

Company Introduction

AOE Instruments (Shanghai) Co., Ltd. is a high-tech enterprise who is professional for the design, research, manufacture, sales and service of lab analysis instruments. Our products are widely used for Organic chemistry, Inorganic chemistry, Life sciences, foods, Medicine and health, Agriculture, Geology, Metallurgy and Environment etc. fields.

Full scientific management, advanced research tech and high strict for control standards ensures that manufacturing high quality products with strong market competition.

AOE Instruments supplies the V-1 Series, UV-1 Series, A3 Series and A5 Series, which covers almost all UV/Vis Spectrophotometers in the market, Single & Double Beam, Fixed Bandwidth & Variable Bandwidth, Qualified professional staff ensures the company's continuous and fast development.

Basic Functions

Model	Optical System	Wavelength Range	Bandwidth	Basic	Qty	Mult	Kin	Spec	BD
V-1000	Single Beam	325-1020 nm	4 nm	●					
UV-1000	Single Beam	200-1020 nm	4 nm	●					
V-1200	Single Beam	325-1020 nm	4 nm	●	●				
UV-1200	Single Beam	200-1020 nm	4 nm	●	●				
V-3000	Single Beam	320-1100 nm	4 nm	●	●	●	●		
UV-1600	Single Beam	190-1100 nm	4 nm	●	●	●	●		
V-3800	Single Beam	320-1100 nm	2 nm	●	●	●	●		
UV-1800	Single Beam	190-1100 nm	2 nm	●	●	●	●		
V-1900	Single Beam	190-1100 nm	2 nm	●	●	●	●	●	
UV-1900	Single Beam	190-1100 nm	2 nm	●	●	●	●	●	
A390	Single Beam	190-1100 nm	1.5 nm	●	●	●	●	●	●
A380	Single Beam	190-1100 nm	1.5 nm	●	●	●	●	●	●
A390	Single Beam	190-1100 nm	0.5, 1, 2, 4, 5 nm	●	●	●	●	●	●
A590	Double Beam	190-1100 nm	1.5 nm	●	●	●	●	●	●
A590	Double Beam	190-1100 nm	1 nm	●	●	●	●	●	●
A590	Double Beam	190-1100 nm	0.5, 1, 2, 4, 5 nm	●	●	●	●	●	●

Features:

- Large LCD screen (128*64 Dots) with saving standard curve function
- Imported & Environmental Deuterium lamp, preventing from Ozone Inhalation
- Adopted high-class grating with wholly hermetic light path design, to ensure the instrument has the super low stray light
- Real-time monitoring the lifetime of Deuterium lamp and Tungsten lamp with advanced system
- Pre-aligned design ensures the user can change lamps conveniently
- Wavelength calibration, wavelength setting, change lamp source and dark current calibration automatically
- With SiO2 coating optical mirror, reducing the pollution from outside fully
- Optional PC Software to expand the applications to Quantitative, Multi-Wavelength and Kinetics
- Widely used for Organic chemistry, inorganic chemistry, Life sciences, foods, Medicine and health, Agriculture, Geology, Metallurgy and Environment etc. fields



Basic Functions:

1. Photometry (Basic)

Test Abs., Transmittance by fixed wavelength

2. Quantitative (Qty)

a. C Mode: Establish CuK α curve, test sample concentration

b. F Mode: Establish AuK α 1+2+3L, test sample concentration

c. Display and save curve, test data (V-1200).

Basic Mode

WL: 046.0
T: 100.0
A T C F

Con. Test C=K*A+B

WL: 046.0
C: 10.0
A T C F

Specifications

Model	UV-1000	V-1000	UV-1200	V-1200
Optical System	Single Beam, Grating 1200 lines/mm			
Wavelength Range	290-1020nm	325-1000nm	200-1020nm	320-1020nm
Spectral Bandwidth	4nm			
Wavelength Accuracy	± 1.5nm		± 1.5nm	
Wavelength Repeatability	± 0.5nm			
Photometric Accuracy	± 0.002A (0-0.5A%), ± 0.004A (0.5-1.0A%), ± 0.5% T (0-100% T)			
Photometric Repeatability	0.001Abs (0-0.5Abs), 0.002Abs (0.5-1.0Abs), ± 0.2% T (0-100% T)			
Stray Light	≤ 0.2% T @ 360nm, 220nm		≤ 0.2% T @ 360nm	
Stability	± 0.002A/h @ 600nm			
Noise	± 0.001A			
Display	128*64 Dots LCD			
Photometric Mode	T, A, C, E			
Photometric Range	0-200%T, -6.001-3.0A			
Detector	Silicon Photodiode			
Light Source	Deuterium Lamp, Tungsten Lamp			
Input	Membrane Keypad			
Output	Parallel Print, USB 1.0			
Compartment	Solid Sample Holder, Micro Cell Holder, 10-100mm Cell Holder			

