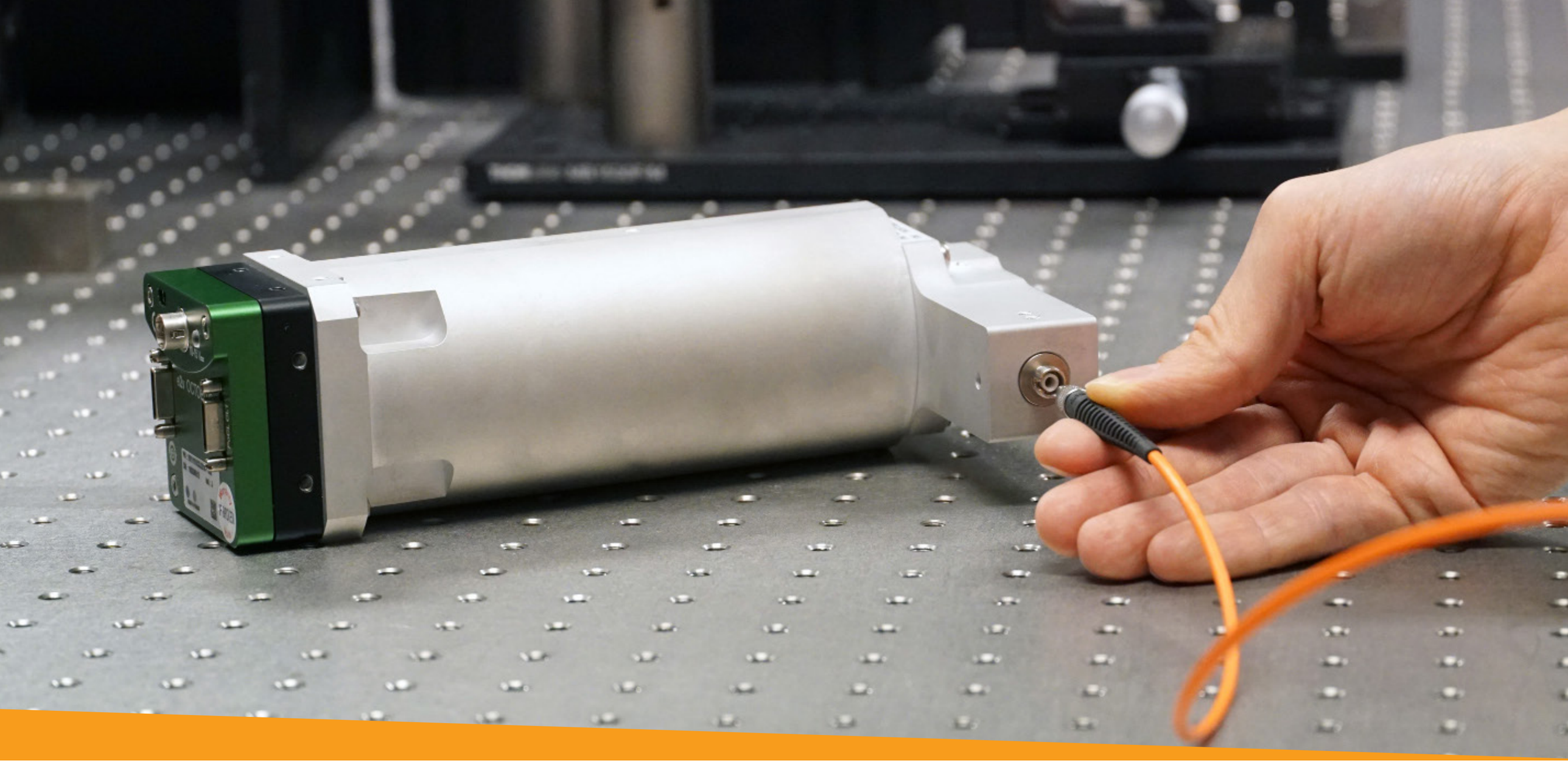
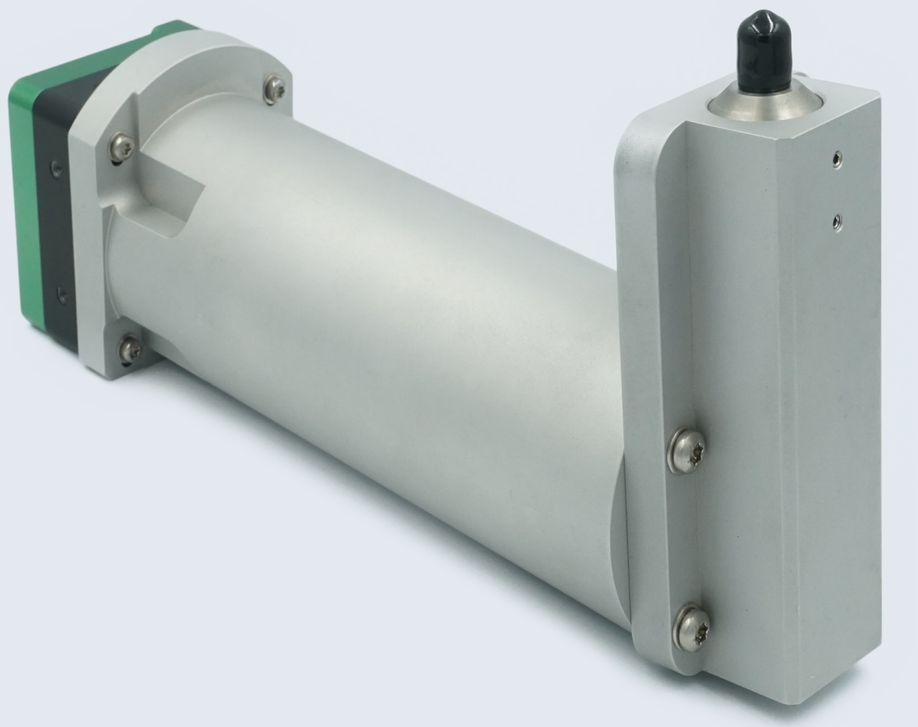


