

## ACQUITY Photodiode Array Detector with TaperSlit

The ACQUITY® Photodiode Array (PDA) Detector with TaperSlit™ was specifically designed to complement the ACQUITY Advanced Polymer Chromatography™ (APC™) System. The fluidic path was optimized for reduced dispersion and for solvent compatibility with solvents typically employed in APC. The detector features spectral data acquisition at fast sampling rates with low baseline noise performance for accurate characterization of polymer separations. Enhanced software control provides flexibility for simultaneous 2D and 3D operation.

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

Wavelength range	190 to 800 nm
Wavelength accuracy	± 1 nm (via patented <sup>2</sup> Erbium filter)
Wavelength repeatability	± 0.1 nm
Optical resolution	1.2 nm
Photodiodes	512
Digital resolution	1.2 nm/pixel
Linearity range	≤ 5% at 2.0 AU (Propyl paraben at 257nm)
Baseline noise <sup>3</sup>	≤10 µAU, 254 nm, 2 points/s, 1.0 s filter time constant, 3.6 nm bandwidth, 90/10 water/ACN at 0.5 mL/min
Drift	≤ 1.0 mAU/hour/°C, 254 nm, dry flow cell
Sampling rate	Up to 80 points/s

### OPTICAL COMPONENT SPECIFICATIONS

Light Source	Prealigned, Intelligent Technology Deuterium Lamp
Flow cell design	Patented <sup>4</sup> TaperSlit with Intelligent Technology
Flow cell path length	10 mm
Flow cell volume	8.4 µL
Pressure limit	1000 psi
Wetted materials	316 Stainless steel, fused silica, Fluoropolymer

**ELECTRICAL SPECIFICATIONS**

Power requirements	100 to 240 VAC
Line frequency	50 to 60 Hz
Power consumption	185 VA (nominal)
Inputs	1 (Inject start)
Outputs	2 (Event out, analog out)

**PHYSICAL/ENVIRONMENTAL SPECIFICATIONS**

Dimensions	Width: 34.3 cm (13.5 in) Height: 18.8 cm (7.4 in) Depth: 61.0 cm (24.0 in)
Weight	13 kg (29 lbs.)
Operating temperature range	15 to 40 °C (59 to 104 °F)
Operating humidity range	20% to 80%, non-condensing
Audible noise	< 58 dBA

**ORDERING INFORMATION**

ACQUITY PDA with TaperSlit	176015063
Analytical TS Flow cell <sup>5</sup>	205001162

1. All performance specifications are measured following a warm-up period of one hour with ambient  $\Delta T \leq \pm 1.0$  °C
2. U.S. Patent Numbers: 6,423,249 and 6,783,705
3. STME16657-98
4. U.S. Patent Number: 5,883,721
5. Included with detector

# Waters

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