

Spectrophotometers

Serving the Scientific, Medical and Research industries since 1945



Laboratory Equipment Pty Ltd

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SPECTRO-V11D

Features:

- Large LCD Screen (128x64 Dots).
- Wavelength can be read out from the screen directly.
- Auto Zero and Blank.
- Parallel port, printed directly.
- Large sample compartment, it can accommodate 5-100mm path length cuvettes with optional holders.
- Pre-aligned design ensures the user can change lamp conveniently.
- Optional software PC software M.Wave Professional can expand the applications to Standard Curve Kinetics & wave length scan.
- High quality silicon photometric diode detector and 1200 lines/mm grating ensure high accuracy and precision.

SPECTRO V11D/UV11

V11D is the only model of manually setting wavelength in MRC families, but precise design and high quality components ensures excellent performance. It is widely used in high schools and colleges for general analysis and experiments .

Include basic software, 10mm 4 cell Holder 4xGlass 10mm cuvette.

Model	SPECTRO-V11D	SPECTRO-UV11D
Wavelength range	325-1000nm	200-1000nm
Spectral Bandwidth	4nm	
optical system	Single Beam , Grating 1200 lines/mm	
Wavelength Accuracy	±2nm	
Wavelength Repeatability	1nm	
Wavelength Setting	Manual	
Photometric Accuracy	≤ ±0.5%T or ±0.003A@1A	
Photometric Range	0-200%T , -0.3 -3A, 0-1999Conc.	
Stray Light	0.3%T	
Stability	±0.004A/h @500nm	
Display	128*64 Dots LCD	
Photometric Mode	T, A, C, F	
Detector	Silicon Photodiode	
Standard Cell Holder	4-position 10mm cell changer	
Sample Compartment	Standard 10mm pathlength cuvette	
Light Source	Tungsten Lamp	Tungsten & Deuterium lamp
Output	USB Port & Parallel Port (printer)	
Power Requirement	AC 85V~265V 50/60Hz	
Dimensions (WxDxH)	480x360x160mm	
Weight	10kg	12kg



SPECTRO-V12

SPECTRO-V/UV-12, UV-11 spectrophotometer is the ideal instrument for education and QC laboratories. Using your standard sample solutions, you can get a standard curve on the large LCD screen. They are widely used in colleges and enterprises for general quantitative analysis and experiments. Include basic software, 10mm 4 cell Holder 4xGlass 10mm cuvette.

SPECTRO-V12/UV12/UV11

Features:

- Large LCD screen(128x64 Dots)
- Can display total 50 groups of data, 3 groups per screen. Can display standard curve and the curve equation.
- System can also save the test results. Total 200 groups of data and 100 standard curves can be saved; it is convenient for check and reload.
- Data can be restored after a sudden power cut.
- Auto setting wavelength.
- Tungsten lamp & Deuterium lamp can be tuned on/off individually to extend lifetime.
- Pre-aligned design makes it convenient to change lamps.
- Large sample compartment, it can accommodate 5-100mm path length cuvettes with optional holders. A variety of optional accessories are available.
- The optional application software M.Wave Professional provides complete control of the spectrophotometer through the Built-in USB port. You can achieve the following functions: I. Quantitative; II. Kinetics; III. Wavelength Scan; IV. Multi Wavelength; V. DNA/Protein.

Model	SPECTRO-V12	SPECTRO-UV12	SPECTRO-UV-11
Wavelength range	325-1000nm	200-1000nm	
Spectral Bandwidth	4nm		
optical system	Single Beam , Grating 1200 lines/mm		
Wavelength Accuracy	±2nm		
Wavelength Repeatability	0.8nm	1nm	
Photometric Accuracy	≤ ±0.5%T or ±0.003A@1A		
Photometric Range	0-200%T , -0.3 -3A, 0-9999Conc.		
Stray Light	0.3%T		
Stability	±0.002A/h @500nm		
Detector	Silicon Photodiode		
Standard Cell Holder	4-position 10mm cell changer		
Sample Compartment	Standard 10mm pathlength cuvette		
Light Source	Tungsten Lamp	Tungsten & Deuterium lamp	
Output	USB Port & Parallel Port (printer)		
Power Requirement	AC 110/220V 50/60Hz		
Dimensions (WxDxH)	470x370x180mm		
Weight	12kg	14kg	



SPECTRO V-16/UV-16/V-18/UV-18 Series

MRC 16/18 Series are simple-to-use instruments with advanced performance, its stray light is only 0.05% T. The local stand-alone software provides functions of Photometry, Quantitative Test, Kinetics and System Utilities functions.