EAGLE OCT-S-90 SPECTROMETER

Industry Leading Roll-off Performance Spectrometer for SD-OCT from Ibsen Photonics

Ibsen photonics



OCT Platform – For Unmatched Image Quality for SD-OCT Measurement

The EAGLE OCT-S-90 spectrometer is known to be the industry leader in roll-off performance, with an un-matched image quality for SD-OCT measurement. This provides equipment manufacturers the opportunity to achieve the best image quality possible for their SD-OCT measurement to realize a competitive edge, making their instrument market leading.

Key specifications of the EAGLE OCT-S-90

- High optical resolution of 0.05 nm
- Wavelength range 800-890 nm
- 2048 tall pixel camera with 10x200 µm pixel size
- Frame rate of 80 , 130 or 250 kHz
- High efficiency, transmission grating design
- High optical throughput
- Compact size of only 113 x 228 x 60 mm
- Customizable for multiple wavelength ranges
- OEM integration friendly design that allows easy adaptation to your camera of choice
- Robust and athermal design

Customisability and Stability

The EAGLE OCT-S-90 spectrometer is based on Ibsen Photonics' LGL platform utilizing a collimating lens, a transmission grating, and a focusing lens. It uses a high diffraction efficiency fused silica transmission grating produced by Ibsen Photonics internally. The nature of the athermal design enables a very low temperature induced wavelength shift of < 0.002 nm/C.

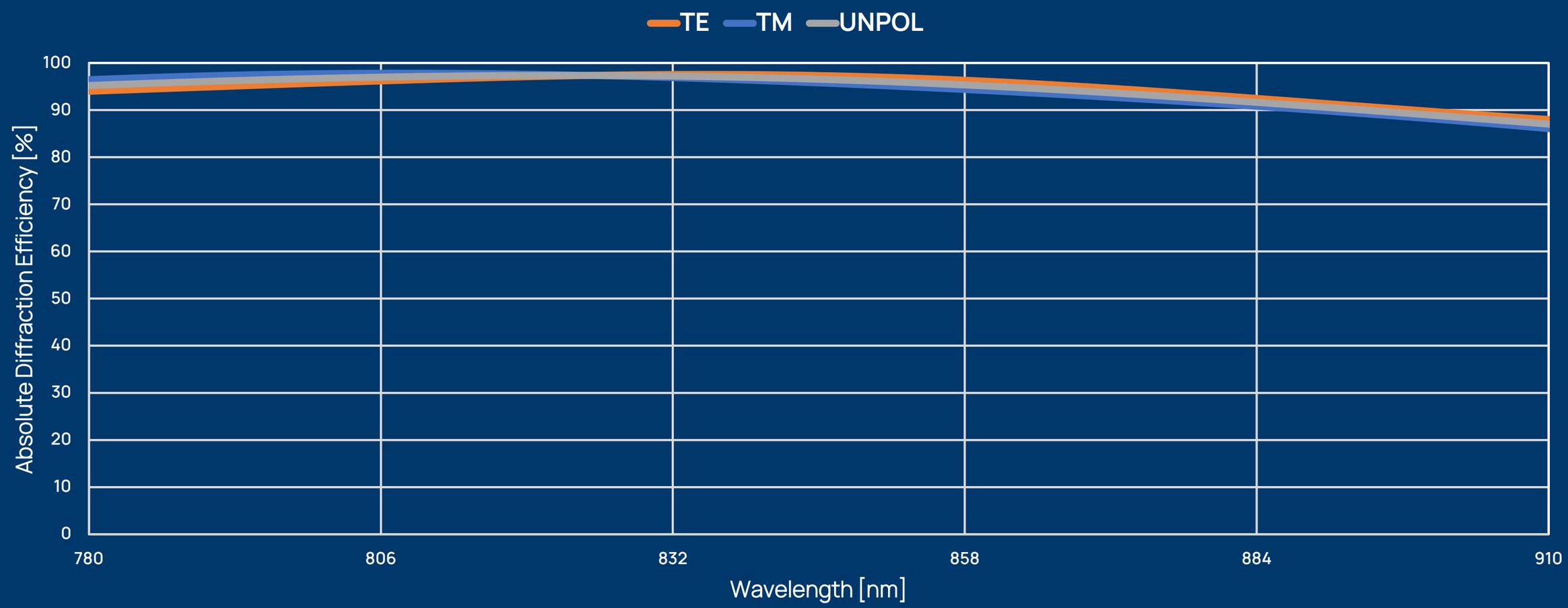
The platform allows customization of the center wavelength with minimal mechanical changes, for instance 785 – 875 nm with 830 nm center wavelength or 835 – 925 nm with 880 nm center wavelength.

