All-Auto & High Throughput Portable Raman Analyzer

ATR8000

Feature:

- Test 100 samples at the same time;
- All-auto Detection;
- High sensitivity;
- Wavelength customized : 532nm, 633nm, 785nm, 1064nm;
- Double wavelengths customized: 785+1064nm, 532+1064nm, 532+633nm, 633+1064nm;
- Bar codes & QR codes recognition, it is easy for management;
- High reliability;
- It can auto-identify, and auto-skip without sample;
- Smart & intuitive software supports operation.

Application:

- University lab, scientific research institution
- Nanoparticles & New materials
- Biological science
- Forensic Identificaiton
- Material science
- Medical analysis of immunology
- Agriculture & Food of identification
- Water pollution analysis
- Gem & Inorganic mineral of immunology
- Environment science

Description:

ATR8000 full-auto & high throughput Portable Raman Analyzer is a all-auto detection instrument for improving detection throughput, reducing workload & protecting the health of testing personnel.

ATR8000' s software uses two-dimensional platform of high-precision & all-auto scanning technique. And it runs automatically at original manual operation with the step of Raman test, calculating the result, judgment, display & printing results, etc.

ATR8000 set to test 100 (maximum number)) samples at once. The sample tray can be changed and customized. It supports Raman probe illuminating laser beam from above which direct detection of SRES with Raman, and from the bottom to the top.

ATR8000 uses the customized Android with high security. It has thermal printer, bar code scanner, USB interface, WIFI & 4G with customized which can directly print or submit to competent

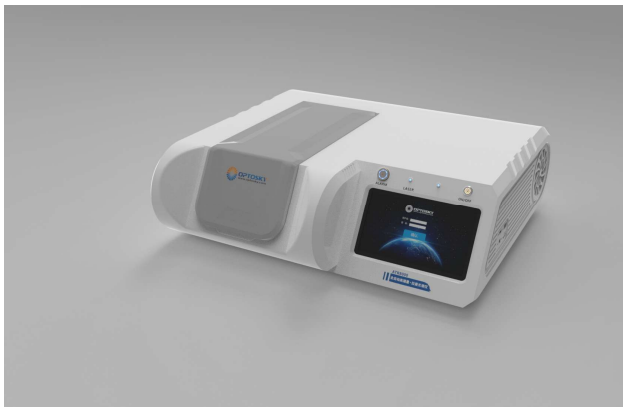

Figure1 ATR8000 All-auto & High Throughput Portable Raman Analyze

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The advantage of ATR8000 full-auto & high throughput Portable Raman analyze:

The Raman testing for one sample usually costs 10s or more time. Some experiments perform multiple experiments in order to obtain a higher signal-to-noise ratio, and the experiment time is longer. It takes longer time for the 1064nm Raman spectrometer to scan samples, because of weak excitation efficiency, and low response rate of infrared sensors etc. In this way, researchers consume a lot of time and effort to repeat test labors if they want to measure 100 samples, it may be take hours or even a whole day.

ATR8000 combines high-sensitivity Raman spectroscopy, precision motion control, and smart sensing, to deal with the problem of repetitive work for researchers. It come true the Raman determination of automation and high throughput. ATR8000 can test 100 samples at the same time, and automatic light and sound alarmed will warn experimenter upon the end of the test, as a result of reducing experimenter work load.

Form 1 Product Selection Table of ATR8000

	Model	Excitation Wavelength /nm	Laser Power /mW	Wavelength Range	Resolution /cm^{-1}
Single Wavelength	ATR8000-532	532	100	200 ~ 3700	5 ~ 7
	ATR8000-633	633	50	200 ~ 3500	3 ~ 6
	ATR8000-785	785	500	200 ~ 3500	3 ~ 8
	ATR8000-1064	1064	500	200 ~ 2600	7 ~ 12
	ATR8000-830	830	500	200 ~ 3500	3 ~ 8
Double Wavelength	ATR8000-785+1064	785+1064	500	200 ~ 3500	3 ~ 8
			500	200 ~ 2600	7 ~ 12
	ATR8000-532+633	532+633	100	200 ~ 3700	5 ~ 7
			50	200 ~ 3500	3 ~ 6
	ATR8000-532+1064	532+1064	100	200 ~ 3700	5 ~ 7
			500	200 ~ 2600	7 ~ 12
	ATR8000-532+785	532+785	100	200 ~ 3700	5 ~ 7
			500	200 ~ 3500	3 ~ 8
	ATR8000-633+1064	633+1064	50	200 ~ 3500	3 ~ 6
			500	200 ~ 2600	7 ~ 12