Functions and Applications

1

Photometry (Basic):

Set the factor K. The direct calculation of K's results. Measurement data can be saved.

DATA	CONC. (mg/L)	OD (0.1)	DATA	CONC. (mg/L)	OD (0.1)
PARAM					
ABS					
K : 1.0000					
K*A: 0.0001					
No.					
CONC.					
OD					
WL: 506.8 nm					
K : 1					

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Quantitative (Qty):

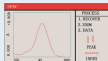
Test total nitrogen by double wavelength method.
Double wavelength test method (A:MA)-SAS, calculate the linear of Ignored concentration C and ΔA .
Application: Test method of total nitrogen in water quality monitoring (GB 8428-2017).

QTY	CORE	A-R1-W-R2	DATA	CONC. (mg/L)	DATA
PARAM					
WL1: 225.0					
WL2: 275.0					
M : 1.0000					
N : 2.0000					
K1 : 0.1723					
K2 : 0.121					
K : 0.9925					
No.					
C					
A					
PARAM					
RECORD					
LINEAR					
DET. RESULT					
WL1: 225.0					
WL2: 275.0					
M : 1.0000					
N : 2.0000					
SAMPLE: 7					

3

Spectrum (Spec):

Application for the constant chromatic.
The colored water reacted from bromine and chromatic agent is red-brown and diphenylpicryl-hydrazol. One key for looking for the peak in spectrum function, looking in data sheet, as well. The position of absorption peak is approximately 540nm. By marking the curve and quantitative to test the sample concentration.



Functions and Applications

4

Kinetics (Kin):

Test the sample changes in a period, get ΔA , display the reaction curve.

KIN	DATA	CONC. (mg/L)	OD (0.1)
T	A	AA/T	NOTICE
00	0.000		
10	0.012	0.0100	
20	0.702	0.0210	
30	0.303	0.0311	
40	0.042	0.0009	
50	0.303	0.0005	
1/1			

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Multiple Wavelength Application (MultiWL):

Neutral fiber 10% measurement accuracy.

MultiWL	DATA	T	NOTICE
No.	WL	A	
1-1	430.0	7.5	OK
1-2	380.0	10.1	BLANK
1-3	460.0	9.9	START
RECORD			
1/1			

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BIO (DNA/Protein):

DNA/Protein test, test the sample's protein and DNA concentration.

BIO-2	DATA	CONC. (mg/L)	DATA
No.	WL	A	NOTICE
1	260.0	0.000	OK
	280.0	0.217	BLANK
	260.0	0.330	OK
2	260.0	1.429	START
3	260.0	1.723	RECORD
4	260.0	1.02	
1/1			

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Save:

Measurement data, scanning patterns are preserved at the hard and disk U.

SAVE	DATA	NOTICE
NAME	TIME	
SAMPLE	13-2-12 14:30	OK
		BL. POS
		START
		NAME
		WL
		DEL. CIR

8

One Key Upgrade:

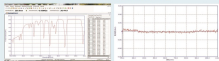
Plug the USB with upgrade program, switch on and go to upgrade menu, press no. key 1, the instrument will be upgraded when it is done.

MAIN	MENU
1. SYSTEM UPDATE	
2. RUN APPLICATION	

PC-Control Software

1

Echelon solution spectra Baseline 106-110nm

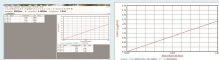


Scan settings



2

Quantitative Standard curve



The quantitative setting



PC-Control Software

3

The stability of kinetic measurement



Kinetics setting



4

Multi wavelength setting

Multi wavelength



5

Protein/DNA measurement



Protein/DNA setting

