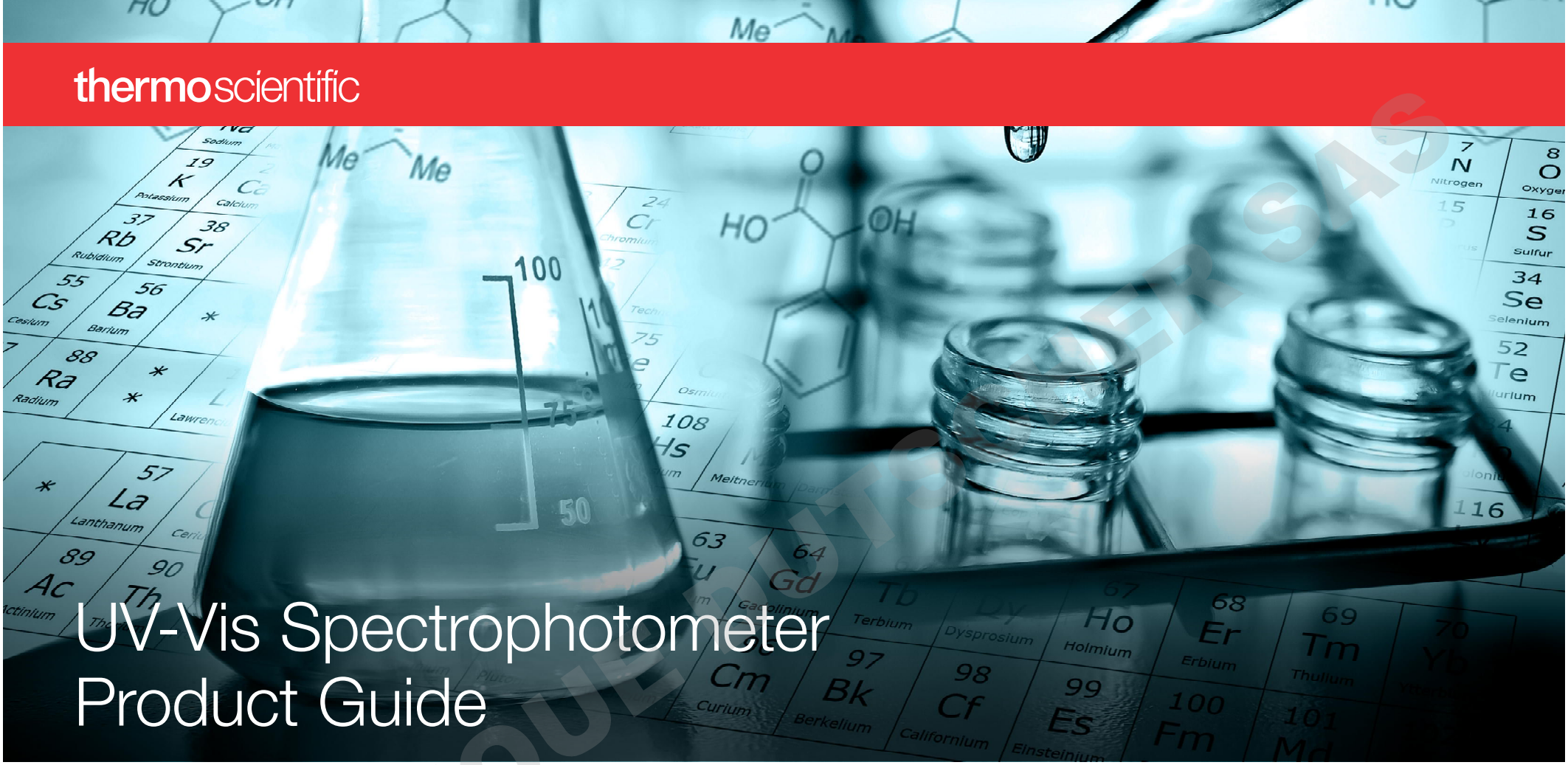
thermoscientific



UV-Vis Spectrophotometer Product Guide

Powerful spectroscopy for accurate analysis

ThermoFisher SCIENTIFIC


Extra Storage
Extra Storage
thermoscientific
LABORATORY NOTEBOOK
Thermo

Understanding UV-Vis

Why UV-Vis?

