Visible range spectrophotometers "V-1100" and "VR-2000"
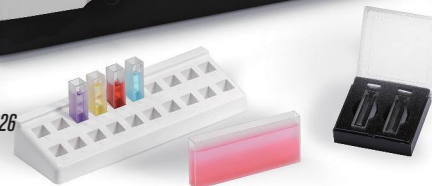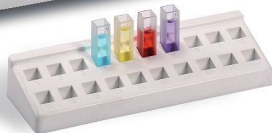
"V-1100" MODEL WITH MANUAL WAVELENGTH SETTINGS AND AUTOMATIC BLANK.
"VR-2000" MODEL WITH AUTOMATIC WAVELENGTH SETTINGS AND BLANK

"V 1100" Part no. 4120025

"VR 2000" Part no. 4120026

APPLICATIONS

They are widely used in colleges and enterprises for general quantitatives 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 standardcCurve 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.
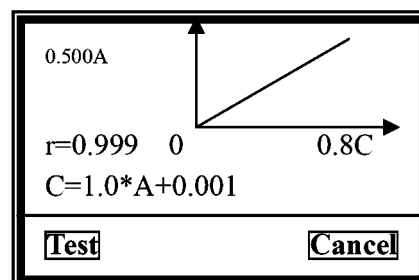Data is stored in the memory in case of power cut.

ACCESSORIES

Profesional software. Part No. 4312001

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

```
0.500A


r=0.999    0              0.8C
C=1.0*A+0.001

 Test                      Cancel
```

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

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

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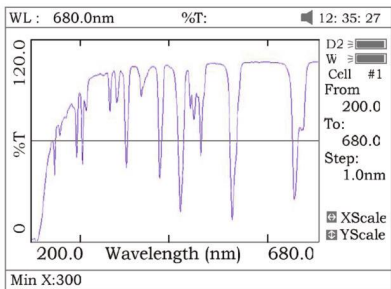
Measurement of absorbance changing versus time with reaction rate calculation function.

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.

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 ºC. to 40 ºC. in steps of 0.1 ºC (ambient temperature ± 22ºC.)
Precision: ± 0,2 ºC.
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
4120018	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 leength100 mm. cuvettes. Part No. **4120031**

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

Part No.4120030   Part No. 4120031   Part No. 4120032

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

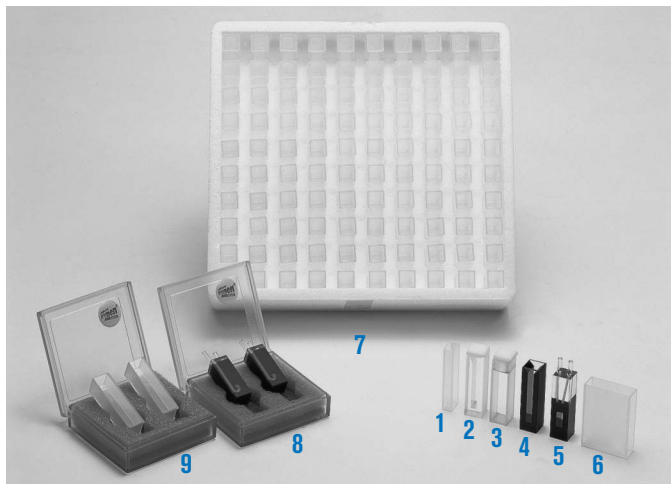| Part No.	Height / Width / Depth cm			Weight Kg
4120117	4	16	10	1

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
5100020	9	**Quartz**	**10 mm**	**Standard square, "macro"**	**Pack of 2 units**
5100021	9	**Glass**	**10 mm**	**Standard square, "macro"**	**Pack of 2 units**
5100022	7	**Polystyrene**	**10 mm**	**Standard square, "macro", disposable**	**Box of 100 units**
5100025	8	**Glass**	**10 mm**	**Flow through cell, square "micro"**	**Pack of 2 units**

Special cuvettes

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