EAGLE OCT-S-90 supports as standard the Teledyne E2V OctoPlus camera. However, Ibsen Photonics can in most cases customize an EAGLE OCT-S-90 spectrometer to accept almost any other camera.

Please, contact Ibsen Photonics directly to discuss adaptation to a non-standard camera.

Technical Specifications

	EAGLE OCT-S-90	Comments
Optical entrance	FC/UPC adapter	
Wavelength range	800 - 890 nm	Other ranges available upon request
Resolution	0.05 nm	
Numerical aperture	0.13	To match SMF Corning HI780 fiber
Camera	Teledyne E2V OctoPlus	Available in USB3 or camera link
Number of pixels	2048 x 1 pixels	
Pixel size	10 µm x 200 µm	
Detector	CMOS	
Frame rate	80, 130 or 250 kHz	80 and 130 kHz interfaces: CameraLink or USB3 250 kHz interface: CameraLink
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	113 mm x 228 mm x 60 mm	Including camera
Weight	1.4 kg	Including camera



Transmission Gratings

The compact EAGLE OCT-S-90 spectrometer utilizes the Ibsen Photonics OCT transmission grating. The grating provides a high even diffraction efficiency, as evident by the absolute diffraction efficiency graph displayed above.

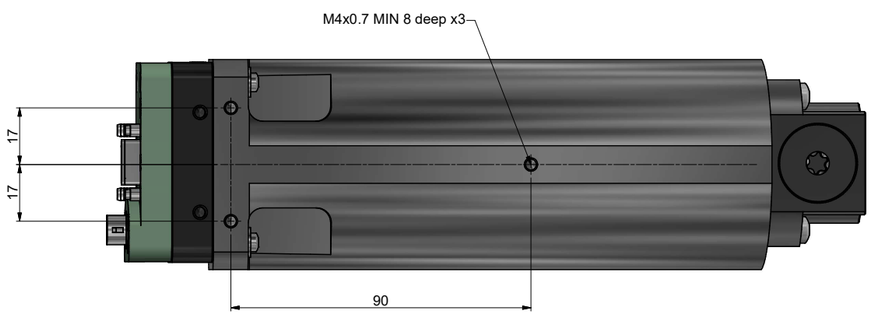
Additionally, the transmission grating itself, ensures impressive wavelength stability due to the inherent self-correction nature of transmission gratings, compensating for misalignment, shock or vibrations that the spectrometer may experience.

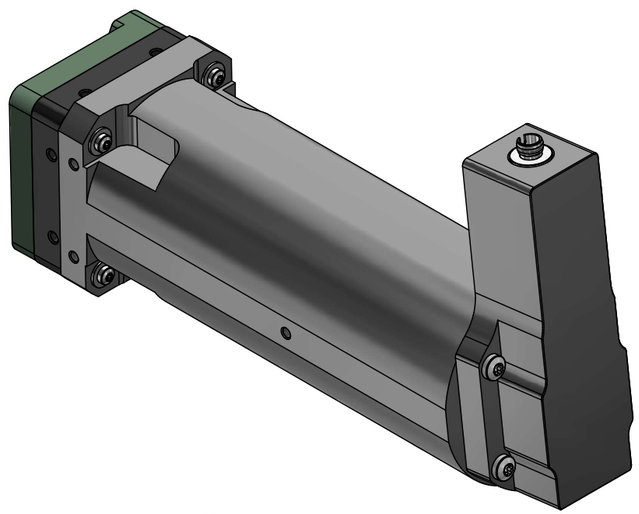
The design also provides very low polarization dependence as an added benefit.

