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# 321/322 HPLC Pumps



## Analytical and Semipreparative Chromatography Delivery System

- Heads are easy to access and simple to maintain
- Pumps are stackable to conserve bench space
- 321 functions as a controller with integrated keypad; 322 is remotely controlled via the 321 controller or UniPoint™ System Software
- H1 pump heads are ideal for 2–12 mm ID columns with flows up to 15 mL/min and pressures up to 8,700 psi
- H2 pump heads are ideal for 3–20 mm ID columns with flows up to 30 mL/min and pressures up to 4,300 psi
- High-pressure Adjustable Volume Dynamic Mixer (AVDM™) enables fast gradient response times and homogeneous mixtures for analytical to semiprep applications
- Keypad control: safety files (pressure limits, emergency signal and power failure); anomaly processing procedures with related outcomes; GLP functions: solvent consumption, diagnostic helps, maintenance logs, piston seal installation, mixing test and audit trail
- Software provides control within a complete prep workstation; includes data processing and results reporting



# Technical Specifications

<b>Composition and Mixing</b>	Increment: 0.1% Dwell volume: 260–2260 µL, pressure-independent (60 µL excluding mixer volume) Effective mixing volume: 220 µL for 1 mL/min and 0.2 mL mixer volume adjustment Gradient linearity range: 1–98%B for 1 mL/min and higher, mixer volume adjustment set at 0.2 mL
<b>Flow Rate</b>	Flow Rate: 0.15–15 mL/min (8,700 psi) Accuracy: ±4 µL/min Repeatability: ±2 µL/min Selectable units: µL/min and mL/min (default: mL/min) Adjustment increment: 1 µL/min
<b>Front Panel (321 Pump)</b>	25 functional keys including six soft keys
<b>Display Panel (321 Pump)</b>	40-character, eight-line display, adjustable contrast turning off after 0–999 min; default: 10 min
<b>Liquid Contact Materials</b>	316L stainless steel, titanium, FEP, PTFE, PCTFE, ETFE, PEEK, UHMWPE, sapphire, ruby and ceramics
<b>Manufacturing Standards</b>	Meet applicable Safety and EMC certification standards; UL and CE certified
<b>Power Requirements</b>	Frequency: 50–60 Hz Voltage: 90–120 or 220–260V; mains voltage fluctuations not to exceed ±10% of the nominal voltage
<b>Pressure</b>	Nominal range from 0.5 MPa (5 bar, 70 psi) up to 60 MPa (600 bar, 8700 psi) for H1, up to 30 MPa for H2
<b>Pump Options</b>	321-H1*: master pump (w/control panel), 15 mL/min, 60 MPa (8,700 psi) 322-H1: remote control pump (w/o control panel), 15 mL/min, 60 MPa (8,700 psi) 321-H2*: master pump (w/control panel), 30 mL/min, 30 MPa (4,350 psi) 322-H2: remote control pump (w/o control panel), 30 mL/min, 30 MPa (4,350 psi) * H1 and H2 are interchangeable pump heads
<b>Software</b>	Via Gilson TRILUTION™ LC Software, UniPoint™ System Software and 506C interface or GSIOC slave bus
<b>Dimensions (w x d x h)</b>	321: 26 x 41 x 51 cm (10.2 x 16.2 x 20.1 in.) 322: 26 x 41 x 38.7 cm (10.2 x 16.2 x 15.3 in.)
<b>Weight</b>	30 kg (66.1 lbs.)

For applications or additional information, contact your local Gilson Technical Sales Representative or visit [www.gilson.com](http://www.gilson.com).

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