

# SCHOTT® SingleEZ Guide

Especially designed for the needs of the single-use endoscopy industry



SingleEZ Guide –  
glass fiber illumination made easy

*Single use endoscope assembly needs to be fast.*

The *SingleEZ Guide* is a new generation of glass fiber illumination: It comes as a single **plug-and-play component** which makes **installation easy and fast**. It combines the advantages of glass fiber technology with a new ease of handling. No handling of individual fibers and termination after installation is required.

*Available space for scope illumination is rare.*

The new approach maximizes the active light conducting area for a given outer diameter. **This optimized ratio is the ideal solution for small scopes**. The result: **more light at a smaller footprint**.

*Reducing endoscope heat emission is critical for patient safety.*

Light sources generate heat. So to protect tissue from damage, scope manufacturers must comply with defined **temperature thresholds** (of **maximum 41°C / 105,8 F°**). **Fiber optics separates this light source energy from the patient**. With excellent temperature resistance our glass fibers withstand direct coupling with high energy light sources.

*Compliance is important for medical approval.*

For medical approvals OEMs do not only need to manage heat but also **electromagnetic fields**. Cameras are sensitive electronic parts and are vulnerable to electromagnetic interference resulting in image errors or severe failures. **A glass fiber based lighting solution significantly reduces electromagnetic fields** at the distal end thus eliminating such failures.

*Cost plays a major role for single-use endoscopes.*

The value created by the above mentioned advantages of our illumination system needs to be affordable. The innovative design of the **SingleEZ Guide is optimized for the high volumes and lower costs** associated with single-use endoscopes. **Easy integration** saves time and money during production and thus offers **advantages in total costs of ownership**.

*Fast time-to-market requires a reliable partner.*

Developing a disposable endoscope is a complex and challenging task. With **50 years of expertise in endoscope illumination** and being the **world's leading partner** to the endoscope industry, **SCHOTT provides full support for your scope illumination** - from first idea to R&D supported product development to mass production.

## Five advantages of glass fibers compared to other fiber types

1. Larger beam angle of up to **120°** **matches the capturing angle of the camera**. For shadow free illumination and better image quality.



2. Effortless bending into **small radii** improving ease-of-use and maneuverability.
3. Enables a system of **higher CRI** for better image quality.
4. Redundancy - multiple fibers for more **safety** from single fiber severe failures.
5. Higher **temperature stability** – compatible with high energy light sources.

## Optimized for thin endoscopes

Ureteroscopes  
Cystoscopes  
Bronchoscopes  
Rhinoscopes  
...

Technical Data		
Plug-n-play component	<b>Outer diameter</b>	0.55 mm 0.7 mm 1.0 mm (other diameters upon request)
	<b>Length</b>	according to individual needs from 200 – 1000 mm end surfaces terminated ready to use
	<b>Sheathing material</b>	medical grade polymer
	<b>Installation</b>	plug-and-play - no grinding and polishing after installation - no fiber handling know-how necessary
	<b>Compatibility</b>	elements are: - biocompatible (EN ISO 10993-5 / USP class VI) - EtOx sterilizable (DIN EN ISO 11135:2014) - RoHS compliant - REACH
Active core (fiber bundle)	<b>Material</b>	multi component glass
	<b>Beam angle</b> (eff. aperture angle $2\alpha$ )	up to 120°
	<b>Redundancy</b>	Yes (multiple fibers)

## Your Partner for Single Use Endoscope Illumination



**Consulting in light design**  
Light performance simulation  
and light path optimization



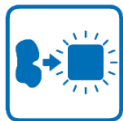
**Trusted partner**  
50 years of experience in  
endoscope lighting



**Unique lighting solutions**  
Proprietary SCHOTT glass  
fibers



**Seamless link**  
- Easy to integrate product design  
- Complete modular lighting systems



**Reliability**  
- Manufacturing expertise  
- Lot control traceability



**Easier medical approval**  
Regulatory documentation



**Scalability**  
From prototypes to validated  
mass production



**Reduce time-to-market**  
Development of light solutions from  
first idea to mass production.



**Certifications**  
- ISO 9001: 2015  
- ISO 13485: 2016  
- MDD 93/42/EEC reg.  
- FDA reg.



**Reduce costs**  
- Save development costs by sourcing fully  
developed lighting solutions  
- Product design for single use applications