Colo Science
Laboratory & Scientific Equipment

COLO.SCIENCE · TECHNICAL SPECIFICATION

UV/VIS DOUBLE BEAM SPECTROPHOTOMETER

NOVEL-102S

UV/Vis Double Beam Spectrophotometer · 190–1100 nm · Spectral bandwidth 2 nm · Double beam · 8″ touch screen · Spectral scanning

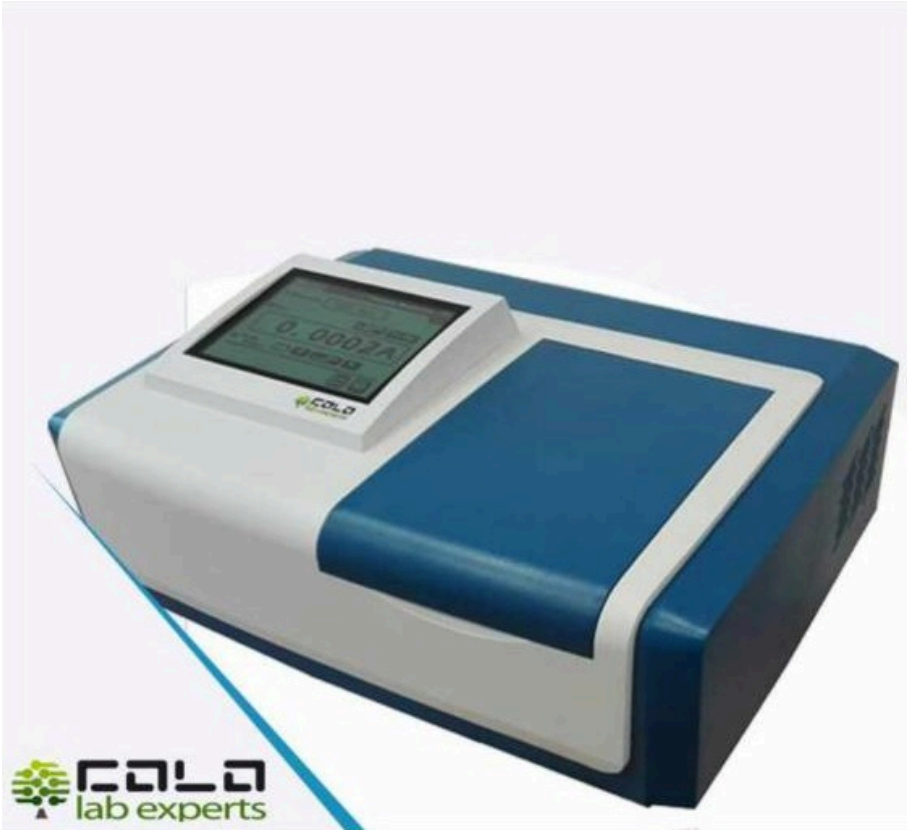
NOVEL-102S UV/Vis Double Beam Spectrophotometer covers 190–1100 nm with a 2 nm spectral bandwidth. Double-beam optics with a Czerny-Turner monochromator measure the sample against a reference beam, so lamp fluctuations and drift are compensated during long scans and kinetics. Deuterium and tungsten lamps, automatic wavelength setting and the 8″ colour touch screen make it a routine double beam instrument for UV and visible quantitative work, spectral scanning and kinetics — in pharmaceutical and clinical analysis, DNA and protein work, water, food and quality control.

