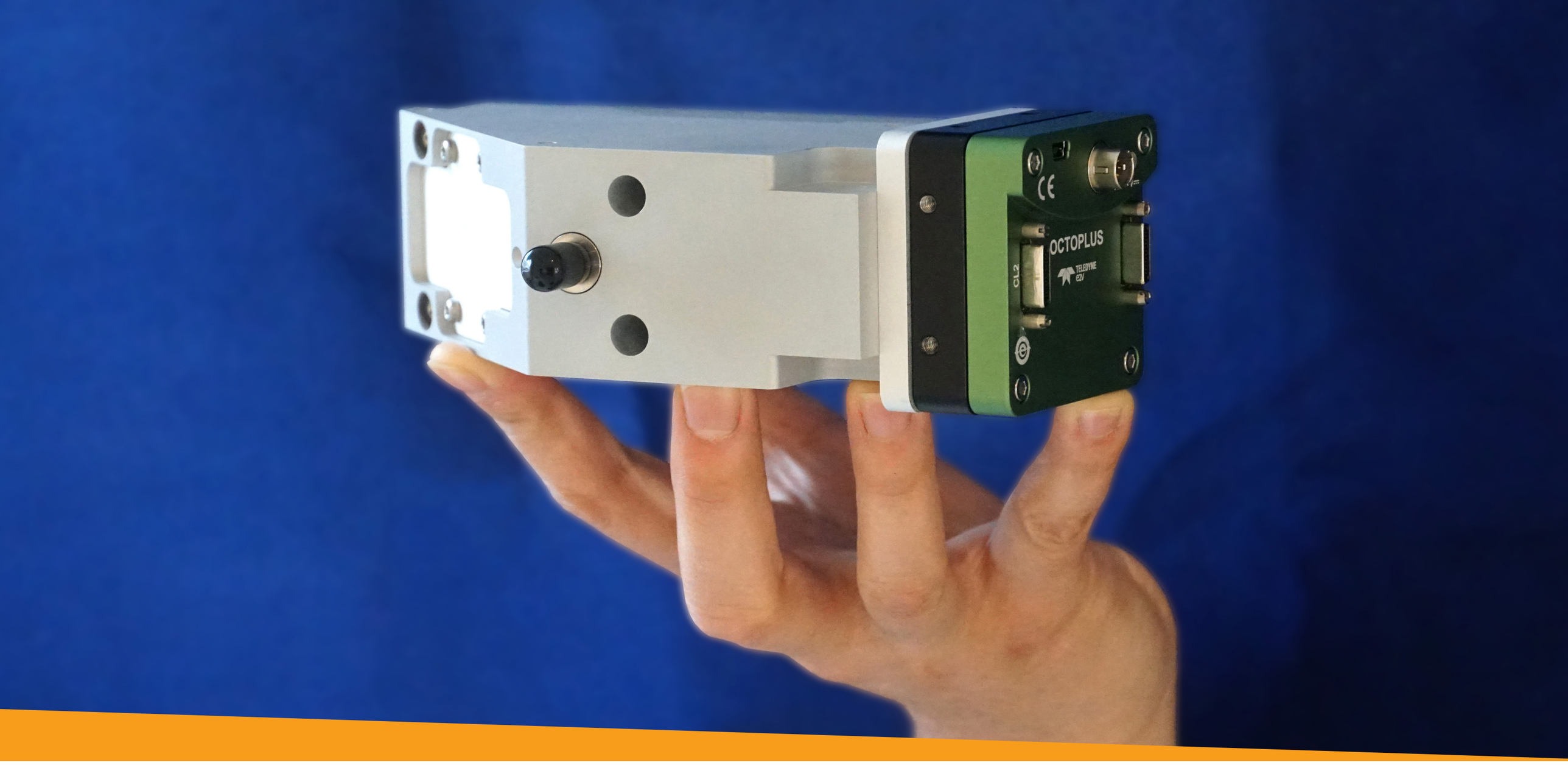


EAGLE OCT-S-40

9 mm axial depth OCT spectrometer for volume production and customized solutions

Ibsen photonics

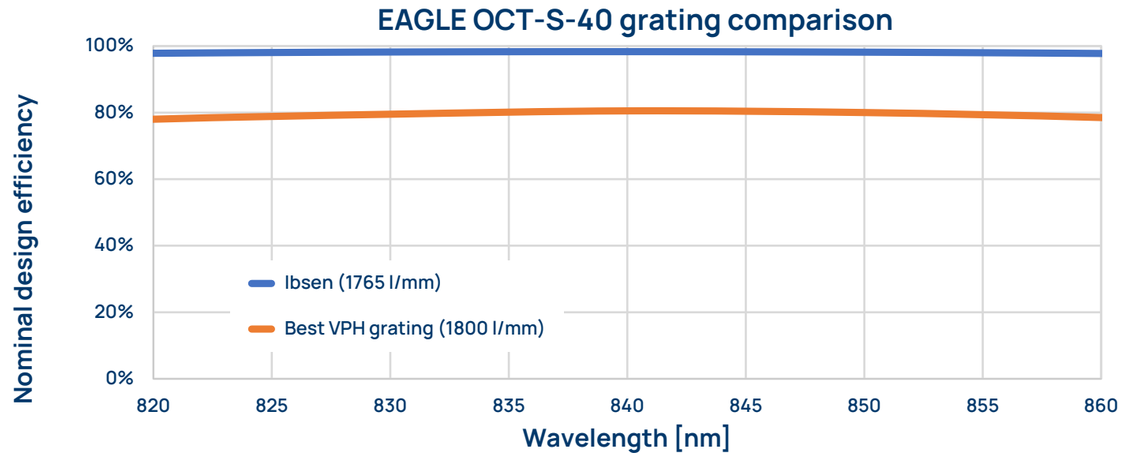
Achieve high axial depth with a compact design for scalability and customized solutions

The EAGLE OCT-S-40, is an innovative OCT spectrometer that sets a new standard in long-range OCT imaging, roll-off performance, and efficiency. At the core of this innovation is the high axial depth capability, which delivers 9 mm of axial depth in a compact, space-optimized design, with a 40 nm bandwidth and an 840 nm center wavelength. This is achieved through a pioneering Ibsen multi-grating optical design, paired with the industry-standard E2V Teledyne Octoplus camera. These features enable the EAGLE OCT-S-40 to capture exceptionally long-range OCT images , with an axial resolution of down to 9.2 µm (in air).

The EAGLE OCT-S-40 also features an innovative, space-efficient design with a compact footprint of just 185 x 138 x 60 mm³ and a weight of 1.4 kg. This lightweight and portable design facilitates seamless integration into clinical and industrial settings. Its compact form factor ensures it occupies minimal space, enhancing flexibility and ease of use.

The EAGLE OCT-S-40 is designed to maximize the potential of our diffraction transmission grating technology by combining the benefits of athermal opto-mechanics with highly efficient fused silica gratings. This ensures robustness and reliable performance across all units, even in high-volume production.

