

UV-Vis Spectrophotometer
 Specific functionality for Life Science applications

V-630Bio



The V-630Bio is a specifically designed instrument dedicated to Life Science applications. This model consists of the V-630, an intelligent Remote Module (iRM) designed for biological and clinical analysis, and a micro cell holder. The iRM conveniently guides the operator through routines encompassing data acquisition to data processing. Features for simplicity and ease-of-use include the IQ Accessory function for automatic accessory recognition and IQ Start for immediate start of registered data collection applications when conducting routine measurements. Built-in bio-analytical application programs include: protein/nucleic acid measurement; temperature ramping/DNA melting analysis; kinetics measurement/analysis; and a quantitative protein analysis program with six different calibration methods installed and ready for analysis.

● **Simplicity and Ease-of-Use**

The newly redesigned intelligent remote module (iRM) can be easily operated through a color LCD touch screen. The iRM incorporates a wide display and provides access to all functions necessary for routine applications.

● **High-Speed Scanning**

High-throughput optics and fast response detectors allow the V-630Bio to scan at speeds up to 8000 nm/min. without wavelength tracking errors.

● **Applicable to Micro Volume Sampling**

The standard cell holder includes a cell height adjustment function to accept micro cells.

● **Standard Application Programs**

- Wavelength scanning
- Quantitative Analysis with six types of calibration curves
- Time course measurement
- Fixed wavelength measurement

● **Dedicated Biological Application Programs**

- Protein/nucleic acid measurement
- Temperature ramping/DNA melting analysis
- Kinetics measurement and analysis

● **Data storage on PC-compatible flash memory card**

The obtained data can be automatically printed to USB printers, or saved to a compact flash memory card for further processing on a PC.

● **Wide Range of Sampling Accessories**

A full complement of sampling accessories including automatic cell changers, sippers, autosamplers, ultra-micro cell holder in addition to additional software packages are available to optimize the V-630Bio for specific applications.

● **Instrument Validation**

A USP, EP and JP compliant instrument validation package is standard.



Hardware Specifications

Optical system	Single monochromator 1200 lines/mm concave grating Modified Rowland mount Double-beam
Light source	Deuterium lamp: 190 to 350 nm Halogen lamp: 330 to 1100 nm
Light source exchange wavelength	User-selectable within a range of 330 to 350 nm
Detector	Silicon photodiode (S1337)
Wavelength range	190 to 1100 nm
Wavelength accuracy	±0.2 nm (at 656.1 nm)
Scanning speed	10 - 8000 nm/min
Wavelength repeatability	±0.1 nm
Slew speed	12,000 nm/min
Spectral bandwidth	1.5 nm (fixed)
Photometric range	±10000 %T -2 to 3 Abs
Photometric accuracy	±0.002 Abs (0 to 0.5 Abs) ±0.003 Abs (0.5 to 1 Abs) ±0.3 %T (Tested with NIST SRM 930D)

Photometric repeatability	±0.001 Abs (0 to 0.5 Abs) ±0.001 Abs (0.5 to 1 Abs)
Stray light	1 % (198 nm KCL 12 g/L aqueous solution) 0.04 % (220 nm NaI 10 g/L aqueous solution) 0.02 % (340 nm NaNO ₂ 50 g/L aqueous solution) 0.02 % (370 nm NaNO ₂ 50 g/L aqueous solution) (10 mm cell)
Baseline stability	±0.0004 Abs/hour (Response: slow; wavelength: 250 nm; lamp on greater than two hours; stabilized room temperature)
Baseline flatness	±0.0006 Abs (Value obtained after instrument baseline correction with a temperature variation of less than 5°C; wavelength range: 200 to 1000 nm; response: medium; scanning speed: 400 nm/min [based on JAIMA Standard JAIMAS-0001])
RMS noise	0.00006 Abs (0 Abs; wavelength: 500 nm; measurement time: 60 sec; response: medium)
Power requirements	105 VA
Dimensions and weight	486(L) x 441(W) x 216(H) mm (excluding accessories) 15 kg

