



## Visible range spectrophotometers "V-1100" and "VR-2000"

"V-1100" MODEL WITH MANUAL WAVELENGTH SETTINGS AND AUTOMATIC BLANK.

"VR-2000" MODEL WITH AUTOMATIC WAVELENGTH SETTINGS AND BLANK.



"V-1100" Part no. 4120025

"VR-2000" Part no. 4120026

### APPLICATIONS

They are widely used in colleges and enterprises for general quantitative analysis and experiments based in absorbance measurements.

### COMMON FEATURES

High quality silicon photometric diode detector and 1200 lines/mm diffraction grating ensure the high quality accuracy and precision.

Digital display for an easy readout.

Automatic zero and blank (easy to use). Easy switching of transmittance, absorbance and concentration modes, just by pressing one key.

Large sample compartment, which can accommodate 5 to 100mm path length cuvettes with optional holders.

Its pre-aligned design makes it possible to change the halogen lamps by the user himself.

### Optional:

Optional software based on Windows® which can expand the applications to standard curve and kinetics.

### V-1100 MODEL

Easy of use.

Ergonomic and solid design for a continuous suitable use, for students and workers.

### VR-2000 MODEL

Large LCD screen (128x64bits).

It can display a total of 50 groups of data (3 groups per screen).

It can display standard curve and kinetics curve graphic.

The system can also save the test results.

A total of 50 data groups and 10 standard curves can be saved in the RAM memory.

At most 9 standard samples can be used to establish a standard curve.

The curve and the curve equation will be displayed simultaneously on the screen. The unknown concentration solutions, can be measured by the curve.

If one knows the coefficient  $k$  and  $b$  of the formula:  $C=kA+b$ , one can input the value directly.

Data is stored in the memory in case of power cut.

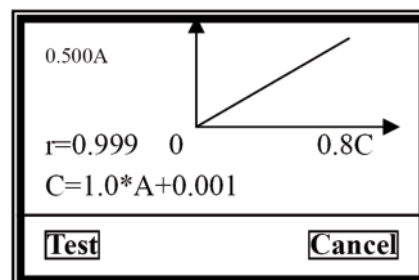
### ACCESSORIES

Professional software. Part No. 4312001

(see page 241).

MODEL	V-1100	VR-2000
Part No.	4120025	4120026
Wavelength range	325-1000 nm	
Spectral bandwidth	5 nm	4 nm
Optical system	Single beam, diffraction grating 1200 lines/mm	
Wavelength adjustment	Manual	Automatic
Wavelength accuracy	±2 nm	±1 nm
Wavelength repeatability	1 nm	0,5 nm
Photometric accuracy	±0,3% T	±0,5% T
Photometric repeatability	±0,3% T	
Photometric range	-0,3-3 A, 0-200% T. 0-9999 Concentration	
Stray light	0,5% T	0,3% T
Stability	± 0,004 A/h @ 500 nm	± 0,002 A/h @ 500 nm
LCD Display	3,5 Digits	128x64 pixels
Detector	Silicon	
Sample compartment	10 mm path length standard cuvette (100mm optional)	
Light source	Tungsten lamp	
Output	USB, Parallel port (printer)	
Mains supply	220 V / 50Hz AC or 110 V / 60 Hz AC	
External dimensions (HxWxD)	160 x 480 x 360 mm	180 x 470 x 370 mm
Weight (Kg)	8	12

SPARE	V-1100	VR-2000
Halogen lamp (visible)	4312004	4312007

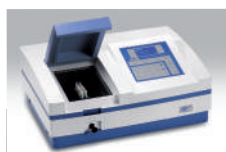


Graphic display visualized detail of a regression line for concentration calculation. (VR-2000)

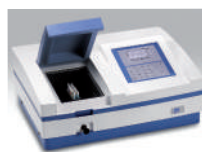


# Ultraviolet and visible range spectrophotometers "UV-2005" and "UV-3100"

AUTOMATIC WAVELENGTH POSITIONING AND BLANK SETTING



"UV-2005" Part no. 4120020



"UV-3100" Part no 4120021

## APPLICATIONS

Suitable for pharmaceutical and biochemical laboratories, kinetics, quantitative analysis, wavelength scanning, multiple components and DNA/protein analysis.

