

PRODUCT DATASHEET

ASTM ClearView db Color Analyzer

Complete Analytical System for Measuring
ASTM Color (ASTM D1500, ASTM D1524)



Real-time

Configurable

Continuous PAT

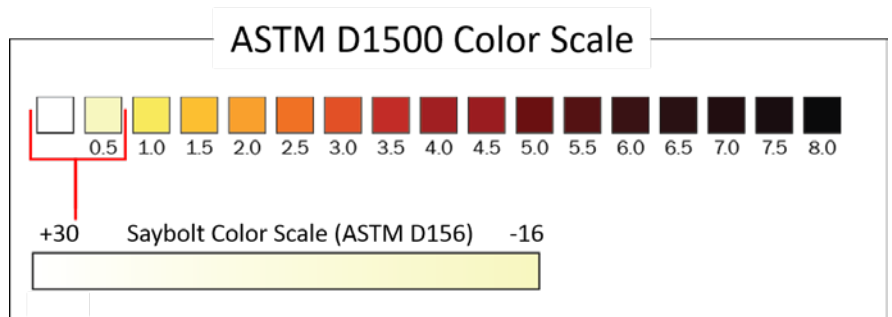
- VIS-NIR analyzer using dual-beam filter photometer technology
- Suitable for fuel color analysis and other petroleum products
- Color measurement with optional turbidity/haze measurement
- Sample interface, insertion probe or flow cell (5 mm optical pathlength)

Analytical System for Measuring ASTM Color (ASTM D1500, ASTM D1524)

The visual ASTM color test is often used for field examination control purposes because it is an easy, rapid determination of product quality or contamination before doing a full evaluation. ASTM color (references ASTM D1500, ASTM D6045) is primarily used in characterizing high chroma or more colorful petroleum products. These fuels include lubricating oils, heating oils, diesel fuels, and petroleum waxes. The ASTM- scale shows a range of 0 ASTM (no color) up to 8 ASTM (dark / nearly black color). Products with low color less than 0.5 ASTM are often measured by using the Saybolt color (ASTM D-156). Both of these ASTM methods are off-line manual laboratory evaluations.

These test require an observer to compare the color of a product to a known standard, and then judge the “color”. Using a Guided Wave ASTM Color Analyzer system automates the color measurement within the process, ensuring the most accurate product quality standard during

manufacturing. The analyzer eliminates the visual judgement of a technician and delivers online real-time process control information to the process operators.



System Configuration

The Guided Wave ASTM 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 ASTM application calibration

Complete ASTM 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

Accurate, Real-time Reliable Results

The ASTM Color Analyzer system utilizes a Guided Wave 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 ASTM 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 ASTM Color Analyzer System that measures the color variation without interference from other factors.

The Smart Choice

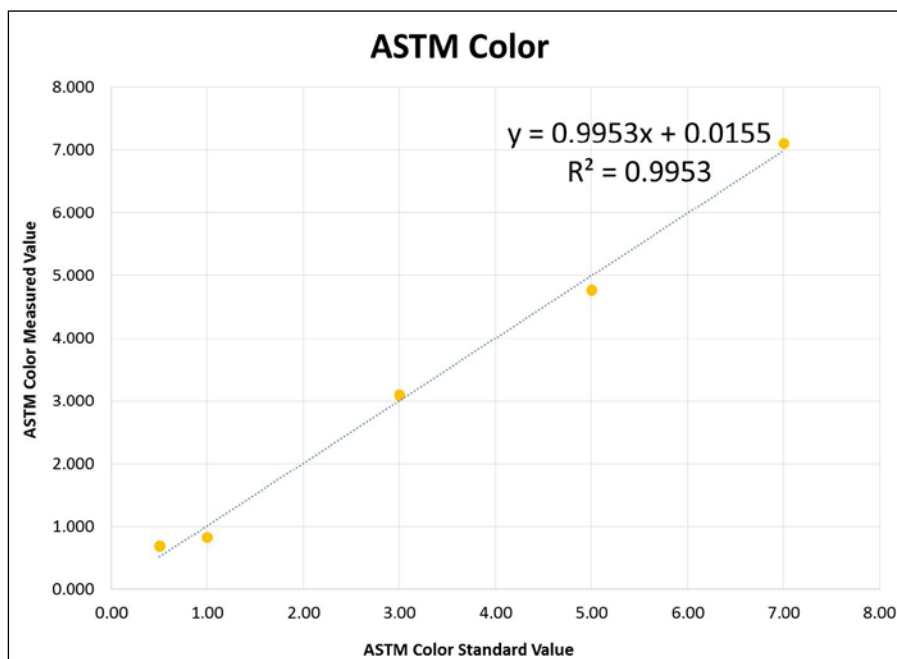
The Guided Wave ASTM Color Analyzer system delivers accurate, real-time process measurement results. Its linearity and repeatability, as well as its low maintenance requirements make it a cost effective, smart choice to help optimize production, improve yields, ensure consistent product quality, and enhance profitability.

Options for a Custom Solution

Another advantage of the ASTM Color Analyzer system is that it 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 μ AU 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 μ AU 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 methods D1500, D1524
Measurement Range	0.5 to 7 ASTM 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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Our commitment is to deliver smart and affordable innovation that optimizes process, improves safety, and transforms our world.

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