The power of UV-Vis lies in its simplicity. Ultraviolet-Visible (UV-Vis) spectrophotometry is literally as simple as “abc” since most analyses will follow Beer’s Law: Absorbance = abc. “a” is unique to each molecule at a particular wavelength; “b” is the pathlength; and “c” is the concentration of the analyte.

The significance of spectral bandwidth

Bandwidth is like a pupil in the human eye. The wider it is, the more light the instrument can see. But sometimes, when the bandwidth is too wide, the instrument may not see enough detail in your sample. Therefore, if you know that your samples have wide absorption peaks—large bandwidths are okay (and less expensive!), but if you want to look at narrow peaks—small bandwidths may be required. Check with our product specialist when in doubt.

Cell material

Even though glass looks perfectly transparent to our vision, it is not transparent to ultraviolet radiation (that is why you cannot get a suntan behind a closed window). For this reason “quartz” (aka “silica”) cells need to be used to measure samples in the ultraviolet (UV) region; if you are always going to be measuring above ~325 nm, then “glass” (aka “optical glass”) or plastic cells are okay and less costly to use.

Beam configurations

Single beam spectrophotometers are simple and inexpensive. However, they are somewhat more prone to drift and should be “zeroed” once every hour. Dual-beam instruments offer better stability and can be used to monitor and subtract instrument and solvent variations, as well as provide better precision and stability for longer term measurements.

Fixed wavelength measurement vs. scanning

UV-Vis measurements for quantitative analysis are typically performed at a single wavelength. A blank solution is measured to establish “100 %T” and then the sample is measured and the absorbance is calculated. If a calibrated method has been set up by measuring one or more standards the instrument may report concentration directly. UV-Visible spectroscopy is ideally suited for this kind of measurement. Some quantitative analyses require measurement at more than one wavelength, however, and these require a more sophisticated instrument equipped to move across the spectrum during the experiment or to measure the entire spectrum at once. These “scanning” instruments can also be used to find the location and size of absorbance peaks that can be used to identify analytes and as the best wavelength at which to establish a quantitative measurement method for the analyte. All Thermo Scientific™ spectrophotometers offer scanning capability.

Visible vs. UV-Visible spectrophotometers

A spectrophotometer equipped with a tungsten-halogen lamp and conventional glass optics can measure wavelengths no lower than 325 nm because the lamp does not emit and the optics do not transmit below this wavelength. These instruments are generally referred to as visible spectrophotometers even though they can measure slightly into the UV and near-infrared ranges. If all the measurements made in your laboratory are done at wavelengths between ~350 and 1100 nm then a visible spectrophotometer will be a good choice.

In practice, glass optics begin absorbing light at all wavelengths less than ~350 nm, so for UV measurements below 350 nm an instrument equipped with quartz optics and a lamp that emits in the UV region is recommended. Below 325 nm it is required. Even if your sample appears transparent it may absorb ultraviolet light. Many pharmaceuticals, organic chemicals, DNA, RNA and proteins absorb in the UV range. Established methods for quantifying their concentration in solution rely on UV-Visible spectrophotometers to perform the analysis.

The significance of pathlength

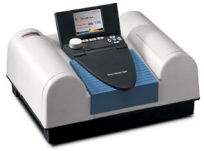
Pathlength is the distance that the light travels through the sample. Doubling the pathlength will double the measured absorbance. A 10 mm pathlength is most commonly used for UV-Vis measurements. Special long-path cells with 20, 40, 50 or 100 mm pathlengths are available for applications where the absorbance of the sample is very low, or the sample solution is very dilute. For highly absorbing or more concentrated solutions, short-path cells of 5, 2 or 1 mm pathlengths can help to keep measured absorbance within the measurement range of the instrument.