## COMMON FEATURES

Spectrophotometers UV-2005 and UV-3100 have been developed for accurate tests; its stray light is only of 0.05% T. They are flexible, easy-to-use and maximize value. Value is provided from every day performance. The independent local software provides the following functions: Basic Mode, Quantitative Test, Kinetics and System Utilities.

Data is stored in the memory in case of power cut.

The Special application software provides a complete control of the spectrophotometer from a PC, through the built-in USB port.

Wavelength scanning models can be upgraded when connected to the PC via the special software based in Windows®.

Automatic wavelength settings.

Halogen and deuterium lamps can be switch on/off individually to extend lamp lifetime. Its pre-aligned design makes it possible to change lamps for the user himself.

Large sample compartment for 5-100mm path length cuvettes, with optional holders. A wide range of optional accessories can also be selected.

## UV-2005 MODEL

Large LCD screen (128x64bits).

It can display a total of 200 groups of data (5 groups per screen).

It can display standard curve and kinetics curve graphic.

The system can also save the test results.

A total of 200 data groups and 200 standard curves can be saved in the RAM memory.

## UV-3100 MODEL

Absorbance, transmittance and concentration measurements.

It establishes or uses stored calibration equations to measure solutions of unknown concentration.

Spectrum scan of sample at any selected wavelength range with choice of scanning speed and wavelength interval.

Measurement of absorbance changing versus time with reaction rate calculation function.

Measurement at multiple wavelengths to analyse and determine the composition of the mixtures.

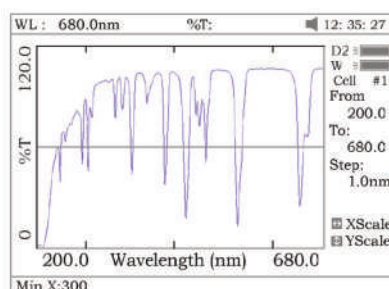
Calculation of concentration and DNA purity.

Note: ratio at other wavelengths can be measured.

## ACCESSORIES

(see page 241).

MODELS	UV-2005	UV-3100
Part No.	4120020	4120021
Wavelength range	190-1100 nm	
Spectral bandwidth	2 nm	
Optical system	Single beam, diffraction grating 1200 lines/nm	
Wavelength accuracy	±0,5 nm	
Wavelength repeatability	0,3 nm	
Photometric accuracy	±0,3% T	
Photometric repeatability	±0,2% T	
Photometric range	-0,3-3 A, 0-200% T. 0-9999 Concentration	
Stray light	0,05% T @220 nm, 340 nm	
Stability	± 0,002 A/h @ 500 nm	
LCD Display	Graphic(128x64)	Graphic(320x240)
Scanning velocity	-	High, Med, Low. Max 3000 nm/min.
Uniformity	-	± 0,002 A (200-1000nm)
Sample compartment	10mm path length standard cuvette (100mm optional)	
Light source	Halogen and deuterium lamps (pre-aligned)	
Output	USB, parallel port (printer)	
Power requirements	220 V / 50Hz AC or 110 V / 60 Hz AC	
External dimensions( HxWxD)	180 x 470 x 370 mm	160 x 480 x 360 mm
Weight (Kg)	14	16



Graphic display visualized detail of holmium crystal scanning, from a UV3100 spectrophotometer.

SPARE PARTS	UV-2005	UV-3100
Halogen lamp (visible)	4312007	
Deuterium lamp (UV)	4312006	

## ACCESSORIES

### Thermostatted flow Peltier cuvette holder (only compatible with UV-2005 and UV-3100 models)

Temperature range: from 15 °C. to 40 °C. in steps of 0.1 °C (ambient temperature ± 22°C.)

