OMA-206P Portable Process Analyzer

Applied Analytics Data Sheet No. DS-002A

A window into your process since 1994.

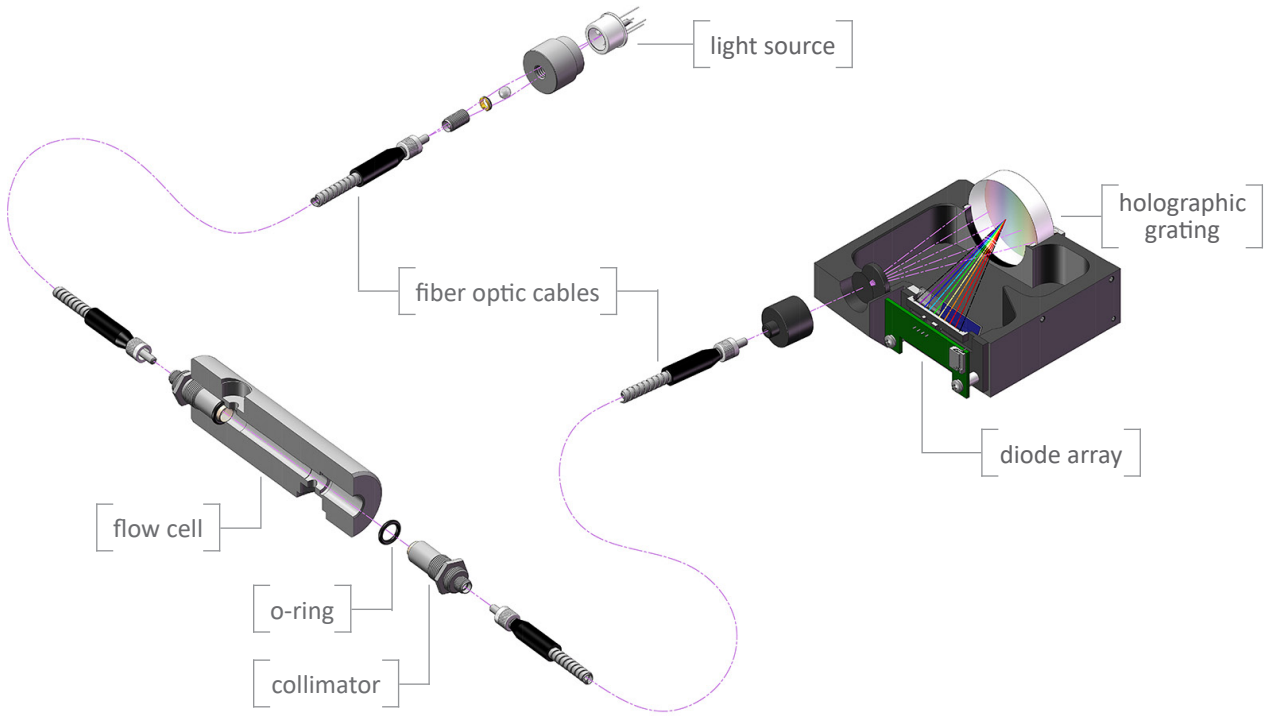
The OMA Process Analyzer continuously measures chemical concentrations and physical properties that can be correlated from the 200-800 nm (UV-Vis) absorbance spectrum.

Model OMA-206P deploys the OMA design in a highly portable, rugged suitcase enclosure.

Features

- Continuously measures up to 5 chemicals' concentrations in a liquid or gas process stream
- Watertight, crushproof, dustproof suitcase enclosure
- Totally solid state build with no moving parts — modern design for low maintenance
- Decades of field-proven performance in the world's harshest industrial environments

Optical Assembly & Principle of Operation



The OMA measurement cycle is virtually instantaneous, but it can be helpful to visualize it in stages:

(1) The white light signal originates in the pulsed Xe lamp that functions as the light source.

(2) The signal travels via fiber optic cable to the flow cell. A collimator narrows the light beam.

