Verax™ 4C Analyzer

Multi-Stream Measurement of Hydrocarbon Composition and Physical Properties in Natural Gas, NGLs, LPGs, Condensate, Crude Oil, and Refined Products

Critical Data. Real Time.

One Device Measures Both Composition and Properties of Gas and Liquids

The Verax 4C is JP3's advanced four-channel Near-Infrared (NIR) analyzer designed specifically for oil and gas applications. With independent spectrometer detectors enabling simultaneous measurements of up to four different streams, the Verax 4C features faster measurement, enhanced optical components, and an intrinsically-safe flow cell. As a result, the Verax 4C minimizes per-measurement cost while providing significant improvements in measurement speed, quality, repeatability, stability, and reliability in even the harshest environments. Natural gas or hydrocarbon liquids can be accurately analyzed to obtain chemical composition, vapor pressure, BTU value, API gravity, and many other physical properties.

Verax Installation

Measure at the Pipeline at Operating Pressure and Temperature

The Verax flow cell is installed directly on the process at operating pressure and temperature; no sample conditioning system is required. Up to four independent flow cells are connected to the analyzer, each by a pair of fiber optic cables, allowing the analyzer to be located as close to or as far from the process as desired. Each process stream can support any number of compositional and physical measurements. Our advanced technology means the Verax analyzer produces no emissions and requires no carrier gases, calibration gases, or other consumables.

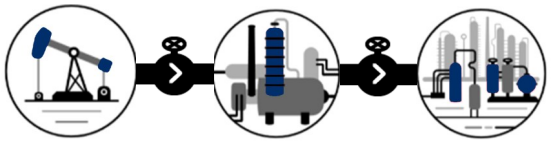
Solid State Spectroscopy for Rapid Response Time

Using a broadly-tunable Near-Infrared (NIR) optical spectrometer and advanced chemometric techniques, the Verax 4C provides direct process readings in a matter of seconds, in both liquid and gas streams. No moving parts, no consumables, and no sample conditioning systems means longer life and reduced maintenance costs. The patented laser source utilizes constant amplitude correction and wavelength calibration to deliver performance that is unmatched in the industry. This swept-source laser delivers a light intensity strong enough to easily measure even the lowest API gravity crudes.

Verax 4C NIR Analyzer

Secure Cloud Connectivity for Remote Monitoring

JP3 Verax's advanced electronics and communication capabilities allow easy integration into your plant networks and systems, and the 4C's Class I Div.2 touchscreen interface makes local monitoring and control easy-to-use and straightforward. The Verax 4C also supports monitoring via secure cellular data connection, making even the most remote unmanned applications possible and economical.



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Verax™ 4C Specifications

Applications	**Fluid Streams**	• Number of independent flow cell read points: 1, 2, 3, or 4 • Type: Natural Gas, NGL, NGL Purity Products & LPGs, Condensate, Crude Oil, Refined Products; Upstream, Midstream, or Downstream Applications • Phase: Gas or Liquid
	Property Analysis	• Composition: C1-C6+, C1-C9+, C1-C12+, C1-C30+ • Physical Properties: API Gravity, BTU, Relative Density/Specific Gravity, Vapor Pressure (RVP, VPCRx, TVP), Boiling Point Curves, RON, MON, Flash Point, Viscosity, and many others
	Sample System	• None Required
	Calibration Gas	• None Required
	Line Pressure	• 0-1750 psig
	Line Temperature	• -20°F to 200°F (-29°C to 93°C); Higher ranges available
	Flow Requirement	• ~1 psi pressure difference required to induce flow
	Response Time	• ~15 seconds per analysis point
	Detection Method	• NIR spectroscopy with on-line bypass flow cell
Electrical	**Input Power**	• 24 VDC / 5A max; or 100-240 VAC / 2.4-1.0A max • For surge protection, 20A breaker is recommended as the customer-provided disconnection device.
	Communications	• MODBUS RTU over TCP or Serial (others available upon request)
	Outputs	• 8 solid state relays for process control • Analog 4-20 mA /0-10 VDC outputs available • Fully configurable alarms/controls
	Interface	• Touchscreen computer user interface • Edge Web HMI
Physical	**Enclosure**	• NEMA 4X IP 66, Powder coated aluminum
	Dimensions	• Control Panel: 24"W x 24"H x 13.5"D
	Weight	• Control Panel: 55lbs. • Flow Cell Assembly: 12lbs.
	Ambient Conditions	• -4°F to 122°F (-20°C to 50°C) • Sunshade recommended if >90°F (32°C)
	Wetted Material	• 316L Stainless Steel, Optional: Hastelloy B or C
	Classification	• Enclosure: Class I, Division 2, Groups A-D, T4 Class I, Zone 2, Group IIC, T4 • Flow Cell: Intrinsically Safe / Class I Division 1 / Zone 1 CRN for AB, BC, SK and ON

For more information:

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