Colo Science
Laboratory & Scientific Equipment

COLO.SCIENCE · TECHNICAL SPECIFICATION

SINGLE BEAM UV/VIS SPECTROPHOTOMETER

MAVRICA18

Single Beam UV/Vis Spectrophotometer Series · Four models · 190–1100 nm or 320–1100 nm · Spectral bandwidth 2 nm, 1 nm or 0.5–5 nm · LCD 320×240 · USB and RS232 · PC software included

MAVRICA18 is a series of four single beam spectrophotometers for routine photometry, quantitation, kinetics and spectrum scans. Three UV/Vis models cover 190–1100 nm with a spectral bandwidth of 2 nm (U0), 1 nm (U1) or a selectable 0.5 / 1 / 2 / 4 / 5 nm (US); the V0 model covers the visible range from 320 to 1100 nm. A 1200 lines/mm grating keeps stray light at 0.05 %T, the instrument is operated from a 320×240 LCD with keypad, and results go to a PC over USB or RS232 — PC software is included. For quality control, teaching, water, food and clinical laboratories.

UV/Vis 190–1100 nm · Single beam · 4 models · Bandwidth 2 / 1 / 0.5–5 nm · Stray light 0.05 %T · Scanning up to 3000 nm/min · LCD 320×240 · USB · RS232 · PC software included

Document type: **Technical Specification Sheet**
Product: **MAVRICA18 Single Beam UV/Vis Spectrophotometer Series**
Format: Print layout · A4 landscape

MAVRICA18 product page · UV/Vis spectrophotometers — overview · UV/Vis spectrophotometers catalogue · Request quote



MAVRICA18 · single beam UV/Vis spectrophotometer

WAVELENGTH RANGE	190–1100 nm (U0, U1, US) · 320–1100 nm (V0)
SPECTRAL BANDWIDTH	2 nm · 1 nm · 0.5 / 1 / 2 / 4 / 5 nm
WAVELENGTH ACCURACY	±0.3 nm (U1, US, V0) · ±0.5 nm (U0)
STRAY LIGHT	0.05 %T at 220 and 360 nm

MODELS
MAVRICA18-V0
MAVRICA18-U0
MAVRICA18-U1
MAVRICA18-US

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

CONTACT
sales@colo.si
+386 70 713 437

MAVRICA18 · product overview

Four single beam models — from Vis routine to selectable bandwidth in the UV

CORE TECHNOLOGY

Single beam optics with a holographic blazed grating of 1200 lines/mm — stray light 0.05 %T at 220 and 360 nm.

Three UV/Vis models for 190–1100 nm with deuterium and tungsten lamps: U0 with 2 nm, U1 with 1 nm, US with selectable 0.5 / 1 / 2 / 4 / 5 nm.

V0 for the visible range 320–1100 nm with a tungsten lamp and 2 nm bandwidth — for colorimetric methods.

Socket-type lamps — lamps are changed without optical realignment.

Photometry, quantitation, kinetics and wavelength scanning, multi-wavelength measurement and DNA / protein test.

Scanning speed high, medium or low, up to 3000 nm/min; automatic wavelength setting.

320×240 LCD with keypad; internal memory for test data and working curves; USB storage, USB and RS232 to a PC, export to Excel.

Large sample compartment for cuvettes from 5 to 100 mm; manual 4-cell holder 10 mm and PC software in standard delivery.

PRODUCT HIGHLIGHTS



Quartz and glass cuvettes
4 glass cuvettes, 10 mm; with UV models also 2 quartz cuvettes.



Manual 4-cell holder
Four 10 mm cuvettes in the sample compartment — standard.



Automatic 8-cell holder
Series of up to eight 10 mm cuvettes measured in sequence (option).



Peltier / sipper system
Temperature-controlled measurement and sample aspiration (option).

APPLICATIONS

Pharmaceutical analysis

Clinical testing

Biochemistry · DNA / protein

Petrochemical industry

Environment & water

Quality control

OPTICS	PHOTOMETRIC ACCURACY	STABILITY	BASELINE FLATNESS
Single beam · 1200 lines/mm	±0.3 %T (U1, US) · ±0.5 %T (U0, V0)	±0.0005 A/h at 500 nm	±0.002 A

MAVRICA18 product page | UV/Vis spectrophotometers — overview | UV/Vis spectrophotometers catalogue | Request quote

MAVRICA18 · technical parameters

Single beam · four models · 190–1100 nm or 320–1100 nm

TECHNICAL PARAMETERS

Optical system	Single beam; grating 1200 lines/mm
Wavelength range	U0, U1, US: 190–1100 nm V0: 320–1100 nm
Spectral bandwidth	U0: 2 nm · U1: 1 nm · V0: 2 nm US: 0.5 / 1 / 2 / 4 / 5 nm (selectable)
Wavelength accuracy	U1, US, V0: ±0.3 nm (±0.1 nm at 656.1 nm) U0: ±0.5 nm
Wavelength repeatability	U1, US: 0.1 nm · U0, V0: 0.2 nm
Wavelength setting	Automatic
Photometric accuracy	U1, US: ±0.3 %T · U0, V0: ±0.5 %T
Photometric repeatability	0.1 %T (0–100 %T)
Photometric range	0–200 %T · −0.3 to 3 A · 0–9999 C
Stray light	0.05 %T at 220 nm and 360 nm
Stability	±0.0005 A/h at 500 nm
Baseline flatness	±0.002 A
Noise	±0.001 A