Model	SPECTRO-V16 SPECTRO-V16PC	SPECTRO-V18 SPECTRO-V18PC	SPECTRO-UV16 SPECTRO-UV16PC	SPECTRO-UV18 SPECTRO-UV18PC
Wavelength range	320-1100nm		190-1100nm	
Spectral bandwidth	4nm	2nm	4nm	2nm
Optical system	Single beam, grating 1200 lines/mm			
Wavelength accuracy	±0.5nm			
Wavelength repeatability	0.3nm			
Photometric accuracy	≤±0.5%T or ±0.003A@1A			
Photometric range	-0.3 -3A, 0-200%T, 0-9999Conc.			
Stray light	≤0.05%T@360nm		≤0.05%T@220nm, 360nm	
Stability	±0.002A/h @500nm			
Display	Graphic LCD(128*64dots)			
Keyboard	22 membran keypad			
Standard cell holder	Standard 10mm pathlength cuvette			
Sample Compartment	4-position 10mm cell changer			
Light source	tungsten		tungsten & Deuterium lamp	
Output	USB Port & parallel port (printer)			
Power requirement	AC 110/220V 50/60Hz			
Dimensions (WxDxH)	470x370x180mm			
Weight	12kg		14kg	

Features

- Large LCD screen(128x64 Dots)
- System can also save the test results, total 200 groups of data 100 standard curves can be saved in the RAM. Convenient for check and reload.
- Data can be stored after a sudden power cut.
- Auto setting wavelength.
- Tungsten lamp & deuterium lamp can be turned on/off individually to extend lifetime.
- The optional application software M.Wave Professional provides complete control of the spectrophotometer from a computer through the Built-in USB port. It can expand to the following functions: Quantitative, Kinetics, Wavelength Scan, Multi-wavelength & DNA/Protein Test.

- Pre-aligned design makes it convenient to change lamps.
- Large sample compartment, it can accommodate 5-100mm path length cuvettes with optional holders. A variety of optional accessories are available.

Include basic software, 10mm 4 cell Holder 4xGlass 10mm cuvette.

MRC 16/18 Series Local Control Software

- Basic Mode
- Quantitative
- Kinetics
- Utility

Main Menu

08:00

01/01

No.	WL.	Abs.
1	230.0	0.001
2	340.0	0.000
3	450.0	0.002
4	540.0	0.000
5	620.0	0.003

Basic Mode

Quantitative

Kinetics

- ✓ Utility
- D2 Lamp on/off
- W Lamp on/off
- Printer

System Utilities

M.Wave Professional PC-Control Software

M.Wave Professional application software is based Microsoft Windows~, the instrument can be controlled by PC software through the built-in USB communication port, which makes the UV11 Series with more functions and easy to control.

Quantitative:
Use up to 20 standards to establish standard curve. Three methods for fitting a curve: 1-Linear fit 2-Linear through zero 3-Square fit

Kinetics:
The Kinetics mode may be used for time course scanning or reaction rate calculations. Abs. Vs. Time graphs is displayed.

Wavelength Scan:
Automatically records peaks and valleys. The quantity of the curves stored is unlimited. Post-run manipulation & processing includes. Re-scaling axes, curve. Smoothing, combination, zooming, overlap... 1st to 4th derivative.

Multi-wavelength Test
You can set up to 20 wavelengths to measure a sample.

DNA/Protein Test:
Optional two formulas: DNA Concentration = 62.9* A260-36.0*A280 Or 49.1*A260-75.8*A230
You can also enter other wavelengths and factors to calculate.

546.0nm 0.001A



SPECTRO-UV6 Series

SPECTRO-UV6 Series, Double Beam Spectrophotometer

SPECTRO-UV6 Series is an advanced double beam design consisting of six models.

Stand-alone model:

SPECTRO-UV61 with 1.8nm fixed bandwidth

SPECTRO-UV63 with 1.0 fixed bandwidth.

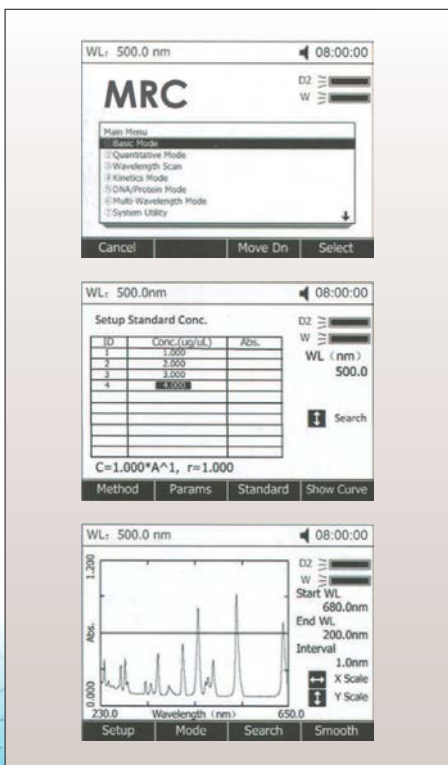
SPECTRO-UV61S with variable bandwidth: 0.5/1/2/5nm

- Fixed or variable slits (bandwidths)
- For Stand-alone models, all software methods are included as built-in standard; this eliminates the need of software.
- Online software upgrade via internet helps to keep it updated.
- Data Download-to-PC software expands the data storage to unlimited.
- The stand-alone models has 5 inch screen and the PC models has UVNiS Analyst software. Stand-alone models of SPECTRO-UV6 Series have the same functions as SPCTRO-UV3 series, see next page for details.

