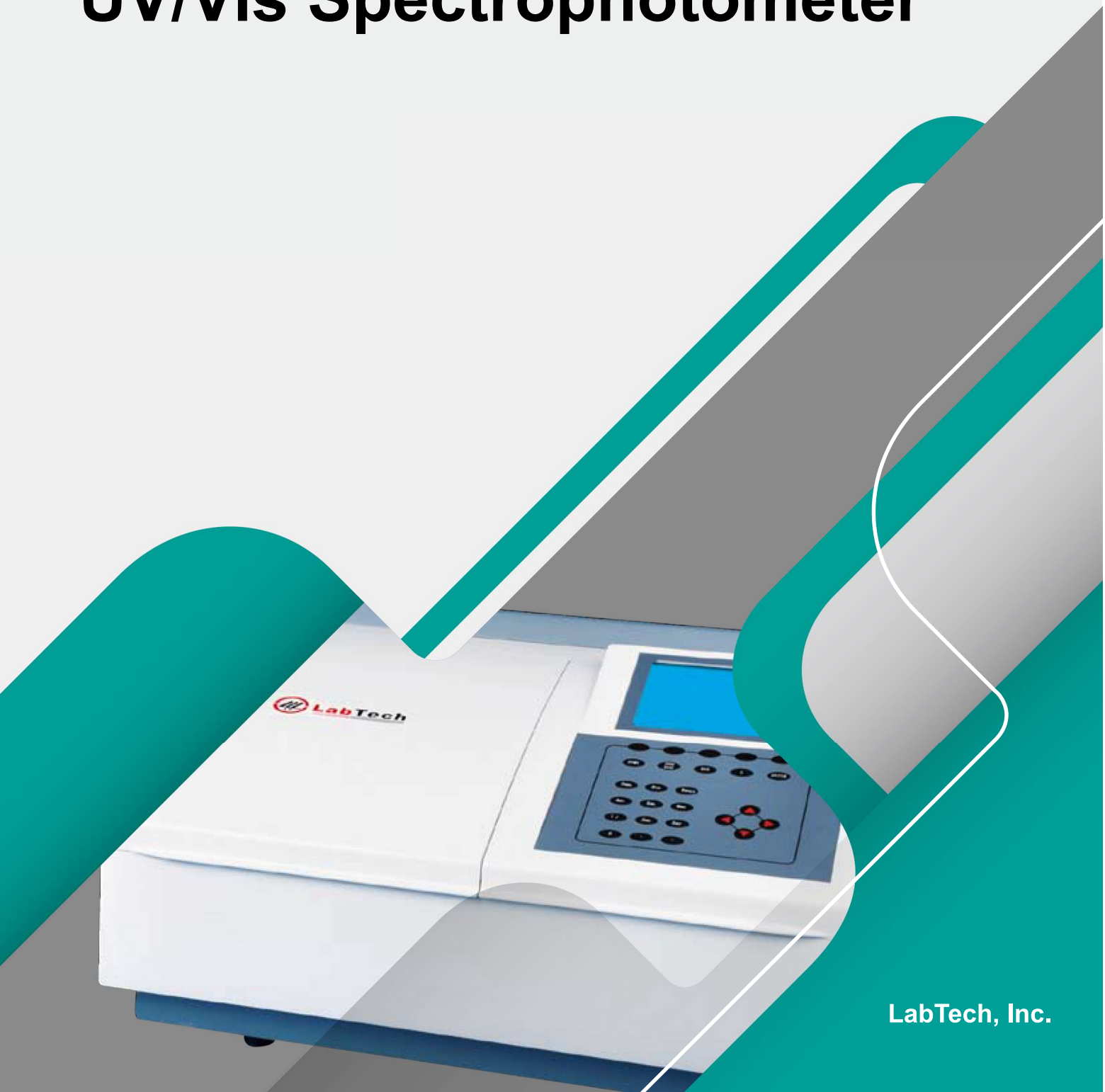
LabTech

Your Lab,Our Tech

UV/Vis Spectrophotometer



LabTech, Inc.