Precision: ± 0,2 °C.

Sample suction volume: 1, 2, 3, 4, 5, 7.5, 10, 12.5, y 15 ml/min.

LCD Display: 128x64 pixels.



#### Model

Part No.	Height / Width / Depth (controller) cm	Height / Width / Depth (cuvette holder) cm	Power W	Weight Kg
<b>4120018</b>	11,5 27 17	10 12 7	30	3,5

### Cuvette holder

For long cuvettes, pathlength between 1 and 50 nm. Part No. **4120030**

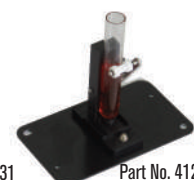
For path length 100 mm. cuvettes. Part No. **4120031**



Part No.4120030



Part No. 4120031



Part No. 4120032

### Test tubes holder

For tubes from 10 to 20 mm. Ø Part No. **4120032**

**Ink printer (not thermal).** Paper 2 1/4" (56 mm) wide roll. Includes power transformer and interface cables. (5V-3A)

#### Model

Part No.	Height / Width / Depth cm	Weight Kg
<b>4120117</b>	4 16 10	1



## COMECTA Cuvettes for Spectroscopy

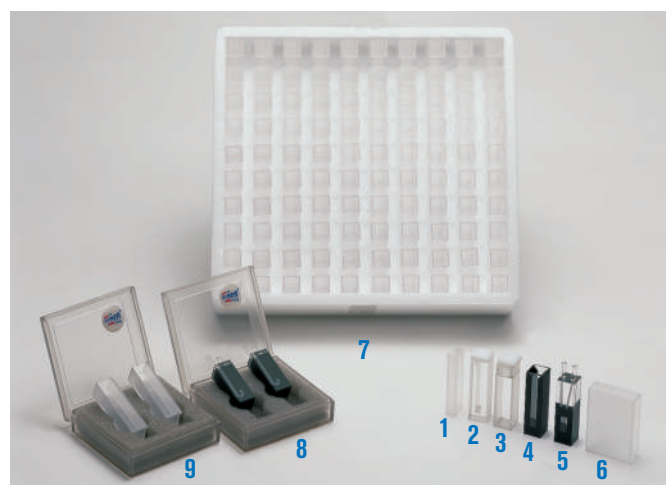
### FEATURES

Range of polystyrene, glass and quartz cuvettes.

Standard size pathlength 10mm x 45mm high.

Special cuvette pathlength 40mm x 45 mm high (fig 6).

Special cuvette pathlength 4mm x 45 mm high (fig 1).



### MODELS

#### Standard cuvettes

Part No.	Figure	Material	Optical path length	Description	Presentation
<b>5100020</b>	9	Quartz	10 mm	Standard square, "macro"	Pack of 2 units
<b>5100021</b>	9	Glass	10 mm	Standard square, "macro"	Pack of 2 units
<b>5100022</b>	7	Polystyrene	10 mm	Standard square, "macro", disposable	Box of 100 units
<b>5100025</b>	8	Glass	10 mm	Flow through cell, square "micro"	Pack of 2 units

#### Special cuvettes

Part No.	Figure	Material	Optical path length	Description	Presentation
<b>5100014</b>	6	Glass	40 mm	Rectangular	Pack of 1 unit
<b>5100015</b>	5	Glass	10 mm	Flow through cell. Window 5 x 10 mm	Pack of 1 unit
<b>5100016</b>	4	Glass	10 mm	Standard square, "micro"	Pack of 1 unit
<b>5100017</b>	3	Glass	10 mm	Standard square, "macro" with round lid	Pack of 1 unit
<b>5100018</b>	2	Quartz	10 mm	Semi-micro	Pack of 2 units
<b>5100019</b>	2	Glass	10 mm	Semi-micro	Pack of 2 units
<b>5100023</b>	7	Polystyrene	10 mm	Square Semi-Micro, disposable	Box of 100 units
<b>5100024</b>	1	Glass	5 mm	Square Semi-Micro	Pack of 1 unit

