ODIN

Deep UV Raman Spectrometer

Technical Specifications

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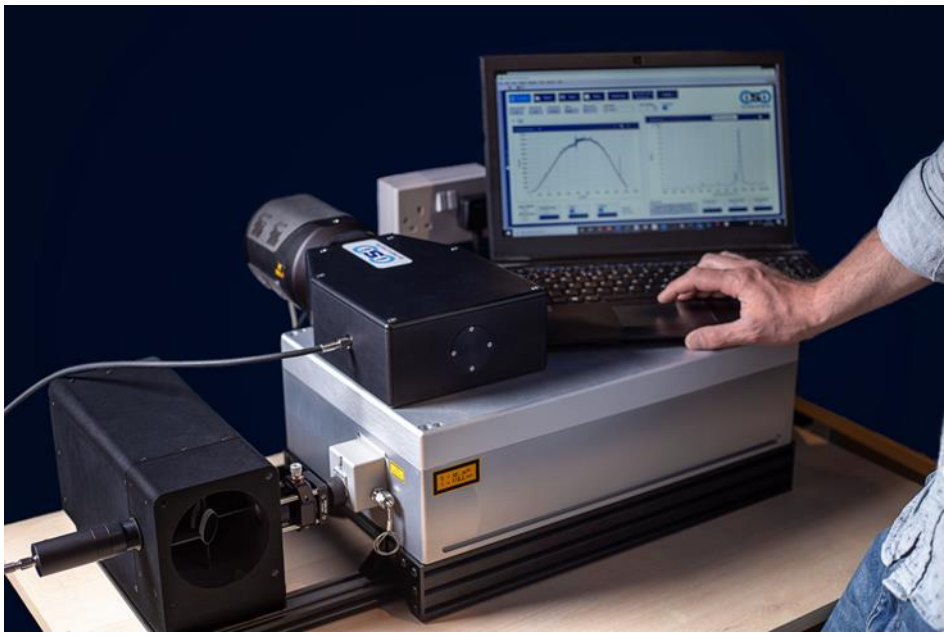


Technical Specifications

This document shows the technical specifications of the ODIN spectrometer range. Further information can be found on the IS-Instruments website, where you can download gold standard scientific articles of the instrument performance. The ODIN system is specifically designed to operate in the deep UV. The spectrometer can be adjusted to operate with any laser system from 220 – 266 nm. The default option is to use a 228.5 nm excitation source; however the system can be adjusted to the end user needs as required.
Below are specifications of a typical configuration.

Model	ODIN (228.5 nm)
Configuration	SHS
Wavelength range of operation **Range can be adjusted for high resolution observation if required**	220 – 270 nm laser dependent 500-2500 cm^{-1}
Resolution **(per Fourier bin)** **< 1 cm-1 (also available on request)**	< 5 cm^{-1}
Slit	No Slit
Fibre Input	SMA FC/PC
Fibre diameter	0.6 mm
Fibre NA	0.22
Linearity	> 99 %
Detector Type	Andor IDUS CCD
Supply Voltage	Spectrometer & probe *220 V, 13 Amp* Laser (228.5 nm) *220 V 13 Amp*
Dimensions	Spectrometer & probe 727 × 344× 339 mm Laser head (228.5 nm) 506 × 275 × 135 mm
Laser type	Diode laser
Wavelength	228.5 nm
Laser line width	< 1MHz
Laser M^2	< 1.3
Sample interface	12.5 mm focal length Moving stage

Example spectra

Below are examples of Raman spectra observed with an ODIN instrument (228.5 nm).

