



crystallographers'
**favourite liquid
handlers**

making the essential
exceptional



www.ttplabtech.com

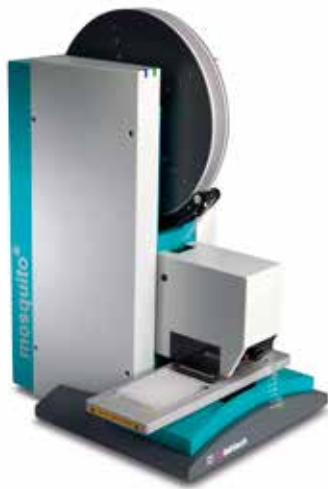
 **ttplabtech**
natural innovators



crystallographers' favourite liquid handlers

TTP Labtech's liquid handling portfolio provides you with accurate and repeatable nanolitre to microlitre pipetting, every time, irrespective of liquid viscosity or environmental conditions. Each of TTP Labtech's disposable micropipette tips has its own individual piston – not an air gap or system liquid – offering true positive-displacement pipetting with no risk of clogging, corrosion or cross-contamination.

- **range of low volumes** - robust performance from microlitres to nanolitres
- **accurate and precise** - using positive-displacement pipetting technology in the 25 nL – 1,200 nL volume range
- **cost savings** from optimised sample use and reduced waste
- **zero cross contamination** - using disposable pipette tips
- **minimal dead volumes** - optimising reagent use
- **more than just dispensing** - our instruments are true pipettors, able to aspirate multiple components, dispense and even mix without splashing or split drops
- **ease-of-use** - intuitive setup and software proven in multiple-user labs; just walk up and use it
- **fast** - no slow wash steps or system fluids



mosquito[®] Crystal

protein crystallisation screening

mosquito Crystal is the protein crystallographer's favourite liquid handler. It makes protein crystallography screening faster, more cost-effective and quite simply easier than ever before. It brings together speed, accuracy and high precision pipetting of nanolitre volumes with zero cross-contamination from a disposable tip.

- **flexible automation** – rapid automated plate set-up for all standard crystallisation techniques: sitting drop, hanging drop, microbatch, bicelles, microseeding and additive screening
- **reproducibility** - unrivalled reproducibility down to 25 nL
- **cost savings** - the ability to use smaller volumes of valuable protein resulting in cost savings and enabling a larger number of screening conditions to be studied
- **no configuration changes for different experiments** - eliminates the need for instrument configuration changes when changing techniques or liquid viscosities
- **multiple aspiration** before a single dispense and microseeding, which is essential for automating additive screening
- **unrivalled drop precision** - perfectly positioned drops for downstream imaging by placing protein and screen drops with the same head



mosquito[®] LCP

automating LCP set-up

mosquito LCP is the ultimate tool for membrane protein crystallisation with all the functionality of mosquito Crystal. It allows you to fully automate LCP set-ups accurately and repeatedly. mosquito LCP allows you to dispense lipidic cubic phase (LCP) volumes as low as 25 nL, while automated calibration of syringe and pipette positioning ensures precise drop-on-drop placement to facilitate automated imaging.

- **automation of membrane protein crystallisation screening**, optimisation and scale-up using techniques such as LCP and bicelles
- **versatility** - ability to set up both LCP and all traditional protein crystallisation experiments with just one instrument using commercially available SBS-format plates
- **flexibility of sample type** - precise pipetting across a wide range of liquid viscosities with no format change required
- **speed of set up** – rapid tip changing and no washing
- **active humidity control** – mosquito's active humidity chamber reduces experimental inconsistencies caused by variation in the humidity in the environment



