Process Insights™
Premium Insights Into Process

PROCESS ANALYZER

PRODUCT DATASHEET

ClearView® db APHA /Pt-Co (Hazen) Color Analyzer

Complete Analytical System for Measuring APHA Color (Platinum-Cobalt ASTM D1209)

Real-time

Configurable

Continuous PAT

- VIS-NIR analyzer using dual-beam filter photometer technology
- Suitable for fuel color analysis and other petroleum products
- Color measurement with optional turbidity/haze measurement
- Sample interface, insertion probe or flow cell (30 or 50 mm optical pathlength)

Analytical System for Measuring APHA/Platinum-Cobalt Color (ASTM D1209)

This test method describes a procedure for the visual measurement of the color of light-colored liquids. It can be referred to by several different names: APHA, Platinum-Cobalt, or Hazen. The measurement was originally developed to detect contamination of water supplies as detected by a slight yellow color. Today it finds use in many industries to measure slight yellowness to determine product quality (either degradation or impurities).

The APHA/Platinum-Cobalt color scale is described in ASTM D1209 "Standard Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)". This ASTM method is an off-line manual laboratory method. The original test design required an observer to compare the color of a product to a known standard, and then judge the "color." The APHA/Platinum-Cobalt color scale ranges from 0 to 500. The lowest value of 0 is referred to as water white. A value of 500 is distinctly yellow.

Using a APHA/Pt-Co Color Analyzer System to automate this measurement within a process, eliminates the visual judgement of a technician and delivers online real-time process control information to the process operators.

System Configuration

The APHA/Pt-Co Color Analyzer System is a complete solution.
The "ready-to-go" analytical system includes:

- Analyzer – ClearView® db filter photometer technology
- Fiber optic cables
- Sample interface – insertion probe or flow cell
- Control software and specific color application calibration

Accurate, Real-time Reliable Results

The APHA/Pt-Co Color Analyzer System utilizes a multi-wavelength ClearView db filter photometer analyzer platform. It may be configured for either one (1) or two (2) independent sample monitoring points. The ClearView db analyzer is configured with application appropriate wavelengths to measure the APHA/Platinum-Cobalt color of the sample. The analyzer employs a dual-beam design – meaning; the system has a continual internal optical reference check that allows it to self-compensate for signal variation due to hardware drift. This ultimately provides the system with long term stability. The final product is a total APHA/Pt-Co Color Analyzer System that measures the color variation without interference from other factors.

Complete APHA/Pt-Co Color Analyzer System

- Unique dual beam optics – for long term, stable operation
- Up to two (2) independent measurement points – for added analytical flexibility at reduced cost per point
- High efficiency yet rugged fiber optics – analyzer electronics can be located away from a hazardous sample point
- In-door touch screen or Ethernet (Modbus TCP) – easy local or remote analyzer operation and control
- Analytical calculations are all encoded in the software – answers and alarms are clearly reported

The Smart Choice

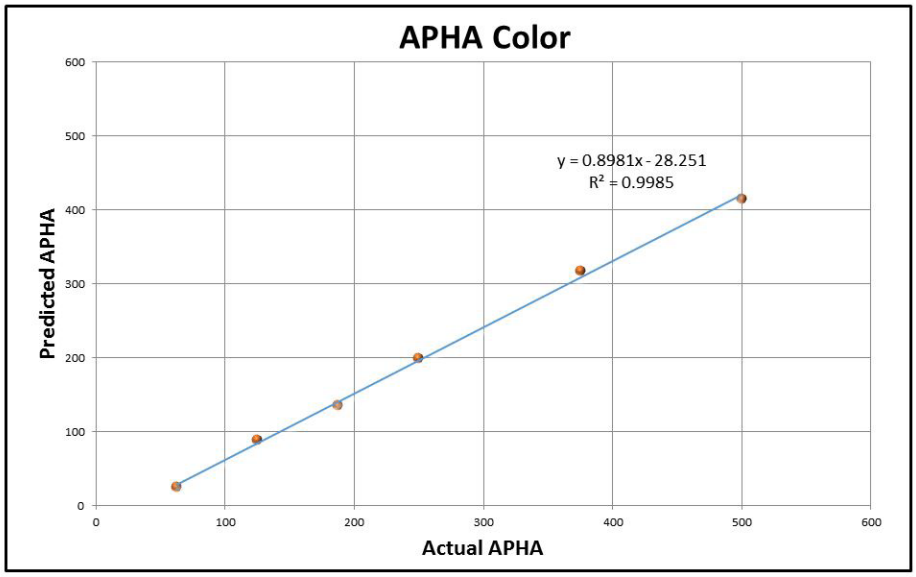
The GUIDED WAVE APHA/Pt-Co Color Analyzer System delivers accurate, real-time process measurement results. Its linearity and repeatability, as well as its low maintenance requirements make it a cost effective, smart choice to help optimize production, improve yields, ensure consistent product quality, and enhance profitability.

Options for a Custom Solution

Another advantage of the APHA/Pt-Co Color Analyzer System is that is can be customized in many ways. For more information about specifications and analyzer operations review the ClearView db Analyzer.

Specifications	
Channels	2 sample channels, optional turbidity monitoring must use first channel
Analyzer Technology	Fiber optic dual-beam ClearView db photometer
Light Source/Life Tungsten Halogen	Tungsten-Halogen, >4000 hours typical
Fiber Optic Cable Connectors	SMA 905
Communications	Ethernet (TCP Modbus) standard
Photometric Noise	<50 µAU 450-2100 nm 1 minute rms
Enclosure Options	General Purpose NEMA 4 unclassified Z-Purge, NEMA 4x, CI D2 X-Proof, ICEEx, ATEX, CI D1
Environmental	0 – 45°C, 0 – 90%, sun and rain sheltered
Photometric Drift	<500 µAU rms/ °C
Response Time	1 second, minimum. user settable
Outputs (analog)	Up to 6 for a one channel unit; up to 4 per channel for a two channel unit 4 – 20 mA; customer powered
Outputs (discreet)	Up to 6 for a 1 channel unit; up to 4 per channel for a 2 channel unit contact closures
Inputs (analog)	4 (optional) 4 – 20 mA, isolated grounds
Local Display	LCD touch screen, color QVGA
Power	24 VDC, 3 A; 72 watts
Measurement Accuracy	Complies with ASTM method D1209
Measurement Range	0-500 APHA/Platinum-Cobalt units (Pathlength can be optimized to increase sensitivity)

Below is an initial calibration chart showing the measured values as compared to laboratory standard values.



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PROCESS ANALYZER

GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights manufactures and delivers premium sensors, monitors, detectors, analyzers, instrumentation, and software that are mission-critical to keep your operations, personnel, and the environment safe – every day across the globe.

Get the most reliable, precision analytical technologies available on the market today. We will work to match your needs and budget, and provide the optimal, and most stable process analysis solution for your application.

CENTERS OF EXCELLENCE | PROVIDING PROVEN SOLUTIONS

Process Insights is committed to solving our customers' most complex analytical, process, and measurement challenges everyday.

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