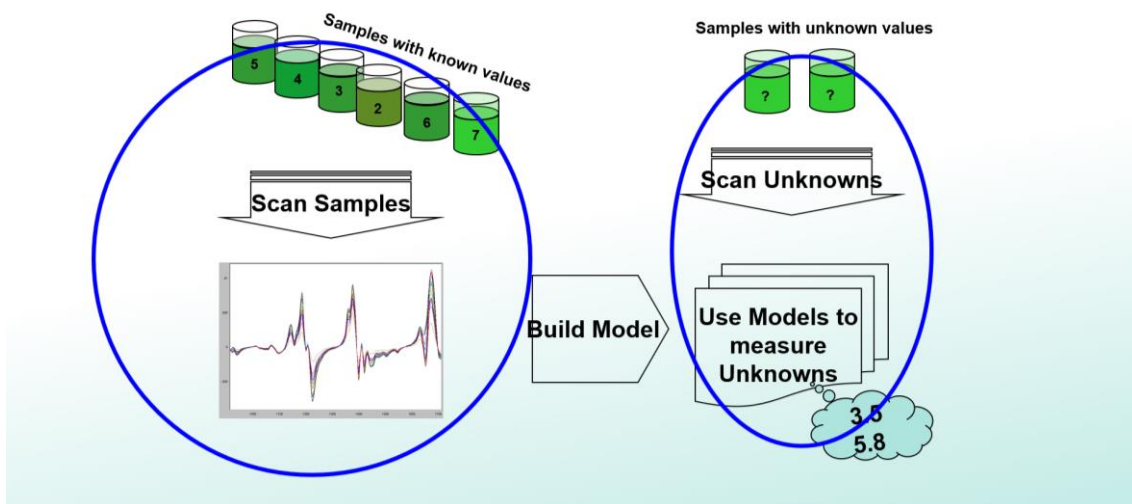
The analyzers are connected to the process via optic fibers and insertion probes.



The analyzers can be equipped with up to 20 channels performing different analytical tasks:

- Chemical Analyzer
  - Measuring Concentration of chemicals in solution
- Physical Property Analyzer
  - Viscosity, Density, RVP, Gravity through chemistry
- Material ID/Grading
  - Prod A, Prod B, etc.
- Phase Transition
  - When a liquid turns solid
  - When a density changes
- Product Transition
  - Monitors change of products
  - Water slug in pipe
  - Crude, Gas, or diesel flowing in pipe
- Many Industries

Based on spectral analysis of the NIR absorption spectra the measured data of interest are presented by a user friendly chemometric modeling system.



This can be set and maintained by the client, or treated by the supplier.

For detailed information on solutions of your interest we are gladly available:

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