Expert-1 LIBS

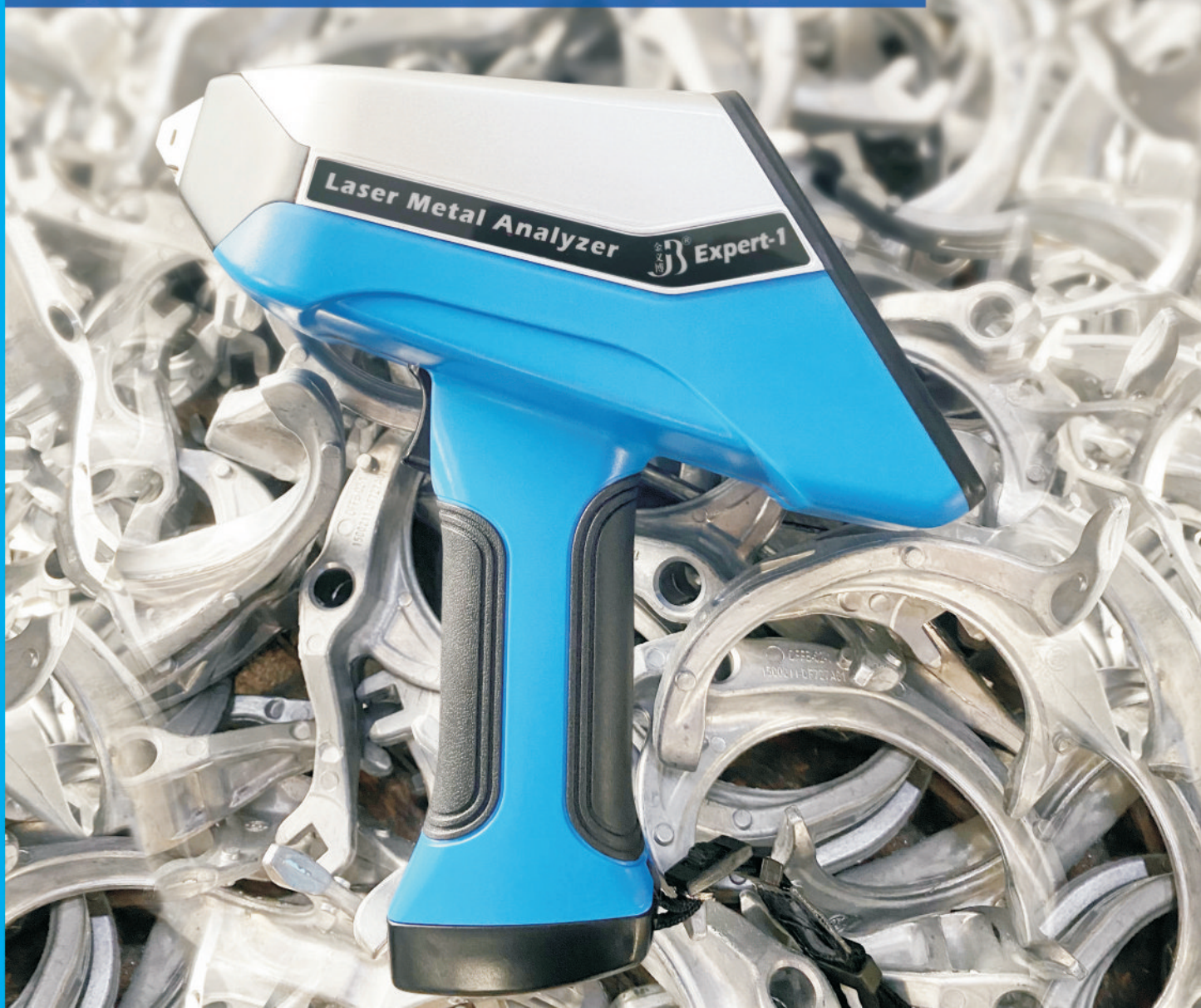
The Fastest Laser Metal Analyzer

- √ LIBS technology
- √ Postitive Material Identification(PMI) and component analysis
- √ Testing time only takes 1 second
- √ Ideal for metal sorting
- √ Durable, low maintenance cost
- √ Advantages of measuring Li, Mg, Al, Si
- √ Especially suitable for aluminum alloy

This is Expert–1 LIBS

Expert–1 LIBS uses a high–energy focused pulsed laser beam to excite the surface of the sample, and analyzes the generated atomic spectrum through an algorithm to obtain the corresponding element composition and content. This is a fast qualitative and quantitative analysis technology for industrial application.