Other specifications of the six models are almost the same except bandwidth. The two detectors measure sample and reference respectively and simultaneously for optimizing measurement accuracy, They provide excellent performance for measurements in the range of 190 to 1100nm, They are suitable for pharmaceutical, biochemical and clinical lab applications as well as routine applications such as quantitative analyses, kinetics, wavelength scan, multiple components and DNA/Protein, PC Windows application software make these instruments versatile. All instruments provide excellent performance for measurements.

Model	SPECTRO-UV61 SPECTRO-UV61PC	SPECTRO-UV63 SPECTRO-UV63PC	SPECTRO-UV61S SPECTRO-UV61PCS
Wavelength range	190-1100nm		
Spectral bandwidth	1.8NM	1nm	0.5/1/1/4nm
Optical system	Double beam, grating 1200 lines/mm		
Wavelength accuracy	±0.3nm		
Wavelength repeatability	0.2nm		
Scan Speed	Hi, MED., LOW., MAX.3000nm/min		
Photometric accuracy	≤±0.3%T or ±0.002A@1A		
Photometric range	0-200%T, -0.3 -3A		
Stray light	≤0.05%T@220nm, 360nm		
Stability	±0.001A/h @500nm		
Display	5 inches LCD(320*240 dots)		
Baseline Flatness	±0.001A		
Standard cell holder	Standard 10mm single cell holder(2 pcs)		
Sample Compartment	Standard 10mm pathlength cuvette		
Light source	tungsten & Deuterium lamp(pre-aligned)		
Output	USB Port & parallel port (printer)		
Power requirement	AC 110/220V 50/60Hz		
Dimensions (WxDxH)	600x450x200mm		
Weight	22kg		

SPECTRO-UV6 Series Local Control Software



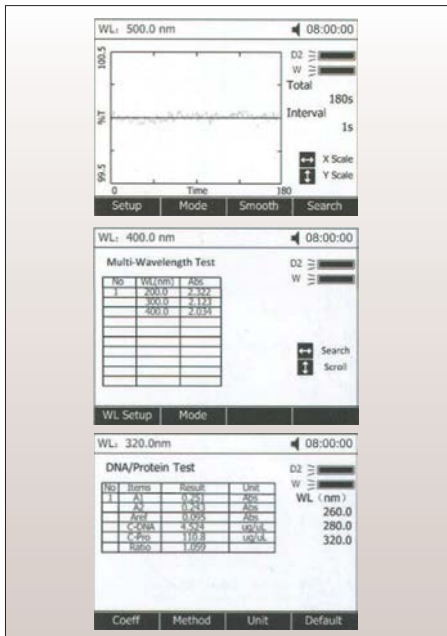
All methods are included as built-in standard; this eliminates the need of software. Online software update via Internet. The local control software includes functions such as: Photometry, Quantitative, Wavelength Scan, Kinetics, DNA/Protein, Multi-wavelength and System Utilities.

Standard Curve

Up to 10 standard solutions may be used to establish calibration equation curve. There is a choice of four methods for fitting curve through the calibration points: Linear fit, Linear fit through zero, square fit and cubic fit.

Wavelength Scan

The Wavelength Scan intervals are 0.1, 0.2, 0.5, 1, 2, 5nm, and High, Medium and Low scan speeds are available. Scan speeds vary from 100 to 1000 nm/min. Wavelengths are scanned from high to low so that the instrument stand-by at high wavelength. This minimizes the degradation of UV sensitive samples. Precise control of filter and lamp changes means that their effects are not seen on the final scan. Post-run manipulation includes re-scaling axes, curve tracking and peak picking.



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 intervals of 0.5, 1, 2,5, 10, 30, seconds and 1 min. Post-run manipulation includes re-scaling, curve tracking and selection of the part of the curve required for the rate calculation. Rate is calculated using a linear regression algorithm before multiplying by the entered factor.

Multi-Wavelength

Up to 10 wavelengths may be entered, allowing the measurement of multiple wavelengths on a series of Samples.

DNA/Protein Test

Concentration and DNA purity are calculated absorbance ratios 260nm/280nm or 260nm/230nm with optional subtracted absorbance at 320nm

