

Installing the Pump
Site Requirements

Table 1 **Physical Specifications**

Type	Specification	Comments
Weight	11 kg (25 lbs)	
Dimensions (height × weight × 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	Maximum
Ambient operating temperature	4–55 °C (41–131 °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 quaternary pump
Safety standards: IEC, CSA, UL	Installation Category II, Pollution Degree 2	

Setting the 8-bit Configuration Switch

In the non-volatile memory the parameters are kept, regardless of whether you turn the instrument off and on again. They will be kept until the same set of parameters is subsequently changed and power is reset. All other previously stored configuration settings will still remain in the non-volatile memory.

In this way you can store more than one set of parameters using the same 8-bit configuration switch twice, for example, for both GPIB and RS-232C.

GPIB Default Addresses

If you just want to change the GPIB address and need a detailed procedure, refer to the *Installing Your ChemStation System* handbook. Default GPIB address is set to the following addresses::

Table 36**Default Addresses for Agilent Series 1100 Modules**

Module	Address	Binary Address
Pump	22	00010110
FLD	23	00010111
VWD	24	00011000
Agilent 8453A	25	00011101
DAD/MWD	26	00011010
Column compartment	27	00011011
Autosampler	28	00011100
RID	29	00011101

where 0 means that the switch is down and 1 means that the switch is up.

Communication Settings for RS-232C Communication

The communication protocol used in the instrument supports only hardware handshake (CTS/RTR).

Performance Specifications

Table 44

Performance Specification Agilent 1100 Series Quaternary Pump

Type	Specification
Hydraulic system	Dual plunger in series pump with proprietary servo-controlled variable stroke drive, floating plungers and active inlet valve
Setable flow range	0.001 – 10 ml/min, in 0.001 ml/min increments
Flow range	0.2 – 10.0 ml/min
Flow precision	< 0.3 % RSD (typically 0.15 %), based on retention time, at 1 ml/min
Pressure	Operating range 0 – 40 MPa (0 – 400 bar, 0 – 5880 psi) up to 5 ml/min Operating range 0 – 20 MPa (0 – 200 bar, 0 – 2950 psi) up to 10 ml/min
Pressure pulsation	< 2 % amplitude (typically < 1 %), at 1 ml/min isopropanol, at all pressures > 1 MPa (10bar)
Compressibility compensation	User-selectable, based on mobile phase compressibility
Recommended pH range	1.0 – 12.5, solvents with pH > 2.3 should not contain acids which attack stainless steel
Gradient formation	Low pressure quaternary mixing/gradient capability using proprietary high-speed proportioning valve Delay volume 800 – 1100 µl, dependent on back pressure
Composition Range	0 – 95 % or 5 – 100 %, user selectable
Composition Precision	< 0.2 % SD, at 0.2 and 1 ml/min
Control and data evaluation	Agilent ChemStation for LC

Specifications

Performance Specifications

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Performance Specification Agilent 1100 Series Quaternary Pump

Analog output	For pressure monitoring, 2 mV/bar, one output
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 seal wear and volume of pumped mobile phase with user-settable limits and feedback messages. Electronic records of maintenance and errors.
Housing	All materials recyclable.
