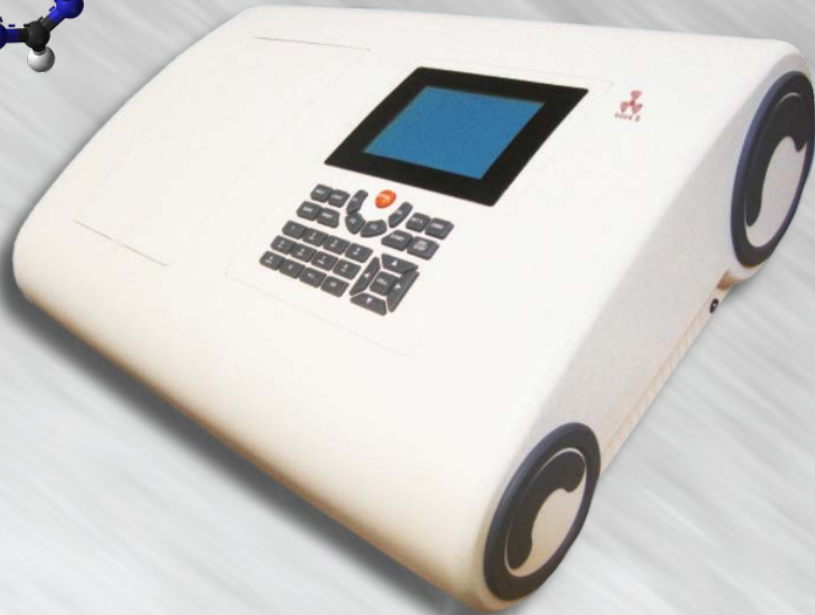
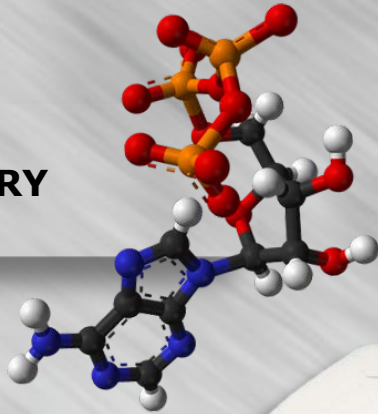




# UV-VIS Double Beam Spectrophotometers

BIOCHEMISTRY

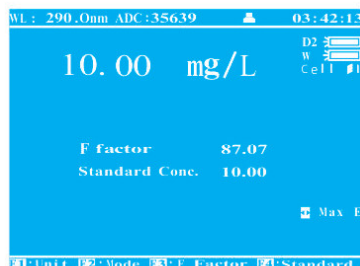


LABORATORY



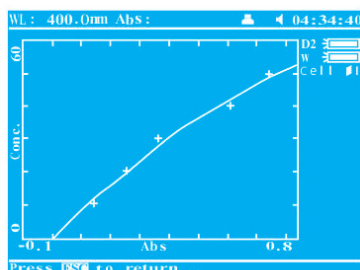
# Double Beam UV-VIS Spectrophotometers

DOUBLE BEAM UV-VIS Spectrophotometers with more accuracy and flexible requirements. Two detectors are used to measure sample and reference respectively and simultaneously for optimizing measurement accuracy. It has wide wavelength range satisfying requirement of various fields, such as biochemical research and industry, pharmaceuticals analysis and production, education, environment protection, food industry etc.



## • Basic Mode

To measure the Absorbance and transmittance



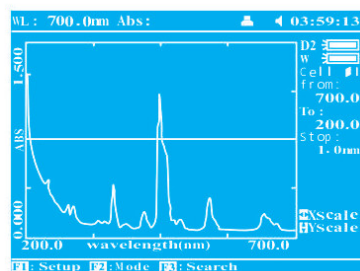
## • Quantitative

1. Coefficient Method
2. Standard Curve Up to 10 Standard sample may be used to establish a curve. Four methods for fitting a curve through the calibration points : Linear fit, Linear fit through zero, Square fit and cubic fit.



