Absorbance Measurement System

BIX-8813 Series

When a beam of light passes through a certain substance (usually a solution), the substance absorbs part of the light energy. The extent to which the light is absorbed can be measured using absorbance. Absorbance measurement is widely applied in spectral measurement techniques for liquids and gases in scientific research projects, as well as in industrial scenarios for testing the concentration of specific substances. The relationship between the absorbance of a solution and its concentration is known as the Lambert-Beer Law. By using a spectrometer to test several solution samples with known Molar concentrations, a calibration curve matching the relationship between solution absorbance and concentration can be calculated, thereby enabling the measurement of concentrations in other samples.
Compared to traditional experimental methods for determining absorbance, spectrometer testing is simple, efficient, and yields precise and reliable results. This liberates researchers from tedious experimental procedures and reduces human error. Spectrometer are designed with a modular approach, allowing for flexible configuration changes to expand their applications in response to evolving experimental needs.

Sampling absorbance measurement

Immersion absorbance measurement

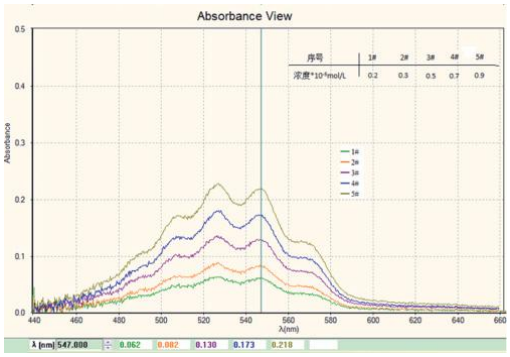
Features

- User-friendly operation with intuitive and reliable data output
- Flexible measurement modes (sampling or immersion) for different scenarios
- Simple operation, high repeatability, and rapid detection
- Full-spectrum absorbance & curve display for easy data reading

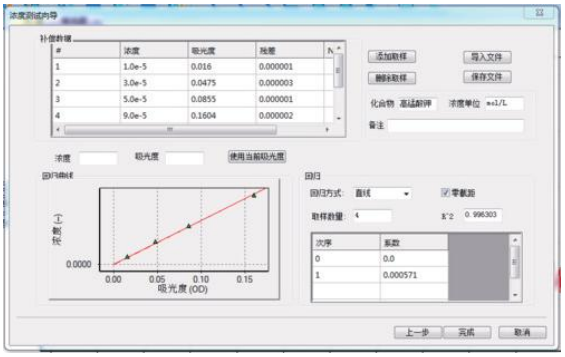
Applications

- Absorbance measurement for material characterization
- Quantitative analysis of substances concentration
- Absorption property measurement and analysis

Typical Spectrum



Absorbance curves of $KMnO_4$ solutions with different concentrations



Establish a concentration data model to calculate the unknown concentration of $KMnO_4$ solution

Specifications

Model	BIX-8813-0X1X (Model Note: 0X- Spectrometer option, 1X- Sample fixture option)
Spectrometer	01: 200nm~1100nm (BIM-6002S-22-S03L02F06G13)
	02: 200nm~900nm (BIM-6002A-01-S03L02F06G01)
	03: 400nm~1100nm (BIM-6002A-13-S03L01F05G02)
Sample Fixture	11: 1 to 1 fiber (SIM-6102-1010-S/S-P) *2ea Cuvette Holder (BIM-6305-01) *1ea Quartz Cuvette (SIM-6301-Q10) *1ea
	12: Immersion fiber probe (SIM-6122-0615) *1ea Reflector for immersion fiber probe, (SIM-6122-H10) *1ea
Light Source	Deuterium Tungsten Light Source (BIM-6203) *1ea