OPTOSKY
Spectroscopy Solutions

ATL6000
LIBS Analyzers

Discover Faster

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LIBS operates by using a pulsed, focused laser that is fired at a sample with sufficient pulse energy as to create a plasma around the area struck. Bound atomic electrons are striped from the atoms comprising the material. As the plasma cools, atoms recombine with electrons and in the process emit light in the UV, optical and IR regimes. LIBS can analyze any element in the periodic table.
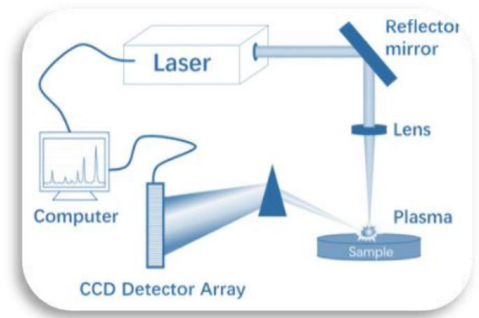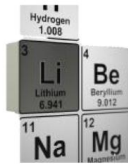

Meet The ATL6000

1 **Excellent spatial resolution**

Microanalysis of surfaces.

It has the ability to resolve space below 100 microns.

Accurate thickness analysis.

2 **Compatible with various forms of samples**

Direct analysis of solid samples.

Rapid phase inversion enrichment analysis of liquid samples.

Fast sample processing.

3 **Detection of light elements (Z<12)**

Can measure C, N, O, Li, Be, B and other elements.

Make up for the shortcomings of XRF technology.

4 **Simultaneous analysis of multiple elements.**

At the same time, it can realize qualitative and quantitative analysis of various elements. Capable of covering most elements in the periodic table.

5 **Lightweight and portable**

The weight of the whole machine is 1.9KG (including battery).

Long standby time.

6 **The software interface is simple and clean.**
Eye-catching and clear.

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Elemental analysis of ore. The ATL6000can accurately and conveniently analyze the metal content of ore.

Lithium exploration. Traditional mining and selection needs to take samples from multiple points on the site and send them to the laboratory for analysis. The waste samples are many and time-consuming and labor-intensive.ATL6000LIBS on-site testing does not need to transport heavy samples to the laboratory, and the analysis results can be obtained on-site, which greatly improves the exploration efficiency.

Lithium battery recycling. Accurate measurement to improve recycling efficiency.
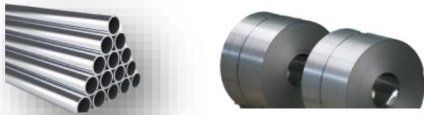
Alloy detection

Material Component Identification (PMI). It can be used for quality control in metal manufacturing and processing industries, and can perform material composition analysis and alloy grade identification for a variety of materials including key components, raw materials, and welds.

The ATL6000 can be used for almost any alloy detection, including scrap metal, aluminum alloys, superalloys, etc. It has excellent environmental adaptability and can easily work in complex working conditions.

Lithium Ore

Element	Content(%)	RSD(%)
Be	0.0025	8.96
Li	0.2147	7.93
Si	34.7060	9.33
Al	7.8141	8.63
Fe	0.2785	8.02
Mn	0.0542	9.03
Ti	0.0108	7.53

Steel

Element	Content(%)	RSD(%)
Fe	94.5016	9.09
Mn	1.03	8.29
Cr	0.301	8.96
Ni	0.304	7.86
Cu	0.091	8.21
Mo	0.017	9.68
V	0.0037	8.06
Ti	0.0037	9.08

Copper alloy

Element	Content(%)	RSD(%)
Cu	61.8188	9.33
Zn	34.94	8.69
Pb	2.94	9.02
Fe	0.001	8.23
Ni	0.0011	8.96
Si	0.002	9.03
Al	0.001	8.09
Mn	0.0013	8.93

Aluminum alloy

Element	Content(%)	RSD(%)
Al	96.52	9.23
Si	0.541	9.85
Fe	0.206	8.2
Cu	0.040	9.16
Mu	0.864	7.69
Mg	1.17	8.23
Cr	0.085	9.33
Ni	0.059	8.29
Zn	0.297	7.02
Ti	0.114	9.63

OPTOSKY can provide customized services,

Technical Parameter

Core Technology	Based on LIBS laser technology, no ionizing fluorescence radiation
Size	227*86*234mm
Weight	1.25kg
Battery	14.8V，3250mAh，48Wh
Waterproof Function	IP54 waterproof and dustproof rating
Display	4.0 inch resistive touch screen, 320*480 pixels
Memorizer	Internal standard storage 8G, can be upgraded to 16G
Laser	Class 3B 1064nm Passive Solid State Laser
Spectrometer	Resolution better than < 0.2nm
Single Test Time	1s
High Precision Test Mode	Fast test and accurate test
Alloy Base	Magnesium Base, Aluminum Base
Testable Element	Mg、Al、Cr、Cu、Fe、Mn、Ni、Si、Ti、Zn、Zr、Pb、Sn、Sr
Sample Type	Cylinders, thin plates, wires over 1mm in diameter, foils (~0.02mm), large pieces (no powder)）
Detection Limit	varies according to different substrates and elements
Working Temperature	Standard 0~40, Recommended 5~35
Software	data download and custom editing of grade library, test report generation
Safety	Physical laser safety interlocking device
Warranty	one year
Extended Warranty	purchase more warranty time
Routine Maintenance	Field standardization with specified alloy standards for increased accuracy