

1 Installing the Refractive Index Detector

Physical Specifications

Table 1 Physical Specifications

Type	Specification	Comments
Weight	17 kg (38 lbs)	
Dimensions (width × depth × height)	345 × 435 × 180 mm (13.5 × 17 × 7 inches)	
Line voltage	100 – 240 VAC, ± 10 %	Wide-ranging capability
Line frequency	50 or 60 Hz ± 5 %	
Power consumption	160 VA	Maximum
Ambient operating temperature	0 – 55 °C (32 – 131 °F)	
Ambient non-operating temperature	-40 – 70 °C (-4 – 158 °F)	
Rel. 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 detector
Safety standards: IEC, CSA, UL, EN	Installation category II, pollution degree 2	

Performance Specifications

Table 50 Performance Specifications Agilent 1100 Series Refractive Index Detector

Type	Specification	Comments
Detection type	Refractive Index	
Refractive index range	1.00 - 1.75 RIU, calibrated	
Measurement range	+/- 600 x 10 ⁻⁶ RIU	
Optical zeroing		via set screw
Optics temperature control	5 ° C above ambient to 55 ° C	
Sample cell	volume 8uL maximum pressure 5 bar (0.5Mpa) maximum flow rate 5mL/minute	
Valves	Automatic purge and automatic solvent recycle	
Volumes	Inlet port to sample cell 62uL, inlet port to outlet port 590uL	
Liquid contact materials	316 stainless steel, teflon and quartz glass	
pH range	2.3 - 9.5	
Performance specifications	Short term noise < +/- 2.5 x 10 ⁻⁹ RIU Drift < 200 x 10 ⁻⁹ RIU/hour	see note below this table
Time programmable parameters	polarity, peakwidth	
Detector zero	automatic zero before analysis	

Table 50 Performance Specifications Agilent 1100 Series Refractive Index Detector (continued)

Type	Specification	Comments
Control and data evaluation	Parameter entry, signal display, on-line help and diagnostics with the Agilent 1100 Series Control Module. Optional PCMCIA card for method, sequence and logbook storage and transfer. Agilent ChemStation for LC PC based software for control and data evaluation.	
Analog outputs	Recorder/integrator: 100 mV or 1 V, output range selectable, one output	
Communications	Controller-area network (CAN), GPIB, RS-232C, LAN, APG Remote: ready, start, stop and shut-down signals	
Safety and maintenance	Extensive diagnostics, error detection and display (through control module and 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 with user-selectable limits and feedback messages. Electronic records of maintenance and errors. Automated operational qualification/performance verification (OQ/PV).	
Housing	All materials recyclable.	

Table 50 Performance Specifications Agilent 1100 Series Refractive Index Detector (continued)

Type	Specification	Comments
Environment:	0 to 55 ° C constant temperature at <95% humidity (non-condensing)	
Dimensions:	180 mm x 345 mm x 435 mm (7 x 13.5 x 17 inches) (height x width x depth)	
Weight	17 kg (38 lbs)	

NOTE

Based on ASTM method E-1303-95 "Practice for Refractive Index Detectors used in Liquid Chromatography". Reference conditions; optics temperature 35 ° C, response time 4 s, flow 1.0 mL/min LC-grade Water, restriction capillary, column compartment temperature 35 ° C, Agilent 1100 Series on-line vacuum degasser, pump and thermostatted column compartment. Instrument equilibrated for 2 hours.