UV/Vis Spectrophotometer

LabTech UV-Vis spectrophotometer has been synonymous with excellence and high performance. It is the core of powerful UV-Visible systems for the diverse application and suitable for environmental, pharmaceutical, life science, agricultural, and clinical lab applications as well as routine applications such as photometric measurement, quantitative analyses, kinetics, spectrum scanning, and multiple components analysis etc.

Pharmaceutical analysis

Life science

Agriculture

Food Safety

Environmental Monitoring

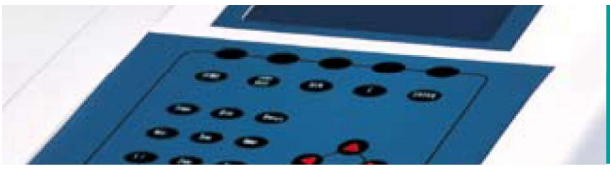
Geology

Higher education and research

Inspection and Quarantine

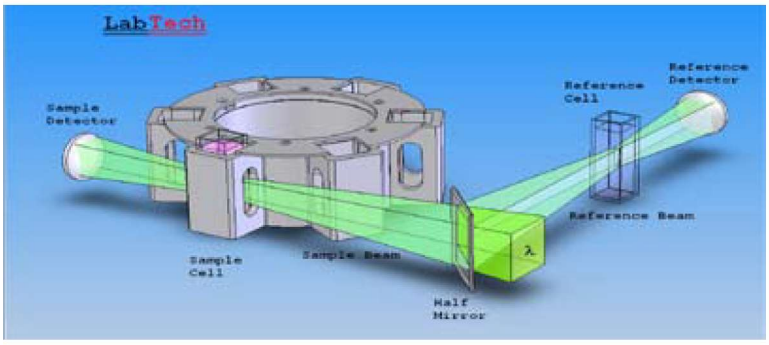
Excellent Performance

- Streamline surface avoiding sample splashing into internal space
- Real time symmetric double beams system
- Wide wavelength range from 190nm to 1100nm
- Five slits: 0.5nm, 1nm, 2nm, 3nm, and 5nm
- High efficient plane holographic grating with precision sine drive mechanics
- Compact optical path and electronics systems with small footprint
- Few moving parts in the system guaranteeing the highest stability
- Quartz overcoating and sealed optics are prevented from the exposure to corrosive environments
- Light source records working time automatically and is easily replaced without adjustment
- Automatic six-position cell holder enormously shorten sample exchange time
- Intellectual self-checking function is convenient for trouble shooting and maintenance
- High degree automation: automatic wavelength positioning, automatic wavelength calibration, automatic light switch, automatic sample cell switching, automatic current correction, and automatic instruments parameters recording
- Support standalone and PC control for diverse applications
- Various sample cell and holders
- Powerful software with package for biotest and water quality test



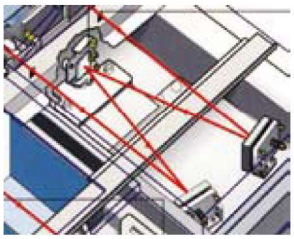
Excellent Performance

Real Double Beam System



- Real-time calibration
- Stable performance
- High scan speed without distortion

Crossed C-T Mode

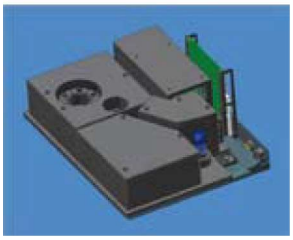


- High efficient plane holographic grating
- High accurate sinusoidal grating driving technique
- Optical parts with SiO_2 overcoating
- Sealed monochromator
- Autoswitch of light source
- Stray light: 0.03%T

Automatic Six-position Cell Holder

- Capacious sample compartment can hold up to 100mm cell
- Various of cell holders can be selected for different application
- Auto rotary six-position cell holder, shorten the sample exchange time
- Entrance port and exit ports of the light beam in the sample chamber are protected by quartz window, to prevent the optical system from contamination.