If your project requires features beyond the standard capabilities of the EAGLE OCT-S-40, we also provide tailored solutions to meet specific needs. Don't hesitate to contact our sales team to explore the best approach for your spectrometer project.



Unmatched roll-off performance in compact design

The EAGLE OCT-S-40 stands out with its industry-leading roll-off performance, ensuring effective long-range OCT imaging. This feature makes it a cost-effective alternative to expensive Swept Source OCT systems, eliminating the need for complex multi-depth imaging techniques. By delivering high-quality results without added complexity, it streamlines workflows and reduces operational costs.

DPGBWD9 Rev 1 - 2026-01-06

Technical Specifications

	EAGLE OCT-S-40	Comments
Optical entrance	FC/UPC adapter	
Wavelength range	820 - 860 nm	Other ranges available upon request
Resolution	0.02 nm	Average resolution across wavelength range
Numerical aperture	0.13	To match SMF Corning HI780 fiber
Camera	Teledyne E2V Octoplus	Available in USB3 or CameraLink
Frame rate	20, 80, 130, 250 kHz	
Electrical interface	USB3 or CameraLink	250 kHz option only available with CameraLink
Number of pixels	2048 x 1 pixels	
Pixel size	10 µm x 200 µm	
Detector	CMOS	Camera
Operating temperature range	10 to 45 °C	Non-condensing
Storage temperature range	-10 to 50 °C	
Wavelength shift with temperature	< 0.002 nm/°C	
Dimensions	185 mm x 138 mm x 60 mm	Including camera
Weight	1.4 kg	Including camera

