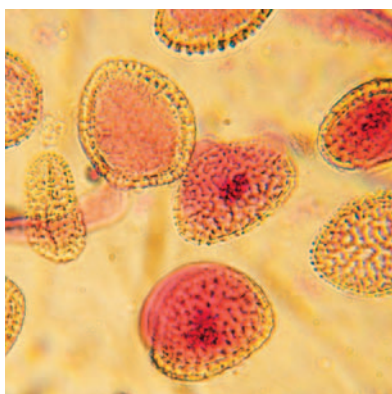


The Evolution™ 60, with a fixed 1.0 nm bandpass, is an affordable UV-Visible spectrophotometer designed to meet international regulatory requirements. From the technician to the research scientist, the Evolution 60 offers the ideal solution with accessories and software to meet a wide range of laboratory and application needs.

Evolution 60

Flexible UV-Vis for routine to research analysis



For over 60 years, customers in world renowned research institutions, regulated QC laboratories and teaching institutions have relied on Thermo Scientific UV-Visible spectrophotometers. We continue this tradition of quality and reliability with the Evolution 60 UV-Visible spectrophotometer.

The Evolution 60 can be configured for your individual laboratory needs with options for Local Control and PC-only control versions. The Local Control version is perfect for laboratories requiring maximum ease-of-use in a compact design. In regulated environments where 21 CFR Part 11 compliance is a requirement or in laboratories that require extended software capabilities, the PC-only version is ideal. The Evolution 60 has a fixed 1.0 nm bandpass assuring full compliance to international Pharmacopoeia regulations.

Maximum Flexibility and Simplicity in a Compact Design

Intuitive Design Provides Maximum Ease-of-use

Both the Local Control embedded software and the VISION/ite™ PC software offer intuitive method setup, data reporting, and advanced calculation capabilities. The Evolution 60 also features application-specific Local Control and PC software. Biochemical tests are built into the Local Control software, and PC control analyzer packages are available for enzymatic food analysis, color calculations and materials calculations. This extensive application software offering makes the Evolution 60 a perfect solution for your research or routine analysis needs.

More Bench Space

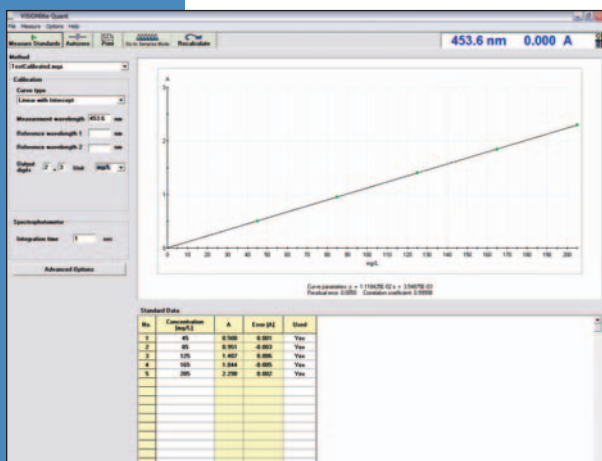
The compact design saves valuable bench space and leaves more room for additional laboratory equipment. The built-in printer delivers a high-quality printout of data and graphics without increasing the system footprint.

Low Cost of Ownership

The Evolution 60 is designed for routine and research level performance and maximum reliability. The xenon flash lamp provides excellent performance over the full wavelength range of 190-1100 nm. Guaranteed for 3 years of continuous use, the xenon light source will provide you many years of maintenance-free performance. The lamp may not need replacing over the entire lifetime of the instrument, as it is only on when taking a measurement.

Built-in Automatic Cell Changer Saves Time

Each Evolution 60 is supplied with a built-in 6-position cell changer. One position is designated for the blank, leaving space for the analysis of 5 additional samples. The cell changer automatically interacts with all built-in Local Control and PC Control software applications. The cell changer can be easily removed for accommodating optional accessories such as long pathlength cell holders, test tube holders, a single-cell Peltier cell holder, a solid sample holder and a single cell holder for sipper systems and fiber optics measurements.



Use a PC to control the Evolution 60 for convenient quantitative analysis, fixed wavelength, kinetics or scanning measurements. The easy-to-use interface increases productivity and allows data processing, reporting and storage.



Comprehensive Local Control Software

The Evolution 60 Local Control embedded software offers a comprehensive suite of built-in application programs for routine and research analysis. Applications include absorbance ratio/absorbance difference, quantitative analysis, kinetics, wavelength scanning, performance verification, and a suite of biochemical tests for life science customers.

The embedded biochemical software includes pre-configured assays for RNA/DNA concentration estimation (with or without scanning), protein concentration, Oligo calculator and cell growth. To enhance ease-of-use, a built-in SmartStart™ menu is available for customizing your own individual laboratory start-up menus. Only those methods that you run routinely are displayed in the SmartStart menu each time the instrument is turned on.

Additional Flexibility with PC Control Application Programs

There are a range of PC software application programs available for the Evolution 60.

