

307 HPLC Pump



Precise, Accurate Solvent Delivery for Analytical Chromatography

Feature

- Built-in pulse dampener and pressure transducer
- Isocratic pump with built-in programmable control; controlled as a slave pump by the 305 Pump or control software for gradient applications
- Titanium or stainless steel heads
- Available pump heads include models for concentrated salt buffers, low pH, volatile or viscous mobile phases
- Dynamic Mixing Module with interchangeable mixing chambers
- Single-piston head design

Benefit

- Delivers low-pulse flows from 10 μ L/min to 10 mL/min
- Enables simple and easy upgrades from isocratic to binary, tertiary or quaternary gradients
- Accommodate any type of liquid covering a wide range of flow rates and pressures
- Specifically engineered to accommodate a wide range of applications
- Provides high-efficiency mixing for accurate and repeatable gradients over a wide flow rate range
- Powerful, smooth flow rates from a robust and laboratory-proven pump design

Applications

- Microbore to analytical HPLC
- Large-volume injection pumping
- Inert pumping systems for electrochemical detection
- Buffer gradients and ion exchange chromatography (when controlled by 305 Pump or control software)



Technical Specifications

Pump	Programmable reciprocating pump with single-piston interchangeable head, constant stroke and fast refill motion, internal pulse dampener and pressure feedback		
Pump Heads SC = stainless steel W = rinsing compartment for aqueous salt solutions ($\geq 0.1M$) Ti = titanium	Pump Head Model	Flow Rate Range (mL/min)	Pressure Range
			psi
			bar
	5SC	0.010–5	14.5–8700
	10WSC	0.050–10	14.5–8700
	10WTi	0.050–10	14.5–8700
Mixing Modules	811D Analytical Mixer: 1.0–10 mL/min, 1.5 mL; 110/220V 811D Titanium Analytical Mixer: 1.0–10 mL/min, 1.5 mL; 110/220V 811D Titanium Analytical Mixer: 0.1–3.0 mL/min, 0.7 mL; 110/220V 811D Microbore Mixer: <0.1 mL/min, 65 μ L; 110/220V		
Operating Modes	Constant flow rate (Flow), constant volume (Dispense) and time-based sequence (Program)		
Pump Parameters	Head number: 5 or 10 Liquid compressibility: 0–2000 Mbar ⁻¹ Refill time: 125–1000 ms Inlet pressure: 0–10 MPa		
Programmable Parameters	<ul style="list-style-type: none"> • Timed events for programming four output contact closures and one input to wait for injection • Time, adjustable from 10⁻²–10⁴ min with increments from 0.01–1 min depending on the range used • Flow control adjustable in mL/min from 0.01%–100% of the maximum flow rate of the pump head being used • Up to 999 loops with unlimited linking of files • Storage for 10 user programs and four error files with a maximum of 25 points and timed events in each program 		
Flow Rate	Flow rate: 10 μ L/min–10 mL/min Coefficient of variation: 0.1%–0.6% with aqueous solutions or hydro organic polar solvent mixtures; 0.3%–1% with hydrocarbons or chlorinated volatile solvents Maximum accuracy error: $\pm 1\%$ with water over the full flow rate and pressure ranges		
Pressure	0.1–60 MPa (600 bar, 8700 psi), depending on pump head used Accuracy: $<\pm 1\%$ or 0.1 MPa (1 bar, 15 psi) Repeatability: $<1\%$ or 0.1 MPa (1 bar, 15 psi)		
Pulse Dampening	Pulsation: $<1\%$ with water at 1 mL/min and pressure >8 MPa Dampener volume: 0.6 mL at atmospheric pressure, 1.6 mL at 60 MPa		
Software	Via Gilson UniPoint™ System Software		
Communication Interface	RS-232 or GSIO; four inputs and four relay outputs		
Display Panel	2 x 24-character LCD		
Front Panel	Keypad and built-in help messages		
Liquid Contact Materials	316L stainless steel, titanium, sapphire, ruby, PTFE, PCTFE and HDPE		
Power Requirements	Frequency: 50–60 Hz Voltage: 100–120 or 220–240V; mains voltage fluctuations not to exceed $\pm 10\%$ of the nominal voltage		
Environmental Operating Temperature	0–40°C		
Manufacturing Standards	Meets applicable Safety and EMC certification standards; CE certified		
Instrument Dimensions (w x d x h)	33 x 33 x 15 cm (13 x 13 x 6 in.)		
Instrument Weight (with head)	11.5 kg (25.4 lbs.)		
Shipping Weight (with head)	15.4 kg (34 lbs.)		

For applications or additional information, contact your local Gilson Technical Sales Representative or visit www.gilson.com.

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