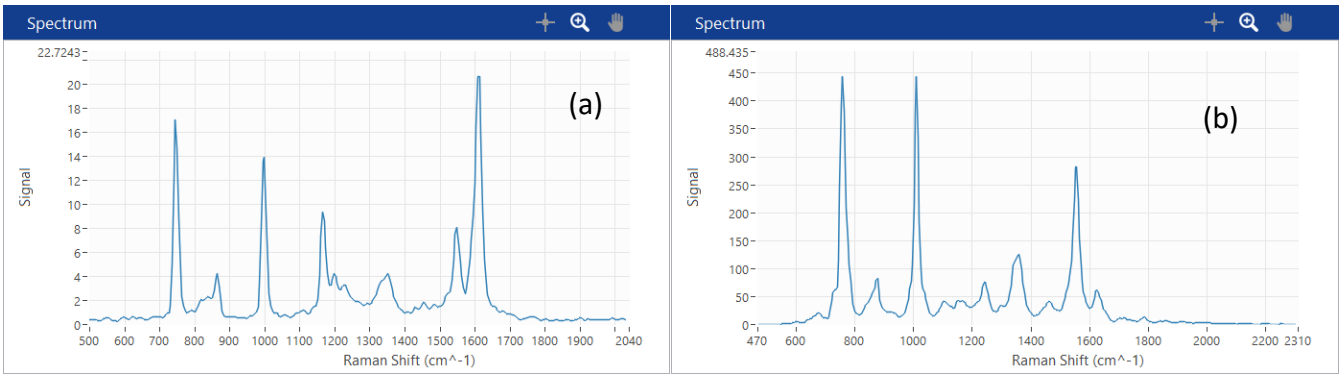


Figure 1: Raman spectra: (a) Domain Antibody fragment and (b) Tryptophan.

Detector

The Odin range of instruments can be constructed with any detector, however ISI's detector of choice is a Cooled CCD from Andor. The IDUS BU coated detector is the current preferred camera of choice. The Quantum efficiency of these detectors as a function of wavelength is given below.

