

1 Installing the Variable Wavelength Detector

Physical Specifications

Table 1 Physical Specifications

Type	Specification	Comments
Weight	11 kg 25 lbs	
Dimensions (height × width × depth)	140 × 345 × 435 mm 5.5 × 13.5 × 17 inches	
Line voltage	100–120 or 220–240 VAC, ± 10%	Wide-ranging capability
Line frequency	50 or 60 Hz, ± 5%	
Power consumption	220 VA / 85 W / 290 BTU	Maximum
Ambient operating temperature	0–55 °C (32–131 °F)	
Ambient non-operating temperature	-40–70 °C (-4–158 °F)	
Humidity	< 95%, at 25–40 °C (77–104 °F)	Non-condensing
Operating altitude	Up to 2000 m (6500 ft)	
Non-operating altitude	Up to 4600 m (14950 ft)	For storing the instrument
Safety standards: IEC, CSA, UL, EN	Installation Category II, Pollution Degree 2	

6 Introduction to the Variable Wavelength Detector

No accessible hardware fuse is needed because the main power supply is safe against any short circuits or overload conditions on the output lines. When overload conditions occur, the power supply turns off all output voltages. Turning the line power off and on again resets the power supply to normal operation if the cause of the overload condition has been removed.

An over-temperature sensor in the main power supply is used to turn off output voltages if the temperature exceeds the acceptable limit (for example, if the cooling fan of the instrument fails). To reset the main power supply to normal operating conditions, turn the instrument off, wait until it is approximately at ambient temperature and turn the instrument on again.

The following table gives the specifications of the main power supply.

Table 60 Main Power Supply Specifications

Maximum power	130 W	Continuous output
Line input	100–120 or 220–240 volts AC ± 10%, line frequency of 50/60 Hz	Wide ranging
Output 1	+ 24 V / 4.5 A (maximum)	Total power consumption of + 24 V and + 36 V must not exceed 107 W.
Output 2	+ 36 V / 2.5 A (maximum)	
Output 3	+ 5 V / 3 A	
Output 4	+ 15 V / 0.3 A	
Output 5	- 15 V / 0.3 A	

Performance Specifications

Table 62 Performance Specifications Agilent 1100 Series Variable Wavelength Detector

Type	Specification	Comments
Detection type	Double-beam photometer	
Light source	Deuterium lamp	
Wavelength range	190–600 nm	
Short term noise (ASTM)	$\pm 0.75 \times 10^{-5}$ AU at 254 nm	See NOTE on page 243 .
Drift	3×10^{-4} AU/hr at 254 nm	See NOTE on page 243
Linearity	> 2 AU (5%) upper limit	See NOTE on page 243
Wavelength accuracy	± 1 nm	Self-calibration with deuterium lines, verification with holmium oxide filter
Band width	6.5 nm typical	
Flow cells	Standard: 14- μ l volume, 10-mm cell path length and 40 bar (588 psi) pressure maximum High pressure: 14- μ l volume, 10-mm cell path length and 400 bar (5880 psi) pressure maximum Micro: 1- μ l volume, 5-mm cell path length and 40 bar (588 psi) pressure maximum Semimicro: 5- μ l volume, 6-mm cell path length and 40 bar (588 psi) pressure maximum	Can be repaired on component level
Control and data evaluation	Agilent ChemStation for LC	
Analog outputs	Recorder/integrator: 100 mV or 1 V, output range 0.001 – 2 AU, one output	

Table 62 Performance Specifications Agilent 1100 Series Variable Wavelength Detector (continued)

Type	Specification	Comments
Communications	Controller-area network (CAN), GPIB, RS-232C, APG Remote: ready, start, stop and shut-down signals, LAN optional	
Safety and maintenance	Extensive diagnostics, error detection and display (through control module and Agilent ChemStation), leak detection, safe leak handling, leak output signal for shutdown of pumping system. Low voltages in major maintenance areas.	
GLP features	Early maintenance feedback (EMF) for continuous tracking of instrument usage in terms of lamp burn time with user-settable limits and feedback messages. Electronic records of maintenance and errors. Verification of wavelength accuracy with built-in holmium oxide filter.	
Housing	All materials recyclable.	

NOTE

ASTM: "Standard Practice for Variable Wavelength Photometric Detectors Used in Liquid Chromatography".

Reference conditions: cell path length 10 mm, response time 2 s, flow 1 ml/min LC-grade methanol.

Linearity measured with caffeine at 265 nm.