OPTOSKY Spectroscopy Solutions

Datasheet

Desktop Raman Spectrometer ATR3380

Features

- Ultra-high resolution, up to 0.9cm-1
- Lengths available: 210, 350 and 510mm
- Larger focal length, higher resolution
- Maximum wavenumber range: 50~10000
- Built-in 2-4 rotating gratings, flexible operation,
- Adaptable to up to 3 excitation wavelengths
- A variety of cooling detectors available
- Dual detectors (Optional)
- Coaxial multi-wavelength raman probe,
- Specialized numerical aperture matching system

Application

- Nano particles and new materials
- Universities, research institutes
- Biological sciences
- Forensic identification
- Material sciences
- Medical immunoassays
- Agriculture and food identification
- Water pollution analysis
- Gemstone and inorganic mineral identification
- Environmental sciences

Model	Feature
ATR3380-FL210	Focal length 210mm, resolution 2.0cm-1
ATR3380-FL350	Focal length 350mm, resolution 1.5cm-1
ATR3380-FL510	Focal length 510mm, resolution 2.0cm-1

Description

The ATR3380 High resolution raman spectrometer is a new, optimized, breakthrough high-resolution raman spectrometer developed by optosky tiancheng after 5 years of experience in the development of raman spectrometers for more than 20 years. It is based on the ATP7330 rotating grating spectrometer (built-in 2-4 rotating gratings), which can realize both wide-band raman test signals and ultra-high resolution raman test signals. ATR3380 has a variety of cooling detectors to choose from, with the lowest cooling temperature reaching -70℃ and the longest integration time reaching 1.3h.

ATR3380 is specially designed with multi-wavelength raman probe. The laser light paths of different excitation wavelengths are coaxial, so the measurement positions of the two laser paths are the same, making it very easy to use and especially suitable for laboratory scientific research. The remarkable reliability makes the test results accurate and reliable. The excellent low stray light design makes ATR3380 adaptable to use in complex environments. The spectrometer has a wide range of applications, especially in scientific research, food safety, pharmaceutical engineering, etc.

ATR3380 comes with powerful multifunctional raman spectroscopy software. After rigorous testing by hundreds of scientists around the world and collecting their improvement suggestions, it has gone through nearly a hundred version updates. Its functions are very complete and stable, making it very suitable for raman research.

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1. Parameter

Model	ATR3380-FL210	ATR3380-FL350	ATR3380-FL510
Reliability			
Spectral stability	σ/μ < 0.8% (COT 8 hours)		
Optical parameters			
Maximum wave number range (cm^{-1})	150~10000cm^{-1} Customizable: ① Low wavenumber Raman (50~10000cm^{-1}); ② Terahertz Raman (10~10000cm^{-1})		
Spectral resolution (cm^{-1})	2.0	1.3	0.9
SNR	>6000:1		
Entrance slit	50um，Optional: 25um or electrically adjustable slit		
Optical system	Asymmetric C-T optical path, 2-4 rotating gratings		
Focal length	210mm	350mm	510mm
Built-in gratings	2	3	3
Detector (dual detectors optional)			
Type	Deeply cooled linear back-illuminated area array CCD, deeply cooled InGaAs detector (multiple detectors available)		
Detection range	200nm-1100nm、900-1700nm		
Effective Pixels	CCD: 1024 or 2048, short-wave infrared InGaAs CCD: 1024 or 512		
Dynamic Range	13000:1 (depending on the selected detector)		
Integration time	1.3h (depending on the selected detector)		
Excitation light			
Laser wavelength and power	● The following excitation wavelengths are available (up to three wavelengths are supported), and other excitation wavelengths can be customized: ● 532nm @ 80mW ● 638nm @ 50mW ● 785nm @ 500mW ● 1064nm @ 500mW ● Single longitudinal mode laser optional		
Laser width	0.08nm		
Power stability	σ/μ <±0.2%		
Fiber Optic Raman Probe:			
Working distance	6mm		
Fiber length	1.5m		
Interface	Laser end: FC/PC Raman signal end: SMA905		
Rayleigh scattering suppression capability	OD>8		
System parameters			
Interface	USB2.0		

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Voltage	DC 24V±5%		
Working temperature	-10~45 ℃		
Working humidity	< 95%		
Physical parameters			
Dimensions (excluding detector)	320×227×201mm^3	469×395×238mm^3	588×410×240mm^3
Weight	25kg	33kg	45kg
*1: Low wave number Raman (From 50cm^{-1}), Terahertz Raman (From 10cm^{-1}) can be customized. The above parameters can be customized *2：The parameters in the table are all standard parameters, and other parameters can be customized			

2. Selection Guide

Extended Model	Feature
ATR3380-FL210	Focal length 210mm, resolution 2.0cm-1
ATR3380-FL350	Focal length 350mm, resolution 1.3cm-1
ATR3380-FL510	Focal length 510mm, resolution 0.9cm-1
ATR3380-LT：Deep cooling to -30℃, Integration time (up to 1.3h) ATR3380-SCM：Cooled SCMOS Detector	

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