Waters
THE SCIENCE OF WHAT'S POSSIBLE.®

2998 Photodiode Array Detector

The Waters® 2998 Photodiode Array (PDA) Detector offers advanced optical detection, providing unprecedented trace impurity detection and quantification in conjunction with spectral analysis capabilities. It is the ideal detector for any lab application from compound identification to method development. For routine analyses, the 2998 PDA Detector is reliable, easy-to-use, and has enhanced software control to provide flexibility for simultaneous 2D and 3D operation.

OPERATING SPECIFICATIONS[1]

Wavelength range	190 to 800 nm
Wavelength accuracy	±1 nm (via patented[2] Erbium filter)
Wavelength repeatability	±0.1 nm
Bandwidth	1.2 nm
Photodiodes	512
Digital resolution	1.2 nm/pixel
Linearity range[3]	≤5% at 2.0 AU, propylparaben, 257 nm, dry analytical flow cell
Baseline noise[3]	≤10 x 10^{-6} AU peak to peak, 254 nm, 2 points/s, 1.0 s, 30 s segments, bandwidth 3.6 nm (3-pixel bunch), dry analytical flow cell
Drift[3]	≤1.0 x 10^{-3} AU/hour, 254 nm, 2 points/s, 1.0 s, 30 s segments, bandwidth 3.6 nm (3-pixel bunch), dry analytical flow cell
Sampling rate	Up to 80 points/s

OPTICAL COMPONENT SPECIFICATIONS

Light source	Deuterium arc lamp Warranty: 2000 hours or one year (whichever comes first)
Flow cell design	Patented TaperSlit™[4]
Path length	10 mm (analytical flow cell)
Flow cell volume	8.4 µL (analytical flow cell)
Pressure limit	1000 psi (analytical flow cell)
Wetted materials	Alliance® HPLC/ACQUITY® Arc®: 316 stainless steel, fused sililca, 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	14.5 kg (32 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
2998 Photodiode Array Detector for Alliance HPLC Systems (analytical flow cell included)		176299801
2998 Photodiode Array Detector for ACQUITY Arc Systems (low-dispersion analytical flow cell included)		176017006
2998 Photodiode Array Detector for ACQUITY Arc Bio Systems (biocompatible, low-dispersion analytical flow cell included)		176017017
Optional flow cells:		
Analytical	8.4 µL volume, 10 mm pathlength	205001023
Low-dispersion analytical	8.4 µL volume, 10 mm pathlength	205001552
Low-dispersion analytical (biocompatible)	8.4 µL volume, 10 mm pathlength	205001043
Microbore	2.7 µL volume, 8 mm pathlength	205001024
Semi-preparative	16.3 µL volume, 3 mm pathlength	205001025
Autopurification	12.3 µL volume, 0.5 mm pathlength, dual flow path	205001026

1. All performance specifications are measured following a warm-up period of one hour with ambient Δ T ≤±2.0 °C/hour.
2. U.S. Patent Numbers: 6,423,249 and 6,783,705.
3. ASTM E1657-98.
4. U.S. Patent Number: 5,883,721.

Digitally signed by Cernei Silian
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