



Precision™ Series

Split Double Beam

UV / VIS SPECTROPHOTOMETER



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Brand Introduction

As a high-tech enterprise, MAPADA focuses on designing and manufacturing high-quality UV/vis spectrophotometers. We sell to both domestic and foreign markets. 60% of our products are exported to Europe, USA, Japan and Russia. Mapada is a major global supplier of UV/Visible spectrophotometers. With excellent quality, more than 50000 sets of Mapada instruments are running smoothly around the world.

Design Concept

Precision Series – Your right choice!

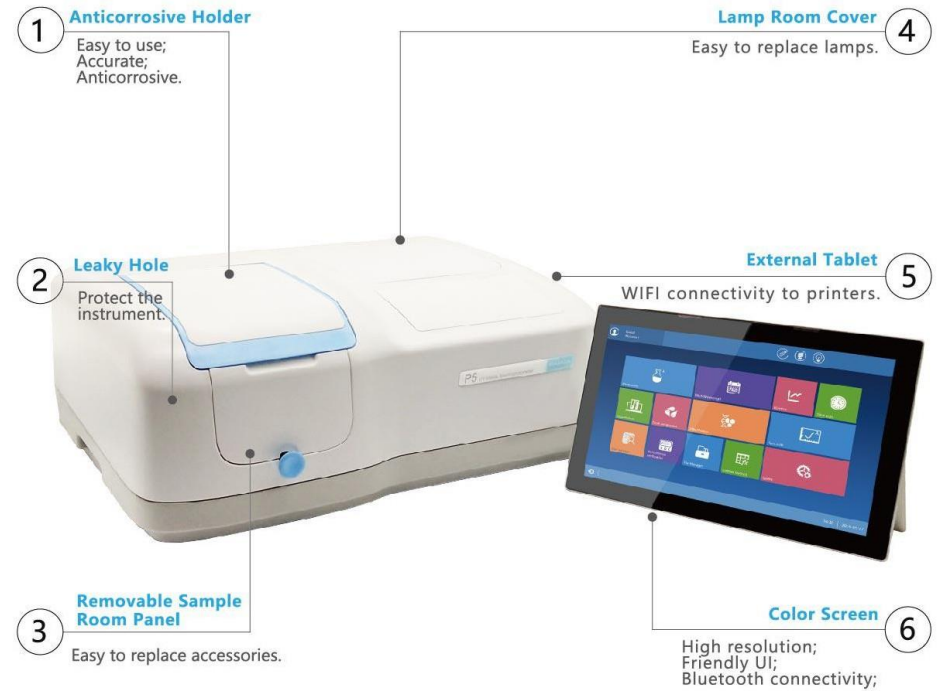
With 13 years of professional spectrophotometer manufacturing experience, Mapada produced Precision Series UV/Visible spectrophotometers. The main features of Precision Series are user-friendliness, high accuracy, reliability and convenience.

You deserve it!

Here we introduce: P5/P6 Split Double Beam UV/Visible Spectrophotometer.



Product Features



1. Wide sample room, suitable for 5~100 mm sample holders and other accessories;
2. Aluminum die-casting base and all-molded plastic shell make the instrument stronger and more durable;
3. The computer can be connected by USB or Bluetooth and the instrument can be controlled by software;
4. Equipped with UV Studio analysis software and built-in analysis modules. User-defined methods are supported to meet the measurement requirements of scientific research;
5. The new wavelength driving mechanism greatly improves the wavelength accuracy and repeatability, and effectively reduces the noise (patented);
6. The low-stray light 1200 l/mm holographic grating and the optimized split beam design ensures high accuracy;
7. Software design fully complies with 21CFR requirements stipulated in Pharmacopoeia. By GLP/GMP function, you can track and manage instrument performance and data;
8. External tablet computer (64GB SSD memory, 10-inch IPS color LCD touch screen, capacitive 10-point touch) provides excellent display effect, simple operation and good scalability;
9. By a wide variety of interfaces, you can connect keyboards, mice, projectors and printers to input and output data and access a network for remotecontrol and data sharing.

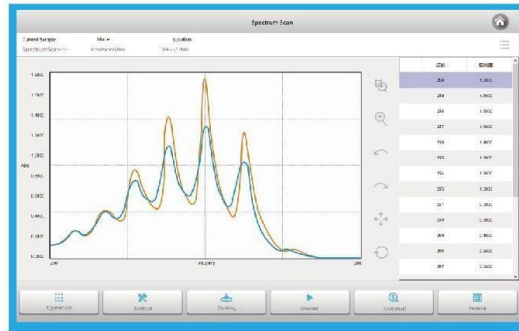
Product Performance

Benzene vaporization shows an obvious absorption curve at the UV range of 230~280nm. The absorption curve varies with bandwidth significantly if other conditions remain unchanged.

