## thermo scientific



## Thermo Scientific GENESYS Vis and UV-Vis Spectrophotometers

Legendary reliability. Unrivaled usability.



# GENESYS—developed for users, designed for results

Built on the foundation of 60 years of spectroscopy experience, the next generation Thermo Scientific<sup>™</sup> GENESYS<sup>™</sup> family of Vis/UV-Vis spectrophotometers provides exceptional performance with a contemporary design.

- Start taking measurements immediately with the simple-to-use, high-resolution, color-display start menu
- Exchange samples with ease with large, accessible sample compartment
- Save your data fast any way you want it with multiple data-export options

There is a GENESYS spectrophotometer you can count on to provide accurate, reproducible results for your application requirements.



## Outstanding features to help you meet your teaching, quality

For teaching labs, research labs and industrial QC requiring robust construction, ease-of-use and software capability.



GENESYS 30 Visible Spectrophotometer

## Modern power meets traditional simplicity

- The gold standard in basic spectrophotometers
- Large sample compartment supports the use of cuvettes and test tubes
- Removable, washable compartment liner for easy clean-up
- Ideal solution when OD600 is your primary need

# Choose the instrument that's right for you



GENESYS 40 Vis/50 UV-Vis Spectrophotometers

## Advanced usability, modern functionality

- 7-inch, high-resolution touchscreen interface
- Local control increases speed and reliability for routine analysis
- Large sample compartment with front access simplifies sample handling
- Wi-Fi ready—save data and methods, print results from on-board control

| Instrument  | Spectral region | Optics      | Display                      |  |  |  |
|-------------|-----------------|-------------|------------------------------|--|--|--|
| GENESYS 30  | Vis             | Single Beam | 5-inch color screen          |  |  |  |
| GENESYS 40  | Vis             | Dual Beam   | 7-inch touchscreen           |  |  |  |
| GENESYS 50  | UV-Vis          | Duai Dealii | r-inch touchscreen           |  |  |  |
| GENESYS 140 | Vis             | Dual Beam   | 7-inch touchscreen,          |  |  |  |
| GENESYS 150 | UV-Vis          | Duai Dealii | tiltable                     |  |  |  |
| BioMate 160 | UV-Vis          | Dual Beam   | 7-inch touchscreen, tiltable |  |  |  |
| GENESYS 180 | UV-Vis          | Double Beam | 7-inch touchscreen, tiltable |  |  |  |
|             |                 |             |                              |  |  |  |

\*8-cell changer comes standard with the GENESYS 180

\*\*Three-year warranty available upon instrument registratior

## control and research UV-Vis needs

For advanced teaching labs, R&D, research and life science applications requiring higher throughput or temperature control.

GENESYS 140 Vis/150 UV-Vis Spectrophotometers

## Elite performance, enhanced capabilities

- Tiltable 7-inch, high-resolution touchscreen tablet to avoid glare
- Compatible with automated cell changers, Peltier, sipper and fiber optic probe accessory options
- Wi-Fi ready—save data and methods, print results from local control



Thermo Scientific<sup>™</sup> BioMate<sup>™</sup> 160 UV-Vis Spectrophotometer

### Life science enabled

- Includes Life Science Application Software package
- Software includes pre-programmed life science methods such as Nucleic Acid A260; Protein A280 and A205; Protein Colorimetric assays and OD600
- Extend your capabilities with a microcell holder or Peltier thermostatted cell holder or cell changer option



For laboratories requiring double

beam with a reference cell position.

GENESYS 180 UV-Vis Spectrophotometer

### High-throughput ready

- Double-beam optics
- Ideal solution when a reference beam is required, such as for kinetics
- 8-cell changer standard
- Make measurements outside the sample compartment without cuvettes using fiber optic coupler and probe

