

## **PV1 Single Beam VIS Spectrophotometer**

As a part of Precision Series, ultrassay™ PV1 Single Beam Vis Spectrophotometer is a user-friendly instrument with advanced performance. With its optimized optical path design, it is highly accurate and reliable. It provides several basic functions, such as photometry test and quantitation test. Optionally, It can be connected with computers through USB interface and controlled by the included EasyUV 1.0 software.



**YBO TECHNOLOGIES CO., LTD.**

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## Technical Specifications

Model		PV1 Vis Spectrophotometer
Optical System		Single Beam
Light Source		Tungsten Lamp
Detector		Silicon Photodiode
Bandwidth		4nm
Wavelength	Range	320 – 1050nm
	Accuracy	±0.8nm
	Repeatability	≤0.4nm
	Display	0.1nm
	Gyration speed	10000nm/min
	Scan speed	—
Photometric	Range	-0.301 – 3A, 0 – 200%T, 0 – 9999.9C
	Accuracy	±0.003A @ 0.5A, ±0.006A @1A, ±0.5%T @ 0 - 100%T
	Repeatability	±0.0015A @ 0.5A, ±0.003A @1A, ±0.2%T @ 0 - 100%T
	Noisy	≤0.0005A @ 0A, ≤0.001A @ 1A, ≤0.002A @ 2A (500nm)
	Stability	≤0.002A/hr(500nm, 2 hours after warming up)
Stray Light		≤0.2%T
Baseline		—
Memory		236KB(Built-in), Unlimited (USB memory stick)
Display		5 inches color screen(480x272)
Keypad		Resistive touch screen
Printer		Serial printer, USB printer (in line with HP PCL3 GUI printing language) Serial port (printing), USB-A (storage and printing), USB-B (online)
Port		Serial port (printing), USB-A (storage and printing), USB-B (online)
Holder	Standard	10mm 4-cell holder
	Optional	10 – 50mm 4-cell holder, 10 – 100mm 4-cell holder, 10mm 8-cell Automatic Holder, 10 – 100mm 5-cell Automatic Holder, Micro Cell Holder, Peltier/Sipper System, Reflectance Accessories, Solid Sample Holder, Water-Jacked 1 or 4-cell holder, Test Tube Holder
Function	Photometric	Yes
	Quantitation	Yes
	Spectrum	No
	File	Yes
	System	Yes
	Performance	Yes
Language		6 languages (English, German, French, Spanish, Portuguese, simplified Chinese)
Power		100 - 240V AC, 50/60Hz, 75W
Dimensions		456 (W) ×360 (D) ×185 (H) mm
Weight		10.5kg

## Features

### Fashion

- Simple
- Elegant
- Aluminum Base

### Anticorrosive Holder

- Easy
- Accurate
- Anticorrosive

### USB Interface

- USB A: Printer
- USB B: Save data

### Lamp Room

- Lamp easy to change

### USB Interface

- USB A:Printer
- USB B:Save data

### Color Screen

- Friendly interface
- Built-in Method

1. Using the 1200 l / mm holographic grating with low stray light, the optimized optical path design ensures the high accuracy of the instrument;
2. The new wavelength driving mechanism has greatly improved the wavelength accuracy and repeatability, and effectively reduced the noisy;
3. All aluminum die casting base and all moulded shell, make the instrument more sturdy and durable;
4. High resolution TFT color LCD touch screen provides excellent display effect and simple operation;
5. Self-calibration system while switching on and preheating countdown;
6. Support USB memory to upgrade firmware directly;
7. It can connect computers through USB, control instrument by software and can enrich and expand applications by software;
8. It also supports USB universal printer and serial micro printer based on PCL3 GUI protocol;
9. Wide sample room, suitable for 5~100 mm sample holder and other accessories;
10. Added Spectrum Scanning function, it's the first time in the same level instrument;
11. Automatic move wavelength to set position, automatic zero correction;
12. It can connect to the printer and output the measurement results directly.

## Basic Function Instruction

### Photometry Test

- A / T one key conversion;
- Results can be recorded, edited, deleted, saved and printed.