Use P5 (bandwidth 2nm) and P6 (bandwidth 1nm) to measure Benzene/ethanol solution respectively. The curves obtained are as follows. The peaks are different obviously.

Spectrogram of Benzene/ethanol Solution

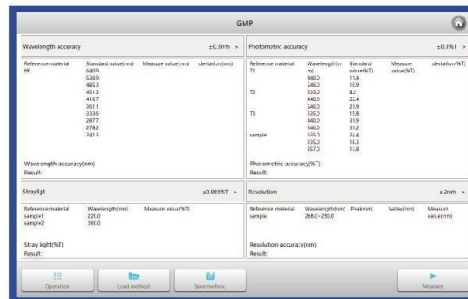
- Orange curve: P6 (bandwidth: 1nm)
- Blue curve: P5 (bandwidth: 2nm)



Performance Verification

- Wavelength accuracy and wavelength repeatability verification
- Photometric accuracy and photometric repeatability verification
- Stray light verification
- Resolution verification

The new Performance Verification function ensures that your Instrument works well.



Product Performance

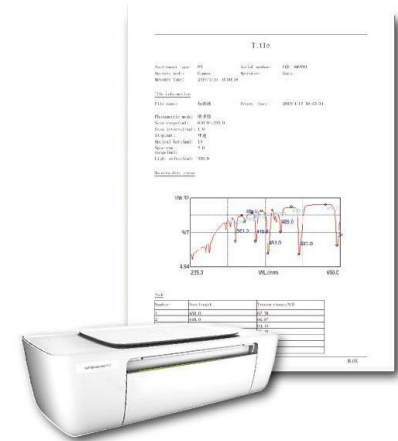


- Data can be exported in Word, Excel, PDF...

- New operating system based on Windows
- Controlled by touch or mouse/keyboard
- Multiple languages available



- Full functions, including: Photometry, Quantitation, Multi Wavelength, Spectrum, Time scan, Kinetics, DNA/Protein, Dual component, Custom Method...

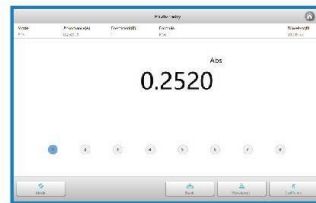


- Reports can be customized
- Parameters can be saved into a file and loaded

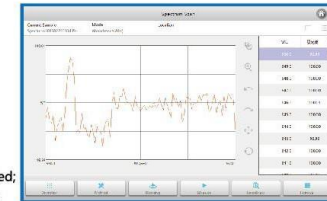
Product Function

**Photometry**

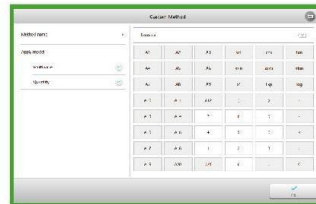
- One button A/T conversion
- Input coefficient K

**Spectrum**

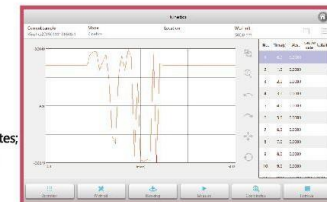
- User-selectable scanning speed (low, medium, high);
- User-selectable scanning interval (0.1, 0.2, 0.5, 1, 2, 5nm);
- A/T display mode switchable;
- Automatic peak search;
- Point by point (peak) view, mark and select;
- Rich map processing functions; (arithmetic operation, derivation, area and 3D map);
- Adaptive coordinates and a variety of ways to modify coordinates;
- Curves and data can be deleted, saved, printed and exported;
- Curves and results can be saved and printed automatically;

**Custom Method**

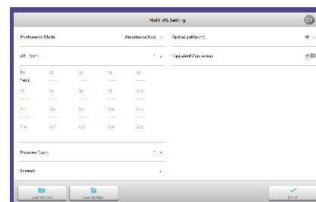
- Edit formulas as needed;
- Formulas can be used for multiple modules;
- Formulas can be added, modified and saved as necessary.