Instruments and software featured in this guide

- Thermo Scientific™ BioMate™ 160 UV-Vis spectrophotometer
- Thermo Scientific™ Evolution™ 201 and 220 UV-Vis spectrophotometer
- Thermo Scientific Evolution 260 Bio UV-Vis spectrophotometer
- Thermo Scientific Evolution 350 UV-Vis spectrophotometer
- Thermo Scientific™ GENESYS™ 30 Visible spectrophotometer
- Thermo Scientific GENESYS 40 Visible/GENESYS 50 UV-Vis spectrophotometer
- Thermo Scientific GENESYS 140 Visible/GENESYS 150 UV-Vis spectrophotometer
- Thermo Scientific GENESYS 180 UV-Vis spectrophotometer
- Thermo Scientific™ SPECTRONIC™ 200 Visible spectrophotometer
- Thermo Scientific™ CUE™ software
- Thermo Scientific™ INSIGHT™ software
- Thermo Scientific™ VISION*lite*™ software

VISIBLE

Education, Basic Quality Control

Instrument	SPECTRONIC 200	GENESYS 30	GENESYS 40/140
Catalog Numbers	222-265800 (UK) 222-265900 (EU)	840-277400 (UK) 840-277300 (EU)	GENESYS 40: 840-297400 (UK) GENESYS 40: 840-297300 (EU) GENESYS 140: 840-308400 (UK) GENESYS 140: 840-308300 (EU)
			
Spectrum	Visible		
Spectral Range	340–1100 nm	325–1100 nm	
Type	Single Beam		Dual Beam
Bandwidth	≤4.0 nm	5 nm	
Lamp(s)	Tungsten-Halogen		
Detector	CCD	Photodiode	
Standard Functions	A/%T/Concentration/Scan/multi-wavelength/Quant (Up to 4 STDs)	A/%T/Concentration/Scan/Fixed with calcs/Quant (up to 6 STDs)/OD600	A/%T/Concentration/Scan/Fixed with calcs/Quant/Rate/OD600
User Interface	On-board or Computer Control		On-board Touchscreen Tablet or Computer Control
Method/Data Storage	Quant Methods to USB/All to computer	Methods On-board, Data to USB	On-board and Computer
Display	Color graphical LCD, 320 × 240 pixels, 7 × 5 cm, tiltable	5" diagonal, 32-bit color display, 800 × 480 pixels	7" color touchscreen, HD, 800 × 1280 pixels, fixed/tiltalbe
Printing	External Printer	Snap-on Printer Accessory	Snap-on Printer Accessory, USB, Network or Wi-Fi to page printers
Optional Specialized Functionality	Computer control with VISION*lite*. Adds kinetics, more sophisticated scanning and quant, plus PV capabilities		Solution color with VISION*lite* ColorCalc software
Validation IQ/OQ	No		Available soon
Capacity	Single Cell		Standard: Single Cell Optional: 8 or 4 cell (140 only)
Liquid Samples – Cuvettes	Rectangular or Cylindrical to 100 mm		
Liquid Samples – Test Tubes	13 mm × 100 mm	12–25 mm dia, up to 150 mm tall	12–25 mm dia, up to 150 mm tall (40 only) N/A (140 only)
Temperature Control	N/A	Water thermostatted single cell holder	Water thermostatted single-cell holder (40 only) Peltier thermostatted cell holder (140 only)
Solid Samples	Thin solid samples such as films and filters		
Warranty	1 year	2 year (plus 1 additional year with registration)	
Benefits and Competitive Advantage	• Very simple operation • Auto-zero at all wavelengths will save time, reduce error • Live measurements every 2 seconds • Scan 400–900 nm in 10 seconds • Quant with 4 standards	• Larger, removable sample compartment • Large, color screen • Familiar keypad controls • Export data files to USB • Print data to snap-on thermal printer	• 7", HD color touchscreen • Easy-to-use user interface • Large sample compartment with front access simplifies sample handling • Network equipped – print or store data to a USB stick or a network • Go wireless – optional Wi-Fi adaptor

Featured Accessories for SPECTRONIC 200

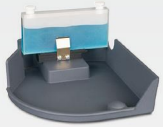
100 mm Rectangular Cell Holder
840-250500

