



Natural Gas Custody Transfer Multi-Stream Measurement of BTU, Hydrocarbon Composition (C1-C6+), and Relative Density in Natural Gas

The JP3 Verax for Natural Gas has been certified to exceed the repeatability and reproducibility criteria of common standards referenced for custody transfer (GPA2261-20 and API 14.1)

One Device Measures Composition and Physical Properties of up to four Natural Gas Streams

For the first time, natural gas can be easily analyzed to obtain Hydrocarbon composition, BTU, Relative Density, and other properties without the cost and headaches of traditional analyzers. Verax CTX delivers custody transfer information for up to four fluid streams in real time without sampling.

Measure in the Pipeline at Operating Pressure and Temperature

The Verax flow cell is installed directly in the process at operating pressure and temperature requiring no sampling or conditioning systems. The flow cell is connected to the analyzer by a single pair of fiber optic cables allowing the analyzer to be located as close to or far from the process as desired. Advanced laser spectrometer technology means the Verax analyzer requires no carrier or calibration gases and produces **no emissions**.

Solid State Spectroscopy for Rapid Response Time

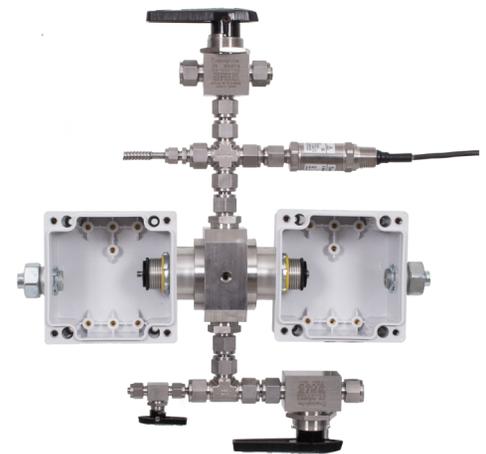
Using patented Near-Infrared (NIR) optical spectroscopy and advanced chemometric techniques, JP3 Verax provides readings in a matter of seconds, directly in both liquid and gas streams. No moving parts, no consumables, and no sample conditioning systems means longer life and reduced maintenance costs. Our patented laser source utilizes constant amplitude correction and wavelength calibration to deliver a source performance that is unmatched in the industry.

Internet Ready for Remote Monitoring

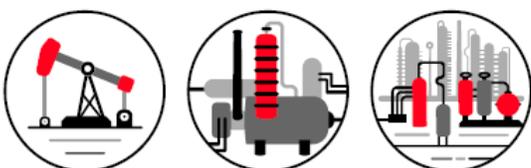
Verax's advanced electronics and communication capabilities allow easy integration into your plant networks and systems. Verax also supports remote monitoring with a cellular data connection, making even the most remote unmanned applications possible and economical.



Verax CTX NIR Analyzer



VeraSight Flowcell Assembly



Critical Data. Real Time.