**Kinetics**

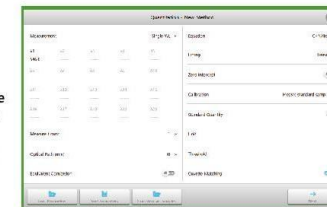
- Unlimited scanning time;
- Delay time and interval can be customized;
- Automatically calculate kinetic rates;
- Point by point (peak) view, mark and select;
- Adaptive coordinates and a variety of ways to modify coordinates;
- Curves and data can be deleted, saved, printed and exported;
- Curves and results can be saved and printed automatically;

**Multi Wavelength**

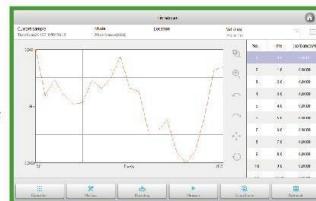
- Measure up to 20 wavelengths at a time;
- Customize formulas for data calculation;
- User-selectable one-point measurement times (1-50)
- Parameters can be saved and loaded;
- Results can be recorded, renamed, deleted, saved, printed and exported.

**Quantitation**

- Single wavelength, dual wavelength (difference, ratio), three wavelength and custom methods;
- 3 ways to establish a standard curve (input coefficients, measure 2~20 standard samples or input absorbance and concentration values of standard samples)
- 4 fitting methods (linear through zero, linear, quadratic, cubic)
- Parameters can be saved and loaded;
- Standard samples can be saved and loaded;
- Built-in common concentration units and user-defined units;
- Diagram of measure values are displayed and results are determined automatically;
- Results can be recorded, named, deleted, saved, printed and exported;
- Customize report layouts.

**Time scan**

- Unlimited scanning time;
- Scan Interval can be customized;
- Point by point (peak) view, mark and select;
- Curves and data can be deleted, saved, printed and exported;
- Curves and results can be saved and printed automatically;

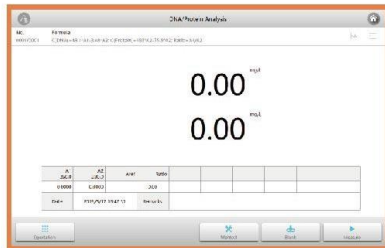
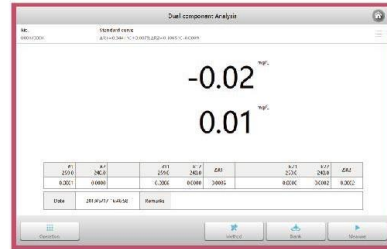


Product Function



Dual component

- Two standard curves and their concentrations are obtained from one measurement;
- Results can be recorded, renamed, deleted and saved;
- Customize printed reports.



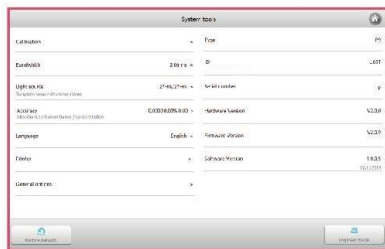
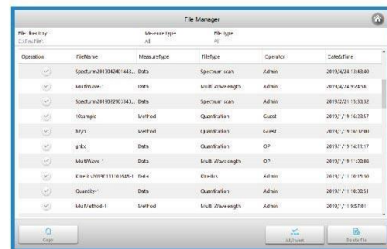
DNA/Protein

- 7 built-in methods: 260/280, 260/320, Lowery, UV method, BCA, CBB, Biuret, Custom calculation;
- User-selectable one-point measurement times (1-50);
- Parameters can be saved and loaded;
- Results can be recorded, named, deleted and saved;
- Customize printed reports.



File manager

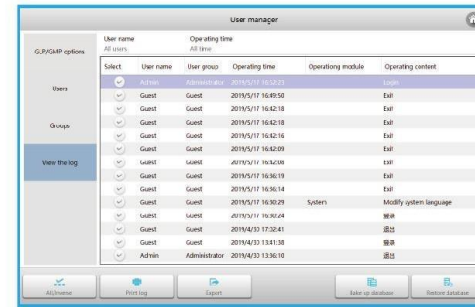
- Files can be deleted, renamed, batch imported/exported



System

- System calibration (dark current, wavelength, system baseline);
- Light source (light switch, timing, reset);
- Display resolution (absorbance, transmittance, concentration, decimal place, etc);
- Language (multiple languages are available);
- Printer (printer type settings);
- General (warm-up time, automatic system baseline calibration after power on, cell holder settings)
- Reset

GLP/GMP



Software follows GLP/GMP specification

- Multi-user management
- Logging
- Binary file saving
- Quality control
- Report output

Report output

Report output of measurement results;
Personalized report layouts;
Print preview;

Binary file saving

Save measurement data in binary format;
Enhancing data confidentiality;
Saving disk space;

Data export

Share data with other systems



Logging

Automatic record of user actions;
Save log files in database format;
Administrators can look up and process logs by category.

Multi-user management

Administrators are allowed to create users and groups with privileges;
Every user needs to enter account and password to login into the software;
Data protection for general users.