DNA Concentration= $62.9 \cdot A_{260} - 36.0 \cdot A_{280}$

Or $49.1 \cdot A_{260} - 3.48 \cdot A_{230}$

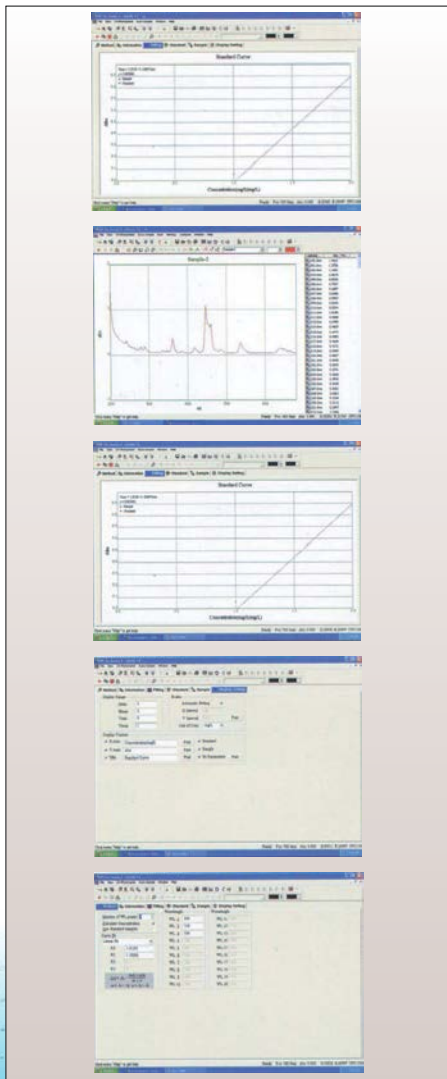
Protein Concentration= $1552 \cdot A_{260} - 757.3 \cdot A_{280}$

Or $183 \cdot A_{260} - 75.8 \cdot A_{230}$

Other wavelengths and factors may be entered.

UV/Vis Analyst for SPECTRO-UV3 & SPECTRO-UV6 Series

The MRC Windows based PC application software UV/Vis Analyst takes the best features of the stand-alone version plus more powerful data processing, expanded data collecting, and storage capability. It comes standard with PC models and is optional to stand-alone models.



The PC application software offers:

- Photometric Mode
- Quantitative test (standard curve)
- Wavelength Scan
- Kinetics
- DNA/Protein
- Multi-Wavelength
- System Utility.

Quantitative Test (Standard curve)

Use up to 20 standards to establish standard curve.

Four methods for fitting a curve:

- Linear fit
- Linear through zero
- Square fit
- Cubic fit

Wavelength Scan

Automatically record peaks and valleys. The quantity of channels is unlimited; you can simultaneously store as many as desired.

Post-run manipulation and processing includes:

- Re-scaling axes, curve
- 1 st to 4th derivative
- Smoothing, combination, zooming, overlap.

Kinetics (Abs vs. Time)

The Kinetics mode may be used for time course scanning or reaction rate calculations. Abs.Vs.Time graphs are displayed on the screen in real time. Waiting time, measurement time and time intervals may be entered.

Post-run manipulation includes re-scaling, curve tracking and selection of the part of the curve required for the rate calculation. Rate is calculated using a linear regression algorithm before multiplying by the entered factor .

DNA/Protein

Concentration and DNA purity are quickly and easily calculated: Absorbance ratios 260nm/280nm with optional subtracted absorbance at 320nm.

DNA Concentration= $62.9 \cdot A_{260} - 36.0 \cdot A_{280}$

Protein Concentration= $1552 \cdot A_{260} - 757.3 \cdot A_{280}$

Other wavelengths and factors may be entered.

Multi-wavelength

Up to 20 wavelengths can be selected and multiple samples can be measured. (Auto cell changer is required to run multiple samples automatically)

Accessories – Holder:

P.N 900410	P.N 900420/ 900430	P.N 900940	P.N 900540	P.N 900610
4-Cell Holder for 10mm Squ.Cuvette	4-Cell Holder for up to 50mm Squ.Cuvette	Reflectance Measurement Attachment (50 incident angle)	Cylindrical Cell Holder	Water-Jacketed Single Cell Holder
P.N 900210	P.N 900530	P.N 900310	P.N 900550	P.N 900620
Micro Cell Holder	Test Tube Holder	8-Position Auto Cell Changer	Solid Sample Holder (Single Cell)	10mm Water-Jacket 4-Cell Holder

Accessories – Others:

P.N 900910	P.N 900920	1. P.N 900120 2. P.N 900110 3. P.N 900130
Thermal Printer	Stylus Printer	1.Peltier Unit 2.Ambier Sipper Unit 3.Peltier/Sipper System

Accessories – Cells:

Square Cuvette

Name&Specifications	P.N	Remark
Square Cuvettes.Glass 10mm	916101	/4pcs
Square Cuvettes.Glass 20mm	916102	/4pcs
Square Cuvettes.Glass 30mm	916103	/4pcs
Square Cuvettes.Glass 50mm	916104	/4pcs
Square Cuvettes.Glass 100mm	916105	/4pcs
Square Cuvettes.Quartz 10mm	916111	/2pcs
Square Cuvettes.Quartz 20mm	916112	/2pcs
Square Cuvettes.Quartz 30mm	916113	/2pcs
Square Cuvettes.Quartz 50mm	916114	/2pcs
Square Cuvettes.Quartz 100mm	916115	/2pcs