Test Tube Holder
840-314800*
*Available soon

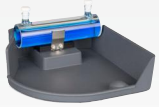
Featured Accessories for GENESYS 30/40

Test-Tube Holder
840-277500

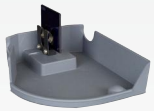
Tall Test-Tube Cap
840-277600



Long Path Rectangular Cell Holder
840-277700



5–100 mm Path Cylindrical Cell Holder
840-277800



Film/Filter Holder
840-278100

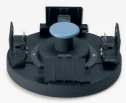
Thermostat Rectangular Cell Holder (no baseplate)
335079-000

Featured Accessories for GENESYS 140

8 Position Carousel for 10 mm Pathlength Cells
840-303400

Peltier Thermostatted Single Cell Holder
840-306800 (UK)
840-306700 (EU)

Integrated Sipper System
840-307100 (UK)
840-307000 (EU)



4 × 10–50 mm Rectangular Cell Holder
840-314700

Long Path Rectangular Cell Holder
840-303800

5–100 mm Path Cylindrical Cell Holder
840-303100

Film/Filter Holder
840-303200

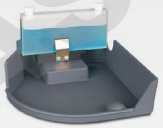
Routine QC and Research

Instrument	GENESYS 40/50	GENESYS 140/150	GENESYS 180
Catalog Numbers	GENESYS 40: 840-297400 (UK) GENESYS 40: 840-297300 (EU) GENESYS 50: 840-298400 (UK) GENESYS 50: 840-298300 (EU)	GENESYS 140: 840-308400 (UK) GENESYS 140: 840-308300 (EU) GENESYS 150: 840-300400 (UK) GENESYS 150: 840-300300 (EU)	840-309400 (UK) 840-309300 (EU)
			
Spectrum	Visible/UV-Visible		UV-Visible
Spectral Range	325–110 nm/190–1100 nm		190–1100 nm
Type	Dual Beam		Double Beam
Bandwidth	2.0 nm		
Lamp(s)	Xenon		
Detector	Dual Photodiodes		
Standard Functions	A/%T/Concentration/Scan/Rate/Quant, Fixed with Equations		
User Interface	On-board Touchscreen or Computer Control		
Method/Data Storage	On-board and Computer		
Display	7" color touchscreen, HD, 800 × 1280 pixels, fixed	7" color touchscreen, HD, 800 × 1280 pixels, tiltable	
Printing	USB, Network and Wireless printing to page printers. Snap-on thermal printer option.		
Optional Specialized Functionality	Solution color with VISION*ite* ColorCalc software		
Validation IQ/OQ	No		
Capacity	Single Cell	Single Cell (standard), Multi-cell up to 8 (optional)	Single Cell and Multi-cell up to 8 (standard)
Liquid Samples	Up to 100 mm cuvettes; Up to 25 mm test tubes	Up to 100 mm cuvettes	
Temperature Control	Water thermostatted single cell holder	Single cell Peltier thermostatted cell holder	
Solid Samples	Thin solid samples such as films and filters		
Warranty	2 years (plus 1 additional year with registration)		
Benefits and Competitive Advantage	• 7", HD color touchscreen • Easy-to-use user interface increases speed and reliability for routine analysis • Large sample compartment with front access simplifies sample handling • Network equipped – print or store data to a USB stick or a network • Go wireless – optional Wi-Fi adaptor	• Tiltable 7", HD color touchscreen tablet to avoid glare • Compatible with automated cell changers, Peltier, sipper and fiber optic probe accessory options • Network equipped – print or store data to a USB stick or a network • Go wireless – optional Wi-Fi adaptor	• Double-beam optics • Ideal solution when a reference beam is required, such as for kinetics • 8-cell carousel standard • Make measurements outside the sample compartment and without cuvettes using fiber optic coupler and probe