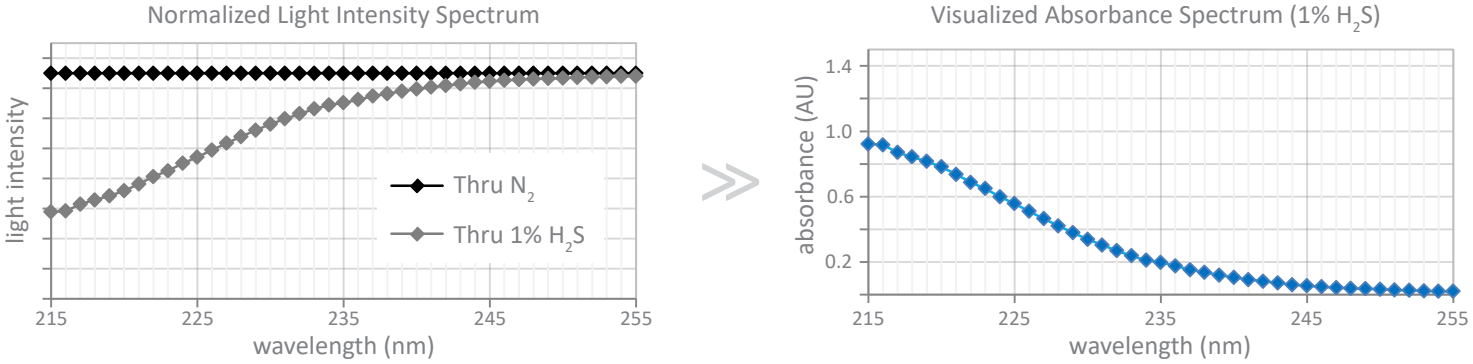
(3) The signal travels directly across the flow cell, interacting with the continuously drawn process sample.

(4) The signal exits the flow cell through a collimator, now containing the distinct absorbance imprint of the current chemical composition of the sample.

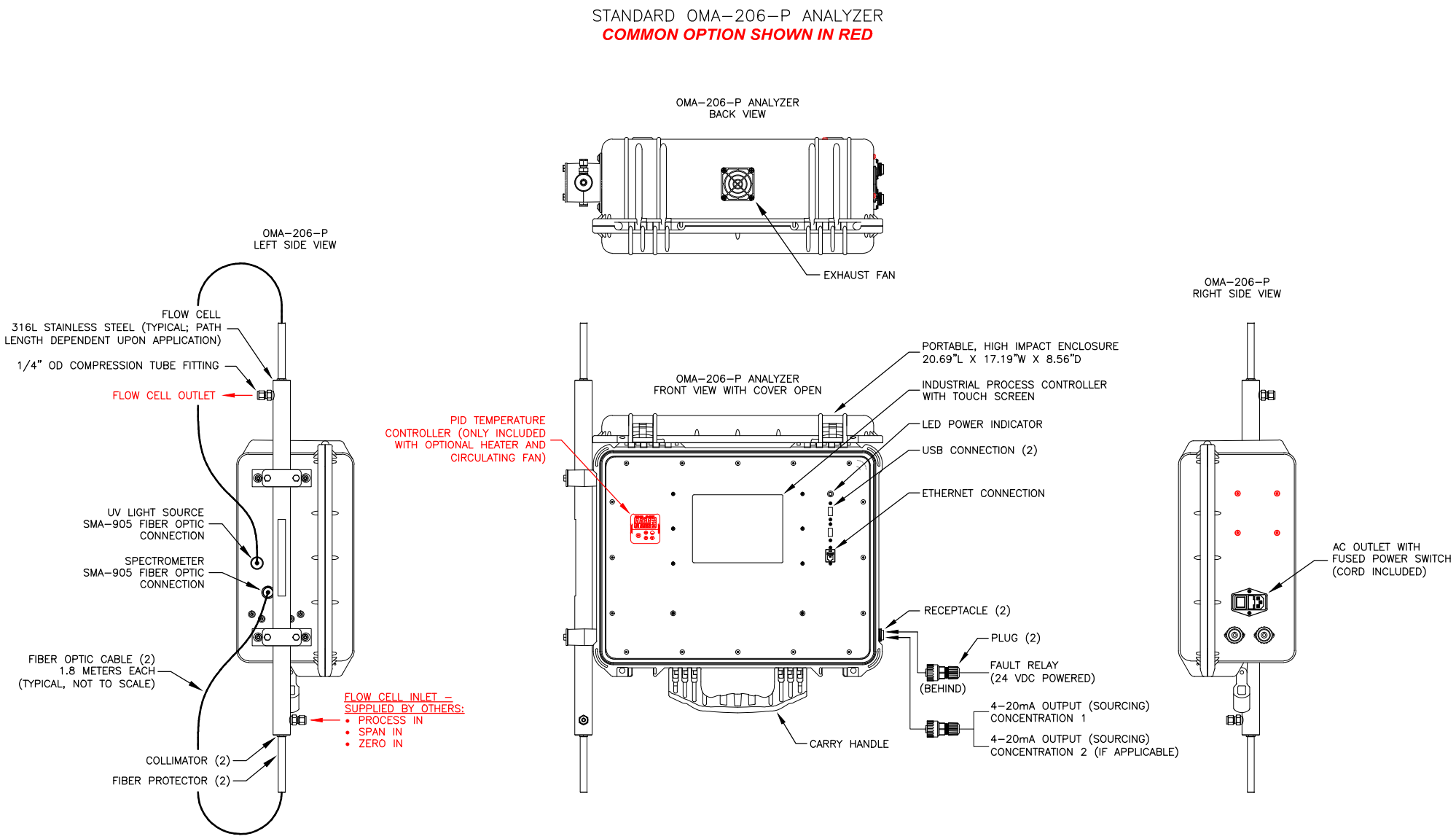
(5) The signal travels via fiber optic cable to the spectrophotometer.