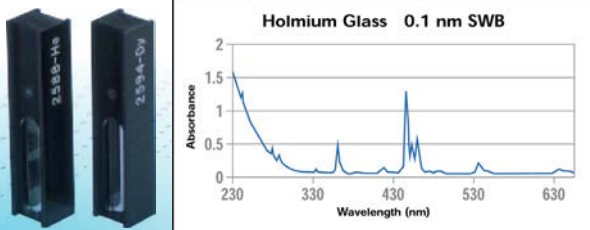
Micro Cell

Name&Specifications	P.N	Remark
100UL Micro Cell	916121	/1pcs
Square Cuvettes.Glass 20mm	916122	/1pcs
Square Cuvettes.Glass 30mm	916123	/1pcs

Flow Cell

Name&Specifications	P.N	Remark
5mm SEIF Masking Cont. Flowthrough G.Cell	916131	/1pcs
10mm SEIF Masking Cont. Flowthrough G.Cell	916132	/1pcs
20mm SEIF Masking Cont. Flowthrough G.Cell	916133	/1pcs
30mm SEIF Masking Cont. Flowthrough G.Cell	916134	/1pcs
5mm SEIF Masking Cont. Flowthrough Q.Cell	916141	/1pcs
10mm SEIF Masking Cont. Flowthrough Q.Cell	916142	/1pcs
20mm SEIF Masking Cont. Flowthrough Q.Cell	916143	/1pcs
30mm SEIF Masking Cont. Flowthrough Q.Cell	916144	/1pcs

Standards



SPECTRO-NANO-G, Nano Photometer



- **Small**

0.2µl sample volume. Particular sample holder designing allows to testing low volume DNA, protein.

- **Fast**

One Step, One Movement. Drop, close and turn round measure directly from 190-1100nm, easy to operate.

- **Accurate**

No light loss for whole testing. All light goes through sample to avoid light loss to make the result more accurate.

- **Easy Cleaning**

No special material needed. Just use the carton swab to clean the sample solution.

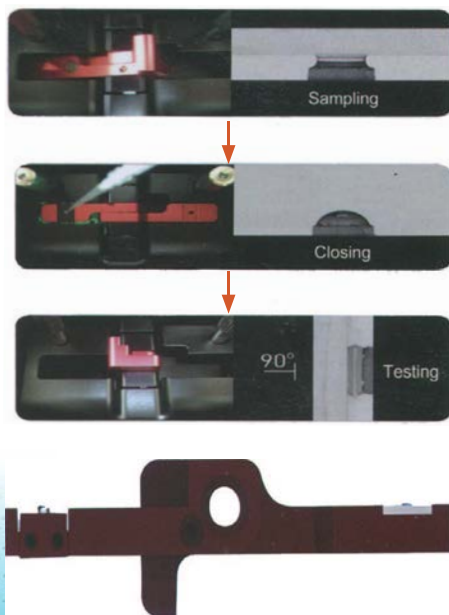
- **Economic**

Special design to make low cost.

- **Multi-function**

More function than special low volume testing. Quantitative. Wavelength Scan, Kinetics, Multi-Wavelength.

- **Settled in one step**



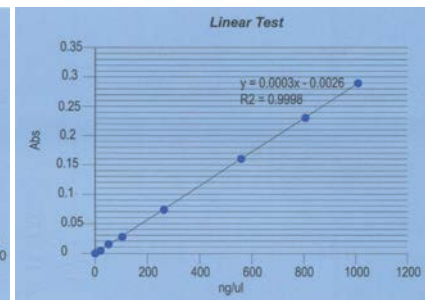
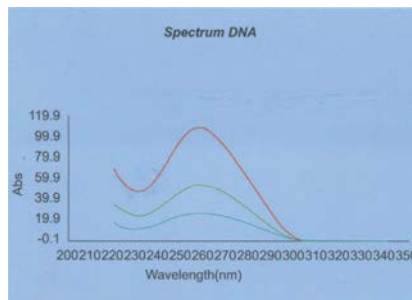
Professional Testing Result

Reference: pure water

- Path-length: 0.2mm
- Sample volume: 2ul
- Diluted 1, 2times, and 4 times at approximately 5700ng/ul
- DNA Concentration [ng/ul] shows the maximized absorbance at 260nm.
- DNA Concentration [ng/ul]= A (260) * factor 50

Sample: 1000ng/µlK2Cr2O7

- Path-length: 0.2mm
- Sample volume: 2ul
- Diluted to 10,25,50,100,250,500,750 1000ng/ul
- The test shows the result at 260nm has a very good linear.
- R2=0.9998, It is very near to 1.