Featured Accessories for GENESYS 40/50

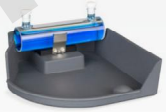
Test Tube Holder
840-277500

Tall Test Tube Cap
840-277600

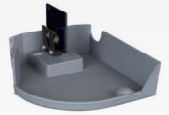


Long Path Rectangular Cell Holder
840-277700

Printer
840-278000



Long Path Cylindrical Cell Holder
840-277800



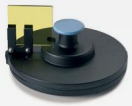
Film Filter Holder
840-278100

Featured Accessories for GENESYS 140/150/180

8 Position Carousel for 10 mm Pathlength Cells
840-303400

Wi-Fi Adaptor for GENESYS 40-180
840-309900

Long Path Rectangular Cell Holder
840-303800



Film/Filter Holder
840-278100

5–100 mm Path Cylindrical Cell Holder
840-277800

Printer
840-278000

Integrated Sipper System
840-307100 (UK)
840-307000 (EU)

4 × 10–50 mm Rectangular Cell Holder
840-314700

Advanced QC, Research and Pharma

Instrument	Evolution 201	Evolution 220	Evolution 350
Catalog Numbers	Computer Control: 840-210800 Tablet Control: 912A0883	Computer Control: 840-210600 Tablet Control: 912A0884	840-310800
			
Spectrum	UV-Visible		
Spectral Range	190–1100 nm		
Type	Double Beam		
Bandwidth	1.0 nm	1.0 nm, 2.0 nm & AFBG	0.5, 1.0, 1.5, 2.0 & 4.0 nm
Lamp(s)	Xenon		
Detector	Dual Photodiodes		
Standard Functions	A/%T/Quant/Fixed Wavelength with Advanced Calculations/Scan/Rate/Performance Verification		
User Interface	Computer or Tablet Control		Computer Control
Method/Data Storage	On-board Tablet and Computer		Computer
Display	Optional Tablet Control Accessory, tiltable		N/A
Printing	Windows® Compatible Printers		
Optional Specialized Functionality	21 CFR Part 11, Customized Analyzer, Color, Biochemical Methods including DNA Melting, Autosampler		
Validation IQ/OQ	Yes		
Capacity	Multi-cell (up to 8)		
Liquid Samples	Up to 100 mm cuvettes; Up to 25 mm tubes and vials		
Temperature Control	Peltier accessories and a range of thermostatted cell holders with liquid recirculators		
Solid Samples	Thin solid samples	Thin and thick solids, powders, reflecting surfaces, films, DRA, SRA	Thin and thick solids, specular surfaces and films, SRA
Warranty	1 year		2 years
Benefits and Competitive Advantage	• Available with Tablet Control Module • Double-beam configuration • Xenon lamp requires no warm-up for instant measurements and has 3-year warranty • Application Focused Beam Geometry (AFBG) matches hardware to your application • INSIGHT software is straightforward and powerful • CUE software scripting capability to simplify complex assays with the touch of a button • Specialized, easy-to-use accessories for increased productivity		• Powered by INSIGHT software • Double-beam configuration with large sample compartment and 21 cm beam separation • Xenon lamp requires no warm-up for instant measurements and has 3-year warranty • 0.5 nm bandwidth for highest resolution data • Smart Accessories™ with unique serial number recorded for comprehensive event logs and audit trails • Automated performance verification with CVC accessory

Featured Accessories for Evolution Spectrophotometers

8-Cell Peltier System
699-131200

Single Cell Peltier System
699-131100

Combination Filter, Vial & Square 10 mm Cell Holder
840-211800

100 mm Rectangular Cell Holder
10011101

Smart Thermostatted Rotary 7-Cell Changer
840-214900

Smart Thermostatted Linear 8-Cell Changer
840-219000

Standard Fiber Optic Dip Probe with 10 mm Tip
840-305000

Temperature Probe Hub and Temperature Probes
840-214600

ISA-220 Integrating Sphere
222-269400

Powder Cell Holder
840-289300

VISIBLE/UV-VISIBLE

Life Science

Instrument	GENESYS 30	BioMate 160	Evolution 260 Bio
Catalog Numbers	840-277400 (UK) 840-277300 (EU)	840-301400 (UK) 840-301300 (EU)	840-211000
			