Expert–1 LIBS is a metal analyzer with the fastest scrap sorting speed in the world. Just pull the trigger and the results will be displayed on the screen after one second, it can be used for a long time even under the harshest scrapyard conditions. Expert–1 LIBS can identify and analyze various alloys, it has the content range of common alloys including aluminum, magnesium, titanium, cobalt, chromium, nickel, and copper alloys, as well as stainless steel, tool steel, low alloy steel, etc.



Key Applications

Fabraication and Positive Material Identification, PMI

Expert-1 LIBS can quickly identify all kinds of stainless steel such as 304, 321, 316, and aluminum alloy such as ADC12, 6061, 6063. It can also detect Si and Cu content in aluminum and zinc alloy raw materials to determine whether the quality of the raw materials meets the requirements.

Recycling and Sorting

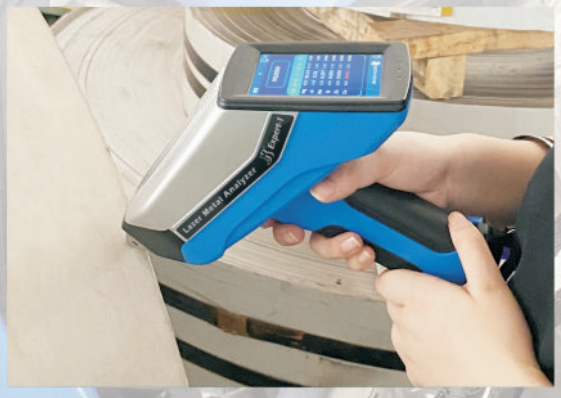
Along with recycling and the proportion of recycled raw materials used in the metallurgical industry has increased year by year, Expert–1 LIBS can filter recycled material before customers are buying, sorting and melting, when the machine is ready for delivery before, the workers will confirm again, this step provides effective protection for production and sales. And it can improve quality management system, reduce error rate and reduce cost and improve efficiency.

Trading

In various metal trading markets, both parties can use LIBS to identify for stainless steel, aluminum alloy and copper alloy and on–site quantiative detection of main components so as to avoid losses due to material failure.

Analyze a Wider Range of Alloys

Using Expert–1 LIBS means you can identify and analyze a wider range of alloys, the instrument can give results for all common alloys. Applying Expert–1 LIBS means analying all common alloy types, including heavy alloys and light alloys. Many similar products can only analyze and identify light alloys, such as aluminum, magnesium and titanium alloys.



Parameter

Item	Index
Core Technology	LIBS
Dimension	227(L)*86(W)*234(H) mm
Weight	1.25Kg (with battery)
Waterproof Level	IP54 waterproof and dustproof grade
WIFI	2.4GHz 802.11n/b/a, wireless network
Bluetooth	Bluetooth 4.1 Classic, Bluetooth low energy
Display	4.0 inch touch resistance screen, 320*480 pixel
Memory	The standard is 8GB, can be upgraded to 16GB
Laser	Class 3B, 1064nm, solid-state laser
Spectrometer	Resolution<0.2nm, spectral range: 250~415nm
Single Test Time	1s
High Precision Test Mode	It can analyze the average value of multiple single test values through algorithms
Alloy Base	Al base, Fe base(low-alloy steel, tool steel, stainless steel), Mg base, Zn base, Cu base(brass, bronze), Ti base, and Ni base.
Sample Type	Cylinder, thin plate, wire with diameter above 1mm, foil≥0.02mm, Large pieces (no powder)
Detection Limit	According to different bases and elements
Database	Including more than 100 most conventional alloy grades, advanced customization through software
Operating Temperature	Standard:0~40℃(32~100°F), suggestion:5~35℃(40~95°F)
Remote Mode	The screen display can be projected to a PC or mobile phone, and the test can be triggered remotely
Safety	Physical laser safety interlock device
Warranty	1 year
Extended warranty service	Extended warranty can be obtained by purchasing extended warranty

Compare with HHXRF

Item	Expert -1 LIBS	Handheld XRF Spectrometer
Safety	Without any ionizing radiation, 3B human eye safety laser.	With X photoionizing radiation, safety protection is required during use, and employees must undergo strict training before starting operation.
Detection Speed	Out-of-the-box, results in one second	Long test time, each test takes 10-60 seconds.
Maintenance Cost	There are no vulnerable parts, the service life of core components exceeds one million tests, and the maintenance cost in normal use is extremely low	X-ray tubes and detectors are both vulnerable parts, which are expensive to replace. The average life of the X-ray tube is 5 years, so the replacement of the two parts is 8000.00 USD.
Analyzeable Element	Covers almost all metal elements and can be used to identify grades and components.	Important for the identification of heavy metal elements, such as stainless steel, alloy steel, but not suitbale for testing all light elements such as Mg, Al
Degree of Sample Damage	After the test, a burn mark with a diameter of about 0.1mm and a depth of 20μm will be left	Non-destructive or no trace after testing.

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