Measuring modes	T, A, C, E
Functions	Photometric measurement, quantitation, kinetics, wavelength scan, multi-wavelength, DNA / protein test
Scanning speed	High, medium, low · max. 3000 nm/min
Light source	U0, U1, US: deuterium and tungsten lamp V0: tungsten lamp
Detector	Silicon photodiode
Cell holder	Manual 4-cell holder, 10 mm (standard)
Sample compartment	Cuvettes with path length 5–100 mm
Display	LCD 320×240 with keypad
Data output	USB storage, USB and RS232 to PC · export to Excel
PC software	Included in standard delivery
Power supply	AC 110–220 V, 50–60 Hz
Packing size	810 × 660 × 390 mm

WHICH MAVRICA18 MODEL

All four models share the optics, the sample compartment, the software and the accessories. They differ in wavelength range and spectral bandwidth — the bandwidth sets how finely close absorption bands are resolved and how much light reaches the detector.

MAVRICA18-V0 · 320–1100 nm, 2 nm

Visible range with a tungsten lamp — colorimetric methods, water tests, teaching.

MAVRICA18-U0 · 190–1100 nm, 2 nm

UV and Vis for routine work — DNA / protein at 260/280 nm, nitrate, QC methods.

MAVRICA18-U1 · 190–1100 nm, 1 nm

Narrower bandwidth and ±0.3 %T — spectra with closer bands and methods that ask for 1 nm.

MAVRICA18-US · 0.5 / 1 / 2 / 4 / 5 nm

Bandwidth selected per method — 0.5 nm for fine spectra, 4–5 nm for weak or turbid samples.

	Single beam (MAVRICA18)	Double beam (NOVEL-1025 and higher)
Measurement	Blank and sample measured in turn in one beam	Sample and reference beam measured together
Lamp drift	Corrected by a new blank — stability ±0.0005 A/h	Compensated continuously by the reference beam
Best suited for	Routine photometry, quantitation and scans with regular blanks	Long kinetics and scan series without re-zeroing
Price level	Lower	Higher

MAVRICA18 · accessories and sample handling

Standard delivery and optional cell holders, film holders and sampling systems

ACCESSORIES



Quartz and glass cuvettes, 10 mm

STANDARD



Manual 4-cell holder, 10 mm

STANDARD



Automatic 8-cell holder, 10 mm

OPTIONAL



Film holder

OPTIONAL



Test-tube rack

OPTIONAL



Peltier / sipper system

OPTIONAL



Integrating sphere

OPTIONAL

Standard delivery

Instrument	MAVRICA18 single beam spectrophotometer (V0, U0, U1 or US)
Cell holder	Manual 4-cell holder, 10 mm
Cuvettes	4 × glass cuvette, 10 mm; UV models also 2 × quartz cuvette, 10 mm
Software	PC software
Cable · documents	Power cable · user manual

Optional

Cell holders	Automatic 8-cell holder
Solids and films	Film holder · integrating sphere · reflection accessory
Sampling systems	Peltier / sipper system · test-tube rack
Software	21 CFR compliant software

Cuvettes with path lengths from 5 to 100 mm fit the sample compartment; quartz cuvettes are needed below about 320 nm. COLO confirms the set with the quotation.

PATH LENGTH
5–100 mm

CELL POSITIONS
4 manual (standard) · 8 automatic (option)

SAMPLE TYPES
Liquids · films · solids · tubes

TEMPERATURE CONTROL
Peltier / sipper (option)

MAVRICA18 · configuration and support

Ordering information, configuration checklist and contact

OPERATION, CONFIGURATION AND SUPPORT



MAVRICA18 · LCD 320×240 with keypad — photometry, quantitation, kinetics, wavelength scan and DNA / protein test on the instrument

Ordering information

MAVRICA18-V0	320–1100 nm · bandwidth 2 nm
MAVRICA18-U0	190–1100 nm · bandwidth 2 nm
MAVRICA18-U1	190–1100 nm · bandwidth 1 nm
MAVRICA18-US	190–1100 nm · 0.5 / 1 / 2 / 4 / 5 nm

Configuration checklist

Wavelength range: V0 for visible methods only; U0, U1 or US when UV methods such as 260/280 nm or nitrate are needed.

Bandwidth: 2 nm for routine methods, 1 nm for narrower bands, US when methods prescribe different bandwidths.

Samples and throughput: automatic 8-cell holder for series, film holder or integrating sphere for solids, Peltier / sipper for kinetics.

Data: PC software as standard; 21 CFR compliant software as an option.

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 model, accessories and delivery time with the quotation.

QUICK CONTACT

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

COLO.SCIENCE · SPECTROPHOTOMETRY SUPPORT

Need help choosing the MAVRICA18 model and accessories?

Send your sample type, the wavelengths and methods you use and the number of samples per day — we propose the model and 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.