Spectrum	Visible	UV-Visible	
Spectral Range	325–1100 nm	190–1100 nm	
Type	Single Beam	Dual Beam	Double Beam
Bandwidth	5.0 nm	2.0 nm	1.0 nm, 2.0 nm & AFBG
Lamp(s)	Tungsten-Halogen	Xenon	
Detector	Silicon Photodiode	Dual Silicon Photodiodes	
Standard Functions	A/%T/Concentration/Scan/OD600/ Fixed with eqns/Quant	A/%T/Concentration/Scan/OD600/ Fixed with eqns/Quant/Rate/DNA & Protein methods	A/%T/Concentration/Scan/Rate/ Temperature kinetics/DNA Melting
User Interface	On-board keyboard and screen or Computer	On-board Touchscreen Tablet or Computer Control	Computer Control with Desktop PC or optional tablet
Method/Data Storage	On-board: Methods USB: Method and data Computer: Method and data	On-board: Method and Data Computer: Method and Data	Computer or tablet: method and data
Display	5" diagonal, 32-bit color display, 800 × 480 pixels	7" color touchscreen, HD, 800 × 1280 pixels, tiltable	Optional, tiltable
Printing	Optional GENESYS printer only	Optional GENESYS printer, Page printers by USB, Network or Wi-Fi (with optional transmitter)	Windows printers
Optional Specialized Functionality	Optional accessory for measuring test tubes and nephelo flasks	Optional: Beckman cell holder, 50 µL disposable cell holder, 8 position cell holder (not thermo-statted), Peltier thermostatted single cell holder (20–60 °C)	Temperature ramping with Peltier thermostatted cell holders Advanced measurement automation with thermostatted multiple cell holders
Validation IQ/OQ	No		Yes
Capacity	Single Cell	Single Cell (standard), Multi-cell up to 8 (optional)	
Liquid Samples	Up to 100 mm cuvettes; Up to 25 mm test tubes	Up to 100 mm cuvettes	
Temperature Control	Optional water thermostatted single cell holder	Optional Peltier thermostatted single cell holder (20–60 °C)	Peltier accessories and a range of thermostatted cell holders with liquid recirculators
Warranty	2 year (plus 1 additional year with registration)		1 year
Benefits and Competitive Advantage	• Easy to learn, easy to use interface with 5" high resolution color screen and tactile rubber keypad • Large sample compartment with front access simplifies sample handling • Best choice for OD600 measurements	• Tiltable 7", high-resolution touch-screen tablet to avoid glare • Compatible with automated cell changers, Peltier, sipper and fiber optic probe accessory options • Network equipped – print or store data to a USB stick or a network • Go wireless – optional Wi-Fi adaptor	• Double-beam optics • Ideal solution when a reference beam is required, such as for kinetics • Widest range of accessory options • Best option for temperature control • Temperature kinetics and DNA melting with single or 8-cell Peltier systems

