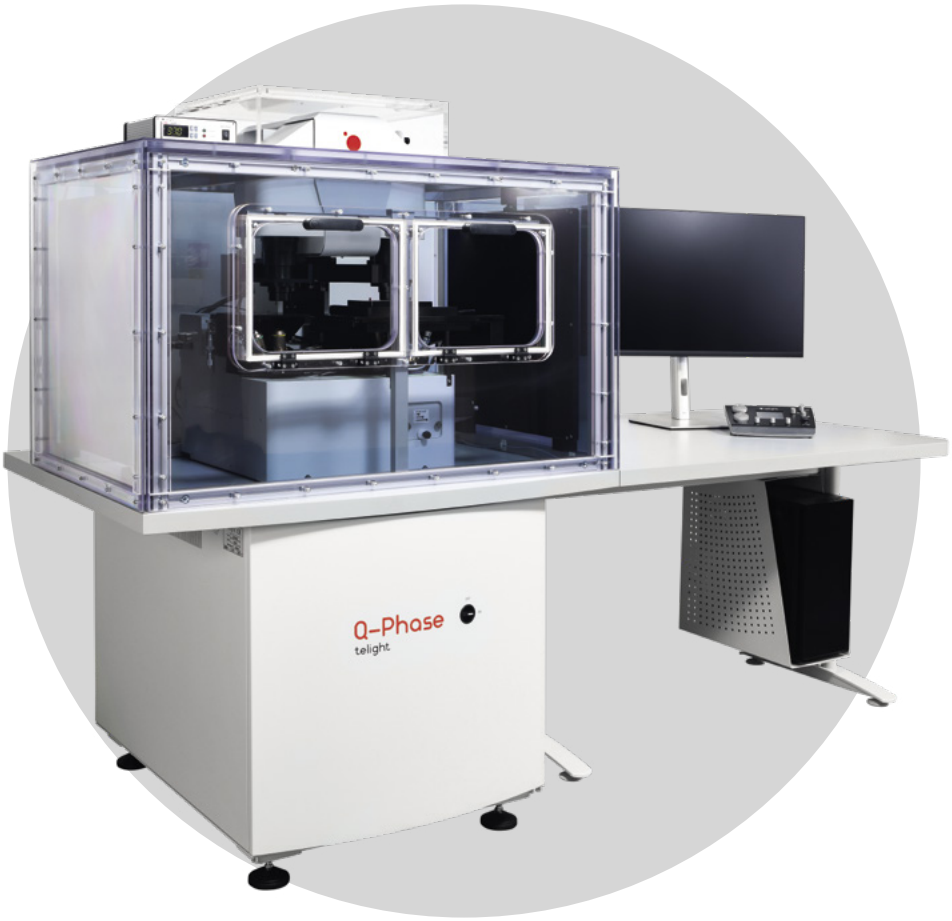
Q-Phase

QPI solution for reliable automated segmentation and cell culture analysis



Q-Phase is a holographic microscope based on a patented technology for Quantitative Phase Imaging (QPI).
Q-Phase creates time-lapse phase images with realistic values for precise measurement of biophysical cell parameters including cell dry mass distribution.

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Specifications

Microscope

- **Microscope configuration**
  transmission inverted microscope
- **Microscopy techniques**
  holography (quantitative phase imaging), epifluorescence, simulated DIC, brightfield, high-pass filtered phase
- **Objectives**
  magnification 4× to 60×
- **Objective turret**
  6-position, motorized exchange
- **Light source**
  LED
- **Operating wavelength**
  660 nm
- **Sample stage**
  motorized, 130 mm × 90 mm travel range
- **Focusing**
  motorized objective turret, 8 mm travel range
- **Piezo-focusing**
  optional, travel range 500 µm
- **Lateral resolution**
  4 µm with 4× NA 0.1 objective
  0.58 µm with 60× NA 1.4 objective
- **Field of view**
  objective and camera dependent,
  up to 1.48 mm × 1.48 mm with 4× objective
- **Acquisition framerate**
  20 fps (higher framerates on request)
- **Reconstructed phase image size**
  1200 × 1200 px
- **Illumination power at sample plane**
  down to 0.9 mW/cm^2
- **Phase detection sensitivity**
  down to 0.011 rad
- **Power**
  230 V/50 Hz (120 V/60 Hz optional), 1200 VA
- **Dimensions (W × L × H)**
  1100 mm × 950 mm × 1620 mm microscope with incubator, 2515 mm × 974 mm × 1620 mm total with operator table
- **Weight**
  350 kg (including microscope table, fluorescence module and microscope incubator)
- **Field and aperture diaphragms**
- **Side port available** for fluorescence
- **Microscope table** with anti-vibration suspension
- **Control panel** with multifunctional touchscreen, sample stage joystick and rotary knobs
- **Microscope incubator** with computer temperature setting and temperature data logging (optional)
- **Incubation chamber** for precise and long-term control of temperature, humidity and CO_2 concentrations (optional) module or other additional techniques

Fluorescence module (optional)

- **Light engines**
  Lumencor with 3 channels (optionally up to 5 channels)
- **Detectors**
  Andor Zyla 4.2 PLUS sCMOS (2048 px x 2048 px)
- **Filters**
  3 multichannel filter cubes, motorized channel switching