



ACCESSORIES SHAKERS

Liquid Injection System – LIS

Automated feeding of liquids in shake flasks

LIS is the first easy-to-use technology allowing for automatic, parallelized and uncomplicated feeding of liquids in shake flasks.

LIS will run your chosen feeding profile and enables you to unlock completely new experimental possibilities.

- **Compatible with various substances**
Sugars (e.g. 50 % glucose), alcohols (e.g. methanol), glycerol, acids, bases and more
- **Customizable feeding profiles**
Single shot, multi shot, linear, exponential
- **Cost and time saving**
No interruption of cultivating process
- **Easy to install and use**
Fill cartridge, program drive and start feeding your culture



Flask sizes

100 mL, 250 mL, 300 mL,
500 mL, 1000 mL, 2000 mL



Suitable for

Bacteria, algae and cell cultures



Compatibility

With all types of laboratory shakers, spring clamps and «Sticky Stuff», as well as with all 38 mm straight neck glass and plastic flasks

Only 3 steps to automatic, parallelized feeding in shake flasks

1 Fill the cartridge



The cartridge is a single use container with the shape of a lid for shake flasks. It fits on all shake flasks that are normally sealed with a metal cap and can be filled with up to 25 mL of the liquid that will be added to the bioprocess.

2 Program the drive



The drive is a programmable miniature pump that controls when and how much liquid is fed from the cartridge into the flask. You can either program the feeding profile in the drive manually using the knob on top of the drive or wirelessly by using the LIS software.

3 Install LIS on your flask



Mount the drive onto the cartridge and install it on the shake flask. LIS will now automatically run your feeding profile.

Applications

LIS can be used for a diverse range of scientific applications, e.g.

- Fed-batch experiments
- passive pH control
- Automatic induction of protein expression (e.g. by IPTG)
- Toxicity tests
- Phage assays
- Co-cultures

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