Unique Mechanical Design



- Sealed optical system, air contamination resistant
- Dust-proof, damp-proof, anticorrosive
- Stable circuit
- Low interior heating dissipation does not interfere optical parts
- High efficiency, low power consumption
- Effective anti-external interference
- Extremely low background noise

High-quality Components

- Most of key components are chosen from the world's best manufacturers such as deuterium lamp, silicon photodiode detector and holographic grating
- Careful selection of these components ensures the instruments' reliability, accuracy and long lifespan

Various Cells

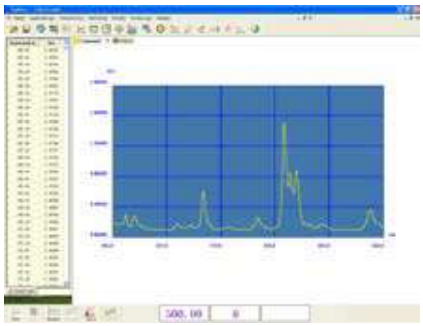
Satisfy different application requirements

User friendly Interface

Powerful Software

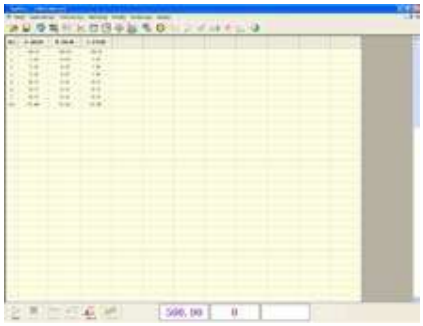
Spectrum scanning

- Sample characteristics can be scanned in the wavelength range of 190 ~ 1100nm, spectral curve range can be arbitrarily set
- Minimum sampling interval of 0.05nm, three grades of scanning speed: fast, medium and slow
- Comprehensive spectrum data processing technology: the spectral curve data tracking, range reset, peak detection, spectral transform, mathematical calculations, and multiple spectra superimpose
- Parallel data module designed to achieve up to 100 spectra data processing, storage, and review at anytime



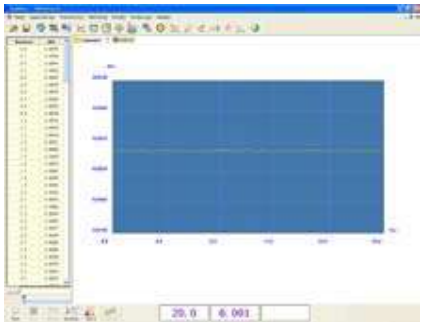
Photometric measurement

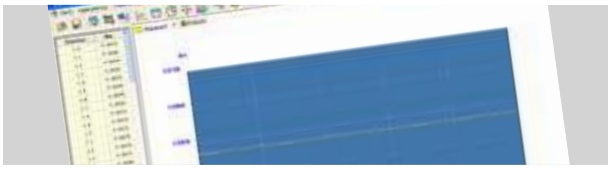
- The photometry provides 10 optional wavelengths for users to measure the absorbance or transmittance



Kinetic measurement

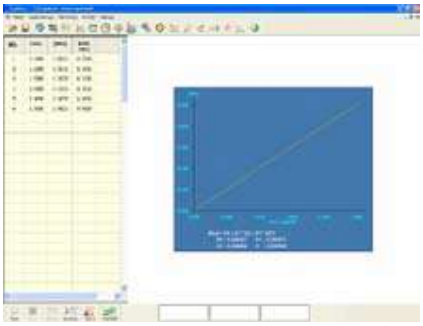
- Single-wavelength sample scanning measurement to analyze the chemical reaction process over time.
- The measurement time, the sampling interval (minimum 0.1s), the photometric range can be arbitrarily set
- Spectral data processing technology can reset the display range, track data, detect peak, and transform spectrum





