



## WTS-LV - Bore Hole Model

### Application:

The Bore Hole Large Volume Water Transfer System (WTS-LVBH) is a large volume, high capacity single-event sampler configured to fit through a 30cm hole and collect suspended and dissolved particulate samples *in situ*. Ambient water is drawn through a modular filter holder onto a 142mm membrane without passing through the pump. Standard 2-tier filter holder provides prefiltering and size fractioning. Other filter holder options are available. Collection targets include chlorophyll maximum, particulate trace metals, and phytoplankton.

### Features:

Different flow rates and filter porosity support a range of specimen collection (pump head must be compatible with filter material, see [WTS-LV Filter Types and Recommended Pump Heads chart](#)).

Flow is regulated by user-defined values for total volume, flow rate, and sample collection time.

Sampling can be programmed to start at a scheduled time or begin with a countdown delay. Triggered countdown start synchronizes multiple samplers.

Dynamic pump speed algorithm adjusts to protect the sample as material accumulates on the filter. Mechanical flow meter confirms total volume pumped per deployment.

### Pump options:

LV04	Flow rate	1-5 liters/min
	Max volume	4,000 liters (10Ahr battery)
	Filter type	Nuclepore <sup>®</sup> or other membrane filters
LV08	Flow rate	4-10 liters/min
	Max volume	7,500 liters (10Ahr battery)
	Filter type	GF/F <sup>®</sup> , QMA <sup>®</sup> or other membrane or mesh filters

*\*Based on filtering clean water. Field results will vary depending on filter type and particulate load.*

- Number of samples: Single event sampler.

- Power: 24 user replaceable “D” cell alkaline batteries.

### Deployment:

- Specially designed cable clamps facilitate fast and easy attachment to an oceanographic wire for deployment.
- Non-volatile memory stores critical deployment data.

### Options:

- Deep model available with 7,000m rated housing.
- Standard radial filter holder or vertical intake filter holder (as used in GEOTRACES studies).
- Filter holders can include multiple tiers (for filter holder option details see [WTS-LV Filter Holder Specifications chart](#)).
- For more information about this sampler, see the [WTS-LV](#) pages at [mclanelabs.com](http://mclanelabs.com).

# WTS-LV Bore Hole Sampler Specifications

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**DIMENSIONS  
(BORE HOLE MODEL):**

Diameter: 26 cm ( 10.4 in)  
Height 160 cm (63 in)

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**WEIGHT (APPROX):**

In air: ~43.0 kg  
In water: ~27.8 kg

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**COLLECTOR:**

Number of samples: Single event sampler  
Filter holder material: Black Acetal/142mm diameter

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**CONTROLLER:**

Housing material: Aluminum, 6061-T6 hard coat anodized  
Power: 36 VDC  
Communications: Serial (RS-232)

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**OPERATIONS:**

Maximum depth: 5,500m (7,000m model is available)  
Battery: 24 user replaceable "D" cell alkaline batteries provides 10Ahr  
Operating temperature: -4°C to 35°C

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**FRAME:**

Material: Strong back with wire clamps /Type 316 electro polished stainless steel weldment