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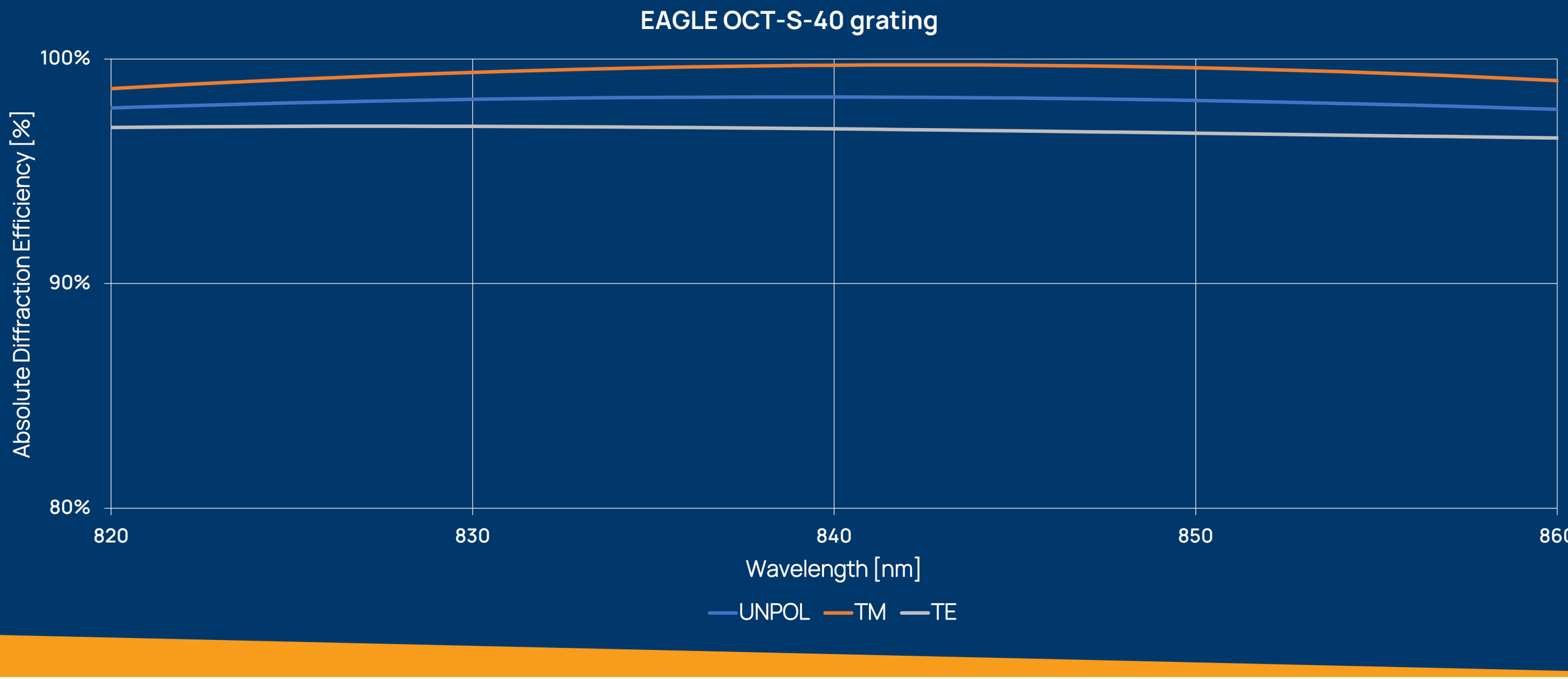
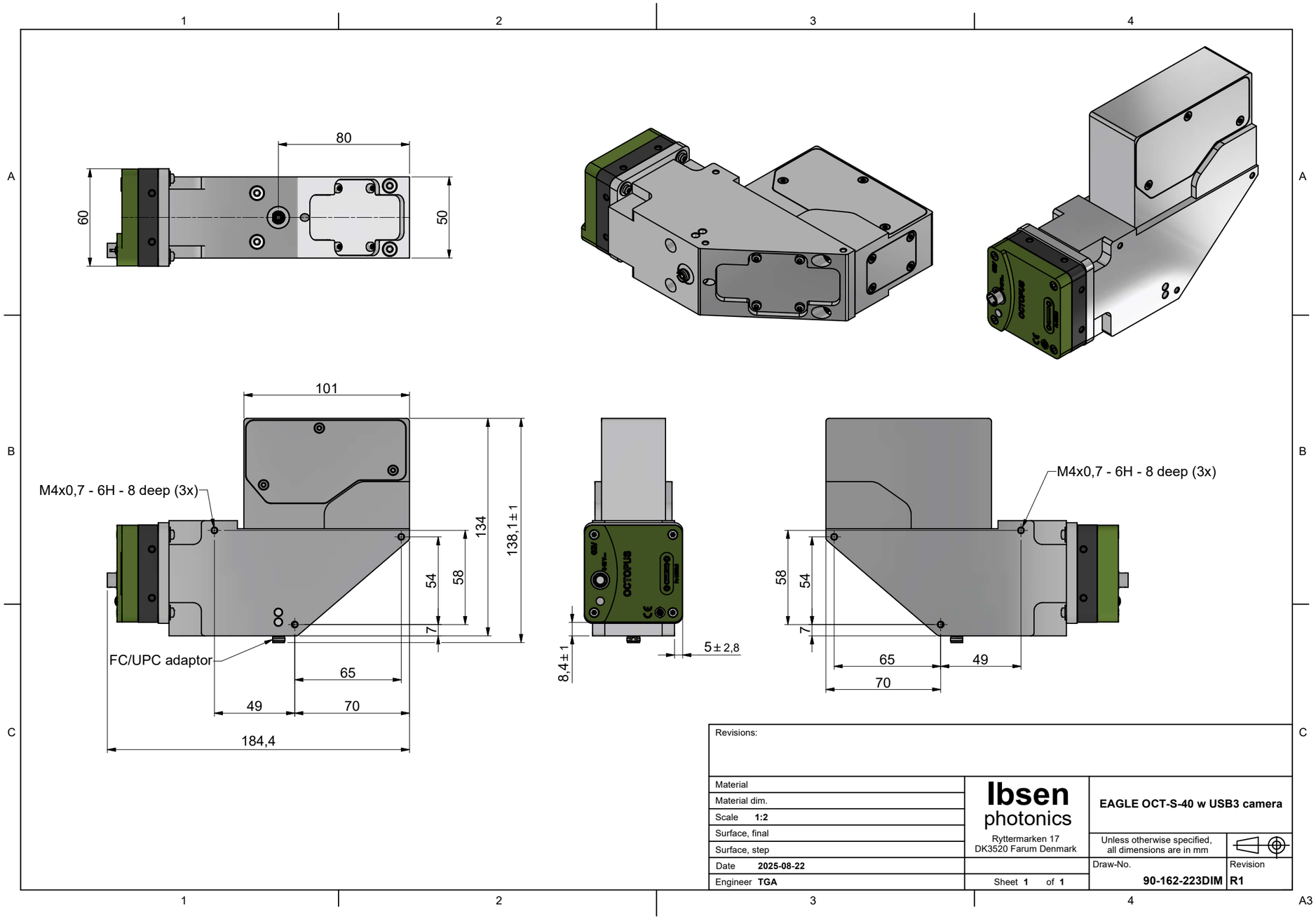