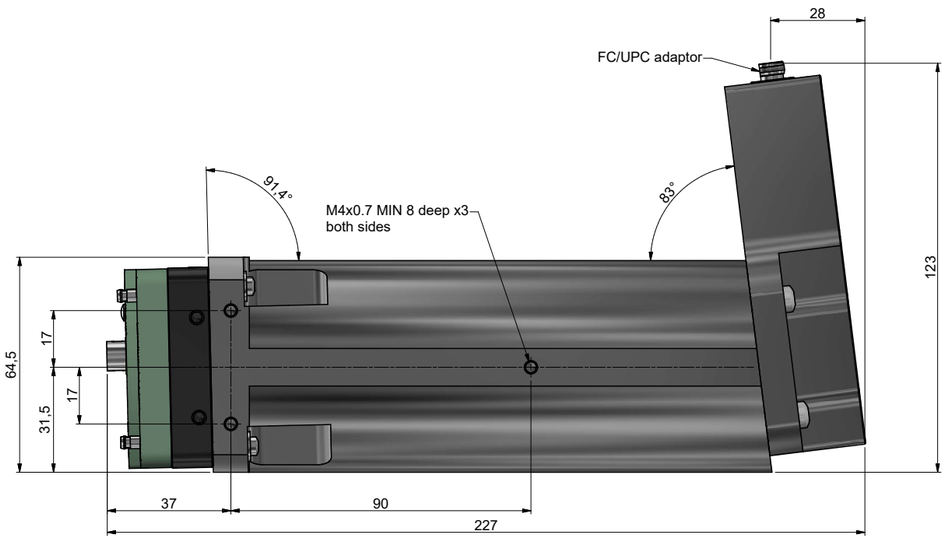
Every grating used in the EAGLE OCT-S-90 spectrometer is a master grating fabricated at Ibsen Photonics' clean room facility in Denmark.

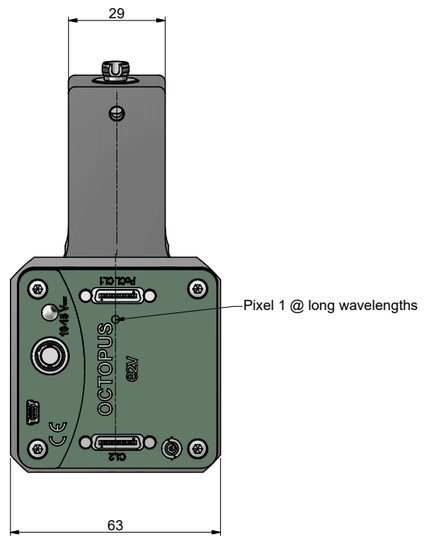
Mechanical Drawings

Please note, that dimensions may vary slightly between different variants of spectrometers. Therefore, you should always request a specific drawing for your specific spectrometer variants.









About Ibsen Photonics

Ibsen was founded in 1991 by Per Ibsen under the name of Ibsen Micro Structures A/S. Today 88% of Ibsen Photonics' share is owned by Foss A/S, a world leader in analytical solutions for the Food and Agri-cultural industries. Ibsen management and employees hold the remaining 12 % of the shares.

The Ibsen spirit combines the dynamic, entrepreneurial culture of a medium size company with a disciplined, operational mentality of a large corporation. With an average employee tenure of more than 10 years, Ibsen makes for a very effective organization that builds on more than 30 years of experience as a company.

Ibsen employs more than 90 people at our R&D and manufacturing facility in Denmark and has achieved a turnover of more than 180 MDKK in 2022.

Working with Ibsen Photonics

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

Our customers are large to medium-sized manufacturers of advanced optical devices and instruments, into which our products are integrated. With a highly organized production process, we are able to help customers obtain smooth instrument production, low unit-to-unit variation, high level of right first time, no field returns, and a low level of rework.

Our grating production facilities are world-class, including class 10 cleanroom facilities that we designed and built in 2000/2001, in which all environmental parameters are under continuous surveillance.

Our spectrometers are produced under strict quality control in our assembly facility in Denmark. We have been granted ISO 9001, ISO 13485, ISO 14001 and ISO 45001. This confirms Ibsen's' consistent capability to produce high quality products that meet market standards and all regulatory requirements.

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