TECHNICAL DATA

SpectroLight 600

Laser diode

- ☑ Wavelength: 658 nm, optical power: 120 mW, adjustable
- ☐ other wavelengths e.g. 525 nm, 785 nm (optional)

Detector

- ☑ Photomultiplier tube, dark count rate < 300 Hz
  quantum efficiency 5-7%, count sensitiviy $1.5*10^5$ Hz/pW
- ☑ For single photon counting
- ☑ Scattering angle 142°

Correlator

- ☑ Multi-tau architecture correlator to cover a wide sample time range
- ☑ Sample time from 400 ns to ~1 s
- ☑ Total 208 channels, quasi logarithmic cannel spacing

Sensitivity

- ☑ Sample concentration with standard laser (658 nm)
- ☑ Minimum 0.05 mg/ml (150 kDa), 0.1 mg/ml (30 kDa), 0.3 mg/ml (14 kDa) proteins (e.g. IgG Ab, Proteinase K, Lysozyme)
- ☑ Maximum concentration >150 mg/ml

Imaging system

- ☑ Built-in microscope
- ☑ 5 magnification steps: 0.63, 1.25, 2.0, 3.2, 6.4
- ☑ Field of view (mm): 10.5x7.6, 5.2x2.9, 3.3x2.5, 2.0x1.5, 1.0x0.75
- ☑ Optical resolution per pixel: 19.5 µm, 10 µm, 6.3 µm, 3.9 µm, 2.5 µm
- ☑ CMOS colour camera 2048x1536 pixel

Illumination

- ☑ Bright light integrated LED
- ☐ UV by integrated light source (optional)
- ☐ Colour light source (optional)

Temperature control

- ☑ Built-in temperature control
- ☑ Temperature range 8°C to 60°C (at ambient temperature of 20°C)

Sample properties

- ☑ Sample volume/well: min. ~20 nl, max. ~30 µl (depending on plate layout)
- ☑ Particle sizes from 0.7 nm to ~5 µm

Sample container

- ☑ Plates in SBS format
- ☑ Sitting drop: e. g. MRC 96 well, Douglas Instruments Vapour Batch Plate
- ☑ Cryo-EM grids, microfluidic chips, customised containers

Hardware

- ☑ Table top system (LxWxH) 650 mm x 270 mm x 450 mm
- ☑ Weight: ~26 kg
- ☑ Power consumption 115 to 230 V, 100 W
- ☑ Mini PC attached to the monitor (22 inch)

Software features

- ☑ Operating software "SpectroCrystal" runs on Linux OpenSUSE 15.6
- ☑ Fully automated, drop centering, DLS positioning and plate scanning
- ☑ Integrated SQL database for storage and retrieval of images and DLS data
- ☑ Multi user workstation remote data management "Remote LIMS"
- ☑ Control of light source parameters
- ☑ Live view of the camera stream
- ☑ Graphical hstogramming software
- ☑ Radius distribution 2D and 3D
- ☑ Autopilot for scheduling multiple tasks
- ☑ Automated laser intensity admustment
- ☑ Diffusion interaction parameter (k_D) analysis
- ☑ Individual DLS scan evaluation and management
- ☑ Scattered Light, mass and number weithted statistics
- ☑ Autoscoring and user scoring options for DLS data
- ☑ User scoring options for image data
- ☑ Multiple data export funktions including customizable reporting options
- ☐ Integration into existing data management environment (optional)
- ☐ Combination with an automated plate handling system (hotel), (optional)