

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 SPECIFICATIONS¹

Wavelength range	190 to 700 nm
Bandwidth	≤5 nm
Wavelength accuracy	±1 nm (via patented ² Erbium filter)
Wavelength repeatability	±0.1 nm
Linearity ³	≤5% at 2.5 AU, propylparaben, 257 nm, analytical flow cell
Baseline noise, ³ single wavelength	≤5 x 10 ⁻⁶ AU peak to peak, 230 nm, 10 points/s, 1.0 s, 30-s segments, dry analytical flow cell
Baseline noise, ³ dual wavelength	≤35 x 10 ⁻⁶ AU peak to peak, 230 nm, 280 nm, 1 point/s, 2.0 s, 30-s segments, dry analytical flow cell
Drift ³	≤1 x 10 ⁻⁴ 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™ ⁴
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 μ L volume, 10 mm pathlength	205001553
Analytical	16.3 μ L volume, 10 mm pathlength	205001027
Analytical* (biocompatible)	16.3 μ L volume, 10 mm pathlength	205001731
Optional flow cells:		
Semi-preparative	4.4 μ L volume, 3 mm pathlength	205001029
Inert (Titanium)	16.3 μ L volume, 10 mm pathlength	205001028
High-pressure	16.3 μ L volume, 10 mm pathlength	205001031
Microbore	4.4 μ L volume, 3 mm pathlength	205001030
Autopurification	6.0 μ L volume, 1 mm pathlength	205001032
Variable path length	0.06 to 1.2 μ 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 $\Delta T \pm 2.0$ °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.

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