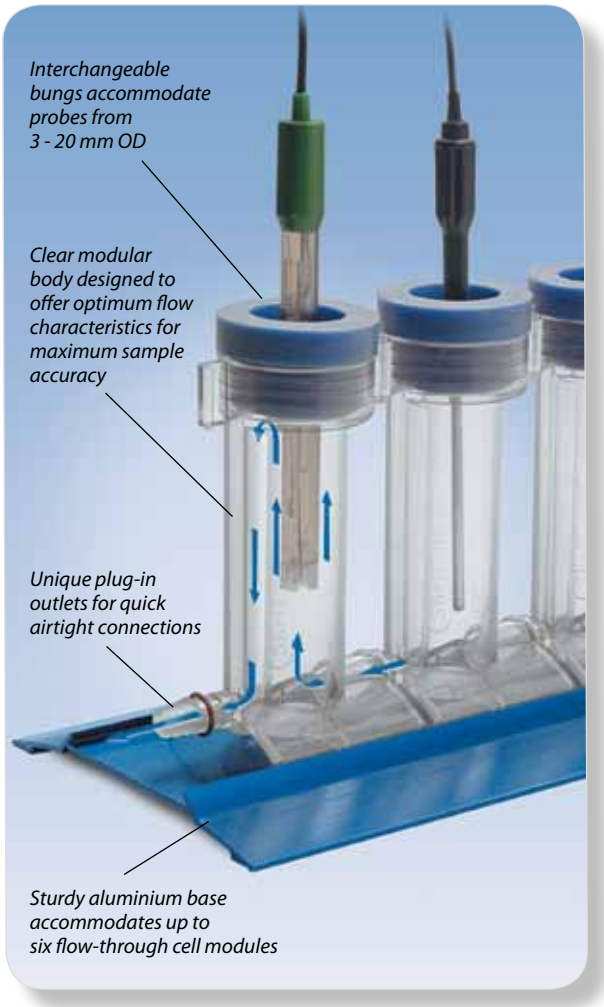
Waterra In-Situ®

Sheffield Lfc®

Flow-through Cell

Easy to use, modular flow-through cell for high quality field and laboratory water quality measurements requiring no air contact with the sample.

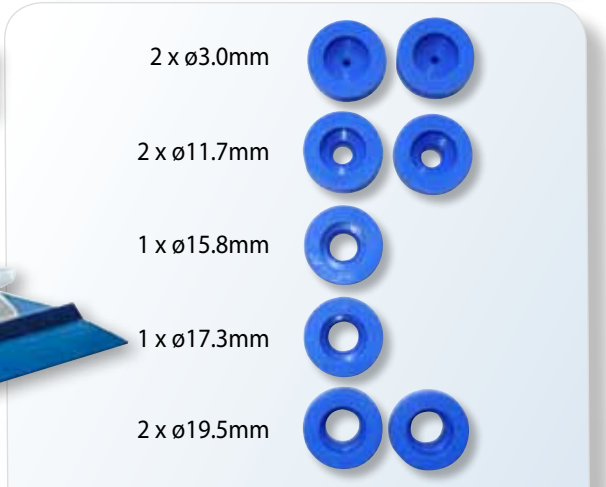


Features

- Modular construction – one cell per probe
- Low cell volumes <40ml per cell
- Rapid flow-through time
- Push-fit bungs in 5 probe sizes
- Simple air-tight cell and tubing connections
- Customised base – holds up to 6 cells
- Light weight and portable

The Sheffield Lfc® flow-through cell

is the culmination of a collaborative development programme between the University of Sheffield's Groundwater Protection and Restoration Group (GPRG) and Waterra (UK) Limited.



Each flow cell kit is supplied with a set of 8 bungs.

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Sheffield LFC® Flow-through Cell

Low Flow Sampling

When sampling groundwater from short-screened monitoring boreholes, low flow (no drawdown) pumping techniques may be specified which include the requirement to monitor water quality during pumping until indicator chemical parameters become stable.

