

ACQUITY UPLC TUV Detector

The Waters® ACQUITY™ UPLC™ Tunable UV (TUV) Detector is a tunable, dual-wavelength UV/Visible (UV/Vis) detector specifically designed and optimized for the entire line of ACQUITY UPLC systems. The ACQUITY UPLC TUV Detector's innovative light-guiding flow cell design and High Brightness Lamp are each equipped with Intelligent Chip Technology, allowing for the electronic recording of pertinent component information flow, which is then viewable within the Empower™ Software database and available for inclusion in a comprehensive status report. Additionally, the design of the ACQUITY UPLC TUV Detector allows for reduced sensitivity to laboratory environmental fluctuations, such as temperature and humidity changes. The ACQUITY UPLC TUV Detector maintains its low-noise electronics and support for sampling rates up to 80 points/s.

OPERATING SPECIFICATIONS¹

Wavelength range	190 to 700 nm
Wavelength accuracy	±1 nm (via patented ² Erbium filter)
Linearity range	Deviation at 2.5 AU ≤5%, propylparaben, at 257 nm
Baseline noise ³	6 x 10 ⁻⁶ AU, at 230 nm, 10 mm shunt cell, 1.0 second filter time constant
Drift	≤5.0 x 10 ⁻⁴ AU/hour/°C at 230 nm
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 flow cell with intelligent chip technology
Path length	10 mm (analytical flow cell)
Cell volume	500 nL (analytical flow cell)
Pressure limit	1000 psi (all flow cells)
Wetted materials	316 stainless steel, fused silica, Teflon™ AF, PEEK (analytical flow cell)
Optical bandwidth	5 nm

PHYSICAL/ENVIRONMENTAL SPECIFICATIONS

Dimensions	Width: 34.3 cm (13.5 inches) Height: 19.3 cm (7.6 inches) Depth: 60.9 cm (24.0 inches)
Weight	12.0 kg (26.5 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	≤58 dBa

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 TUV Detector (analytical flow cell included)	176015028
ACQUITY UPLC I-Class Tunable UV Detector (low dispersion analytical flow cell included)	176015092
ACQUITY UPLC M-Class Tunable UV Detector (microscale flow cell included)	176016024

OPTIONAL FLOW CELLS

Analytical – 500 nL volume, 10 mm pathlength	205015016
High sensitivity – 2400 nL volume, 25 mm pathlength	205015018
Stainless steel – 1.5 µL volume, 5 mm pathlength	205000610
Titanium – 1.5 µL volume, 5 mm pathlength	205000611
Low dispersion analytical flow cell – 500 nL, 10 mm pathlength	205015033
Low dispersion microbore flow cell – 250 nL, 10 mm pathlength	205015032
Microscale – 100 nL, 10 mm pathlength	205015031

References

1. All specifications derive from instrument performance after a 1-hour warm-up time.
2. US Patent Numbers: 6,423,249 and 6,783,705.
3. ASTM Standard E1657.

Waters

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