Waters
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ACQUITY UPLC PDA Detector

The Waters® ACQUITY™ UPLC™ PDA Detector is specifically designed to complement the entire line of ACQUITY UPLC systems. The detector has sampling rates up to 80 points/s, noise specifications of ±3 µAU, and sensitivity that is unmatched by any other photodiode array detector on the market. Further, enhanced software control provides flexibility for simultaneous 2D and 3D operation in Empower,™ MassLynx,™ or UNIFI™ software. The ACQUITY UPLC PDA Detector features a wavelength range from 190 nm–500 nm with enhanced sensitivity in the UV wavelength range.

OPERATING SPECIFICATIONS[1]

Wavelength range	190 to 500 nm
Wavelength accuracy	±1 nm (via patented[2] Erbium filter)
Linearity range	Deviation at 2.0 AU ≤5%, propylparaben, at 257 nm
Optical resolution	1.2 nm
Digital resolution	0.6 nm/pixel to 500 nm
Baseline noise	±3 µAU, 230 nm, 2 points/s, 2 s, wavelength compensation 310 to 410 nm, 90:10 water/methanol (2D channel with analytical flow cell)
Drift	≤1.0 x 10^{-3}/AU/hour/°C with analytical flow cell
Sampling rate	Up to 80 points/s
Unattended operation	Leak sensors, full diagnostic data captured through console software

OPTICAL COMPONENT SPECIFICATIONS

Light source	Prealigned, intelligent technology Deuterium lamp (Warranty for one year or 2000 hrs, whichever comes first)
Dispersion volume	≤0.8 µL (Analytical flow cell) ≤1.5 µL (High sensitivity flow cell)
Flow cell design	Light-guiding UPLC intelligent technology flow cell
Path length	10 mm (analytical flow cell)
Flow cell volume	500 nL (analytical flow cell)
Wetted materials	316 stainless steel, fused silica, Teflon™ AF, PEEK (analytical flow cell)
Pressure limit	1000 psi (all flow cells)

PHYSICAL/ENVIRONMENTAL SPECIFICATIONS

Dimensions	Width: 34.3 cm (13.5 inches) Height: 19.4 cm (7.6 inches) Depth: 60.7 cm (23.9 inches)
Weight	13.6 kg (30 pounds)
Operating temperature range	4 to 40 °C (39 to 104 °F)
Operating humidity range	20% to 80%, non-condensing
Compliance	CE Mark CSA C-tick and UL
Audible noise	≤58dBa

ELECTRICAL SPECIFICATIONS

Power requirements	100 to 240 VAC
Line frequency	50 to 60 Hz
Power consumption	185 VA (nominal)
Inputs	One input (inject start)
Outputs	Two outputs (one event, one analog)

DETECTOR ORDERING INFORMATION	PART NUMBER
ACQUITY UPLC Photodiode Array Detector (analytical flow cell included)	176015026
ACQUITY UPLC I-Class Photodiode Array Detector (low-dispersion analytical flow cell included)	176015090
ACQUITY UPLC M-Class Photodiode Array Detector (microscale flow cell included)	176016022

OPTIONAL FLOW CELLS

Analytical – 500 nL, 10 mm pathlength	205015017
High sensitivity – 2400 nL, 25 mm pathlength	205015019
High throughput – 135 nL, 3 mm pathlength	205015006
Stainless steel – 1500 nL, 5 mm pathlength	205000612
Titanium – 1500 nL, 5 mm pathlength	205000613
Low dispersion analytical – 500 nL, 10 mm pathlength	205015036
Low dispersion microbore – 250 nL, 10 mm pathlength	205015035
Microscale – 100 nL, 10 mm pathlength	205015034

References

1. All performance specifications are measure following a warm-up period of one hour with ambient $\Delta T \leq \pm 2.0$ °C.
2. US Patent Numbers: 6,423,249 and 6,783,705.

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