

Velox 3100

PDA UV-VIS Spectrophotometer



The Velox 3100 is a high-performance photodiode array (PDA) UV-VIS spectrophotometer that combines speed, stability, and ease of use. It is designed to support a wide range of applications, including material analysis, kinetics, pharmaceutical QA/QC, biotechnology, food and beverage testing, and academic research.

Features

- **Ultra-Fast Full Spectrum Scanning**
Scan the 190 ~ 1100 nm wavelength range in 1 second with advanced 1024-channel PDA technology.
- **Mechanics-Free Optical System**
All-in-one modular design with no moving parts ensures long-term stability, easy maintenance, and uninterrupted performance.
- **Open Sample Compartment**
Open design allows quick sample exchange, accommodates various accessories, and minimizes stray light interference.
- **Versatile Measurement Modes**
From routine photometric analysis to advanced bio and life science research – including DNA/protein quantitation – powered by intuitive, streamlined software.
- **Flexible Accessory Options**
A comprehensive range of accessories enables tailored configurations to meet diverse analytical needs.

Software

Basic Mode

- Spectrum display
- Quantification
- Kinetics: Time- and Temperature-Based analysis

Bio Mode

- Supports measurements of nucleic acids, protein analysis, cell density, enzyme activity, enzyme mechanisms, and thermal denaturation.

Color Analysis

- Measures various color indices.

MCA

- Quantifies up to four components in a mixture.

Ultra Kinetics Mode

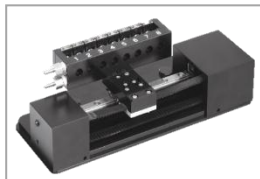
- Real-time full-spectrum data acquisition at 20 ms intervals.

Validation

- Performs validation of absorbance, wavelength, stray light, and spectral resolution.



Single Cell Holder



Water Jacketed 8-Position Multi-Cell Holder



Advanced Transmittance Holder



Reflectance Module



Single Peltier Temp Control Unit, Multi Peltier Control Unit



Diffuse Reflectance

Specifications

Model	Velox 3100
Technology	Photo Diode Array
Light Source	Tungsten / Deuterium
Detector Type	Photo Diode Array, 1024 channels
Wavelength Range	190 - 1100 nm
Spectral Resolution	1 nm
Wavelength Accuracy	± 0.2 nm (at D2 peak 656.1 nm) ± 0.5 nm (Holmium Oxid Solution)
Wavelength Reproducibility	< 0.02 nm
Photometric Range	± 3 A
Photometric Accuracy	± 0.005 A at 0.2, 0.5, 1.0 A (NIST 930e) ± 0.01 A, 60 mg/L Potassium Dichromate
Photometric Reproducibility	<0.001 A (0.2 and 0.5 A) <0.002 A (1.0 A)
Stray Light	< 0.03%T at 340 nm (Sodium Nitrite) < 0.05%T at 220 nm (Sodium Iodide) < 1.00%T at 198 nm (Potassium Chloride)
Baseline Flatness	< 0.0005 A
Photometric Noise	< 0.0001 A at 300 nm
Photometric Stability	< 0.001 A/h at 0 A, 300 nm after 1 hour warm-up
Dimensions (W x D x H)	541 x 450 x 232 mm
Weight	16.5 Kg
Electrical Supply	AC 100 – 240V, 85 W
Environmental Requirements	Temperature: 15 ~ 35 °C Humidity: up to 80% (Non-condensing)