(6) The signal is dispersed by the holographic grating. Each differentiated wavelength is focused onto a designated photodiode within the diode array.

(7) The absorbance spectrum is measured by plotting the lost light intensity at each wavelength:



OMA-206P Technical Drawing



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All performance specifications are subject to the assumption that the sample conditioning system and unit installation are approved by Applied Analytics. For any other arrangement, please inquire directly with Sales.

Technical Data	
General	
Measurement Principle	Dispersive UV-Vis absorbance spectrophotometry
Detector	nova II™ Spectrophotometer Data sheet: http://aai.solutions/documents/AA_DS201A_novaII.pdf
Spectral Range	200-800 nm (UV-Vis model)
Light Source	Standard: pulsed xenon lamp with average 5 year lifespan
Fiber Optic Cables	Standard: 600 µm core 1.8 meter fiber optic cables (qty = 2) Data sheet: http://aai.solutions/documents/AA_DS206A_FiberOptics.pdf
Sample Medium	Gas or liquid
Sample Introduction	Standard: stainless steel 316L flow cell with application-dependent path length Options in data sheet: http://aai.solutions/documents/AA_DS206A_FiberOptics.pdf
Sample Conditioning	Custom designs available
Analyzer Calibration	Suitcase enclosure
Reading Verification	Simple verification with samples and self-check diagnostic
Human Machine Interface	Applied Analytics standard HMI: industrial controller with touch-screen LCD display Data sheet: http://aai.solutions/documents/AA_DS202A_HMI.pdf
User Interface	ECLIPSE™ Runtime Software Data sheet: http://aai.solutions/documents/AA_DS203A_Eclipse.pdf
Data Storage	Solid State Drive Data sheet: http://aai.solutions/documents/AA_DS204A_SSD.pdf
Enclosure	Watertight, crushproof, and dustproof suitcase enclosure.
Enclosure Certification	DEF STAIN 81-41; IP-67; MIL STD-810F; MIL STD-8106J
Measuring Parameters	
Repeatabilty	±0.5% of scale
Photometric Accuracy	±0.004 AU
Sample Conditions	
Sample Temperature	Standard: -20 to 70 °C (-4 to 158 °F) Optional: up to 150 °C (302 °F) with cooling extensions Contact AAI for temperatures above 150 °C (302°F)
Sample Pressure (max)	Using standard flow cell: 206 bar (3000 psi)
Ambient Conditions	
Analyzer Environment	Indoor/Outdoor
Ambient Temperature	Standard: 0 to 35 °C (32 to 95 °F)
Physical Specifications	
Dimensions	16.87” H x 20.62” W x 8.12” D (428mm H x 524mm W x 206mm D)
Weight	25 lbs. (11 kg)
Wetted Materials	Standard: Fused silica, Viton, stainless steel 316L *Various custom materials available — please inquire.*
Utility Requirements	
Electrical Requirements	120 or 264 VAC
Power Consumption	45 watts

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