Technical Specification

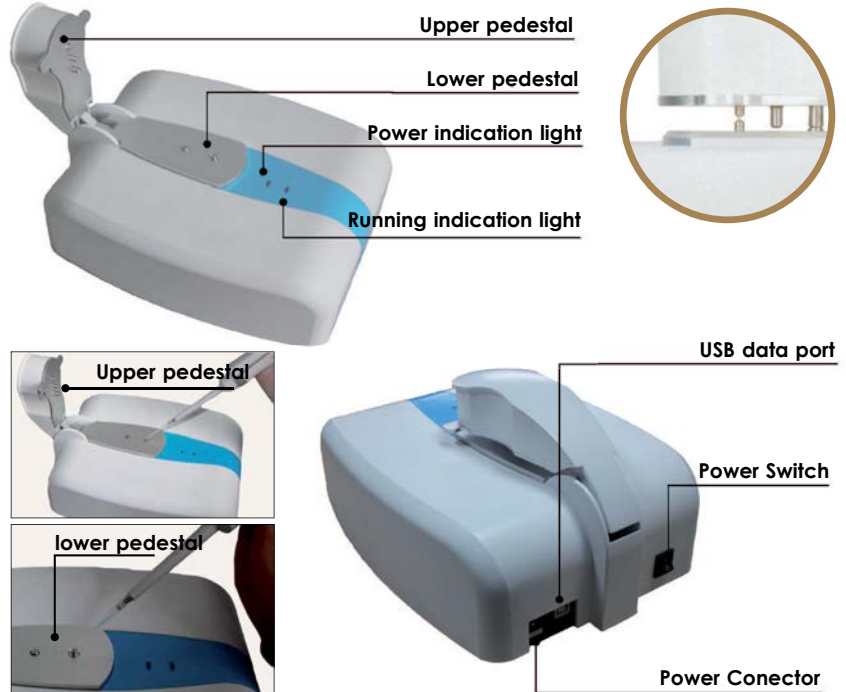
Small Volume Option	
Path Length	0.2mm
Minimum Sample Size	0.2~2.0µl
Concentration Range	2.5~7500ng/µl (ds-DNA)
Lower Limit of Detection	10ng/µl
Maximum Concentration	5000 ng/µl (dsDNA)
DNA reproducibility	< ±1.0% (dsDNA, at 1000ng/µl)
Spectromodule	
Wavelength Range	190~1100nm
Spectral Bandwidth	4.0nm
Optical System	Single Beam, Grating 1200 lines/mm
Wavelength Accuracy	0.5nm
Wavelength Repeatability	0.3nm
Scan Speed	Hi, Med, Low, Max. 3000nm/min
Photometric Accuracy	±0.5%T or ±0.004A@1A
Photometric Range	0~200%T, -0.3 ~-0.3A, 0~9999Conc
Stray Light	0.5%T@220, 340nm
Stability	±0.0008A/h @500nm
Display	5 inches LCD (320*240 dots)
Baseline Flatness	0.002A
Light Source	Halogen & Deuterium lamp (pre-aligned)
Output	USB Type A port for USB memort device (right side)
	USB Type B port for optional computer connectivity (back)
	Parallel port for printer
Power Requirement	AC 110/220V 50/60Hz
Dimensions(L*W*H)	491*365*180mm
Wight	14kg
Power Requirement	AC110/220V 50/60Hz

SPECTRO-NANO, Micro-Spectrophotometer

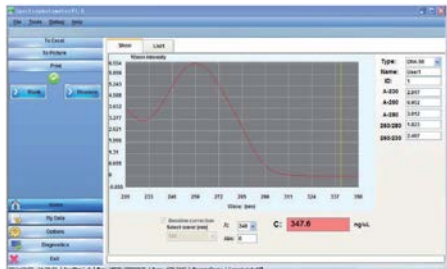


Spectropho-Nano is a perfect instrument for most labs dealing with sample analysis or preparation. It can accurately measure DNA, RNA and oligonucleotide calculations, protein assays etc.. The system utilises CCD detector, a Xenon light source for long lamp lifetimes together with simple software. Simple pipette 0.5–2ul sample onto the pedestal, laying down the sampling arm, it can automatically complete the measurement within 5 seconds.

Structure Description:



Nucleic Acids Measurement Result:



Features:

- Direct, easy measurements in less than 5 seconds: just pipette & wipe
- Full spectral output
- Measures DNA, RNA (A260) and Protein (A280), concentrations and sample purity (260/280 ratio)
- Large concentration range without dilutions
- User-friendly software that includes Custom Methods and data export capabilities
- Low-cost operation-no plates or other consumables
- Complete with user friendly software packed with features.

Model	SPECTRO-NANO
Wavelength Range	200~800nm
Minimum Sample Size	0.5~2.0ul
Path Length	0.2mm (For high concentration measurement) 1.0mm (For ordinary)
Light Source	Xenon flash lamp
Detector Type	3864-element linear silicon CCD array
Wavelength Accuracy	1nm
Spectral Resolution	≤ 3 nm (FWHM at Hg 546 nm)
Absorbance Precision	0.003 Abs
Absorbance Accuracy	1% (at 0.76 at 350 nm)
Absorbance Range	0.02 - 75 (10mm equivalent)
Measurement Time	< 5s
Dimensions (W x D x H)mm	200 x 262 x 154
Weight	2.5kg
Sample Pedestal Material	Aluminum alloy and Quartz fiber
Operating Voltage	12V DC
Operating Power Consumption	12 - 18 W
Standby Power Consumption	5W
Software Compatibility	Windows 7, Windows XP



SPECTRO-96

SPECTRO-96, Spectrofluorimeter

Features:

- Two operation modes could be chosen: fluorescence intensity and luminous intensity. Fluorescence scanning, kinetic determination and quantity analysis could be done under fluorescence intensity mode
- 365nm exciting wavelength Raman peak of water in 1 cm quartz fluorescence cuvette $S/N \geq 150$ High performance sensitivity simplifies the measurement of low detective sample
- 10 stages gain adjustment could be chosen for emission spectrum scanning, including high speed low S/N scanning and precise scanning. Total spectrum scanning could be done in 1 second. With the intelligent pre scanning feature, unknown sample's spectrum information could be detected rapidly. Auto-omission of the influence of scattering peak and harmonic peaks, it ensure the best measurement parameters and locate the fluorescence emission peak
- Support off-line mode and on-line mode. Under off-line mode, instrument's computer system offer the fluorescence intensity measurement, concentration direct reading, auto 0 adjustment, auto background subtraction and etc. Under on-line mode, we could use quality and quantity software to control data acquisition and analysis through USB2.0 interface
- High stable and long life 150W xenon lamp and power source ensure high stable testing and wide range of spectrum
- The normalized feature for fluorescence value could make different fluorescence's result comparable
- Provide optional PC qualitative and quantitative software package with expansible time scanning, wavelength scanning, graphic calculation and storage-access abilities
- Optional accessories for different measurement, including single hole cell holder, fluorescence sample holder for different features, 200 μ l micro scale centrifuge tube, micro scale capillary sample holder, semi-auto sample introduction accessories, membrane sample accessories, powder sample accessories, jacket sample accessories and etc.

Display Mode	4 digits LED
Dimension	L550×W510×H365mm
Weight (Kg)	11(N) 13(G)kgs

Applications & Features:

Fluorescence analysis is a high sensitive and high selective sophisticated analytical method. This method can provide information including excitation and emission spectrum, emission light intensity and measurement of life of emission light & polarization fluorescence etc. This method can provide a wide lined range of working curve. It has becoming an important analytical method in the region of trace analysis. This method has been used in:

- Medical science and clinical analysis
Clinical analysis of biological specimen
- Pharmaceutical science and pharmacology
Analysis of natural pharmaceutical products; Quality control of pharmaceuticals and research of pharmaceutical metabolites
- Biochemistry
Analysis of minute quantity of substances in biological body
- Food industry
Analysis of minute quantity of constituents in food
- Pollution analysis
Atmospheric pollution, environmental testing and food contamination analysis
- Organic and inorganic chemistry
Used in the trace analysis in case of those substances cannot be determined by absorption spectrophotometry.

Standard Package:

Main instrument	1 set
365nm filter (Preassembled)	1 pc
software package	1 set
Power cable	1 pc
USB wire	1 pc
Instruction manual	1 copy
Product quality certificate	1 copy
Fuse (2A)	2 pcs
Fuse (5A)	2 pcs
Quartz fluorescence cell 10mm	1 pair
Packing list	1 copy

Optional Spare Parts and Accessories:

- Fuses (2A/5A)
- 200~700nm interference optical filter (ϕ 25mm)
- Quartz fluorescence sample cell 10mm
- Personal computer
- Printer cable
- Dedicated serial interface printer.

Model	SPECTRO-96
Light source	Hamamatsu 150W Xenon lamp
Exciting optical filters	Interference optical filter
Standard set	equipped with an interference optical filter of central wavelength at 365nm and 10nm bandwidth
optional interference optical filer	25mm diameter of wavelength of 250-700nm
Emission monochromatic	C-T diffraction grating (Em 200~900nm, bandwidth 10nm)Wavelength accuracy \pm 1nm Wavelength repeatability \leq 0.5nm
Sensitivity	Raman peak of water in 1 cm quartz fluorescence cuvette with $S/N \geq 150$
Linear measurement(r)	≥ 0.995
Stability	better than 1.5%/10min
Variation of power source	220V \pm 22V 50Hz \pm 1Hz
Response time: (0.1-4)s	(0.1-4)s 6 stages adjustable
Fluorescence display value	0.00-600.00
Data transmission	USB2.0

FTIR510, FTIR Spectrophotometer



Features:

- New type cube-corner Michelson interferometer features smaller size and more compact structure, providing higher stability and less sensitive to vibrations and thermal variations than conventional Michelson interferometer.
- Fully sealed damp and dust proof interferometer, adopting high performance, long lifetime sealing material and desiccator, ensures higher adaptability to the environment and increases accuracy and reliability in operation. Viewable window for silica gel enables easy observation and replacement.
- Isolated IR source and large space heat dissipation chamber design provides higher thermal stability. Stable interference is obtained without the need of dynamic adjustment.
- High intensity IR source adopts a reflex sphere to obtain even and stable IR radiation.
- Cooling fan stretch suspending design ensures good mechanical stability.
- Super wide sample compartment provides more flexibility to accommodate various accessories.
- The application of programmable gain amplifier, high accuracy A/D converter and embedded computer improves the accuracy and reliability of the whole system.

