EPOCH 2
microplate reader

Epoch 2 Microplate Spectrophotometer

The Reader with the Perfect Touch.

Think Possible

BioTek®

EPOCH 2 microplate reader

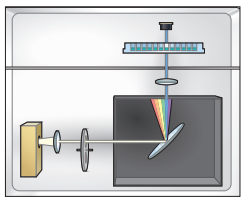
The Epoch™ 2 microplate and cuvette spectrophotometer combines convenient touchscreen technology with excellent performance for UV-Vis measurements in 6- to 384-well microplates, standard cuvettes and micro-volume samples. Epoch 2 comes with the full version of Gen5™ Data Analysis Software installed – ready to help ease your workflow. As a powerful standalone microplate spectrophotometer workstation, Epoch 2 provides quick and simple measurements for virtually any photometric application.

Vivid display and touchscreen ease

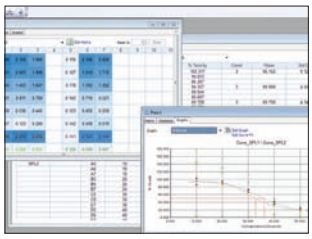
The 10" color, high resolution touchscreen display on Epoch 2 will make protocol design, plate reading and data analysis easy, fast and visual. The sensitive touchscreen works well with gloved hands, and there's no cumbersome tactile navigation keypad to slow you down. Epoch 2's display is beautifully clear and crisp.

Filter-free wavelength selection, fiber-free optics

Epoch 2's monochromator optics offers 799 wavelengths (200 to 999 nm) at your fingertips, with no filters. Choose any wavelength in 1 nm increments for endpoint and kinetic measurements. Spectral scanning on one or more wells is as easy as selecting start and end wavelengths. Any assay, any wavelength, single, dual or multi-wavelength – Epoch 2 has it all. The dual beam optical design uses an internal reference channel and a direct, fiber-free light path, ensuring consistent performance for every read.



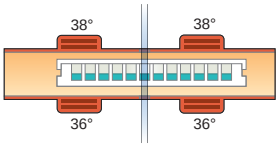
Gen5 Software onboard



Built-in software eliminates the need for a separate computer to perform any reader control function, data analysis and data output. Some instruments with onboard software offer very limited functions and protocols. Not so with Epoch 2! Gen5 Data Analysis Software comes installed; reader control, curve fitting, cutoff and validation formulas, data output options…it's all here. And the Microsoft® Windows®8 OS makes it super-simple to use the available WiFi and Bluetooth connectivity, along with the USB flash drive for data and protocol transfer and storage.

4-Zone™ temperature control

For cell-based and other temperature sensitive assays, Epoch 2's 4-Zone incubation to 65 °C reaches an even broader range of applications, including biofuels, food and beverage research. Natural convection heating prevents edge effects typically seen in forced-air systems and the minimal variation across the plate provides consistent assay performance. When lidded or sealed plates are used, the condensation control function prevents interference from excess condensation by setting differential top and bottom temperatures.



Advanced shaking profiles

Plate shaking is critical to many assays, and linear shaking doesn't always meet the requirements.

Epoch 2 offers linear, orbital and double-orbital shaking to keep all sample types well mixed. Linear provides a good strong shake for ELISAs, and orbital shaking can gently agitate but not disrupt cells. Double-orbital shaking agitates in multiple directions, and keeps cells or bacteria in suspension. Of course, shake frequency and duration are completely programmable.

Micro-volume measurements

Use a Take3™ plate with Epoch 2 for rapid, direct nucleic acid or protein quantification with sample volumes as low as 2 µL. Up to 48 samples can be processed at one time with Take3 for higher throughput measurements without dilution. Gen5 software offers pre-programmed protocols for the quickest and easiest micro-volume analysis.

Automation ready

Increase workflow efficiency by integrating Epoch 2 with BioStack for automated processing of up to 50 plates. Epoch 2 is available without the touchscreen for compact integration with other automation platforms.

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Specifications

General	
Microplate types	6-, 12-, 24-, 48-, 96-, and 384-well microplates
Other labware	Take3™ and Take3 Trio Micro-Volume Plate (optional) BioCell™ (optional) Standard cuvette (with "C" configurations)
Read modes	Endpoint, kinetic, spectral scanning and well area scanning
Wavelength selection	Monochromator
Wavelength range	200 – 999 nm, selectable in 1 nm increments
Light source	Xenon flash lamp
Dynamic range	0.0 - 4.0 OD
Bandwidth	2.9 nm
Shaking	Orbital, double orbital and linear
Temperature control	Ambient +4 °C to 65 °C with condensation control
Software	On-board touchscreen configurations: Gen5™ TS Data Analysis Software Non-touchscreen configurations: Gen5 Data Analysis Software
Automation	BioStack™ 2WR, 3WR and 4; 3rd party automation compatible
Performance	*(Using 96- well microplates and cuvette measurements)*
Monochromator wavelength accuracy	± 2 nm
Monochromator wavelength repeatability	± 0.2 nm
Linearity	0 to 2.0 OD ± 1% ± 0.010 2.0 to 2.5 OD ± 3% ± 0.010
Accuracy	0 to 2.0 OD ± 1% ± 0.010 2.0 to 2.5 OD ± 3% ± 0.010
Repeatability	0 to 2.0 OD ± 1% ± 0.005 2.0 to 2.5 OD ± 3% ± 0.005
Stray light	0.03% at 230 nm
Read speed	96 wells sweep read: 8 seconds 384 wells sweep read: 14 seconds
Physical Characteristics	
Connectivity	1 USB for external PC control 1 USB for peripheral devices
Power	100 – 240 Volts AC 50/60 Hz
Dimensions	With touchscreen: 15.5" D x 12.5" W x 13" H (39.3 x 32 x 33 cm) Without touchscreen: 15.5" D x 12.5" W x 8" H (39.3 x 32 x 20.3 cm)
Weight	With touchscreen: 25 lbs (11.3 kg) Without touchscreen: 20 lbs (9.1 kg)
Regulatory	
Regulatory	CE and TUV marked. In Vitro Diagnostic use models are available.

Specifications are subject to change. Performance values represent the average observed factory test values.

Typical Applications

- ELISA
- Enzyme kinetics
- Nucleic acid and protein quantification
- Cell proliferation
- Cytotoxicity
- Spectral scanning
- Reactive Oxygen Species
- Biofuel Research
- Food Safety & Quality
- Bacterial Identification
- Total protein determination
- Nucleic acid purity assessment

BioTek®

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