

## AvaRaman Bundle



### Type of measurements:

Raman techniques are used for many different materials. The Avantes bundles are really good for the use of powders and liquids. When strong signals are available (aromatic compounds, alcohol based liquids) in general Ava-Raman-A is useful to perform the measurement.

When weak Raman signals occur (Integration time longer than 5 seconds) the thermo-electric-cooled (TEC) spectrometer is recommended. This is added in the Ava-Raman-B.

If very weak signals possibly together with fluorescence background the Ava-Raman-D using our new AvaSpec-HERO is recommended (Higher quantum efficiency in NIR and better signal to noise performance).

Raman Spectroscopy allows obtaining individual spectral 'fingerprints' of materials. Commonly used in chemistry, pharmaceutical and medical fields, to provide information by which molecules can be identified.

To offer our customers optimal performance for a reasonable price, Avantes joint forces with 2 partners to offer you a Raman Bundle consisting of a great spectrometer (3 different models), a unique Laser-Probe combination (785nm) supplying enhanced signals and an outstanding Software package to analyze the Raman spectra.

These 3 Bundles have in common:

### For Excitation:

AvaLaser785 (incl.: 785 nm laser safety goggles). It has an ultra-high throughput integrated Raman probe. This novel device includes an integrated wavelength stabilized laser source with Raman filter packs, beam shaping optics and high efficiency Raman spectra collection optics.

### For Analysis:

Panorama-Light: Panorama Light is a modular, high-end software platform for spectroscopic data evaluation. The application meets all requirements for a comprehensive spectroscopy working environment, offering:

- Measurement with an instrument
- 2D & 3D data visualization
- Searching in libraries
- Archiving in spectral libraries, including additional information

### For Detection:

We offer state of the art spectrometers based on the Avantes Star- and SensLine spectrometers, tailored for optimal performance in the Raman range of interest.

## Ordering Information

### AvaRaman-A

*For basic applications.  
Based on an uncooled spectrometer this is the entry bundle for reasonable strong signals*

- Range : 150  $\text{cm}^{-1}$  - 3600  $\text{cm}^{-1}$
- Resolution: 6  $\text{cm}^{-1}$
- AvaSpec-ULS2048L-USB2 set for (788-1100nm), slit-25, DCL-UV/VIS200, FC-PC connector)
- Also including: AvaLaser785 (incl. probe), AvaRaman software: Panorama Light  
Optional: Replaceable slit (add -RS)

### AvaRaman-B

*For demanding applications.  
Based on the cooled version of the spectrometer offered in the bundle Ava-Raman-A.  
Cooling enables you to work with longer integration times, yet keeping the thermal noise limited.*

- Range : 150  $\text{cm}^{-1}$  - 3600  $\text{cm}^{-1}$
- Resolution: 6  $\text{cm}^{-1}$
- AvaSpec-ULS2048L-TEC-USB2 set for (788-1100nm), slit-25, DCL-UV/VIS200, FC-PC connector)
- Also including:  
AvaLaser785 (incl. probe)  
AvaRaman software: Panorama Light  
Optional: Replaceable slit (add -RS)

### AvaRaman-D

*For the most challenging applications.  
This bundle uses the AvaSpec-Hero for detection. The High end cooled back-thinned detector, low-noise electronics and optical bench with high Numerical Aperture, results in excellent Signal to Noise and Dynamic Range*

- Replaces AvaRaman-C
- Range : 100  $\text{cm}^{-1}$  - 3000  $\text{cm}^{-1}$
- Resolution: 10  $\text{cm}^{-1}$
- Spectrometer based on an AvaSpec-HS1024x58TEC-EVO set for (788-1020nm), slit-25, DCL-UV/VIS200, FC-PC connector, replaceable.
- Also including:  
AvaLaser785 (incl. probe )  
AvaRaman software: Panorama Light

### Raman spectroscopy:

- Analysis of liquids, powders, tablets, gels
- Measurements through transparent and semi-transparent packages