UV/Vis 190–1100 nm | Bandwidth 2 nm | Double beam | D2 + W lamps | Auto wavelength | Spectral scanning | Kinetics | Baseline ≤±0.002 A | 8″ touch screen

Document type: **Technical Specification Sheet**
Product: **NOVEL-102S UV/Vis Double Beam Spectrophotometer**
Format: Print layout · A4 landscape

NOVEL-102S product page | UV/Vis spectrophotometers — overview | UV/Vis spectrophotometers catalogue

Request quote



NOVEL-102S · UV/Vis double beam spectrophotometer

WAVELENGTH RANGE 190–1100 nm · auto setting	SPECTRAL BANDWIDTH 2 nm
WAVELENGTH ACCURACY ±0.3 nm · repeatability ≤0.1 nm	STRAY LIGHT ≤0.03 %T at 220 nm and 360 nm

MODEL
NOVEL-102S

ADDRESS / HQ
Polje ob Sotli 4
SI-3255 Buče, Slovenia

CONTACT
sales@colo.si
+386 70 713 437

NOVEL-102S · product overview

Double-beam measurement in the UV and visible range with 2 nm bandwidth

CORE TECHNOLOGY

Double-beam optics with Czerny-Turner monochromator — sample and reference beams are measured together, compensating lamp fluctuations and drift.

Blazed holographic grating 1200 lines/mm, 160 mm focal length and silicon photocell detector; spectral bandwidth 2 nm.

Deuterium and tungsten lamps cover 190–1100 nm; the lamps can be switched on separately to extend their life.

Single 10 mm cell holder in the sample beam, automatic wavelength setting and automatic zero / 100 %T; 2 quartz and 4 glass cuvettes included.

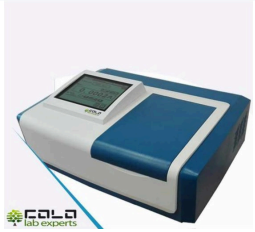
Full-spectrum and detailed scanning at fast, medium or slow speed, with peak and valley detection, GOTO λ and multi-wavelength measurement.

Quantitative analysis — direct concentration reading and linear regression.

Time-based kinetics at a fixed wavelength.

Internal memory for results, spectra, regression equations and correction data; USB connection to a PC, thermal printer and COLO spectrum software as options.

PRODUCT HIGHLIGHTS



Double-beam optics
Sample and reference measured together — stable baseline (≤±0.002 A) and drift ≤0.0009 A/h.



Quartz and glass cuvettes
2 quartz cuvettes for UV and 4 glass cuvettes, 10 mm path length, in standard delivery.



Cell holder 10 mm
Single 10 mm cell holder in the sample beam, standard delivery.

APPLICATIONS

- Medicine & health
- Clinical testing
- Biochemistry & DNA/protein
- Petrochemical industry
- Environment & water
- Quality control

OPTICS	LIGHT SOURCE	PHOTOMETRIC ACCURACY	STABILITY
Double beam · Czerny-Turner · 1200 lines/mm	D2 + tungsten · 190–1100 nm	±0.002 A (0–0.5 A)	≤0.0009 A/h at 250 and 500 nm

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NOVEL-102S · technical parameters

Double beam · 190–1100 nm · spectral bandwidth 2 nm · automatic wavelength setting

TECHNICAL PARAMETERS

Optical system	Double beam; Czerny-Turner monochromator
Grating	Blazed holographic, 1200 lines/mm
Focal length	160 mm
Light source	Deuterium lamp and tungsten-halogen lamp
Wavelength range	190–1100 nm
Spectral bandwidth	2 nm
Wavelength accuracy	±0.3 nm
Wavelength repeatability	≤0.1 nm
Wavelength setting	Automatic
Photometric accuracy	±0.3 %T ±0.002 A (0–0.5 A) · ±0.004 A (0.5–1 A)
Photometric repeatability	≤0.15 %T 0.001 A (0–0.5 A) · 0.002 A (0.5–1 A)
Photometric range	0–200 %T · −0.301 to 4.000 A · 0–9999 C
Stray light	≤0.03 %T at 220 nm (NaI) and 360 nm ($NaNO_2$)
Detector	Silicon photocell