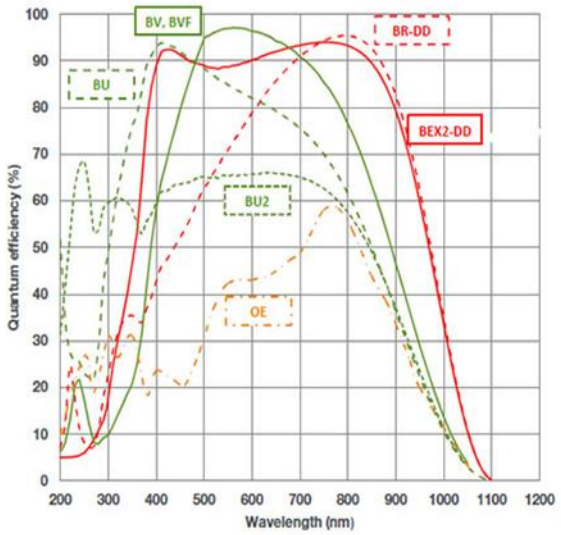
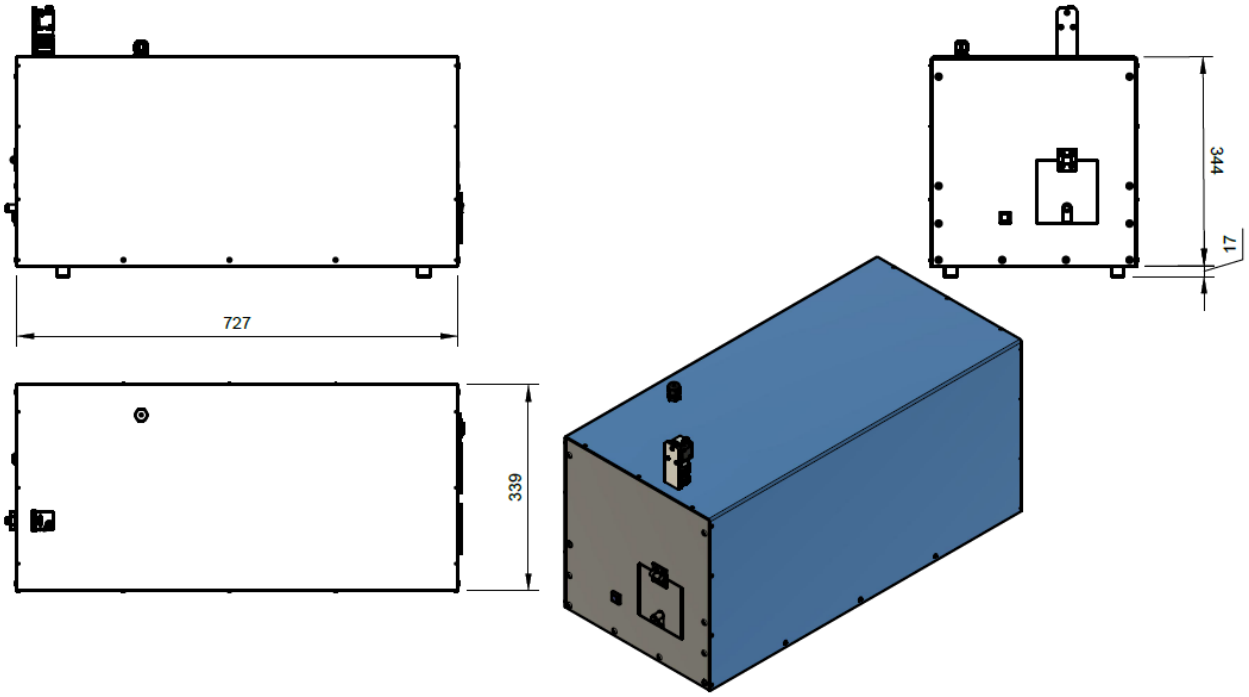
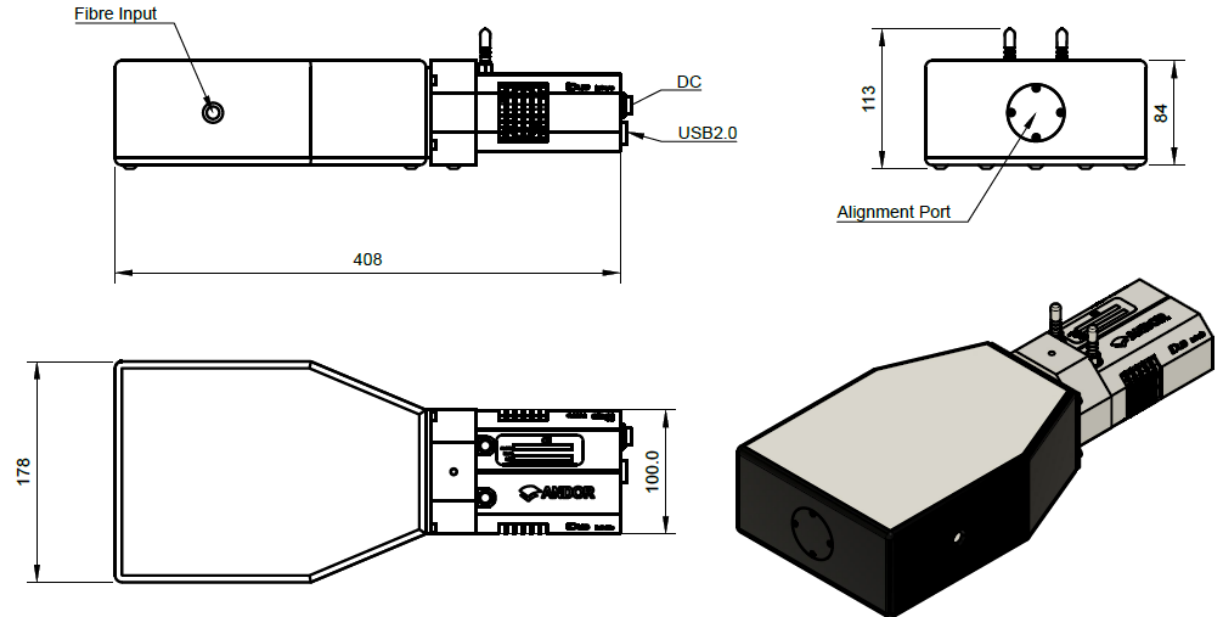


Figure 2: Quantum efficiency of the cooled CCD

Dimensions


727
344
17
339


Fibre Input
DC
USB2.0
408
113
84
Alignment Port
178
100.0

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