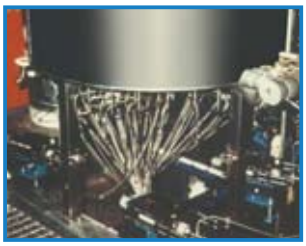
HORIBA Scientific

JOBIN YVON Technology

Raman portable / process analysis solution



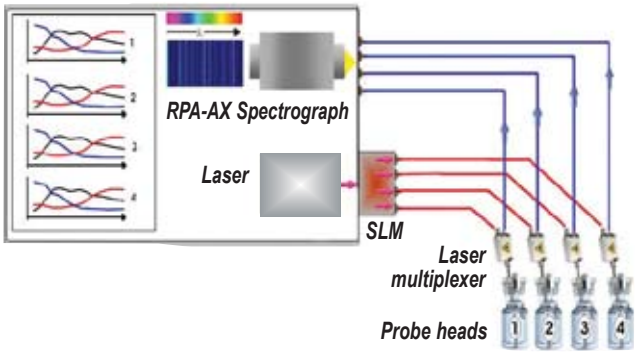



Raman Process Analysers

The RPA-HE and RPA-AX RAMAN PROCESS ANALYSERS have been developed to provide advanced and robust performance with maximum reliability for process control applications. The compact, rugged construction with no internal moving parts is perfectly adapted to demanding industrial environments. The analysers have been designed to function with low maintenance, minimal downtime and little operator training.

Innovative and rugged design based on concave holographic grating or axial configurations provide unsurpassed sensitivity and total spatial coverage over the common Raman range from 150 – 3200 cm^{-1}. High spectral resolution versions are also available for more demanding applications, without the drop in efficiency or spectral artifacts found in split or stiched spectral data acquisition (typically found in echelle or split grating designs).

The RPA-AX spectrograph has a unique optical imaging capability, which is ideal for remote, in-situ multiplexing. It has the capability to multiplex up to 64 separate channels of information on the CCD detector – outperforming conventional types of spectrometer designs limited to only 4 tracks of information. Thus, it will aid in lowering the cost of analysis and can, for instance, accommodate increased numbers of fail-safe or reference tracks.



RPA-HE analyser
Fixed spectrograph design, rugged and compact construction No moving parts. High efficiency optics. 532, 633, 785 nm versions (optimised for specific laser)
Full range ~150-3200 cm^{-1}
4 track multiplexing (maximum)
TE air cooled CCD detector 1024x256 pixel. Specialised high sensitivity CCD Chip for process control
Fibre link connection, 19” rack mounted
Environmental housings NEMA

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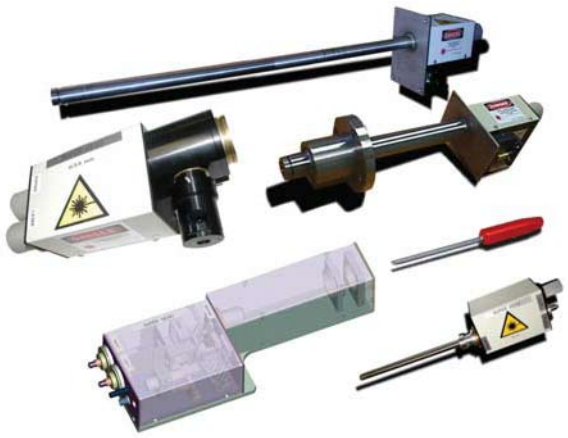
Probe

The final component of the Process Raman Analyser is the sampling probe. The purpose of the Raman probe is to efficiently deliver the laser beam to the sample material, and to collect and filter the returning Raman signal.
All SuperHead series of Raman probes utilise a single fibre for delivering the laser excitation and another for the signal collection. High efficiency filter designs incorporated within the probe heads offer high signal transmission and effective Raman signal separation. Standard high throughput telecommunication optical fibres (50-200 micron diameters) are used throughout, reducing costs and increasing performance. Low OH fibres and ceramic core cladding are available for increased NIR transmission and maximum thermal stability.

Probe Features & Specifications :

- 514, 532, 633, 785 nm standard laser wavelengths.
- Holographic notch or dielectric (long life) rejection filter options.
- Immersion optics - 1/4" to 1,4" outer diameter, short or extended focus.
- Hastelloy or 316 SS casings.
- Flange mount options.
- Sapphire or quartz window options.
- Options for up to 400°C and 3000 psi.
- One in / one out fibre design, SMA or FC connectors.
- Optical fibre length of 1m to several 100 m.
- Toughened or armoured cabling and protective enclosures.
- 180° back scattering measurement.
- Non-electrical laser safety options.
- Anti-fouling options.
- Patented Reference Calibration Device (RCD) for data calibration.
- ATEX certified products.

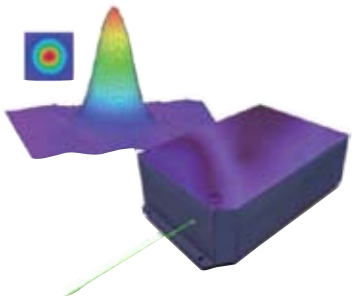


Superhead industrial Raman probes

Lasers

Highly stable solid state 785 nm and 532 nm laser sources are standard in most HORIBA Jobin Yvon process systems. The lasers are optimized for fibre-linking and can provide access to typically 100-500 mW of laser energy - thereby maximising the speed of acquisition and multiplexing capabilities. These solid state lasers are robust and have good long term stability, often superior to older laser technologies. They are well established in demanding process applications. Alternative laser sources can also be supplied, and whatever the application HORIBA Jobin Yvon can provide the best solution :

- 532 nm lasers for improved sensitivity or resonance enhancement
- 633 nm lasers for cost effective solutions
- 785 nm lasers for sample fluorescence suppression



便携式拉曼光谱仪技术参数

仪器型号：HE 785
光谱仪：采用一个全息凹面光栅，效率最高
光纤探头：标准SuperHeadTM光纤探头，提供可视（可观察样品）和高空间分辨率（可做共焦）选项；
- 探头可以配接各种物镜：40mm 焦长物镜，10X物镜，50X长焦物镜等；
- 提供各种浸入式光纤探头；
- 提供共焦光纤探头。

光谱分辨率：~3 cm^{-1}/像元
光谱范围：200 to 3200 cm^{-1}
仪器外形尺寸：HE785安装在 500x400x200mm 的箱子中
探测器：CCD 多道探测器
- 1024x256 像元，MPP 模式（可以提供其它探测器选项）
- 高效PE冷却（空冷，无需水冷却），工作温度-70°C
- 读出噪声： < 8 电子/像元
- 暗电流： < 0.01 电子/像元/秒

电源：220 V/15 安培
计算机及软件：Windows XP， LabSpec 软件，允许控制仪器，采集数据以及各种数据处理及存储功能。含手提电脑一台。
激光器功率：可以根据不同应用提供不同激光器功率，有多种选择，从80mW 到 300mW以上。
三脚架，用以支撑光纤探头

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