

- ※ *Rapid Alloy Identification*
- ※ *No Ionizing Radiation*
- ※ *Low Maintenance Cost*
- ※ *Simple, Intuitive to Use*
- ※ *Best for Aluminium Alloy*

## Handheld Laser Induced Breakdown Spectrometer HP-VELA001





## Technology

Laser Induced Breakdown Spectroscopy is an elemental analysis technique with broad application in science and industry. It uses high energy, short pulse laser as the excitation source to achieve optical breakdown at material surface. As plasma cools down excess of energy is emitted optically and is sequentially collected by optical spectrometers. By analyzing the emitted optical spectrum one can obtain both qualitative and quantitative information about the material composition. Our first-generation handheld LIBS analyzers are best suited for rapid alloys identification, including but not limited to aluminium alloys, stainless steels, copper alloys, and nickel alloys.





## Applications

### Material Fabrication

(Positive Material Identification, PMI)

Our handheld LIBS analyzer can rapidly verify the chemical composition of metals and alloys. It is especially powerful in Measuring light elements, such as Al, Mg, Si, and aluminum and zinc alloys. It also can be used as part of QC/QA process to determine whether the material meets customer's requirements.



### Metallurgy industry

Recycling metals and scraps provide metallurgy industry with crucial cost-cutting and environmental-protecting benefits. Efficient recycling relies on efficient sorting techniques. Our handheld LIBS analyzer provides our customers with rapid on-site sorting capability with minimal sample surface preparation. Improved efficiency leads to improved profits.



## Trading or Inspection

Buyers and sellers can use our handheld LIBS analyzers to ensure the material quality and grades before completing transaction to avoid costly mistakes or accepting inferior, out-of-specification materials.



## Product Highlight

### Fast

Highly integrated software and algorithm allows rapid testing and analysis. Each individual test takes less than 1 second.

### Class 3B Laser

The laser in our LIBS analyzer is a 1064nm, class 3B solid-state laser. No ionizing radiation hazard! It posts very little threat to human eyes when being used properly



## Laser Safety Interlock Button



**Laser Safety Interlock Button** The tip of our LIBS analyzer features a laser safety interlock button. It requires to be pressed to allow laser to be emitted. This prevents laser from being triggered accidentally into the open space.



## Customizable Alloy Libraries

- √ Currently based on UNS system.
- √ Can be customized for each individual customer.



Fast

Highly integrated software and algorithm allows rapid testing and analysis. Each individual test takes less than 1 second.



Lightweight

Weights only 1.25Kg or 2.75lbs. It is the smallest and lightest among any metal analyzers on the market. Its well balanced design and ergonomics allow long duration usage.

## Detectable

### Aluminium

9.012182 4 Be Beryllium	24.3050 12 Mg Magnesium	26.98153 13 Al Aluminium	28.0855 14 Si Silicon	47.867 22 Ti Titanium	51.9962 24 Cr Chromium	54.93804 25 Mn Manganese	
55.845 26 Fe Iron	58.6934 28 Ni Nickel	63.546 29 Cu Copper	65.38 30 Zn Zinc	112.411 48 Cd Cadmium	118.710 50 Sn Tin	207.2 82 Pb Lead	208.9804 83 Bi Bismuth

### Stainless Steel Alloys

26.98153 13 Al Aluminium	28.0855 14 Si Silicon	47.867 22 Ti Titanium	50.9415 23 V Vanadium	51.9962 24 Cr Chromium	54.93804 25 Mn Manganese	55.845 26 Fe Iron	58.93319 27 Co Cobalt	58.6934 28 Ni Nickel	63.546 29 Cu Copper	92.90638 41 Nb Niobium	95.96 42 Mo Molybdenum	183.84 74 W Tungsten
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### Copper Alloys

9.012182 4 Be Beryllium	26.98153 13 Al Aluminium	28.0855 14 Si Silicon	51.9962 24 Cr Chromium	54.93804 25 Mn Manganese	55.845 26 Fe Iron	58.6934 28 Ni Nickel	63.546 29 Cu Copper	112.411 48 Cd Cadmium	118.710 50 Sn Tin	207.2 82 Pb Lead
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## Advanced Industrial Design

Our handheld LIBS analyzer is IP54 certified. It does not have fragile components like the x-ray tube in handheld XRF spectrometers. It requires very low maintenance cost. The large, top surface area is aluminum. It is sturdy, scratch-resistant, and better for heat dissipation. The custom-made, high-capacity lithium-ion battery can usually last a full day. Checkout other useful features below!





### Specifications:

	Standard	Enhanced	Custom
<b>Stainless Steel</b>	✓	✓	○
<b>Wrought Aluminum</b>	✗	✓	○
<b>Cast Aluminum</b>	✓	✓	○
<b>Zinc Alloys</b>	✗	✓	○
<b>Brass</b>	✓	✓	○
<b>Other Copper Alloys</b>	✗	✓	○
<b>Dimension and Weight</b>	227*86*234 mm, ~1.25 kg (Battery including)		
<b>Language Support</b>	Chinese, English		
<b>Battery Capacity</b>	43 WH		
<b>Working Temperature</b>	0-40 Celcius, recommend to work between 5-35 Celcius		
<b>Single Test Time</b>	~1 second		
<b>Protection Class</b>	IP54 (GB/T 4208-2008) Certified		
<b>WIFI</b>		✓	
<b>Bluetooth Printer</b>		○	
<b>Customizable Front Panel</b>		○	
<b>Warranty</b>	One year factory warranty, Extend warranty available		

**Applications Images:**





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