- The standard PC control software, VISION*lite*, consists of applications for wavelength scanning, fixed wavelength analysis, quantitative analysis and kinetics.
- VISION*lite* SE is available as an option for laboratories requiring user authentication, audit trails, electronic records and signatures for 21 CFR Part 11 compliance.
- For food and beverage customers, an analyzer software application for enzymatic food analysis, EnzLab and EnzLab SE, is available.
- Pharmaceutical color calculations and routine CIE color calculations are available using the VISION*lite* ColorCalc software. Luminous transmittance of sunglasses and other optical materials is available from VISION*lite* MaterialsCalc software.

Each of these software packages completely controls the Evolution 60 spectrophotometer and appropriate accessories.



Remote fiber optic probes increase sample throughput and allow the measurement of difficult samples such as oxygen or moisture-sensitive samples stored in an inert atmosphere.



Evolution 60 Specifications

Optical Configuration	Dual Beam
Detectors	Silicon Photodiode
Light Source	Xenon
Wavelength Range	190-1100 nm
SBW	1.0 nm
Wavelength Accuracy	± 0.80 nm, 529.0 nm
Wavelength Repeatability	± 0.50 nm, 529.0 nm
Photometric Accuracy	± 0.005 Abs at 1A, NIST filters ± 0.010A K ₂ Cr ₂ O ₇
Photometric Range	-0.1 to 3.0 A
Photometric Display	-0.1 to 5.0 A
Photometric Noise	< 0.00025A, 0A < 0.0005A, 1A < 0.0008A, 2A, RMS, 260 nm
Stray Light	< 0.08%T, 220, 340 nm (NaI, NaNO ₂) < 1%T, 198 nm (KCl)
Scan Speed	10-2,800 nm/min
Slew Speed	11,000 nm/min
Wavelength Data Intervals	0.1, 0.2, 0.5, 1.0, 2.0, 5.0 nm
Graphic Display (Local Control)	320 x 240 pixel LCD, 96.5 x 71 mm (3.8" x 2.8")
Keypad (Local Control)	Sealed membrane
Printer (optional for Local Control)	40-column internal, graphical
Output	Bi-directional RS232C, parallel port output for HP PCL format (text and graphics)
Power Requirements	Selected automatically; 100-240 Volts
Dimensions	330 W x 410 D x 235 H mm (13" x 16" x 9")
Weight	9.1 Kg (20.1 lb)
Warranty	1 year (xenon Lamp – 3 years)

Supplied as Standard

- Evolution 60 LC or PC-only control
- 6-position cell changer
- Single cell holder
- AC power cord
- Spare fuses
- Protective plastic cover
- Digital documentation
- RS232C cable (PC-only configuration)

Note: Software is not included and must be ordered separately

Ordering Information

Description	Part Number
Evolution 60 Local Control without printer, 120V	840-189600
Evolution 60 Local Control with printer, 120V	840-189700
Evolution 60 PC only, 120V	840-189800
Evolution 60 Local Control without printer, 240V	840-189900
Evolution 60 Local Control with printer, 240V	840-190000
Evolution 60 PC only, 240V	840-190100

Optional Software and Accessories

Application Software	Part Number
VISION/lite Software	335993-000
VISION/lite SE Software (21 CFR Part 11 compliance)	869-127300
EnzLab Enzymatic Food Analysis	10041001
EnzLab SE Enzymatic Food Analysis (21 CFR Part 11 compliance)	869-127100
VISION/lite ColorCalc Basic	869-124300
VISION/lite ColorCalc Advanced	869-124400
VISION/lite MaterialsCalc	869-124500

Manual Sample Holders	Part Number
Single cell holder	336028-000
Cylindrical cell holder (10-50 mm)	335911-000
Cylindrical cell holder (10-100 mm)	336012-000
Rectangular cell holder (10-50 mm)	335912-000
Rectangular cell holder (10-100 mm)	335112-000
Test tube holder (up to 25 mm diameter and 102 mm tall)	336014-000

Thermostatable Cell Holders	Part Number
Thermostatted single cell holder	335079-000
Peltier controlled single cell holder (20-60 °C)	222-238100
TPS-1500W Peltier controlled water circulation bath (20-60 °C)	222-238800

Low Volume Measurements (0.7 to 5 µL)	Part Number
nanoCell (0.2 mm pathlength)	222-227700
nanoCell (1 mm pathlength)	222-227800
nanoCell (0.2 and 1 mm pathlength)	222-230300

Sipper Systems	Part Number
Sipper system (190-1100 nm) 110V	335976-000
Sipper system (190-1100 nm) 240V Euro line plug	335976-02
Sipper system (190-1100 nm) 240V UK line plug	335976-04

Fiber Optics	Part Number
VERSA* Fiber Optic Coupler and Probe (10 mm pathlength)	222-214500
VERSA Fiber Optic probe tips (5 mm pathlength, box of 10)	222-214200
VERSA Fiber Optic probe tips (10 mm pathlength, box of 10)	222-214300

Solid Samples	Part Number
Solid Sample holder (50 x 80 mm and 10 mm thick)	335917-000
Solid Sample holder (50 x 80 mm and 1-8 mm thick)	335428-000

Miscellaneous	Part Number
HP DeskJet printer	347070-313
Serial RS232C cable for PC connection	335942-000
Parallel printer cable for PCL printer connection	347070-189
Absorption Spectroscopy Wall chart (24" x 36")	333114-000

* Covered under US Patent Number 6,879,741, C Technologies, Inc.

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