Quality control

Monitor measurement data according to user settings;
Abnormal data will be indicated, marked and re-measured automatically.



Related Accessories



10-100mm Cell Holder
Cat No.: 1310900430

10-100mm universal holder for various cuvettes.



10-50mm Cell Holder
Cat No.: 1102900421

10-50mm universal holder for various cuvettes.



Micro Cell Holder
Cat No.: 1102900240

Dedicated for samples ≤ 200µl.



Test Tube Holder
Cat No.: 1102900560

1-position, Φ=16mm



Automatic 8-cell Holder
Cat No.: 1102900310

Measure 8 samples at a time, light path = 10mm.



10-100mm Automatic 5-cell Holder
Cat No.: 1102900330

Measure 5 samples at a time; light path adjustable from 10 to 100mm, improving efficiency and sample tolerance.



Solid Sample Holder
Cat No.: 1102900550

Measure transmittances of fixed film or glass.



5° Reflectance Meachment Attachment
Cat No.: 1102900940

Used to measure solid or mirror reflectances.



10mm Manual Water-jacketed 4-cell Holder
Cat No.: 1102900620

Measure samples under constant temperature.



Constant-temperature Peltier Sipper System A-1001
Cat No.: 1102901801

Use semiconductor refrigerator as temperature control element, auto sampler.



Constant-temperature system A-1201
Cat No.: 1102901901

Auto sampler, particularly suitable for contaminated samples.



Sipper System A1101
Cat No.: 1102901901

Use semiconductor refrigerator as temperature control element (10-60 °C)

Other Accessories



Tungsten Lamp
Cat No.: 0116004003

Spectrophotometer light source for UV region (320-1100nm), service life 2000 hours.



Deuterium lamp
Cat No.: 0116005001

Spectrophotometer light source for Vis region (190-340nm), service life 2000 hours.



Glass Cuvette
Cat No.: 0102001002

Used as a sample container for Vis region (320-1100nm).



Quartz Cuvette
Cat No.: 0102002003

Used as a sample container for UV-Vis region (190-1100nm).

Specifications

Model	P5	P6
Optical System	Split Double Beam	
Light Source	Deuterium Lamp, Tungsten Lamp	
Detector	Silicon Photodiode	
Bandwidth	2nm	1nm
Wavelength	Range	190 ~1100 nm
	Accuracy	±0.5 nm
	Repeatability	≤ 0.3 nm
	Display	0.1 nm
	Gyration speed	5000 nm/min
	Scan speed	100 ~ 4000 nm/min
Photometric	Range	-4 ~ 4 A, 0 ~ 400%T, 0 ~ 9999.9C
	Accuracy	±0.002A @ 0.0 ~ 0.5 A, ±0.004A @ 0.5 ~ 1 A, ±0.3%T @ 0 ~ 100%T
	Repeatability	≤ 0.001 A @ 0.0 ~ 0.5 A, ≤ 0.002A @ 0.5 ~ 1 A, ≤ 0.15 %T @ 0 ~ 100%T
	Noisy	≤ 0.0003A @ 0.0 ~ 0.5 A, 500 nm, ≤ 0.0006 @ 1A, 500 nm, ≤ 0.0008 A @ 2A, 500 nm
Drift	≤ 0.0003 A/h @ 500 nm, 2 hours after preheating	
Stray Light	≤ 0.05 %T @ 220, 360 nm	
Baseline Flatness	± 0.001 A	
Control Panel	Tablet based on Windows 10 10.1-inch Capacitive Touch Screen, 64 GB storage, 1920×1080 display resolution, Bluetooth, Wi-Fi, HDMI, SD card, USB-A, USB-B, connectable to a mouse, keyboard, etc	
Sample holder	Standard	10 mm manual 4-position cell holder
	Optional	10-50mm Manual 4-cell Holder, 10-100mm Manual 4-cell Holder, 10mm Auto 8-cell Holder, 10-100mm Auto 5-cell Holder, Micro Holder, Peltier/Sipper System, Reflectance Accessories, Solid Sample Holder, Water-jacketed 1/4-cell holder, Test Tube holder, etc
Function	Photometric, Quantitation, Multi Wavelength, Spectrum, Time scan, Kinetics, DNA/Protein, Dual component, Custom Method, File Manager, System, Performance Verification	
Language	Multiple languages, switchable	
Power	100 ~ 240 V AC, 50/60 Hz, 120 W	
Dimension	456 (W) × 360 (D) × 185 (H) mm	
Weight	11 kg	

Cat. No.

Model	Cat No.
P5 split double beam UV/Vis spectrophotometer	1210300100
P6 split double beam UV/Vis spectrophotometer	1210300200