Product Specifications

The Thermo Scientific Helios™ Zeta and Helios Omega are easy-to-use, reliable UV-Visible spectrophotometers designed for research, routine quality control, and teaching needs. The built-in, Local Control software offers unique solutions for a wide range of laboratory requirements – from fixed wavelength measurements and concentration determinations to wavelength scanning and multicomponent analysis.

Helios Zeta and Helios Omega

Cost-effective performance for routine and research analysis

For over 60 years, customers in world-renowned research institutions, industrial laboratories, and teaching institutions have relied on Thermo Scientific UV-Visible spectrophotometers. The Helios Zeta and Helios Omega continue our tradition of providing high-quality spectrophotometers meeting the demanding needs of the routine and research laboratory. A wide range of accessories for your liquid and solid sampling requirements are available for use with the Helios instruments.

Quality and Performance

The Helios design uses a minimum number of optical components and provides excellent light throughput and affordable performance – all in a compact footprint. The dual-source tungsten and deuterium lamp system offers maximum performance over the entire wavelength range. The double-beam configuration of the Helios Zeta provides excellent stability with the flexibility to measure both sample and reference samples simultaneously. A variety of sample and reference beam cell holder accessories makes the Helios Zeta a clear choice for demanding samples. The single-beam Helios Omega, with its wide selection of sample cell holders, provides a cost-effective solution.

Extensive Software Choices

For maximum flexibility, the Helios spectrophotometers can be controlled from either the intuitive VISION*lite*™ software suite or the more advanced VISION*pro*™ interface. In regulated environments where 21 CFR Part 11 compliance is a requirement, VISION*lite* SE or VISION*security*™ software provide extensive tools for data security, electronic signatures, and audit trails.

Increase Laboratory Productivity without Compromising Perform

Up and Running in Minutes with Intuitive Design

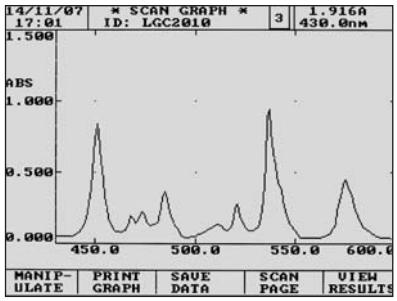
The intuitive, built-in keypad and graphically displayed SoftKeys ensure that methods can be quickly setup and executed. Traditional sample measurements such as fixed wavelength and concentration are only a few keystrokes away. The unique SmartStart™ feature puts your most frequently used methods on the first screen each time the instrument is turned on. SmartStart makes training users simple by providing easy access to the laboratory tests you use every day.

More Bench Space

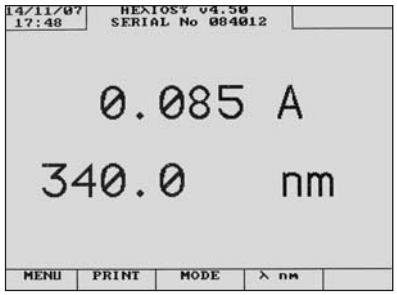
The compact design saves valuable bench space and leaves more room for additional laboratory equipment. The built-in USB interface provides easy connection to external USB compatible printers.

USB Connectivity

The USB interface, in conjunction with memory devices, gives you unlimited storage of data and methods. Easily transfer your data and methods onto memory devices for archiving. Communication connectivity for PC-controlled applications is provided using an optional USB interface cable.



Helios Zeta and Omega spectrophotometers provide excellent versatility for routine and research laboratories. On-screen data manipulations for wavelength scanning, up to 20 standards for calibration curves, fixed multiwavelength analysis, kinetics, and multicomponent are among the standard software applications.



Maximum ease-of-use with the integrated active display showing instant readouts of absorbance, % transmittance, or concentration.

Designed to Last

- Precision, die-cast aluminum chassis provides robustness and stability
- Quartz-overcoated, sealed optics maintain performance throughout the instrument's lifetime
- Minimal moving parts improve reliability, reduce maintenance, and cost of ownership
- Sealed and chemically-resistant keypad withstands the harsh, multi-user laboratory environment

Increase your lab's productivity by combining the Helios spectrophotometers and CETAC 100/200/500 series autosamplers. The VISION*lite* auto SE software provides 21 CFR Part 11 compliance for the regulated laboratory.

Designed for Productivity

- Large sample compartment provides easy access to a wide range of sample handling accessories
- Easy access to built-in application software methods
- Built-in data and methods storage via USB memory devices
- Integrated and automated sipper delivery systems
- Optional CETAC® autosamplers for maximum liquid handling automation
- Wide selection of dedicated, computer-controlled application packages for routine operation, color analysis, enzymatic food analysis, materials characterizations, and more

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Additional Flexibility with Application Software

A range of software application programs is available for the Helios Zeta and Omega UV-Visible spectrophotometers.

- VISION*pro* is a full-featured and flexible software interface designed for general-purpose, research laboratories. VISION*life*™ adds additional flexibility for monitoring single and multicell kinetics.
- Designed for multi-user laboratories, the VISION*lite* series consists of a single-window format providing applications for wavelength scanning, fixed multi-wavelength analysis, quantitative analysis, and kinetics.
- VISION*security* and VISION*lite* SE are available for laboratories requiring user authentication, audit trails, electronic records, and signatures for 21 CFR Part 11 compliance.
- EnzLab, an analyzer software application for enzymatic food analysis, is available for food and beverage applications
- Industrial liquid color and transmission color measurements can be performed using the VISION*lite* ColorCalc software.
- Luminous transmittance of optical materials is supported in VISION*lite* MaterialsCalc software.

Each of these application packages completely controls the Helios Zeta and Omega spectrophotometers and appropriate accessories.

