

# HPLC LIQUID FLOW METER



- The ideal instrument for IQ / OQ / PQ and troubleshooting
- Accurate to 1% of reading with guaranteed linearity from 0.05 to 25.00 ml/min.
- Durable and easy to use with any HPLC pump
- Easy diagnosis of leaking piston seals or malfunctioning check valves
- Automatic data transfer
  - Dramatically simplify liquid flow rate data collection for HPLC / IQ / OQ / PQ
  - Collect flow rate data via RS232 or with an optional battery powered mini Printer, or with Software
- Specially designed software collects the data received into a database. Gives average reading, standard deviation & many more features



The handy carrying case allows for convenient transportation as well as added protection

Liquid Flow Management System



## PCI is pleased to introduce the HPLC Liquid Flow Meter & Data Recorders

The digital liquid flow meter accurately & reliably determines liquid flow. It is designed primarily as a flow meter for HPLC systems. Our liquid flow meter has the following features:

- New PEEK valve which is fitted with a soft elastomer seal and teflon diaphragm.
- The newly designed sensor head is more stable.
- The inlet pipe - is made with a 1/16" diameter PEEK tube.
- New modern looking and light weight brushed aluminium case. The total unit now is very light weight.

The instrument measures liquid flow over a wide range, from 50µl/min to 25 ml/min. You can see the working flow ranges & accuracy in the table below. Flow rate is measured by volume & is independent of the liquid type upto a viscosity of 10 centipoise.

The unit uses a single chip micro-controller. The flow rate (rounded to four digits) is displayed on a large four digit back-lit Liquid Crystal Display (LCD) & data can be conveniently output via the built-in RS232 interface to the full 6 digit reading. No user calibration is required; the unit is generally supplied gravimetrically calibrated at 1.0 (+10%) ml/min. Calibration at multiple points is available. All wetted parts are made of PTFE, PEEK, DAI-EL PERFLUOR or Pyrex glass. There are no wetted metallic parts.

### Three modes of operation are available

- **Printer Mode** : Liquid flow reading are displayed on LCD and output to a printer if one is connected. A running average option is available in this mode.
- **Terminal Mode** : In this mode liquid flowmeter is controlled by the terminal or PC. Extra commands for averaging any number of readings are included.
- **Test Mode** : This mode allows the user to test the display, valve and RS232 interface and also display calibration date.

The RS232 output allows the flowmeter to output data to any device fitted with RS232 serial interface e.g. printer, terminal or personal computer. The unit is supplied with an RS232 cable fitted with a nine way female plug to connect directly to the COM port of a PC. By using the Terminal or Hyper Terminal program supplied with MS Windows results can be collected and displayed. The baud rate is internally switch selectable for 19200, 9600, 4800, 2400, 1200, 600, 300 baud with the option of sending a CR/LF after reading. X-on / x-off handshaking is used.

### All instruments are supplied with the following :

- Main 'wall block' power supply with a choice of 240V 3 pin UK, 230V 2 pin European or 100V 2 pin USA / Japan.
- RS232 input / output cable : 8 way mini-din plug to PC COM port 9 pin female.
- UKAS traceable flow calibration certificate is supplied. (UKAS is the UK equivalent of NIST)
- Universal mounting kit : allows free standing mount, wall mounting, 'stack system' mounting and bottle top mount.
- Black plastic carrying case with foam inserts. All parts of the mounting kit are packed within the carrying case.
- Cleaning kit now supplied with the flow meter.

### Specification for HPLC Liquid Flow Meter

- Reading update time
  - 15 sec @ 2 ml/min.
  - 25 sec @ 1 ml/min.
  - 45 sec @ 0.5 ml/min.
- Range : 0.05 to 25 ml/min.
- Measuring volume - 140 µl
- Size : 138 mm x 76 mm x 45 mm
- LCD Display - (12.7 mm) - 4 digits and 3 status symbols
- RS232 output - (6 digits) XX.XXXX ml/min.
- UKAS traceable calibration certificate
- Accuracy : better than 1% of reading
- Priming volume - 250 µl
- Weight - 320g, 12 oz

Model	Calibration Point	Calibration at
LFM-02	Three	0.5, 1.0, 2.0 ml/min.
LFM-03	Four	0.5, 1.0, 2.0, 3.0 ml/min.

\* Five point calibration also available

