TECHNICAL DATA

SpectroQ

Laser diode	 Wavelength: 658 nm, optical power: 100 mW, adjustable Optional: other wavelengths (e.g. 785 nm)
Detector	 Photomultiplier tube, dark count rate < 300 Hz quantum efficiency 5-7%, count sensitivity 1.5*10⁵ Hz/pW For single photon counting Scatteing angle 144° Optional: Avalanche photodiode, higher sensitivity for λ > 660 nm
Correlator	 Multi-tau architecture correlator to cover a wide sample time range Sample time from 400 ns - 30 s Total 208 channels, quasi logarithmic channel spacing
Sensitivity	 Sample concentration with standard laser (658 nm) Minimum 0.1 mg/ml at 0.5 μl for ~50 kDa proteins and 0.3 mg/ml for ~14 kDa proteins (e.g. for lysozyme) Maximum > 120 mg/ml
Imaging system	- Built-in microscope 5 magnification steps: 0.63, 1.25, 2.0, 3.2, 6.4 Filed of view: 10.5x7.6, 5.2x2.9, 3.3x2.5, 2.0x1.5, 1.0x0.75 mm Resolution: 25 μm, 13 μm, 8 μm, 5 μm, 2.5 μm per pixel
Camera	- CCD color camera 1600 x 1200 pixels Optional: other resolutions
Illumination	 Bright light integrated LED Optional: UV by external light source Optional: colour light source
Temperature control	- Built-in temperature control - Range 4 - 40°C (at ambient temperature 20°C)
Sample properties	- Minimum droplet volume about 0.5 μL - Particle sizes from 1nm to approx. 6 μm
Sample container	 Plates in SBS format Sitting drop: e. g. MRC 96 well, Maxiplate 48 well, Hanging drop: Cellstar Others: Costar 3590, LCP plate Terasaki microbatch plates (with adapter) Optional: customized sample holder
Hardware	- Table top system 650 mm x 270 mm x 450 mm (LxWxH) - Weight: approx. 20 kg - Power consumption: 115 to 230 V, 100 W - Mini PC attached to monitor (22 inch)
Software features	 SpectroLight 600 software runs on Linux Fully automated plates scanning with unique drop finding algorithm for DLS Integrated LIMS database for storage and retrieval of images and DLS data Control of light source parameters Live display of camera image graphical histogramming software Radius distribution 2D and 3D Autopilot for scheduling of your individual measurement program Optional: connection to external data base Optional: connection to plate handling system