Transmission Gratings

The compact EAGLE OCT-S-40 spectrometer utilizes the Ibsen Photonics OCT transmission grating. The grating provides high and even diffraction efficiency, as evidenced by the absolute diffraction efficiency graph displayed above. The design also provides very low polarization dependence as an added benefit.

Every grating used in the compact EAGLE OCT-S-40 spectrometer platform is a master grating fabricated at Ibsen Photonics' cleanroom facility in Denmark.

Mechanical Drawings



Revisions:			
Material	**Ibsen** photonics	**EAGLE OCT-S-40 w USB3 camera**	
Material dim.			
Scale **1:2**	Ryttermarken 17 DK3520 Farum Denmark	Unless otherwise specified, all dimensions are in mm	
Surface, final			
Surface, step			
Date **2025-08-22**		Draw-No. **90-162-223DIM**	Revision **R1**
Engineer **TGA**	Sheet **1** of **1**		

A3

About Ibsen Photonics

Founded in 1991 by Per Ibsen, Ibsen Photonics has grown from a visionary startup into a global leader in the design and manufacture of the world's best gratings and spectrometers.

As a strong, long-term strategic partner for leading industrial companies, we are committed to helping our customers increase sales and win market share. Our deep expertise and collaborative approach ensure that every product we deliver is not just a component, but a competitive advantage.

Today, Ibsen Photonics is owned by Foss A/S - a leader in analytical solutions. Our team combines entrpreneurial agility with operational excellence. With over 30 years of experience and an average employee tenure of 10+ years, we bring unmatched expertise to every project, ensuring improved performance, on-time launches, and consistent supply. Headquartered in Denmark, our 85+ experts drive innovation from R&D to manufacturing, achieving an annual turnover of more than 20 M€.

Working with Ibsen Photonics

The core expertise of Ibsen Photonics lies in opto-mechanical design, grating technology and metrology. We master the entire cycle - from optics, grating simulation, and design to optical and semiconductor production technologies, high-volume assembly, packaging, and testing. Over the years, we have developed and patente numerous innovative designs, technologies, and processes.

Our customers are large to medium-sized manufacturers of advanced optical devices and instruments, where our products serve as critical components. With a highly organized production process, we ensure smooth i strument production, low unit-to-unit variation, a high first-time yield, no field returns, and minimal rework.

Our spectrometers are produced under strict quality control in our assembly facility in Denmark, certified to ISO 9001, ISO 13485, ISO 14001 and ISO 45001. This confirms Ibsen's capability to consistently produce high quality products that meet market standards and all regulatory requirements. Collaborate with our team to speed up your innovation.

Contact us

Ibsen Photonics A/S
Ryttermarken 17
DK-3520 Farum
Denmark

Telephone:
+45 4434 7000

Email:
sales@ibsen.com

Ibsen photonics