1 Parameters

Model	ATR8000-532nm	ATR8000-633nm	ATR8000-785nm	ATR8000-830nm	ATR8000-1064nm

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Interface	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0
Integral time	1ms - 120s	1ms -64s	4ms - 120s	4ms - 120s	4ms - 120s
Voltage	AC 220V(+/-5%)	AC 220V(+/-5%)	AC 220V(+/-5%)	AC 220V(+/-5%)	AC 220V(+/-5%)
Working temp.	-10~40 ℃	-10~40 ℃	-10~40 ℃	-25~50 ℃	-10~40 ℃
Working humidity	< 95%	< 95%	< 95%	< 95%	< 95%
Size (L*W*H) (mm)	800*500*300	800*500*300	800*500*300	800*500*300	800*500*300
Channels	100	100	100	100	100
Precision guide	0.625μm	0.625μm	0.625μm	0.625μm	0.625μm
Weight	27 Kg	26 Kg	25Kg	25 Kg	27Kg
Reliability					
Optical stability	σ/μ < 0.5% (COT 8 hours)	σ/μ < 0.5% (COT 8 hours)	σ/μ < 0.5% (COT 8 hours)	σ/μ < 0.5% (COT 8 hours)	σ/μ < 0.5% (COT 8 hours)
Temperature stability	shift ≤ 1 cm^{-1} (10-40 ℃)	shift ≤ 1 cm^{-1} (10-40 ℃)	shift ≤ 1 cm^{-1} (10-40 ℃)	shift≤ 1 cm^{-1} (10-40 ℃)	shift ≤ 1 cm^{-1} (10-40 ℃)
Intensity variation (in 5 ~ 40 ℃)	<±5%	<±5%	<±5%	<±5%	<±5%
Optical					
Wavelength (cm^{-1})	200-3700	200-2700	250-2700、200-3500、200-4200 Customized	200-2700	200-2600
Resolution (cm^{-1})	8	10	6, 8, 10	6	13
SNR	>1500:1	>3000:1	>3000:1	>3000:1	>3000:1
Detector					
Model	TE-Cooled CCD	TE-Cooled CCD	TE-Cooled CCD	TE-Cooled CCD	High sensitivity 512 pixels InGaAs CCD
The Cooled	-10 ℃	-10 ℃	-10 ℃	-10 ℃	-20 ℃
Detection range	200-1100 nm	200-1100 nm	200-1100 nm	200-1180 nm	900-1700 nm

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Dynamic range	50000：1	10000：1	50000：1	30000：1	80000：1
Light					
Central wavelength	532nm±0.5nm	633nm±0.5nm	785nm±0.5nm	830 nm±0.5nm	1064±0.5nm
HBW	≤ 0.1 nm	≤ 0.1 nm	0.08 nm	0.1 nm	0.1 nm
Maximum power	≥100 mW	≥100 mW	≥500 mW	≥500 mW	≥500 mW
Power stability	σ/μ <±0.5%	σ/μ <±0.5%	σ/μ <±0.2%	σ/μ <±0.2%	σ/μ <±0.2%
Microprobe					
Working distance	6 mm	6 mm	6 mm	6 mm	6 mm
Resistance	OD>8	OD>8	OD>8	OD>8	OD>8
NA	0.3	0.3	0.3	0.3	0.3
Aperture	7mm	7mm	7mm	7mm	7mm
Platform	Android				
Network	WIFI、4G（Customized）				

Figure 2 ATR8000's Sample Cabinet

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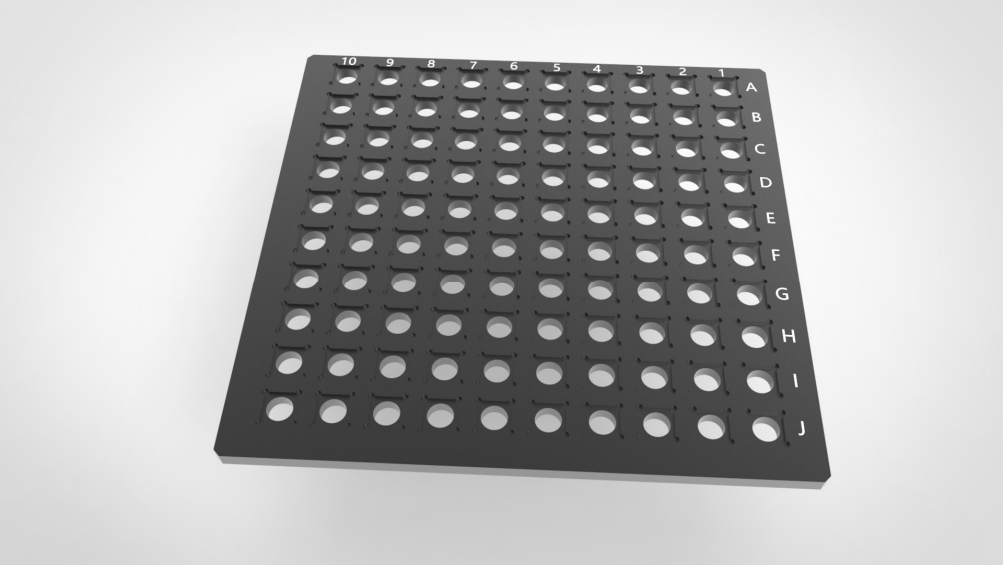

Figure 3 It is ATR8000's sample tray, can be taken with integral, and put in sample Cabinet with sample.

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