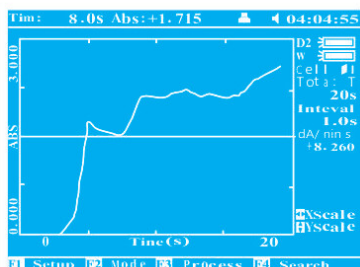
## • DNA/Protein Test

Concentration and DNA purity are quickly and easily calculated:  
Absorbance ratios 260nm/280nm with optional subtracted absorbance at 320 nm.  
DNA concentration =  $62.9 \times A_{260} - 36.0 \times A_{280}$   
Protein concentration =  $1552 \times A_{260} - 757.3 \times A_{280}$



## • Wavelength Scan

1. The wavelength scan intervals are 0.1, 0.2, 0.5, 1, 2, 5 nm
2. High, medium and low scan speed are available.  
They change from 100 to 3600 nm/min
3. Wavelength are scanned from high to low so that the instrument waits at high WL. and it minimizes the degradation of UV sensitive samples.



## • Kinetics

This mode may be used for time course scanning or reaction rate calculations. Abs vs time graphs is displayed on the screen in real time  
Wait time and measurement time up to 12 hours may be entered with time interval of 0.5, 1, 2, 5, 10, 30 seconds and one min. Post-run manipulation includes re-scaling, curve tracking and selection of the part of the curve required for rate calculation. Rate is calculated using a linear regression algorithm before multiplying by the entered factor.

\*Design & Specification are subject to change without any prior notice  
\*OEM option available

# ES-2800/ES-2802

Double beam UV-VIS Spectrophotometers



Cod. **ES-2800**  
With single cell holder

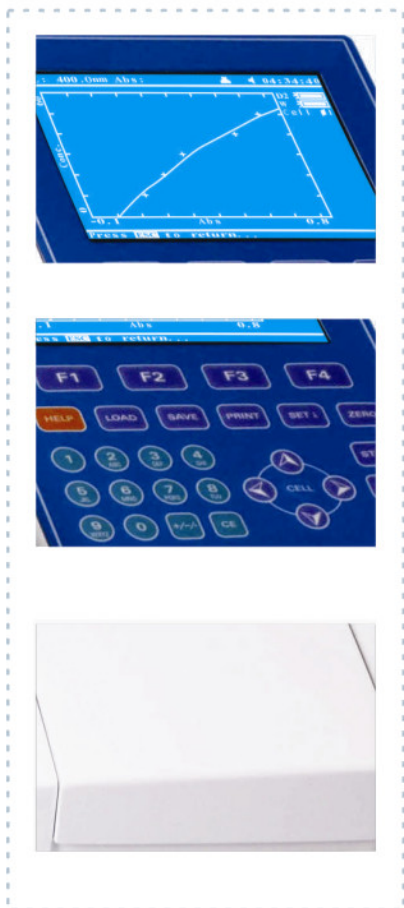
Cod. **ES-2802**  
With eight cell holder

## Technical features:

Optical System	Double beam (1200 lines/mm Grating)
Wavelength Range	190-1100nm
Mode	Basic, Quantitative, Wavelength Scan, DNA Protein Test, Kinetics
Scanning Speed	Fast/Medium/Low
Band Width	1 nm
Wavelength Accuracy	± 0,1nm
Wavelength Repeatability	0,1 nm
Photometric Accuracy	± 0,3 %T
Photometric Repeatability	0,2%T
Photometric Display Range	0-200 % T, -0,3-3,0 A, 0-9999 C
Stability	0,001A/h @ 500nm
Baseline Flatness	± 0,001 A
Noise	± 0,001 A
Stray Light	≤ 0,05 % T @ 220nm, 360nm
Data Output Port	USB
Printer Port	Parallel Port
Display	Graphic LCD (320x240 Dots)
Lamps	Deuterium Lamp & Tungsten Halogen Lamp
Detector	Silicon Photodiodes
Packing Dimensions	790x590x370mm ( LxWxH)
Net Weight	26kg

