

## LISSY®

### Flexible Pipetting Robot



Sample preparation for analysis types, sample dissolution, serial dissolution, and reformatting steps can be fully automated with our flexible liquid handling system, LISSY. Many applications demand a diversity in pipetting probes in a single run – probes for septum piercing to avoid evaporation, for sample filtration from the top, disposable tips for contamination-free pipetting, for handling corrosive reagents, for ion-free dispensing, spotting of reagents and spraying in defined angles.

- Workbench from 90 up to 200 cm
- One or two arms
- 1 to 4 pipetting probes
- High working speed
- Integrated gripper optional
- Intelligent software
- Tracking and visualising samples
- pH-Adjustment and Measurement
- Capping and De-capping
- Viscous media dispensing
- Heating/cooling
- Stirring



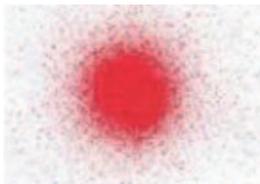
Probes with variable Spacing



Disposable Tips



Different probes for different tasks



Spraying



Thorough Washing



Precision syringe pumps



Exchangeable workbenches for different applications



Integrated Gripper arm

## Unique Probes

The system can be equipped with up to 4 probes with variable spacing between the probes (min: 8mm, max: 38mm) Individual volumes can be set for each pipetting channel.

Each pipetting channel can have its own individual probe which allows a combination of applications possible in a single run, we offer:

- Single and multi channel probes for adding liquids simultaneously or working under inert conditions
- Piercing probes to work with septa sealed containers to avoid evaporation of samples or protect from the air
- Filtration probes for filtration from the top, removing liquid from solid particles
- Conductive disposable tips (10,50, 300 and 1100 $\mu$ l) for contamination free pipetting
- Temperature-controlled probes for pipetting, e.g. saturated solutions
- Specially coated or fully ceramic probes for handling corrosive reagents and for ion-free dispensing
- Slurry probes for dispensing of PEG solutions, glycerol, glues and oil for example
- Spotting probes for dispensing precise droplets
- Spray probes to wash remaining samples off the walls or for paint or sample preparation of biological samples

## Wash Stations for efficient cleaning

Our standard wash station swirls the washing solvent from the tip into the wash stations which thoroughly cleans inside and outside the tip. To eliminate dripping our wash and dry station dries the tip using vacuum. The washing solvent can also be added through a separate pump, using our active wash station. For a really effective clean, especially if crystallisation is a problem, our sonication wash station eliminates blockages by combining washing with high energy sonication.

## Precision Dispensing

Our standard syringe pump for volumes from 1 $\mu$ l to 5ml has a compact construction and travelling length of 30mm combined with a high resolution of 2000 steps ensures excellent precision. The manufacturing materials are chosen carefully for solvent resistance and reliability and the syringe delivers 10% of the volume with a 1% precision. For volumes over 5ml special pumps are available.

## Flexible Labware

Besides a wide range of racks and carriers which are available as standard, the workbench can take up your own racks, you can specify with your order the types of racks you want to use or have special racks designed for your application.

## Space Saving Workbench

Our workbenches come as standard in 900mm, 1200mm (XL) and 2000mm (XXL) length. To make the most efficient use of space exchangeable workbenches are used for different applications and can be easily switched between runs.

The PTFE solvent resistant 6 way valve allows 6 system liquids to be used which are stored away from the workbench. Stackers allow stacking of plates which saves valuable space and increases the throughput of the system.

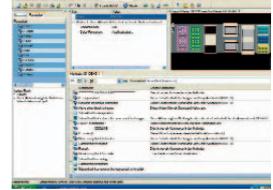
## Gripper arm

LISSY is equipped with an integrated handler for picking up and placing of plates, racks and tools (e.g. temperature probes, pH-probes, etc.).

## Intelligent Software

Our easy to use software offers convenient functions such as:

- Drag and drop methods from implemented method library
- Access to all liquid handling parameters
- Simulation mode for method testing
- Cherry picking by liquid handling, moving tubes or weighing
- Generic methods with user input regarding numbers of samples and rack types
- Description of possible actions
- Complete audit trail
- Scheduling
- Import and export of data e.g. in Excel®
- FDA compliancy



Userfriendly Software



Barcode Reading

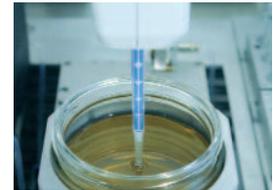


Visual Documentation

## Tracking and Visualising Samples

High resolution CCD barcode reading including 2D barcode reading of plates and tubes (also Micronic and Matrix tubes), allows you to track and store information relating to your samples.

For monitoring the appearance of your sample during a process, we have a camera tool which can be picked up by the gripper and can record the sample status by taking pictures at various stages and storing this information for future reference or analyze it for additional tasks using our image analysis software.



Dispensing of Viscous Media

## Viscous Media Dispensing

For dispensing viscous liquids (up to 15,000 cps) our VISC tool is stored on the workbench and picked up when required. It uses disposable plastic tips from 50µl to 10ml which can be heated in the park position to keep the media warm during pipetting.



Tilting for Maximum Sample Retrieval

## Tilting Postions

For maximum sample retrieval we supply tilting stations which can tilt your current rack or microtiter plate to 20°. This function is also useful for dispensing liquids slowly as the liquid can trickle down the inside of the vial to the bottom.

## pH-Adjustment and Measurement

The pH value can be measured using our pick-up probe on the workbench. Not only can our software store this information but the acid or base can be automatically added to achieve the required pH.



pH-Adjustment & Measurement

## Capping and De-Capping

Screw necked vials with a thread of 12-28mm can be automatically capped and de-capped with cap storage provided on the workbench. This is the ideal tool to minimise the exposure of highly reactive reagents.

Serum necked vials (Ø 8mm, 11mm, 13mm & 20mm) can also be crimped using our crimping tool which is stored on the workbench and picked up and offered to the vials when required. The system can also place the stopper and crimp cap onto the vials prior to crimping.



Capper / De-capper

## And much more ...

LISSY can be equipped with vortexers, sonicators, hotplates, cooling plates, stirrers, weighing stations, filtration modules or other modules from our extensive range of tools.



More options to integrate

## System configuration

Universal Liquid Handling System

with integrated handler for transportation of plates and pick up of tools

Equipped with up to 4 stainless steel single channel pipetting probes;  
variable spacing between the probes (min. 8mm, max.38mm)

Liquid level detection at each probe

Up to 4 precision syringe pumps with syringes (500ul, 1ml, 2.5ml, 5ml)

Wash station

Software package WinLISSY

Complete with PC, keyboard and TFT monitor

### Dimensions

900 x 710 x 550 mm (WxDxH)	-	work area 720 x 290mm
1200 x 710 x 550 mm (WxDxH) optional	-	work area 1000 x 290mm
2000 x 710 x 550 mm (WxDxH) optional	-	work area 1800 x 290mm

### Options

- Disposable Tips
- Viscous Media Dispensing
- Large Volume Pumps
- Barcode Reading
- Plate Stackers
- Custom-made Racks
- Temperature-controlled Stations
- Integrated Balance
- Vortexers
- Magnetic Stirrer
- pH-Measurement & Adjustment
- Integrated Camera
- Evaporators