chameleon

Next generation sample preparation for cryo-EM based on Spotiton

sptlabtech

a rapid and efficient path to quality frozen grids for cryo-EM

Recent advances in cryo-EM have led to an explosion of interest in the technique for challenging structural biology projects. Producing quality frozen grids remains one of the major bottlenecks in the structure determination process. Currently, highly skilled manual handling is required; causing a significant learning curve. Feedback on ice quality requires screening on an electron microscope, time which could be used for more productive data collection. chameleon's aim is to enable automated, rapid progress to the perfect ice thickness for a range of samples by offering:

blot-free high speed plunging

Self-wicking grids allow rapid on-the-fly dispensing to reduce air water interface effects and potentially address preferred orientation, aggregation or denaturation effects

automated grid handling

Precise and controlled movement of grids eliminates manual damage and loss

on-board optical grid screening

Accept or reject grids ahead of EM screening based on visual images of likely grid quality

intuitive automated workflows

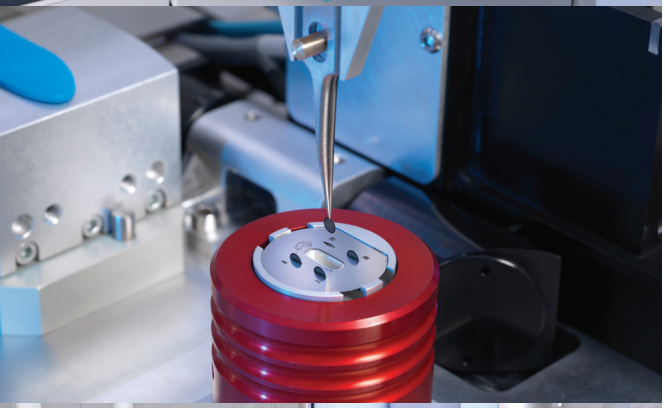
Guided workflows provide easy set-up, use and cleaning of the instrument for even novice users

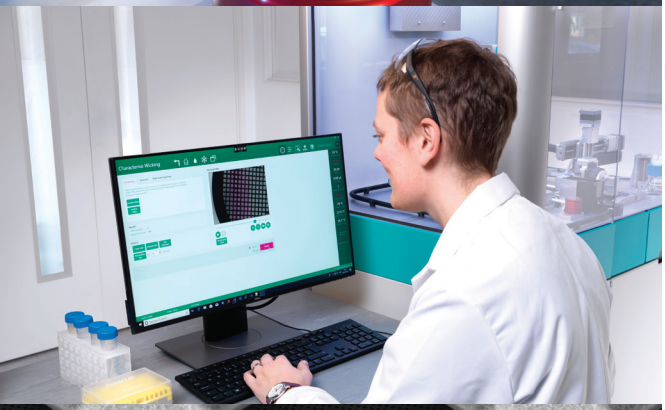
sample tracking and recording

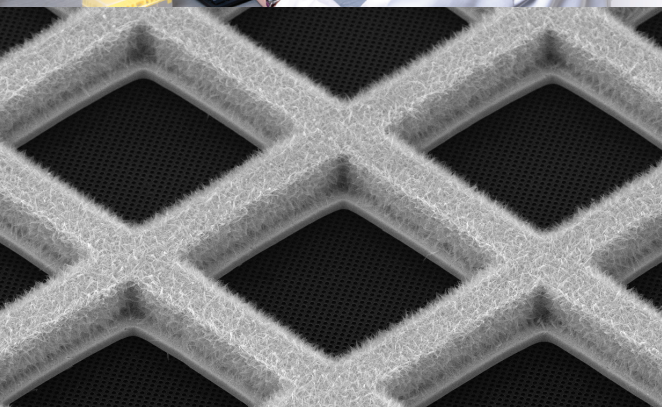
Capture all relevant parameters and grid images for record keeping and future reproducibility

cryogen level sensing/temperature control

Ensure stability and quality of cryogens while safely kept in an automated drawer







meet chameleon

specifications

- **integrated semi-automated characterisation and plunge speed tuning**
- **integrated post-dispense QC system**
- **session tracking and reporting datapack**
- **integrated control PC (Windows 10) & software license**

minimum sample volume	5 µL
minimum dispense volume	6 nL
sample block temperature control	4ºC to 37ºC
standard dispense-to-plunge time	101 msec
high-speed dispense-to-plunge time	54 msec

references:

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