VISION*security* not only has all of the acquisition, analysis, and reporting capabilities found in the VISION*pro* software, but also has the tools necessary to control individual or group access to the instrument, data, and records. Windows® operating system integration allows VISION*security* activity to be monitored, even when VISION*security* is not running. Windows integration streamlines user entry and password maintenance, captures and sequesters event audit trails and electronic signatures, and prevents use when a network connection is lost or while the operator is away.

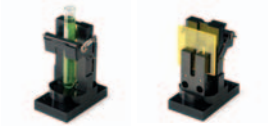
With continually changing requirements to keep your Helios spectrophotometer up to regulatory standards, no supplier in the industry can provide a more comprehensive selection of calibration and verification tools.

Accessories for Your Sample

TPS-1500W Peltier Water Circulation Bath

Water Thermo 7-cell Changer with Thermostatting Kit

Water-Thermostattable Single Position Cell Holder for 1-50 mm Pathlength Rectangular Cells



Combination Test Tube Holder and Cell Holder

Variable Pathlength Cell Holder

100 mm Pathlength Cylindrical Cell Holder

Holder for 1" Square Hach Cells and Accuvac Ampule

CETAC Autosamplers

Calibration Validation Carousel

SuperSipper

MiniSipper

NanoCell

Single Cell Peltier

Solid Sample Holder with Universal Sample Holder

Product Specifications

Specification	Helios Omega	Helios Zeta
Optical Design	Single-beam, Seya-Namioka Monochromator	Double-beam, Seya-Namioka Monochromator
Spectral Bandwidth (SBW)	2 nm	2 nm
Light Source (typical service life)	Deuterium: 1,000 hours Tungsten: 2,000 hours	Deuterium: 1,000 hours Tungsten: 2,000 hours
Detectors	Silicon Photodiode	Dual Silicon Photodiodes
Scan Ordinate Modes	Abs, %T, Intensity, 1-4 Derivative	Abs, %T, Intensity, 1-4 Derivative
Wavelength		
Range	190 - 1,100 nm	190 - 1,100 nm
Accuracy	± 1.0 nm	± 1.0 nm
Repeatability	± 0.2 nm	± 0.2 nm
Slew Speed	3,800 nm/min	3,800 nm/min
Scanning Speed	1 - 3,800 nm/min	1 - 3,800 nm/min
Data Interval	0.2, 0.5, 1.0, 2.0, 4.0, 10.0 nm	0.2, 0.5, 1.0, 2.0, 4.0, 10.0 nm
Photometric		
Range	-0.1 - 200 %T -0.3 - 3.0 A 0 - 9999 C	-0.1 - 200 %T -0.3 - 3.0 A 0 - 9999 C
Readout	Absorbance, % Transmittance, Concentration	Absorbance, % Transmittance, Concentration
Accuracy	0.005A at 1A	0.005A at 1A
Noise	< 0.0002 A, 500 nm, RMS	< 0.0002 A, 500 nm, RMS
Drift	< 0.002 A/hour (after warm-up)	< 0.001 A/hour (after warm-up)
Stray Light	< 0.05 %T at 220 and 340 nm	< 0.05 %T at 220 and 340 nm
Display	VGA-Quality LCD, 4.5" x 3.3"	VGA-Quality LCD, 4.5" x 3.3"
Keypad	Sealed Membrane Keypad	Sealed Membrane Keypad
Peak Picking	Peaks, Valleys, Pks & Valleys, Zero Crossovers, Ratio, Corrected Ratio, Pk height	Peaks, Valleys, Pks & Valleys, Zero Crossovers, Ratio, Corrected Ratio, Pk height
Fixed Wavelength (up to 20 wavelengths)	Abs, %T, Conc (Factored Absorbance)	Abs, %T, Conc (Factored Absorbance)
Quantitation (up to 20 standards and 3 replicates)	Linear, Direct Linear, Quadratic and Direct Quadratic	Linear, Direct Linear, Quadratic and Direct Quadratic
Rate (Up to 100 minute kinetic runs)	Display up to 7 kinetics curves per run	Display up to 7 kinetics curves per run
Multicomponent	Up to 20 components with up to 20 scan wavelengths	Up to 20 components with up to 20 scan wavelengths
Printer (optional)	USB compatible printers	USB compatible printers
Communications	Bi-directional RS232C, USB output for printers and storage	Bi-directional RS232C, USB output for printers and storage
Power Requirements	100 - 240 Volts	100 - 240 Volts
Dimensions	45.5 W x 39.5 D x 21.5 H cm (18" x 15.5" x 8.5")	45.5 W x 39.5 D x 21.5 H cm (18" x 15.5" x 8.5")
Weight	10 kg (22.1 lb)	10 kg (22.1 lb)
Warranty	1 year	1 year

Ordering Information

Description	Part Number
Helios Zeta double-beam UV-Visible spectrophotometer, 120/240V	9423UVZ1002E
Helios Omega single-beam UV-Visible spectrophotometer, 120/240V	9423UVO1002E

Optional Software and Accessories

Description	Part Number
VISION*pro* software	10040101
VISION*life* software	10040201
VISION*security* software	10040301
VISION*lite* software	335993-000
VISION*lite* SE software with 21 CFR Part 11	869-127300
VISION*lite* auto	869-127200
VISION*lite* auto SE	869-128400

Description	Part Number
VISION*lite* ColorCalc Basic	869-124300
VISION*lite* ColorCalc Advanced	869-124400
VISION*lite* MaterialsCalc	869-124500
VISION*lite* Reporter SPX	869-127400
EnzLab	10041001
EnzLab SE	869-127100
GRAMS A/I 8.0	869-126900
Origin Pro 7.5	869-127000
Wine software	9423UV85050E
Olive Oil Methods for VISION*lite*	869-128500

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