## Standard configuration:

- 4 Glass Cells
- 4 Quartz Cells
- 2 Fuse
- 1 Instrument Cover
- 1 Software Cover
- 1 Software CD
- 1 USB Cable
- 1 Operational Manual



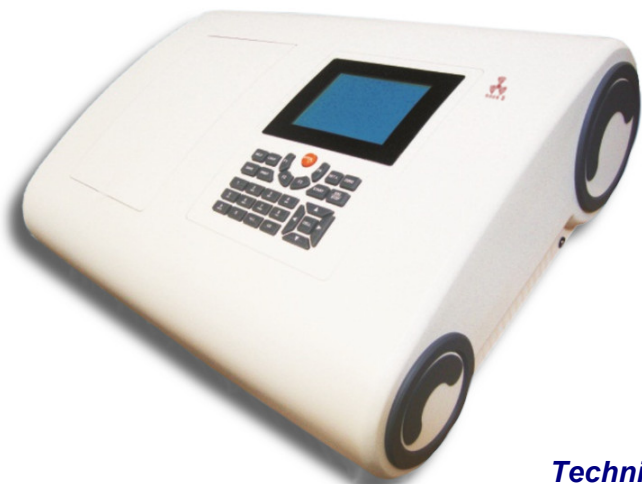


# ES-2904

## Double beam UV-VIS Spectrophotometers

Cod. **ES-2904**

With variable bandwidth  
and eight cell holder



- Wide Wavelength range, satisfying requirements of various fields.
- Fully automated design, realizing the simplest measurement & satisfying pharmacopoeia requirements.
- Maximum of 9 Wavelength & 8 samples can be measured at one time.
- Automatic change-over between W lamp & D2 lamp
- Optimized optics and large scale integrated circuits design, light source and receiver from world famous measurement methods all add up to high performance and reliability.
- Rich measurement methods: wavelength scan, time scan, multi-wavelength determination, multi-order derivative determination, double-wavelength method and triple-wavelength methods etc, meet difference measurement requirements.
- Automatic 10 mm 8-cell holder.
- Data Output can be obtained via a printer port and a USB interface.
- Parameters and data can be saved for user's convenience.
- PC controller measurement can be achieved for more accurate and flexible requirements.

### Technical features:

Optical System	Double beam (1200 lines/mm Grating)
Wavelength Range	190-1100nm
Mode	Basic, Quantitative, Wavelength Scan, DNA Protein Test, Kinetics
Scanning Speed	Fast/Medium/Low
Band Width	0,5 / 1,0 / 2,0 / 4,0 nm
Wavelength Accuracy	± 0,3nm
Wavelength Repeatability	0,2 nm
Photometric Accuracy	± 0,3 %T
Photometric Repeatability	0,2%T
Photometric Display Range	0-200 %T, -0,3-3,0 A, 0-9999 C
Stability	0,001A/h @ 500nm
Baseline Flatness	± 0,001 A
Noise	± 0,001 A
Stray Light	≤ 0,05 % T @ 220nm, 360nm
Data Output Port	USB
Printer Port	Parallel Port
Display	Graphic LCD ( 320*240 Dots )
Lamps	Deuterium Lamp & Tungsten Halogen Lamp
Detector	Silicon Photodiodes
Packing Dimensions	860x660x465mm ( LxWxH)
Net Weight	26kg



### Standard configuration:

- 4 Glass Cells
- 2 Quartz Cells
- 2 Fuse
- 1 Instrument Cover
- 1 Software Cover
- 1 Software CD
- 1 USB Cable
- 1 Operational Manual
- 1 Software Manual
- 1 Software Key



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