iRM-700 BIO Intelligent Remote Module

Display	320 x 240 pixel color LCD touch sensitive screen	
Basic measurement modes	Quantitative analysis	1, 2 or 3 wavelength measurement method (peak maximum and baseline points) Calibration curves: Linear, Proportional, segment, quadratic, cubic Protein Analysis calibration curves: UV Absorption, BCA, Bradford, Lowry, WST, Biuret
	Wavelength scan	Measurement mode: Abs, %T, %R Data processing: Scale change, Zoom, Trace, Peak picking, Peak ratio, Ratio of 2 wavelengths, Derivatives, Smoothing, Arithmetic, Overlay
	Time scan	Measurement mode: Abs, %T, %R User-defined time period Enzyme activity calculation
	Fixed wavelength	Measurement mode: Abs, %T, %R Up to 8 selected wavelengths
	Abs/%T monitor	
Standard bio-analytical programs	Kinetics measurement and analysis	Calculation of the kinetics coefficient K_m and the maximum enzyme velocity (V_{max}). (Lineweaver-Burk, Hofstee or Eadie plots) Automated multi-cell control
	Protein/nucleic acid measurement	Calculation of protein/Nucleic acid concentrations (260/280 Ratio, 230/280 Ratio, Warburg-Christian method, Abs ratio at user-defined wavelengths, user defined factors) Correction at 320 nm or user-defined wavelength
	Temperature ramping/DNA melting analysis	Determination of the theoretical thermal melting point (T_m) Automated multi-cell control
Data handling	Data format	JASCO format (.jws), text format (ASCII.txt)
	Auto print (optional USB printer)	
	Auto save (to flash memory)	
Card slot	Compact flash memory card/flash ATA card	
Standard validation function	USP, EP, JP compliant	Wavelength accuracy, Wavelength repeatability, Photometric accuracy, Photometric repeatability, Resolution, Stray light, RMS Noise, Baseline stability, Baseline flatness

Standard Composition

Description	Qty	Remarks
V-630Bio	1	
UV-Vis Spectrophotometer		
Intelligent remote module (iRM)	1	
iRM touch pen	1	
Compact flash memory card	1	
Card adapter	1	
Holmium glass	1	Bi-functional Holmium glass holder/shielding plate

Description	Qty	Remarks
Sample cell mask	1	Aperture height 3 mm
Time-delay fuse	2	
AC power cable	1	
Allen wrench	1	For adjustment of the light source mirror
Certificate of inspection	1	
Instruction manual	1 set	



● Specifications are subject to change without notice.

JASCO INTERNATIONAL CO., LTD.

4-21, Sennin-cho 2-chome, Hachioji, Tokyo 193-0835, Japan
Tel: +81-426-66-1322 Fax: +81-426-65-6512 Internet: <http://www.jascoinc.co.jp/english/index.html>
Australia, China, Hong Kong, India, Indonesia, Iran, Korea, Malaysia, New Zealand,
Pakistan, Philippines, Russia, Singapore, South Africa, Taiwan, Thailand

JASCO INCORPORATED

8649 Commerce Drive, Easton, Maryland 21601-9903, U.S.A
Tel: +1-800-333-5272 Tel: +1-410-822-1220 Fax: +1-410-822-7526 Internet: <http://www.jascoinc.com>
Canada, Costa Rica, Mexico, Puerto Rico, Argentina, Brazil, Chile, Colombia, Paraguay, Peru, Uruguay

JASCO EUROPE s.r.l.

Via Confalonieri 25, 23894 Cremella (Lc), Italy
Tel: +39-039-956439 Fax: +39-039-958642 www.jasco-europe.com
JASCO Deutschland www.jasco.de, JASCO UK www.jasco.co.uk, JASCO France www.jascofrance.fr,
JASCO Benelux www.jasco.nl, JASCO Spain www.jasco-spain.com, JASCO Scandinavia www.jascoscandinavia.se
Austria, Finland, Greece, Hungary, Poland, Portugal, Romania, Switzerland, Algeria, Cyprus,
Egypt, Israel, Jordan, Kuwait, Lebanon, Morocco, Saudi Arabia, Syria, Tunisia, Turkey, U.A.E.



Serving the global marketplace
with Analytical Instrumentation
JASCO Corporation
2967-5, Ishikawa-cho, Hachioji, Tokyo 193-0837, Japan
<http://www.jasco.co.jp>
LUV02-0609 Printed in Japan