Baseline flatness	≤±0.002 A (200–1090 nm)
Noise	≤0.15 %T at 100 %T · ≤0.1 %T at 0 %T
Drift	≤0.0009 A/h at 250 and 500 nm (after 2 h warm-up)
Measuring modes	T, A, C
Functions	Full-spectrum and detailed scanning (fast / medium / slow), peak/valley detection, GOTO λ, multi-wavelength measurement
Quantitative · kinetics	Concentration direct reading; linear regression · time-based kinetics
Cell holder · zero / 100 %T	Single cell holder, 10 mm (standard) · automatic
Display	8″ colour touch screen
Data	Internal memory; USB — PC connection and extended storage
Printer · PC software	Thermal printer · COLO spectrum software (options)
Conformity	CE
Power supply	AC 220 V ±22 V, 50 Hz ±1 Hz · 200 W
Packing size / gross weight	700 × 580 × 500 mm (0.203 m^3) / 32 kg

NOVEL-102S · accessories and sample handling

Standard delivery and options

ACCESSORIES



Quartz and glass cuvettes, 10 mm

STANDARD



Single cell holder, 10 mm

STANDARD

Standard delivery

Instrument	NOVEL-102S UV/Vis Double Beam Spectrophotometer
Cell holder	Single cell holder, 10 mm
Cuvettes	4 × glass cuvette, 2 × quartz cuvette, 10 mm path length
Cables and spares	Power cable · 2 fuses
Documents	Operation manual

Optional

Printer and software	Thermal printer · COLO spectrum PC software

The instrument uses 10 mm cuvettes; quartz cuvettes are needed below about 320 nm. COLO confirms the set with the quotation.

PATH LENGTH
10 mm

CUVETTES
2 quartz + 4 glass (standard)

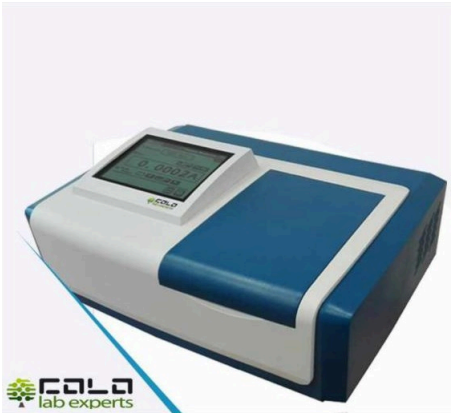
DATA
USB · PC software (option)

PRINTER
Thermal (option)

NOVEL-102S · configuration and support

Ordering information, configuration checklist and contact

OPERATION, CONFIGURATION AND SUPPORT



NOVEL-102S · UV/Vis double beam spectrophotometer

Ordering information

Model	NOVEL-102S UV/Vis Double Beam Spectrophotometer
Range / bandwidth	190–1100 nm · 2 nm
Cell holder	Single, 10 mm
Power	AC 220 V ±22 V, 50 Hz · 200 W

Configuration checklist

Samples: UV-absorbing or coloured solutions in 10 mm cuvettes — quartz for the UV range, glass for the visible range.

Why double beam: long spectral scans, kinetics and low absorbance values, where reference compensation keeps the baseline stable.

Methods: DNA/protein at 260/280 nm, quantitative analysis, scanning or kinetics in the 190–1100 nm range.

Data: USB connection to a PC, thermal printer or COLO spectrum PC software (options).

SALES AND SUPPORT

COLO Lab Experts
Polje ob Sotli 4, SI-3255 Buče, Slovenia

Selection guidance: send your sample type, wavelength range and methods — we confirm the configuration, accessories and delivery time with the quotation.

QUICK CONTACT

colo.si
sales@colo.si
+386 70 713 437

COLO.SCIENCE · SPECTROPHOTOMETRY SUPPORT

Is NOVEL-102S the right double beam instrument for your methods?

Send your sample type, the wavelengths and methods you use and the number of samples per day — we propose the configuration and confirm it with the quotation.

Request quotation | sales@colo.si | +386 70 713 437

Specifications are subject to change without notice. Values refer to standard laboratory conditions.