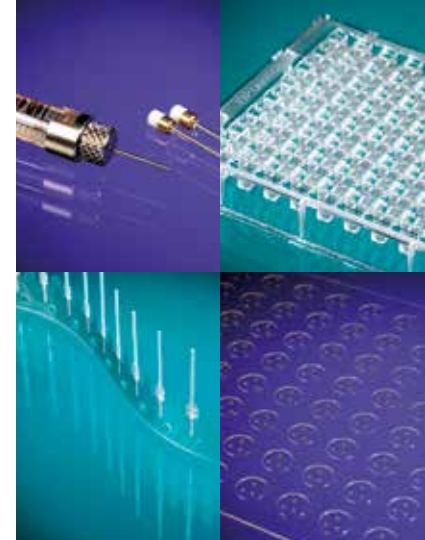
dragonfly®

screen optimisation optimised

dragonfly enhances protein crystal screen optimisation. dragonfly is the ideal system to complement TTP Labtech's mosquito® in the protein crystallisation workflow. Once the initial crystal 'hits' are identified, dragonfly produces a set of optimised conditions to grow better diffracting crystals.

- **no liquid classification** - making set-up quick and easy
- **flexible automation** - dispense any volume from 0.5 μ L upwards to 4 mL, into any well, from any syringe. Independent control of each channel
- **fast** – rapid completion of plate irrespective of viscosity variation in stocks (5-8 mins)
- **negligible evaporation** of the dispensed reagents due to minimal set-up time
- **stock integrity** - positive displacement technology preserves stock integrity, even for volatiles
- **free unlimited screen designer software** – interactive, highly intuitive, powerful and simple set-up on multiple instruments anywhere, anytime





accessories

LCP mixer

The LCP mixer has been designed to automatically mix protein and monoolein (MO), or other lipids, into a lipidic cubic phase (LCP) from two coupled syringes.

- accepts any combination of 100 μ L and 50 μ L Hamilton syringes
- accepts any sample volume
- simple and robust design
- glove friendly touch screen display
- on-the-fly adjustment of mix cycles
- compact unit to save bench space
- no adjustment or calibration required

active humidity chamber

mosquito's active humidity chamber reduces experimental inconsistencies caused by variation in the humidity in the environment, by allowing users to accurately control the relative humidity (RH) of each experiment.

- enables up to a 90% reduction in drop evaporation
- it takes only a few minutes to reach high levels of humidity (80-90% RH)
- precisely controlled form within mosquito software (version permitting)
- allows per protocol control to suit multi-user labs

MXone in-well mixer

MXone is the perfect companion to dragonfly to mix any liquid in small wells. The MXone keeps the plate stationary, allowing for extremely fast mixing of even the most viscous solutions with no risk of spillage using high-speed oscillation of a disposable pin array.

- fast and efficient
- zero cross contamination
- range of viscosities mixed in one plate
- avoid spillage as seen with orbital shakers

consumables

TTP Labtech consumables are developed and manufactured to the same high standard of design and engineering as our instruments – quality we also demand from our suppliers. The combination of cutting-edge innovation and precision manufacturing ensures accurate results in the lab, every time.

Visit www.ttplabtechstore.com to view the full range of TTP Labtech consumables range.

 **ttplabtechstore**
essentials for innovative technology

specifications

	mosquito® Crystal	mosquito® LCP	dragonfly®
pipetting range	25 nL – 1.2 µL	25 nL – 1.2 µL	0.5 µL – 4 mL
applications	protein crystallography set-ups e.g. additive screening, microseeding, microbatch, bicelles	lipidic cubic phase (LCP) screening plus all the functionality of mosquito Crystal	protein crystal optimisation and assay development without contamination or liquid classification
primary SBS plate format	48, 96, 384	48, 96, 384	15, 24, 48, 96, 384
dead volume	< 0.3 µL	< 0.3 µL	< 0.5 mL
optional extras	active humidity chamber	active humidity chamber, LCP mixer	MXone automated in-well mixer
throughput	< 2 mins/ 96-well plate, 4 mins/ 288 drops	2 mins/ 96 drop plate for vapour diffusion 5 mins/ 96 drop LCP plate	4–6 ingredient, 96-well plate in 4–8 mins, irrespective of viscosity

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