### Quantitation Test

- Single and dual wavelength method (dual wavelength difference, dual wavelength ratio) to measure samples;
- 3 methods to establish standard curve (input equation coefficient, measure 2 ~ 10 standard samples or input standard sample absorbance and concentration);
- 3 kinds of fitting methods (linear zero, linear, two order);
- Standard curve can be saved and invoked;
- Built-in 19 concentration units and custom input;
- The measurement results can be recorded, edited, deleted, saved, and printed.

### File Management

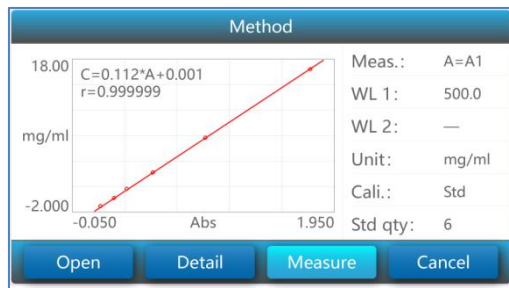
- Files can be deleted, renamed, batch import / export, converted to .txt and .csv format.

### System Utility

1. system calibration (dark current, wavelength, system baseline);
2. Light source management (light source switch, timing);
3. Clock management;
4. Memory management (storage status display, formatting);
5. Multi language (can be switched);
  - Wavelength accuracy; Photometric precision;
  - Hetero astigmatic light; Wavelength accuracy;
  - Photometric precision; Hetero astigmatic light; Noise; Noise;
6. General settings (sound display sample rack and other settings).

### Performance Verification

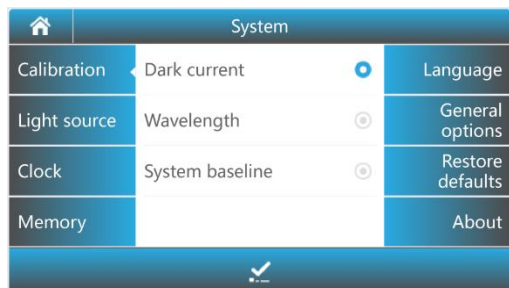
- Wavelength Accuracy;
- Photometric Accuracy;



File management < 1 / 3 >

	Name	Date	
Photometry	PHY001	15/01/01 12:00	⊙
Quantitation - Result	PHY002	15/01/01 11:03	⊙
Quantitation - Method	PHY003	14/12/27 10:25	⊙
	PHY004	14/12/27 10:14	⊙
Spectrum	PHY005	14/12/20 15:27	⊙

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Performance verification

Wavelength accuracy	Measuring Wavelength	Dark noise
	537.0	
Photometric accuracy	Measured value	Stability
Stray light	537.1	Bandwidth
Noise		

Zero Measure



- Stray light;
- Noisy;
- Dark noisy;
- Stability;
- Spectral band width.

### Software Introduction (optional)

EasyUV 1.0 is an application software based on Windows operating system.

#### Software Function:

1. Photometric measurement;
2. Quantitative measurement;
3. Kinetics measurement;
4. Multi wavelength measurement;
5. Spectrum scanning;
6. DNA / protein measurement.

Through the USB interface, the user can connect with the P series UV / Vis spectrophotometer very convenient.

At the same time, the application range, data analysis and file management function of P series instruments are greatly expanded, so that your analysis and measurement work becomes more relaxed and efficient.

#### Characteristics

1. Photometric measurement: one key switch A / T / E;
2. Quantitative measurement: establish standard curve;
3. File management: data preservation, editable file name;
4. Performance verification: verifiable performance specifications;
5. System application: Multilingual operating system;

#### Packing List

Part No.	SN	Description	Qty
PV1	1	Instrument	1set
	2	User's manual	1pc
	3	Cuvette glass,10mm	4pcs
	4	Fuse (3.15A/250V)	2pcs
	5	Power cable (national standard)	1pc
	6	Dustcover	1pc
MEAS:	456 (W) x 360 (D) x 185 (H) mm		
N.W.:	10.5KGS		
G.W.:	13.5KGS		

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