

Appendix A

2487 Detector Specifications

This appendix lists individual operating specifications for the Waters® 2487 Dual λ Absorbance Detector, as shipped:

- [Table A-1](#) lists operational specifications.
- [Table A-2](#) lists optical specifications.
- [Table A-3](#) lists specifications for the optional flow cells.

Table A-1 Operational Specifications¹

Condition	Specification
Wavelength range	190 to 700 nm
Bandwidth	5 nm
Wavelength accuracy	± 1 nm
Wavelength repeatability	± 0.10 nm
Noise, single wavelength ²	$< \pm 0.35 \times 10^{-5}$ AU, dry cell, 254 nm, 1.0 sec. time constant (TC)
Noise, dual wavelength ^b	$< \pm 2.5 \times 10^{-5}$ AU, dry cell, 254 nm / 280 nm, 2.0 sec. time constant (TC)
Linearity ^b	5% at 2.5 AU, propyl paraben, 257 nm
Drift	1.0×10^{-4} AU/hour/ $^{\circ}$ C at 254 nm (after 1 hour warmup)
Sensitivity setting range	0.0001 to 4.0000 AUFS

Table A-1 Operational Specifications¹ (Continued)

Condition	Specification
Filter setting range	Single wavelength: 0.1 to 5.0 seconds, Hamming (default) 1 to 99 seconds, RC Dual wavelength: 1 to 50 seconds, Hamming (default) 1 to 99 seconds, RC
Optical Component Specifications	
Lamp source	Deuterium arc lamp
Flow cell	TaperSlit™ Flow Cell design
Path length	10 mm (standard analytical)
Cell volume	10 µL (standard analytical)
Pressure limit	1000 psi / 70 bar
Materials	316 stainless steel, fused silica, Teflon®
Environmental Specifications	
Operating temperature	4 to 40 °C (39 to 104 °F)
Operating humidity	20 to 80%, noncondensing
Shipping and storage temperature	–40 to +70 °C (–40 to +158 °F)
Shipping and storage humidity	20 to 80%, noncondensing
Electrical Specifications	
Line frequency	50 to 60 Hz
Line voltage	100 to 240 Vac

Table A-1 Operational Specifications¹ (Continued)

Condition	Specification
Fuse ratings	Two fuses: 100 to 240 Vac, 50 to 60 Hz F 3.15 A 250 V FAST BLO, 5 x 20 mm (IEC)
Power consumption	145 VA (nominal)
Two attenuated analog output channels: 2 VFS / 10 mVFS	Attenuation range: 0.0001 to 4.000 AU 2 V output range: -0.1 to +2.1 V 10 mV output range: -0.5 to +10.5 mV
Two event outputs	Type: Contact closure Voltage: ± 30 V Current: 1 A
Four event inputs	Input voltage: ± 30 V maximum 100 ms minimum period
Dimensions	
Height	8.2 inches (20.8 cm)
Length	19.8 inches (50.3 cm)
Width	11.2 inches (28.4 cm)
Weight	20.5 pounds (9.3 kg)

¹ All specifications derive from instrument performance after a 1-hour warmup time.

² ASTM Standard E1657-94

Table A-2 Optical Specifications

Monochromator	Fastie Ebert Configuration
Grating	Plane holographic 1800 grooves/mm
Optical bandwidth	5 nm
Lamp power	30 W

Table A-3 Optional Waters TaperSlit Flow Cell Specifications

	Volume (μ l)	Path Length (mm)	Sample Tube Internal Diameter (Inches)		Pressure Rating
			In/Out		psi/bar
Analytical Cell	10	10	0.009	0.009	1000/70
Semi-Prep Cell	2.6	3	0.040	0.040	1000/70
Microbore Cell	2.6	3	0.005	0.005	1000/70
Inert (titanium) Cell	10	10	0.010	0.010	1000/70
High Pressure Cell for LCMS	10	10	0.009	0.009	3000/210
Variable Path Length Flow Cell (VPF)		0.5 – 3 (factory preset at 0.5 mm)	0.04	0.04	1000/70