Accessories:



- The spectrometer connects to PC via a USB port for automatic control and data communication, fully realizing plug-and-play operation.
- Compatible PC control with user friendly, rich function software enables easy, convenient and flexible operation. Spectrum collection, spectrum conversion, spectrum processing, spectrum analyzing, and spectrum output function etc. can be performed.
- Various special IR libraries are available for routine search. Users can also add and maintain the libraries or set up new libraries by themselves.
- Accessories such as Diffuse/Specular Reflection, ATR, Liquid cell, Gas cell, and IR microscope etc can be mounted in the sample compartment.

Model	FTIR510
Spectral range	7800 to 350 cm^{-1}
Resolution	Better than 0.85 cm^{-1} (WQF-510A) Better than 0.85 cm^{-1} (WQF-520A)
Wavenumber precision	$\pm 0.01 \text{ cm}^{-1}$
Scanning speed	5 step adjustable for different applications
Signal to noise ratio	Better than 15,000:1 (RMS value, at 2100 cm^{-1} , resolution: 4 cm^{-1} , detector: DTGS, 1min. data collection)
Beam splitter	Ge coated KBr
Infrared source	Air-cooled, high efficiency, reflex sphere module
Detector	DTGS
Data system	Compatible computer
Software	FT-IR software contains all routines needed for basic spectrometer operations, including library search, quantitation and spectrum export
IR library	11 IR libraries included
Dimensions	54x52x26cm
Weight	28kg

Diffuse/Specular Reflectance Accessory

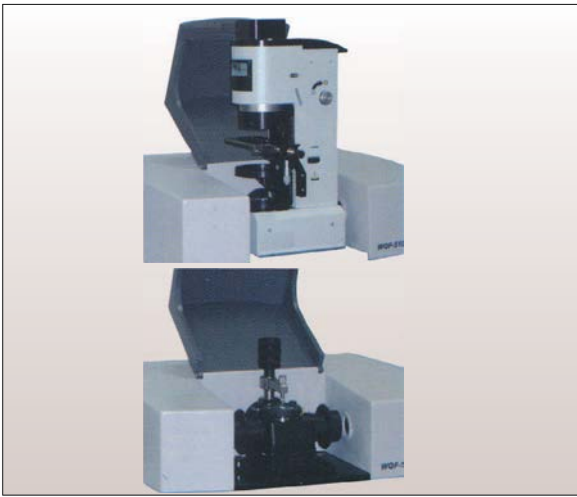
It is a versatile diffuse reflectance and specular reflectance accessory. Diffuse reflection mode is used for transparent and powder sample analysis. Specular reflection mode is for measuring smooth reflective surface and coating surface.

- High light throughput
- Easy operation, no internal adjustment needed
- Optical aberration compensation
- Small light spot, able to measure micro samples
- Variable angle of incidence
- Fast change of powder cup

Horizontal ATR / Variable Angle ATR (30° ~ 60°)

Horizontal ATR is suitable for the analysis of rubber, viscous liquid, large surface sample and pliable solids etc. Variable angle ATR is used for measurement of films, painting (coating) layers and gels etc.

- Easy installation and operation
- High light throughput
- Variable depth of IR penetration



IR Microscope

- Micro samples analysis, minimum sample size: 100 μ m (DTGS detector) and 20 μ m (MeT detector)
- Non-destructive sample analysis
- Translucent sample analysis
- Two measurement methods: transmission and reflection
- Easy sample preparation

Single Reflection ATR

It provides high throughput when measuring materials with high absorption, such as polymer, rubber, lacquer, fiber etc.

- High throughput
- Easy operation and high analytical efficiency
- ZnSe, Diamond, AMTIR, Ge and Si crystal plate can be selected according to application.

Accessory for Determination of Hydroxyl in IR Quartz

- Fast, convenient and accurate measurement of Hydroxyl content in IR quartz
- Direct measurement to IR quartz tube, no need to cut samples
- Accuracy: $\leq 1 \times 10^{-6}$ (≤ 1 ppm)

Accessory for Oxygen and Carbon in Silicon Crystal Determination

- Special silicon plate holder
- Automatic, fast and accurate measurement of oxygen and carbon in silicon crystal
- Lower detection limit: $1.0 \times 10^{16} \text{ cm}^{-3}$ (at room temperature)
- Silicon plate thickness: 4.0~0.4 mm

SiO₂ Powder Dust Monitoring Accessory

- Special SiO₂ powder dust monitoring software
- Fast and accurate measurement of SiO₂ powder dust

Component Testing Accessory

- Fast and accurate measurement of the response of such components as MCT, InSb and PbS etc.
- Curve, peak wavelength, stop wavelength and D* etc can be presented.

Optic Fiber testing Accessory

- Easy and accurate measurement of the loss rate of IR optic fiber, overcoming the difficulties for fiber testing, since they are very thin, with very small light-passing holes and uneasy to fix.

Jewelry Inspection Accessory

- Accurate identification of jewelries.

Universal Accessories

- Fixed liquid cells and demountable liquid cells
- Gas cells with different path length