Application Note: Verax™ Analyzer

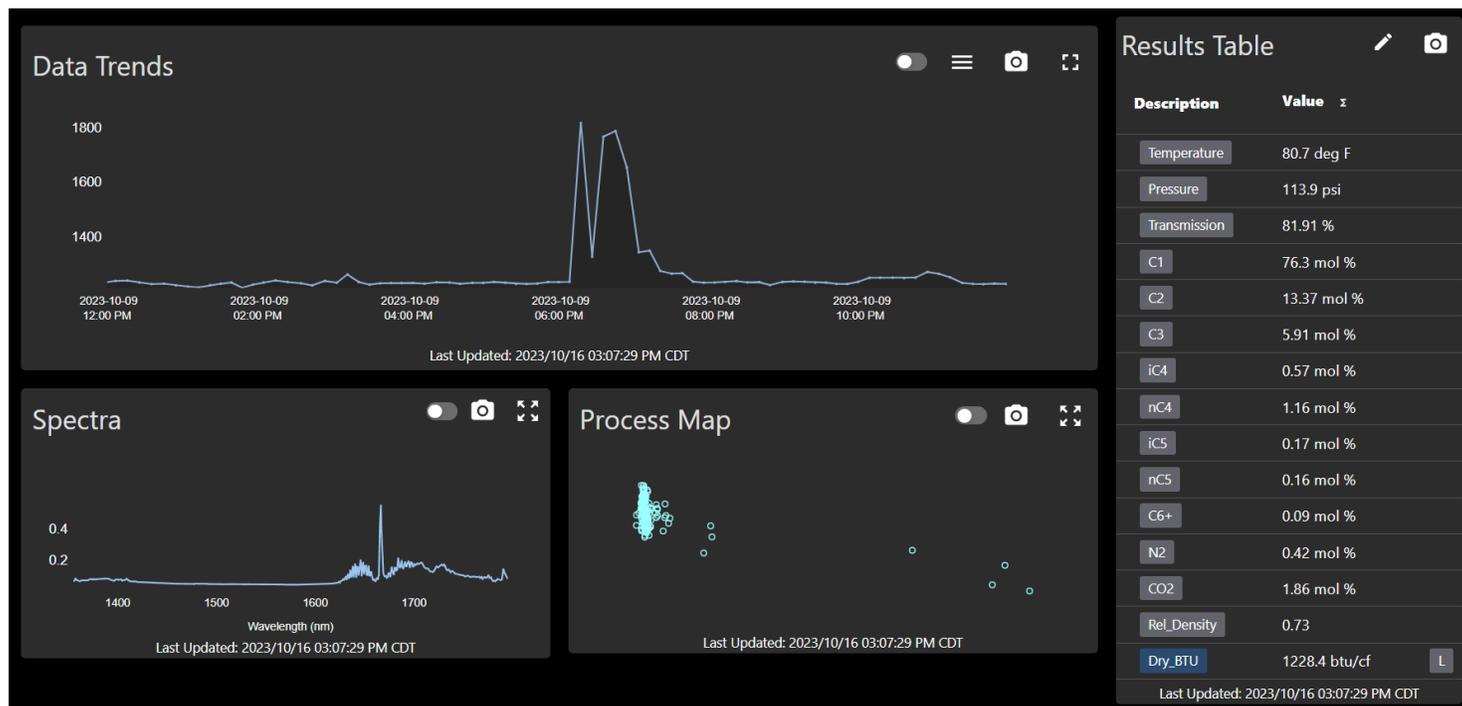


Figure 1. Real-time spectra and trends for installed custody transfer system

Real-time monitoring with JP3 Viper Insight™

Every JP3 Verax user can monitor their systems in real time with Viper, a powerful web-based tool located in the cloud or in on-site infrastructure, depending on requirements. Viper allows for detailed monitoring of system health and trending of process data with an intuitive user interface.

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|-------------------------|--------------------------|--|
| Application Info | Fluid Streams | <ul style="list-style-type: none"> Flow cell read points: <ul style="list-style-type: none"> SSG: 1 flow cell, either integrated or tethered with fiber optic CTX: 1-4 separate flow cell(s) with fiber optic connection Type: Natural Gas, Flare Gas, Field Gas, Vent Gas, and others. Upstream, Midstream, and Downstream applications. Phase: Gas |
| | Property Analysis | <ul style="list-style-type: none"> Composition: C1-C6+ (GPA 2261), C1-C9+ (GPA 2286); or per request Physical Properties: BTU, Relative Density |
| | Sample System | <ul style="list-style-type: none"> None Required |
| | Calibration Gas | <ul style="list-style-type: none"> None Required |
| | Line Pressure | <ul style="list-style-type: none"> 0-1750 psig |
| | Line Temperature | <ul style="list-style-type: none"> -20°F to 200°F (-29°C to 93°C); Higher ranges available |
| | Flow Requirement | <ul style="list-style-type: none"> 1 psi pressure difference required to induce flow |
| | Response Time | <ul style="list-style-type: none"> ~15 seconds per analysis point |
| | Detection Method | <ul style="list-style-type: none"> NIR spectroscopy with on-line bypass flow cell |



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