| Supports<br>test tubes | Removable and<br>washable sample<br>compartment | 4 and 8-cell<br>changer<br>compatible | Sipper, Peltier,<br>fiber probe<br>compatible | A-T-C        | Scanning     | Quant,<br>fixed, live<br>display, OD600 | Kinetics     | Thermo Scientific <sup>™</sup><br>VISION <i>lite</i> <sup>™</sup> software<br>compatible | Wi-Fi<br>ready | Snap-on<br>printer<br>available | Warranty  |
|------------------------|---|---------------------------------------|---|--------------|--------------|---|--------------|--|----------------|---------------------------------|-----------|
| $\checkmark$           | $\checkmark$                                    | Single only                           |   | $\checkmark$ | $\checkmark$ | $\checkmark$                            |              | $\checkmark$   |                | $\checkmark$                    | 2 years** |
| $\checkmark$           | 5   | Single only                           |   | $\checkmark$ | 1            | 1                                       | $\checkmark$ | 1  | $\checkmark$   | $\checkmark$                    | 2 years** |
|                        |   | $\checkmark$                          | 1   | 1            | 1            | 1                                       | $\checkmark$ | $\checkmark$   | $\checkmark$   | 1                               | 2 years** |
|                        |   | $\checkmark$                          | 1   | $\checkmark$ | $\checkmark$ | <i>√</i>                                | $\checkmark$ | $\checkmark$   | $\checkmark$   | $\checkmark$                    | 2 years** |
|                        |   | ✓*                                    | $\checkmark$                                  | $\checkmark$ | $\checkmark$ | $\checkmark$                            | $\checkmark$ | $\checkmark$   | $\checkmark$   | $\checkmark$                    | 2 years** |

## Walk-up convenience

Simple-to-use, touchscreen user interface features the methods and applications most important to you.



## Flexible computer control

Optional VISION/*ite* software offers complete control from a Microsoft<sup>®</sup> Windows<sup>®</sup> computer providing applications for:

- Scanning
- Quantitative analysis
- Kinetics
- Fixed wavelength measurements

## **GENESYS** instrument specifications

| Des                             | cription   | GENESYS 30  | GENESYS 40   | GENESYS 140  | GENESYS 50  | GENESYS 150  | BioMate 160         | GENESYS 180  |  |  |
|---------------------------------|--|---|--|--|---|--|---------------------|--|--|--|
| Optical Design Sing             |  | Single Beam   |  |  | Dual Beam   |  |                     | Double Beam  |  |  |
| Spectral Ban                    | dwidth   |   | 5 nm   |  | 2 nm  |  |                     |  |  |  |
| Light source (Typical Lifetime) |  |   | Tungsten-Halogen (>1000 hours)     Xenon Flash Lamp (>5 years typical, 3 years guaranteed)   |  |   |  |                     |  |  |  |
| Detector Silicon Photodiode     |  |   | Dual Silicon Photodiodes   |  |   |  |                     |  |  |  |
|                                 | Range  |   | 325–1100 nm  |  |   | 190–1100 nm  |                     |  |  |  |
| Wavelength                      | Accuracy   | ±2 nm   |  | ±0.5 nm  |   |  |                     |  |  |  |
|                                 | Repeatability  | <±1 nm  | <±0.2 nm   |  |   |  |                     |  |  |  |
|                                 | Scan Speed   | Automatic—up to 1200 nm/min   | Automatic— up  | o to 1800 nm/min   |   | Slow, medium and fast (  | (up to 1600 nm/min) |  |  |  |
|                                 | Data Resolution  | 1 nm  |  |  | 0.2 nm, 0.5 nm, 1 nm, 2 nm, 5 nm  |  |                     | 0.1 nm, 0.2 nm, 0.5 nm, 1 nm, 2 nm, 5 nm   |  |  |
|                                 | Range  | -3A to +3A  | -3A te   | o +3.5A  | -2A to +3.5A  |  |                     |  |  |  |
| Photometric                     | Display  | -3A to +3A, 0 to 200 000 %T,<br>0 to 9 999 999 C  |  | -3A to +5A   |   |  |                     |  |  |  |
|                                 | Accuracy   | ±0.002A (0–0.3A)<br>0.5% of ABS reading<br>(0.301A – 2.5A)  | ±0.002A at 0.5A<br>±0.004A at 1.0A<br>±0.008A at 2.0A  |  |   |  |                     |  |  |  |
|                                 | Repeatability <sup>1</sup>   | ±0.002 A  |  | ±0.001A at 1A  |   |  |                     |  |  |  |
|                                 | Noise <sup>2</sup>   | ≤0.001A at 0A<br>≤0.001A at 1A<br>≤0.002A at 2A   |  | ≤0.00020A at 0A at 260 and 500 nm<br>≤0.00030A at 1A at 260 and 500 nm<br>≤0.00040A at 2A at 260 and 500 nm  |   |  |                     |  |  |  |
|                                 | Drift <sup>3</sup>   | <0.002A/Hr  | <0.00  | )10A/Hr  |   | <0.0005A/Hr  |                     |  |  |  |
| Stray Light                     |  | <0.1%T at 340 nm and 400 nm <0.05%T at 340 nm and 400 nm <1.0%T 198 nm (KCl) , <0.05%T at 220 nm (Nal), <0.03%T at 340  |  |  | nm (Nal), <0.03%T at 340 nm (N  | NaNO <sub>2</sub> )  |                     |  |  |  |
| Baseline Flatness               |  | <0.003A   | ±0.  | 005A   | ±0.002A   |  |                     |  |  |  |
| Display                         |  | 5-inch diagonal, 32-bit color display,<br>800 × 480 pixels  | 7-inch color touchscreen, fixed,<br>high definition, 800 × 1280 pixels   | 7-inch color touchscreen, tiltable,<br>high definition, $800 \times 1280$ pixels   |   |  |                     | un, 800 × 1280 pixels  |  |  |
| Keypad                          |  | Tactile rubber 23 keys<br>with numeric keypad   |  |  | Touch   | screen   |                     |  |  |  |
| Sample Compartment              |  | <ul> <li>Accessible from top, front or side</li> <li>All platforms can accommodate 100 mm cells</li> <li>Available accessory for test-tubes up to 25 mm diameter and 150 mm height</li> <li>Removable, washable sample compartment liner with magnetic placement and hold-down</li> </ul> |  | Accommodates (optional):<br>• 8-position cell changer<br>• 4-position cells (changer<br>(long path cells)<br>• Peltier thermostatted cell<br>holder (20–60 °C)<br>• Sipper accessory | Accessible from top, front or side     Able to accommodate cells up to     100 mm pathlength     Available accessory for test-tubes up     to 25 mm diameter and 150 mm height     Removable, washable sample     compartment liner with magnetic     placement and hold-down | Accommodates (optional):<br>• 8-position cell changer<br>• 4-position cell changer (long path ce<br>• Peltier thermostatted cell holder (20<br>• Sipper accessory<br>• Fiber optic probe coupler |                     | <ul> <li>8-position cell changer (standard)<br/>Also accommodates (optional):</li> <li>4-position cell changer (long path cells)</li> <li>Peltier thermostatted cell holder<br/>(20-60 °C)</li> <li>Sipper accessory</li> <li>Fiber optic probe coupler</li> </ul> |  |  |
| Printer                         |  |   | Snap-on printer available  |  |   |  |                     |  |  |  |
| Connectivity                    |  | USB-A on front face supports flash<br>memory devices for method and<br>data storage<br>USB-B on side supports connection<br>to a Windows computer running<br>optional remote control software;<br>export data to PC via USB   | <ul> <li>Single USB-A supports flash memory devices for method and data storage</li> <li>Duplex USB-A supports connection to a Windows computer running optional remote control software, keyboard, mouse</li> </ul> |  |   |  |                     |  |  |  |
| Languages                       |  | English (Available soon: Spanish, German, French, Italian, Portuguese, Russian, Chinese, Japanese, Korean, Thai)  |  |  |   |  |                     |  |  |  |
| Dimensions                      |  | 35.5 × 38.5 × 19.5 cm (L × W × H)   |  |  |   |  |                     |  |  |  |
| Weight                          |  | 7.5 kg  |  |  |   |  |                     |  |  |  |
| Power Requir                    | rements  | External AC to DC converter. Voltage and Frequency (Hz) selected automatically, 100–240 volts, 50–60 Hz.  |  |  |   |  |                     |  |  |  |
| Warranty                        | 2 years standard with 1 year extension upon registration of the instrument with Thermo Fisher Scientific within 6 months of purchase |   |  |  |   |  |                     |  |  |  |
| 1. Measured at 1.0              | 0A at 546 nm 2. RI   | WS at 500 nm. 60 consecutive measure  | ments. 3. At 500 nm after warm   | up. 2hrs GENESYS 30, 1hr all others.   | *** Visit www.thermofisher.com/conne  | ect for details  |                     |  |  |  |

## Find out more at **thermofisher.com/genesys**

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