

Media backgrounder

# The Agilent Cary 3500 UV-Vis Spectrophotometer

## Key uses of the Cary 3500

- Monitoring enzymatic reactions at temperature
- Calibrating and determining sample concentration
- Quantifying nucleotides and proteins
- Performing temperature ramping experiments

## Key features of the Cary 3500

- Water-less temperature control up to 110 °C
- 250 Hz Xenon Flash lamp
- Multiple cells, multiple temperatures, measured simultaneously
- Intuitive Cary UV Workstation software

## Overview

The Agilent Cary 3500 represents a paradigm shift in the UV-Vis Molecular Spectroscopy space, and is one of Agilent's new solutions that will predominantly be used in the pharmaceutical, biopharmaceutical and life sciences segments.

The Cary 3500 is a multiple temperature zoned UV-Vis solution powered to run up to four different experiments at any given time. The functionality of Cary 3500 is made possible by innovative technologies that increase operational efficiency and accuracy, within the modern day laboratory.



**For more information** visit Agilent's newsroom or contact Victoria Wadsworth-Hansen, Global Director and Head of Public Relations ([victoria.wadsworth-hansen@agilent.com](mailto:victoria.wadsworth-hansen@agilent.com))

## Cary 3500's key features explained

### Water-less temperature control up to 110 °C

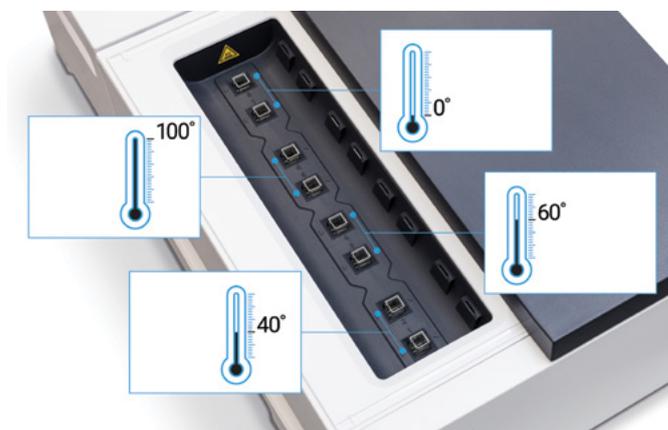
Cary 3500 does not rely on a water-cooler to control temperature; it is the only integrated air-cooled UV-Vis system on the market with a temperature range of 0 to 110 °C. With Cary 3500's unique air-cooling feature, the need for a water re-circulator, messy plumbing and associated maintenance are all eliminated. The temperature control technology also enables faster temperature ramp rates, up to 30 °C/min., without sacrifice on data quality.

### Xenon flash lamp technology

The 250 Hz Xenon flash lamp allows measurements of samples that absorb up to 99.999% light. This means fewer dilutions are needed and operator errors are reduced. The Xenon flash lamp is also very long lasting, meaning fewer lamp replacements and lower cost of ownership.

### Multiple cells, multiple temperatures, measured simultaneously

Having multiple zones means up to four different experiments can be run at once, at different temperatures. Cary 3500 also comprises eight cells which means up to eight samples (including the control) can be measured simultaneously, under ambient conditions if required. It is estimated that Cary 3500 will reduce analysis time from days to hours. The stationary



**Above:** The multizone, multicell, multi temperature functionality

cells, and simultaneous collection, ensures that data gaps seen when using moving, sequential collect cell holders, are eliminated. This allows customers to gain a deeper level of detail and confidence in their sample analysis.

### Intuitive Cary UV Workstation software

The Cary UV Workstation software is application-focused, which streamlines method setup. It's based on a database storage architecture that is easy to support and invest in for future enhancements e.g. analyzers and automated features. This software is aligned with Agilent's 'One Agilent' approach to compliance. It is also easy to use, with video guidance for new users, which reduces training costs.

## Key benefits of Cary 3500 to laboratory operators and managers

### Limited maintenance

Approximately 75% laboratory managers within the pharmaceutical sector find instrument maintenance the biggest challenge in managing their laboratories. Cary 3500's long lasting Xenon flash lamp means low cost of ownership as it minimizes lamp replacement and instrument revalidation costs. Not having to use a water circulator for temperature cooling also diminishes maintenance costs.

### Streamlined experimental design

One in five laboratory managers within the pharmaceutical sector find laboratory space to be a limiting factor within their laboratories. Cary 3500 takes up less space than its

predecessors, due to the removal of the additional water circulator, and provides the ability to conduct up to four experiments at the same time. The Cary 3500 measures 17.5 in x 27.6 in x 11 in.

### Easy-to-use

As the role of a laboratory operator has broadened in recent years, it is critical for the instruments they use on a daily basis to be as simple to use, as possible. Cary 3500 achieves this through its straightforward set-up, limited maintenance requirements, an intuitive Cary UV Workstation software interface, and the inclusion of video tutorials within the software.



## What is UV-Vis Molecular Spectroscopy ?

UV-Vis Molecular Spectroscopy is a well-established instrumental technique for the analysis of a sample in the laboratory. It works by identifying a sample type using light. The reduction in light intensity is measured after it passes through a sample or after reflection from a sample surface, and this helps to determine the sample composition.