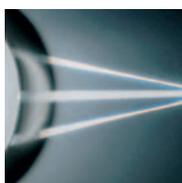


The Thermo Scientific Evolution™ 300/600 UV-Visible (UV-Vis) spectrophotometers are designed to meet the challenges and requirements of the life science, material science, pharmaceutical, quantitative analysis, and spectroscopy laboratory.

## Evolution 300 and Evolution 600

High-performance, reliable UV-Vis spectrophotometers



The Evolution 300/600 series continues the tradition of high-performance, reliability, and exceptional value that have become the hallmark of Thermo Scientific UV-Vis spectrophotometers. The instruments' solid optical design ensures high-quality data for the complete lifetime of the instrument. Thermo Scientific Smart Accessories™, application-driven software, and user configuration choices provide an unmatched solution to fit your budget.

### Innovative Sampling

Smart Accessories offer a sophisticated level of automation that makes measuring your sample easy. The plug-and-play design provides quick interchange saving time and increasing productivity. When installed, the instrument automatically recognizes the accessory by serial number which assists with meeting GLP and regulatory requirements. In addition, an extensive selection of accessories is available for the measurement of almost any sample type including solids, liquids, and diverse sample sizes and compositions.

### Flexible System Configurations

The Evolution Local Control system is designed for labs requiring high performance and simple operation in a space-saving design. Local Control offers a full-featured set of UV-Vis software on a high-quality, integrated monitor. The PC Control system is available for users requiring more sophistication and flexibility. Or choose both to address various skill levels and the needs of your lab.

### Application Solutions

The Evolution 300/600 series offers dedicated applications and built-in methods for material science, life science, and pharmaceutical testing. Thermo Scientific VISION<sup>pro</sup>™, the principal software package, is an intuitive user interface designed for general research and QC laboratory applications. Several optional software packages are also available:

- Thermo Scientific VISION<sup>life</sup>™ software for performing routine assays, such as nucleic acid tests and protein concentrations, to advanced studies, including DNA melting experiments and kinetics assays.
- Thermo Scientific VISION<sup>security</sup>™ software offers advanced security options and complete tools for achieving 21 CFR Part 11 compliance.



# Product Specifications

Specification	Evolution 300	Evolution 600
Optical Design	Modified Ebert Double beam with sample and reference cuvette/accessory positions	
Spectral Bandwidths	Variable 0.5, 1.0, 1.5, 2.0, 4.0 nm	Variable 0.2, 0.5, 1.0, 1.5, 2.0, 4.0 nm
Light Source (Typical Lifetime)	Xenon Flash Lamp: 5 years (3 years guaranteed)	Deuterium: 1,000 hours Tungsten: 2,000 hours
Detector	Dual Matched Silicon Photodiodes	R-928 Red Sensitive Photomultiplier Tube
Grating	Holographic, 1200 lines/mm, blazed at 240 nm	
Beam Separation	210 mm (8.27 in)	
Scan Ordinate Modes	Absorbance, % Transmittance, % Reflectance, Concentration, 1st – 4th Derivative	
Maximum Resolution	0.5 nm	0.2 nm
Resolution (Toluene in Hexane)	Peak/Trough Ratio > 2.0	
Maximum Data Resolution (nm)	0.05 nm	
Wavelength		
Range	190 – 1100 nm	190 – 900 nm
Accuracy	± 0.20 nm (546.11 nm Hg emission line) ± 0.30 nm 190 – 900 nm	± 0.15 nm (656.10 nm Deuterium line) ± 0.30 nm 190 – 900 nm
Repeatability	Peak separation of repetitive scanning of Hg line source < 0.10 nm Standard deviation of 10 measurements < 0.05 nm	
Scanning Speeds	3800, 2400, 1200, 600, 240, 120, 60, 30, 10, 5, 1 nm/min Intelliscan	
Data Interval	10, 5, 2, 1, 0.5, 0.2, 0.1, 0.05 nm	
Photometric		
Range	> 4 A	> 5 A
Display	± 6 A	± 6 A
Readout	Absorbance, % Transmission, % Reflectance, Concentration	
Accuracy – Instrument <sup>1</sup>	1A: ± 0.004 A 2A: ± 0.004 A 3A: ± 0.006 A	1A: ± 0.004 A 2A: ± 0.004 A 3A: ± 0.006 A
Accuracy – Including Standard Tolerance <sup>2</sup>	1A: ± 0.008 A 2A: ± 0.010 A 3A: ± 0.018 A	1A: ± 0.008 A 2A: ± 0.010 A <sup>3</sup> 3A: ± 0.018 A <sup>3</sup>
Accuracy – Sealed Solutions (EP/BP/TGA)	± 0.01 A	
Noise	0A: < 0.00018 A 1A: < 0.00022 A 2A: < 0.00050 A 500 nm, 2.0 nm SBW, RMS	0A: < 0.00010 A 1A: < 0.00015 A <sup>3</sup> 2A: < 0.00030 A <sup>3</sup> 500 nm, 2.0 nm SBW, RMS
Repeatability	1A: ± 0.0025 A	
Drift	< 0.0005 Abs/hour 500 nm, 2.0 nm SBW, 2 hr warm-up	
Stray Light	198 nm: > 2.0 A KCl, EP June 2005 220 nm: > 3.7 A NaI 340 nm: > 3.9 A NaNO <sub>2</sub>	198 nm: > 2.0 A KCl, EP June 2005 <sup>3</sup> 220 nm: > 4.0 A NaI <sup>3</sup> 340 nm: > 4.30 A NaNO <sub>2</sub> <sup>3</sup>
Baseline Flatness	± 0.0015 A (200 – 800 nm) 2.0 nm SBW, smoothed	± 0.0015 A (200 – 800 nm) 2.0 nm SBW, smoothed
Local Control Option		
Display	VGA quality color LCD, 13.5 x 10 cm	
Keypad	Sealed membrane keypad	
Dimensions (W x D x H)	61 x 53 x 38 cm (24 x 21 x 15 in)	
Weight	22 kg	22.7 kg
Electrical Supply	100 – 240 V, 50 – 60 Hz	

<sup>1</sup> Measured at 546 nm, 1.5 nm SBW using neutral density filters traceable to NIST/NPL

<sup>2</sup> Measured at 546 nm using neutral density filters traceable to NIST/NPL

Total Tolerance is the root sum square of the Standard Filter Tolerance and Instrument Tolerance

<sup>3</sup> Measured using 1 A rear beam attenuation

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