**COMECTA Double Beam Spectrophotometer "UV-2300 II"**

**BAND WIDTH 1.5 nm. TOTAL STABILITY DOUBLE BEAM OPTICS.  
AUTOMATIC WAVELENGTH CORRECTION CALIBRATION.  
USB PORT FOR DATA STORAGE.  
WIDE RANGE OF ACCESSORIES.**

**APPLICATIONS**

Research, chemistry, biotechnology, general spectroscopy analysis applications, environmental applications.

**FEATURES**

**Monochromator high resolution optics** that eliminate any optical aberrations, monochromator "Seya-Namioka", manufacturer of exclusive beam technologies and diffraction gratings in Japan.

**Bandwidth 1.5 nm** in accordance with European pharmacopoeia recommendations. (the relation between the maximum and minimum absorbance in Toluene and Hexane at 0.02% (V/V) should be more than 1.5T).

**Several modes of operation including spectral scanning**, time base scanning, multi wavelength determinations, peak and trough detection, etc.

**Fast spectra scan displayed on a screen covering the whole spectral range:** quick scan 3600 nm/minute, range 190 to 1100 nm

**Validation function for GLP/GMP:**

This function maintains and assures the optimum working parameters of the instrument. Parameter such as the wavelength precision and noise are monitored.

**Memory facilities of analytical results:**

The analytical parameters and results can be stored in the "flash" memory, connected by the USB. The stored information can be stored as text and can be transferred to a computer for reporting using MS WORD/EXCELL.

**A DNA/RNA function is fitted to quantify** the ratio at 260/280 nm.

Controllable from a computer with application specific optional software: "UV-Analyst Spectrum", (see accessories).

**SPECIFICATIONS**

Optical system:	Double beam optics.
Wavelength range:	190 nm to 1100 nm.
Band pass:	1.5 nm
ABS range:	-3.000 to 3.000 A or 0 to 300% T.
Stray light:	less than 0.05% (220 nm NaI, 340 nm NaNO <sub>2</sub> ).
Scan speed:	10, 100, 200, 400, 800, 1200, 2400 and 3600 nm/minute.
Wavelength accuracy:	±0.3 nm.
Photometric accuracy:	± 0.002 A from 0 to 0.5 A. ± 0.004 A from 0.5 to 1.0 A.
Baseline stability:	0.0003A/hr (500 nm after 2 hours of use.).
Noise level:	0.0003 A (at 500 nm).
Light source:	Deuterium D2 and Halogen lamps.
Built in screen:	LCD back light of 165 x 122 mm.
Connections:	RS232 and parallel port.



USB port. "Flash" memory not included.



Constant temperature 6 place cell changer, 10mm cuvettes, ideal for Kinetics.  
Part No. 5110029

**SPARES**

**Tungsten halogen lamp.**  
Part No. 5110021

**Deuterium lamp (UV).**  
Part No. 5110022

MODEL	Part No.	Height / Width / Depth cm	Voltage	Weight Kg
UV-2300 II	5110020	26 50 59	110-220V / 50-60Hz	29

**ACCESSORIES**

- Part No. 5110023 Flow cell 10 mm path length.
- Part No. 5110024 Constant temperature single cell holder for 10mm flow cell.
- Part No. 5110025 Micro cell holder for 10mm (50 µl) cell.
- Part No. 5110026 Long path length cell holder for 100mm cells.
- Part No. 5110027 5 Position cell changer for 10mm cuvettes.
- Part No. 5110028 Constant temperature cell holder for 10mm cuvettes
- Part No. 5110029 6 place constant temperature cell changer for 10mm cuvettes.
- Part No. 5110033 **Software UV-Analyst Spectrum.** Simple and logical, enhanced software for multiple applications and results and manipulation of data, calculation such as DNA/RNA ratios.