

## 2489 UV/Visible Detector

Whether you are doing routine UV-based applications or pushing the limits of detection with low-level impurity analyses, Waters® 2489 UV/Visible (UV/Vis) Detector is the best detection choice for performance, reliability, and usability. The 2489 UV/Vis Detector is the most sensitive and versatile dual-wavelength absorbance detector available for HPLC and UHPLC. The design combines a high energy Deuterium source, a precise optical design, and low noise, high speed electronics. These advanced capabilities take UV/Vis detection performance to a new level.



### OPERATING SPECIFICATIONS<sup>1</sup>

Wavelength range	190 to 700 nm
Bandwidth	≤5 nm
Wavelength accuracy	±1 nm (via patented <sup>2</sup> Erbium filter)
Wavelength repeatability	±0.1 nm
Linearity <sup>3</sup>	≤5% at 2.5 AU, propylparaben, 257 nm, analytical flow cell
Baseline noise, <sup>3</sup> single wavelength	≤5 x 10 <sup>-6</sup> AU peak to peak, 230 nm, 10 points/s, 1.0 s, 30-s segments, dry analytical flow cell
Baseline noise, <sup>3</sup> dual wavelength	≤35 x 10 <sup>-6</sup> AU peak to peak, 230 nm, 280 nm, 1 point/s, 2.0 s, 30-s segments, dry analytical flow cell
Drift <sup>3</sup>	≤1 x 10 <sup>-4</sup> AU/hour, 239 nm, 2 points/s, 1.0 s, 30-s segments, dry analytical flow cell
Measurement range	0.0001 to 4.0000 AU
Sampling rate	Up to 80 points/s

## OPTICAL COMPONENT SPECIFICATIONS

Light source	Deuterium arc lamp Warranty: 2000 hours or 1 year (whichever comes first)
Flow cell design	Patented TaperSlit™ <sup>4</sup>
Path length	10 mm (analytical cell)
Cell volume	16.3 µL (analytical cell)
Pressure limit	1000 psi (analytical cell)
Wetted materials	Alliance® HPLC/ACQUITY® Arc®: 316 stainless steel, fused silica, PEEK, fluoropolymer ACQUITY Arc Bio: fluoropolymer, fused silica, MP35N, PEEK, titanium

## ELECTRICAL SPECIFICATIONS

Power requirements	100 to 240 VAC
Line frequency	50 to 60 Hz
Power consumption	195 VA (nominal)
Inputs	Four event inputs
Outputs	Four outputs (2 analog, 2 event)

## PHYSICAL/ENVIRONMENTAL SPECIFICATIONS

Dimensions	Width: 34.3 cm (13.5 inches)
	Height: 20.8 cm (8.2 inches)
Depth:	61.0 cm (24.0 inches)
Weight	13.8 kg (30.5 pounds)
Operating temperature range	4 to 40 °C (39.2 to 104 °F)
Operating humidity range	20% to 80%, non-condensing
Audible noise	<58 dBA

ORDERING INFORMATION		PART NUMBER
2489 UV/Visible Detector for Alliance HPLC Systems (analytical flow cell included)		176248901
2489 UV/Visible Detector for ACQUITY Arc Systems (low-dispersion analytical flow cell included)		176017007
2489 UV/Visible Detector for ACQUITY Arc Bio Systems (biocompatible, low-dispersion analytical flow cell included)		176017018
Low-dispersion analytical*	16.3 $\mu$ L volume, 10 mm pathlength	205001553
Analytical	16.3 $\mu$ L volume, 10 mm pathlength	205001027
Analytical* (biocompatible)	16.3 $\mu$ L volume, 10 mm pathlength	205001731
<b>Optional flow cells:</b>		
Semi-preparative	4.4 $\mu$ L volume, 3 mm pathlength	205001029
Inert (Titanium)	16.3 $\mu$ L volume, 10 mm pathlength	205001028
High-pressure	16.3 $\mu$ L volume, 10 mm pathlength	205001031
Microbore	4.4 $\mu$ L volume, 3 mm pathlength	205001030
Autopurification	6.0 $\mu$ L volume, 1 mm pathlength	205001032
Variable path length	0.06 to 1.2 $\mu$ L volume, 0.15 to 3.00 mm pathlength	205001033

1. All performance specifications are measured following a warm-up period of one hour with ambient  $\Delta T \leq \pm 2.0$  °C/hour.
2. U.S. Patent Numbers: 6,423,249 and 6,783,705.
3. ASTM E685-93.
4. U.S. Patent Number: US 5,883,721.

\* Compatible with ACQUITY Arc Systems only.

# Waters

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