Powerful Software

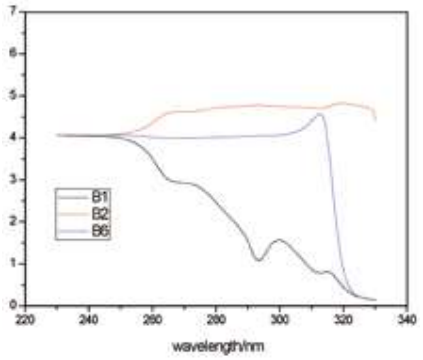
Quantitative determination



- Maximum input standard of 20 points with the method of least squares regression. Linear, linear zero-crossing, secondary, second over zero are optional for curve fitting. Curve regression is more accurate
- Sample analysis with double correction of reagent blank and sample blank double correction
- Analytical methods

Single wavelength standard coefficient method
Dual-wavelength K-ratio method
Dual wavelength equal absorption point method
Three-wavelength method

Multi component analysis



- Mathematical filtering method and mathematical equation simulation
- Concentrations of mixed 10 fractions in the sample can be analyzed without the separation process
- Simple operation, rapid analysis, and accurate results provide an innovative detection method for the direct determination of the mixture
- Widely used in various fields of medicine, food, fuel, paint, etc

Software package for biochemical test and water quality test

Providing experimental methods of protein detection, water testing analysis, etc. for users to reduce the user query and parameters set. In addition, providing users with the "customized" option to arbitrarily set and save parameters based on experimental needs.

Powerful data processing abilities

- Spectrum analysis
- Tracing date. Showing the position of current measuring point
- Detecting peak and valley. Intensity of peak and valley is presented in the table, while spectrum is shown.
- Transferring spectrum Abs-T% conversion, smooth, logarithmic, fourth derivative calculation
- Arithmetical operation. Four arithmetic operations such as addition, subtraction, multiplication and division to deal with measurement data

Printing report

Save and print each analysis report

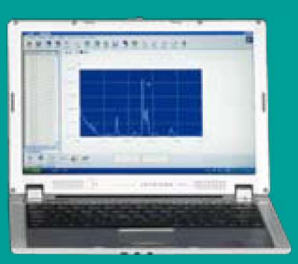
Powerful data storage

- 32-bit processor, more data storage capacity
- Local 32M
- Analyzed data can be saved into mobile hard drive through USB interface adapter, data transmission is more convenient, and more data storage capacity

BlueStar Series

LabTech's BlueStar range UV-Vis spectrophotometer with fixed bandwidth of 1 nm or 2nm is a high-performance, reliable, and exceptional value instrument.

It is available for both local and PC control, standard single cell, powerful software suitable for photometric measurement, spectrum scanning, quantitative determination, kinetic measurement, multi component analysis, data processing etc.



Technical Parameters

Model	Bluestar A	Bluestar B
Optical System	C-T monochromator, Holographic grating	
	Split Beam	
Wavelength range	190~1100nm	
Spectral bandwith	2nm	1nm, 2nm
Wavelength accuracy	±0.8nm	
Wavelength repeatability	0.2nm	
Absorption range	-3~3Abs	
Photometric accuracy	±0.002A(0~0.5A), ±0.004A(0.5~1.0A), ±0.3%T	
Photometric repeatability	≤0.001A(0~0.5A), ≤0.002A(0.5~1.0A), ≤0.15%T	
Stray light	0.05%T	
Baseline straightness	0.002A	
Wavelength scan speed	Adjustable(Fast, Middle, Low)	
Drift	≤0.0005A/h (500nm,0A)	
Noise	±0.0002A (500nm, P-P)	
Detector	Si-Photodiode	
Light Source	Halogen tungsten/Deuterium lamp (Auto-switch)	
Cell holder	Standard 10mm cell holder/optional 6-position cell holder	
Control Mode	Local/PC Control	
Display	320 x 240 pixels, LCD	
Control mode	Local/PC control	
Dimensions	W500xD475xH 245mm	
Weight	22Kg	