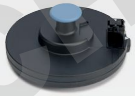
Featured Accessories for GENESYS 30

Test Tube Holder
840-277500

Tall Test Tube Cap
840-277600

GENESYS Printer Accessory
840-278000

Featured Accessories for BioMate 160



Beckman Style Cell Holder
840-299000

8 Position Carousel for 10 mm Pathlength Cells
840-303400

Microcell Holder
840-303300

Peltier Thermostatted Single-Cell Holder
840-306600

Printer Accessory
840-278000

Featured Accessories for Evolution 260 Bio

8-Cell Peltier System
699-131200

Single Cell Peltier System
699-131100

Temperature Probe Hub and Temperature Probes
840-214600

Replacement Guide

Original Unit	Replace with
Agilent/HP/Varian	
HP8450A/HP8452A	Evolution 201
Agilent 8453/8454	Evolution 201
DMS 70/80/90/100	Evolution 201
DMS 200/300	Evolution 350
Cary 50/60	Evolution 201
Cary 1, 1E, 100 / 3, 3E, 300	Evolution 350
Beckman[1]	
DU-62	GENESYS 30
DU-63/64/65	BioMate 160
DU 520/720	GENESYS 50
DU 530	BioMate 160
DU 640/650	BioMate 160 or Evolution 260 Bio
DU 730	BioMate 160
DU 800	Evolution 260 Bio
Biochrom/WPA	
C07500	GENESYS 30
S800	SPECTRONIC 200
S1200	SPEC 200 or GENESYS 30
Lightwave/Lightwave II	GENESYS 50
Biowave II	BioMate 160
Libra S50	GENESYS 150
Libra S60	GENESYS 180
Libra S70	Evolution 201
Libra S80	Evolution 220
Bio Rad[1]	
SmartSpec/SmartSpec 3000	BioMate 160
Biotek	
DS-C	GENESYS 50
Eppendorf	
BioPhotometer	BioMate 160
BioPhotometer D30	BioMate 160
BioSpectrometer	BioMate 160 or Evo 260 Bio
BioSpectrometer Kinetic	BioMate 160 with Peltier Accy

Original Unit	Replace with
GE Healthcare[1], Pharmacia/LKB[1]	
Novaspec i/ii/iii	SPECTRONIC 200
Novaspec Plus	GENESYS 30
Ultrospec/Ultrospec III	BioMate 160
Ultrospec 10 Cell Density	GENESYS 30
Ultrospec 500pro	BioMate 160
Ultrospec 1000/2000	BioMate 160
Ultrospec 3000	Evolution 201
Ultrospec 1100pro	BioMate 160
Ultrospec 2100pro/2300pro	Evolution 201
Ultrospec 3100pro/3300pro	Evolution 201
Ultrospec 6300	Evolution 201
Ultrospec 7000	GENESYS 150
Ultrospec 8000	Evolution 201
Ultrospec 9000	Evolution 220
GeneQuant/GeneQuant II	BioMate 160
GeneQuant Calculator	BioMate 160
GeneQuant pro	BioMate 160
Biochrom 4060	BioMate 160
Hach	
DR 2/3	GENESYS 30
DR 2000/2010/3000	GENESYS 30
DR 3800/3900	GENESYS 30 or 40
DR 4000 V	GENESYS 30
DR 4000 U	GENESYS 150
DR 5000/6000	GENESYS 150 or Evolution 201
Hitachi	
U-1000	GENESYS 30
U-1100/U-1800	GENESYS 150
U-2000/U-0080D	Evolution 201
U-2800/U-2900	Evolution 220
U-3010/U-3310	Evolution 350
U-5100	GENESYS 150
UH-5300	Evolution 201
Implen	
NanoPhotometer C40	BioMate 160
Jasco	
V-530/V-630/V-730	Evolution 201
V-550/V-650/V-660	Evolution 350
V-630 Bio/V-730 Bio	Evolution 260 Bio
V-750/V-760	Evolution 350

Original Unit	Replace with
Jenway	
6051/6300/6320D/7200	SPECTRONIC 200
6100	GENESYS 30
6105/6305/7205	GENESYS 50
6310	GENESYS 30 or 40
6400	GENESYS 140
6405/6505/6705	GENESYS 150
6500/6700	GENESYS 40 or 140
6715	GENESYS 150 or Evolution 201
6800	Evolution 201
6850	Evolution 220
7300	GENESYS 30
7305/7315	GENESYS 150
7310	GENESYS 30 or 40
Genova	BioMate 160
Aquanova/Aquagem	GENESYS 40
Merck-Millipore	
Pharo100	GENESYS 30 or 40
Pharo300	GENESYS 150
Prove 100	GENESYS 30 or 40
Prove 300/600	GENESYS 150
Mettler-Toledo	
UV5	GENESYS 150
UV5 Bio	BioMate 160
UV7	Evolution 201
PerkinElmer	
Lambda 11	GENESYS 50
Lambda 12/20/25	Evolution 201
Lambda 14/40/45	Evolution 220 or 350
Lambda 30/35	Evolution 220
Lambda 265	GENESYS 150
Lambda 365	Evolution 220 or 350
Lambda 465	Evolution 201 or 350
EZ150/EZ201	GENESYS 150
Lambda XLS/XLS+	GENESYS 150
Pye-Unicam[2]	
PU-8600/PU-8660	GENESYS 150
SP6-300	GENESYS 150
PU-8800	Evolution 350

