

# 331/332 HPLC Pumps



## Semipreparative and Preparative Chromatography Delivery System

- Dual-piston pumps with a variable-volume dynamic mixer for optimized gradient performance
- Milligram-level sample mass-throughput per injection: 150 mg with a 20-mm bore column
- Easy linear transposition from analytical to preparative HPLC methods on 4 to 20 mm ID columns packed with high-efficiency stationary phases
- Solvent selection on each pump with optional four-solvent valve (up to 8 solvents)
- Control from 331 Master Pump: flow-rate gradient, four-solvent selection and step gradient (additional valve), composition gradient (one or two additional pumps), sample-injection pump, UV/VIS detector, and electrical input/output contacts with any other associated equipment
- 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, leak test, piston-seal installation, mixing test, and audit trail
- UniPoint™ System 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: 372–2372 $\mu$ L, pressure independent Gradient Linearity Range: 1–98% B for 10 mL/min and higher
<b>Front Panel (331 Pump)</b>	25 functional keys, including six soft keys
<b>Display Panel (331 Pump)</b>	40-character, eight-line display, adjustable contrast and screen saver
<b>Flow Rate</b>	Flow Rate: 0.5–50 mL/min (8,700 psi) Accuracy: $\pm$ 2% or 13 $\mu$ L/min Repeatability: $\pm$ 0.7% or 7 $\mu$ L/min Selectable units: $\mu$ L/min and mL/min (default: mL/min) Adjustment increment: 1 $\mu$ L/min
<b>Liquid Contact Materials</b>	316L stainless steel, titanium, FEP, PTFE, PCTFE, ETFE, PEEK, UHMWPE, ruby, sapphire, and ceramics
<b>Manufacturing Standards</b>	Meets 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 $\pm$ 10% of the nominal voltage
<b>Pressure</b>	Nominal range: from 0.5 MPa (5 bar, 70 psi) up to 60 MPa (600 bar, 8,700 psi)
<b>Pump Options</b>	331: single-solvent master pump (w/control panel), 0.05–50 mL/min, 60 MPa (8,700 psi) 331/332: two-solvent pumping system, 0.5–50 mL/min, 60 MPa (8,700 psi) 332: third-solvent, remote controlled pump (w/o control panel), 0.5–50 mL/min, 60 MPa (8,700 psi)
<b>Software</b>	Via Gilson UniPoint™ System Software and 506C interface or GSIOC slave bus
<b>Dimensions (w x d x h)</b>	331: 26 x 41 x 50.7 cm (10.2 x 16.1 x 20 in.) 332: 26 x 41 x 38.7 cm (10.2 x 16.1 x 15.2 in.)
<b>Weight</b>	35 kg (77 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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