Typical indicators include Temperature, pH, Dissolved Oxygen (DO), electrical conductivity (EC) and Redox Potential (ORP or Eh) which should be measured in a flow-through cell to avoid air contact with the pumped groundwater sample.

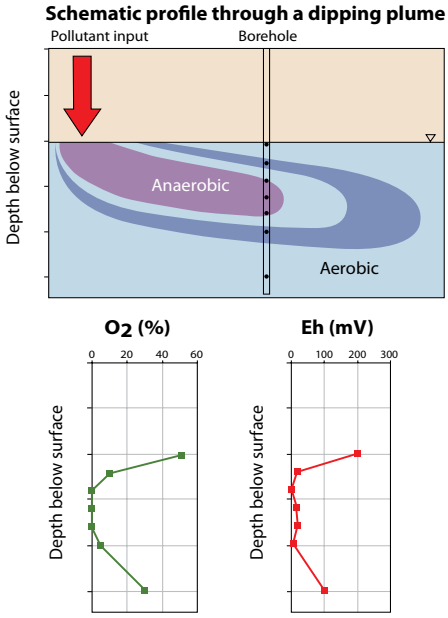
Low Flow, Low Volume, Rapid Flow-Through Time

The Sheffield LFC is modular with interlocking single probe flow cells. Each cell has a capacity of less than 40 ml, which when combined with recommended USEPA low flow pumping rates of 0.5 litre per minute or less, produces flow-through times that are rapid compared to conventional larger volume multiple probe cylindrical cells. This can significantly improve stabilisation times with single probes.

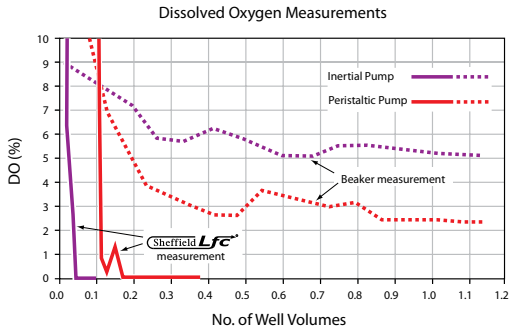
Using the Sheffield LFC flow-through cell

The Sheffield LFC flow-through cell is designed to operate at low flow rates of 1 litre per minute or less. Probes are simply pushed into one of the five different sized bungs and the bung and probe inserted in the top of the cell.

Cells are connected together and mounted on the customized aluminium base for stability. The inlet adaptors can accommodate tubing from 7 to 11mm internal diameter.



Groundwater sampling application where accurate measurement of DO and ORP at different vertical positions within a contaminant plume are critical for identification of the extent and polluting characteristics.



Field trial comparing DO measurements in beaker and Sheffield LFC flow-through cell with two different pumping systems. Measurements in the Sheffield LFC flow-through cell produce reliable groundwater quality results very rapidly in both cases. Beaker results show influence of air contact.

Ordering information

Flow-through cell kit	Accessories
SLF-6CellKit 6 cells with inlet adaptor, O-rings and 8 push-fit bungs: (2 each of 3.0, 11.7 & 19.5mm) (1 each of 15.8 & 17.3mm) Aluminium base Instruction booklet **SLF-TC1** Tubing connector to join Standard inertial pump tubing to LFC tubing **SLF-T11mm** 3m x 11mm OD x 8mm ID PVC tubing	**SLF-3WV** 3-way polyethylene valve for 7 - 9mm ID tubing **SLF-3WV/911** 3-way polyethylene valve for 9 - 11mm ID tubing

Additional cells & other components are available separately - see itemised list on website.

Technical specification

Dimensions (6-cell unit)	110 x 120 x 400 mm
Weight (6-cell unit)	620 grams
Single cell volume (empty)	40 ml
Flow rate	Up to 1 litre per minute

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