

**OPTOELECTRONIC SYSTEMS FOR NEXT
GENERATION SEQUENCING.**
ILLUMINATE, ENLARGE, DETECT.



OPTOELECTRONIC SYSTEMS FOR NEXT GENERATION SEQUENCING.

Illuminate – enlarge – detect: Berliner Glas offers the complete range of photonics products for Next Generation Sequencing, all from one source.

Illumination

There is no way to effectively detect something without a custom-made illumination. Berliner Glas satisfies customer expectations with its high-performance light source modules. This includes various versions and light sources. In addition to our high degree of expertise of classic halogen and xenon lamps, Berliner Glas also possesses excellent know-how in the area of LED technologies – both white light as well as RGB and special wavelengths. We can also create special products tailor-made to our customer's specifications. Based on our optical knowledge, we are able to effectively handle the large emission angle of LED and to couple photons efficiently with markers. At the same time, we know how to effectively separate the illumination beam from the emitted signals.

Enlargement

Berliner Glas possesses excellent know-how with regards to the development and production of precision lenses. In-house technologies like the alignment turning process and knowledge of how to compensate for production tolerances allow us to manufacture diffraction-limited systems. Berliner Glas has its own coating department. There, our coating developers work hand in hand with the process engineers. Our coating systems represent the latest technology. The technological options we have ensure that Berliner Glas can provide world-class lenses.

Detection/Camera

The effective detection of signals forms the end of our range of optical products. In cooperation with partners, Berliner Glas has the ability to provide customer-specific as well as unusual sensors in small quantities over a long product life cycle. Of course, electronic integration and software programming are included. We can provide, for example, thermally-stabilized cameras with high resolution for low background noise.

Berliner Glas is ISO 9001, ISO 14001 and ISO 13485-certified.

TECHNOLOGIES

- ▶ Illumination
- ▶ Excitation
- ▶ Beam guidance
- ▶ Lenses
- ▶ Detection

PROPERTIES

Illumination

Light sources	LED RGB or white, xenon, halogen
Reverse polarity protection	optional
Temperature monitoring	optional
Current monitoring	optional
Luminous flux configuration	customer-specific controls available and upon demand
Fan control	optional
Remote control	USB 2.0 interface
Dimensions (L x B x H)	48 x 50 x 120 mm (example)
Weight	starting at ca. 200 g
Active cooling	optional
Operating temperature	0–40 °C
Operating height	max. 2,000 m
Storage temperature	-20–60 °C
Humidity	30–90 %, non-condensing

Detection/Camera*

Connection	GigE, USB 2.0, USB 3.0
Thermal stabilization	upon request
Connection for trigger	optional
Frame rate	≥ 6 frames/s
Illumination	e. g. LED 220 mW/m ²
Wavelength	480–750 nm
Exposure times	0.08–1.2 s
Ambient temperature	up to 45 °C

* Example system for Next Generation Sequencing