Original Unit	Replace with
Shimadzu	
UV 100-01/110-01	Evolution 201
UV 120-01/120-02	Evolution 201
UV-140/150	Evolution 201
UV-160A/UV-160U	Evolution 201
UV-1201V	GENESYS 30
UV-1201UV	GENESYS 50
UV mini-1240	GENESYS 150
UV mini-1240V	GENESYS 40
UV-1250PC	Evolution 201
UV-1280	GENESYS 150 or BioMate 160
UV-1601/UV-1650PC	Evolution 201
UV-1700/UV-1800	Evolution 201
UV-2100U	Evolution 201
UV 2400, 2450	Evolution 350
UV 2500, 2550, 2600	Evolution 350
BioSpec-1601	BioMate 160
BioSpec-Mini	BioMate 160
SI Analytics/WTW/Secomam	
UviLine SI 5000	SPECTRONIC 200
UviLine SI 6000	GENESYS 30
UviLine SI 6100/ Photolab 7100/ UviLine 9300	GENESYS 40
UviLine SI 7000/ Photolab 9600	GENESYS 50
UviLine SI 7100	GENESYS 50
Thermo Scientific/SPECTRONIC/Milton Roy	
SPECTRONIC 20/20+/20D	SPEC 200 or GENESYS 30
SPECTRONIC 21 MV/DV	GENESYS 30
SPECTRONIC 21DUV	GENESYS 50
SPECTRONIC 301	SPECTRONIC 200
SPECTRONIC 401/501/601	GENESYS 30
SPECTRONIC 1001	GENESYS 50
SPECTRONIC 1201	GENESYS 150
SPECTRONIC 3000	GENESYS 180
GENESYS 2/5	GENESYS 150
GENESYS 10 UV	GENESYS 50 or 150
GENESYS 10 Vis	GENESYS 30 or 40
GENESYS 20	GENESYS 30
Evolution 100	GENESYS 150 or 180
Evolution 160	BioMate 160
BioMate 5/6	BioMate 160

continued

Original Unit	Replace with
Thermo Scientific/SPECTRONIC/Milton Roy – *continued*	
Helios Alpha	GENESYS 180 or Evolution 201
Helios Beta	GENESYS 150
Helios Gamma	GENESYS 50 or 150
Helios Delta	GENESYS 30 or 40
Helios Epsilon	GENESYS 30
Helios Zeta	Evolution 201
Helios Omega	GENESYS 150
UV1/UV2/UV-10	GENESYS 180 or Evolution 201
UV3	Evolution 220
UV4/UV5	Evolution 350
UV 300 Series (LC/PC)	Evolution 350
UV 500 Series (LC/PC)	Evolution 350
Evolution 500/600	Evolution 350
Turner	
320/340	GENESYS 30
390	GENESYS 50
690	GENESYS 30
SP-830/830+	GENESYS 30
SP-850	GENESYS 30
SP-870/870+	GENESYS 40
SP-890	GENESYS 50
Unico	
1100/1100RS	SPECTRONIC 200
1200/1205	GENESYS 30
2100-S/2150	GENESYS 140
S-2150UV	GENESYS 150
SQ2802/SQ3802	GENESYS 150
SQ2802S	GENESYS 150 or Evolution 220
SQ4802	GENESYS 180
VWR House Brand (all models OEM by Mapada)	
V1200	GENESYS 30
M4/P4	GENESYS 50
UV1600PC	GENESYS 50 or 150
V-3000-PC	GENESYS 30 or 40
UV-3100PC	GENESYS 50 or 150
UV-6300PC	Evolution 201

1. These brands/vendors have exited the UV-Vis market. Although the brands still exist selling other instruments, there is no formal successor brand to these models.
2. The Turner and Pye-Unican brands were acquired by Thermo Scientific. The current Thermo Scientific line represents the successor products for these brands.

Find out more at **thermofisher.com/uv-vis**

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