



ELANIK

by Laser-Export



ELANIK

Handheld LIBS analyzer of
chemical composition of
metals and alloys

30-YEARS EXPERIENCE

in development, production and selling
lasers

- Since 1992 , we've supplied almost 50,000 lasers of our own production to 42 countries, mainly to the USA, Germany, France and Japan.

30-YEARS EXPERIENCE

in development, production and
selling lasers

The combination of the company's
knowledge and **experience** in the field of
optics, electronics, spectroscopy and
project management in **high technology
products** allowed in a short term creating a
device that has **no analogues in the world**
by its abilities.



DEVICES FOR EXPRESS-ANALYSIS OF CHEMICAL COMPOSITION

XRF portable analyzers



Mobile OES



LIBS handheld analyzers (ELANIK)



- + Lightweight
- Don't measure light elements, incl. carbon
- X-ray radiation

- + Can measure light elements
- Bulky, not easy to use
- Require maintenance
- Expensive

- + Lightweight
- + Easy to use
- + Maintenance free
- + No X-rays
- + Can measure light elements, incl. carbon

THE ONLY

portable analyzer in the world capable of **measuring carbon in steels in the air** simultaneously with other elements with only a few hundredths of a percent error, **without using inert gas** and other consumables.

Express analysis of carbon in steels, cast iron and titanium without argon

Multi-element quantitative analysis

No license required due to absence of x-rays

APPLICATIONS

- Measurement of elements from Li to Bi, including C (carbon) in steels and cast iron
- Positive Material Identification (PMI) - at the input control, in warehouses, in the production process and in the field (pipelines, building constructions, workshops)
- Metal and alloys sorting at scrap recycling
- Calculation of carbon equivalent during welding and heat treatment.

The image shows a portable LIBS (Laser-Induced Breakdown Spectroscopy) analyzer housed in a rugged, open carrying case. The case is filled with various components, including a laser unit, a detector, and a control panel. The entire scene is overlaid with a semi-transparent blue gradient. The text 'THE MAIN ADVANTAGES' is prominently displayed in white, bold, sans-serif font across the upper left portion of the image.

THE MAIN ADVANTAGES

- Portable
- Quick – analysis in seconds
- Carbon measurement!
- High sensitivity - low limits of detection (LODS) for light elements including C, Be, Mg etc.
- No inert gas required
- No X-Ray related restrictions
- Own well-developed analytics for LIBS
- Best price/quality ratio in the market

EASY TO USE

- Built-in camera
- Automated metal base selection
- No spectroscopy knowledge required
- Built-in alloy libraries
- Possibility to analyze small samples
- Doesn't contain parts requiring periodical replacement or maintenance
- Simple and clear interface



MEASURED ELEMENTS

Matrix	Measured elements
Fe	C, Mg, Al, Si, Ti, V, Cr, Mn, Co, Ni, Cu, Zr, Nb, Mo, W
Al	Be, Mg, Si, Ti, Cr, Mn, Fe, Ni, Cu, Zn, Zr, Sn, Pb
Cu	Be, Mg, Al, Si, P, Ti, Cr, Mn, Fe, Ni, Zn, Sn, Pb
Ti	Al, Si, V, Cr, Mn, Fe, Zr, Mo, Sn
Ni	Mg, Al, Si, Ti, V, Cr, Mn, Fe, Co, Cu, Nb, Mo, W

SPECIFICATIONS

Analysis method	Laser-induced breakdown spectroscopy
Source of radiation	pulsed YAG laser
Class	3B
Power supply	Rechargeable Li-ion batteries, 2 pcs.
Detection limits	From 1 ppm
Duration of measurement	4 – 15 s.
Display	resistive, diagonal 5"
Data storage	Built-in flash memory, 64
Data transfer	USB
Dimensions (LxHxW, mm)	298 x 316 x 106
Weight (kg)	2,5
Conditions of usage: - Environment temperature, °C - Relative air humidity at t=25°C, %, not more than	from +5 to +40 (standard version) from -20 to +40 (option) 90
Protection class from dust and moisture	IP54

Carbon equivalent (CE)

The calculation formula may be selected by the user when ordering. By default, the Dearden and O'Neill formula recommended by the International Welding Institute (IIW)

$$CE_{(IIW)} = C + Mn/6 + (Cr + Mo + V)/5 + (Cu + Ni)/15$$

and the following scale for assessment of weldability:

CE _(IIW)	Weldability	Display market color
0 – 0.35	Excellent	Green
0.36 – 0.40	Very good	Light green
0.41 – 0.45	Good	Yellow
0.46 – 0.50	Fair	Orange
>0.50	Poor	Red

MEASUREMENT RESULT

On the screen:

- Alloy type
- Alloy grade (3 closest grades to the chemical composition measured)
- Carbon equivalent (CE)
- Chemical composition of the sample
- Absolute deviation by the measured points (if the measurement conducted in several points)



ELANIK

We are always ready to discuss the possibility of using ELANIK for your application.
Please contact us with any questions.

Ordering Info

When ordering, please indicate:

- Alloy types required for the analysis (for example, steel and cast iron - Fe alloys; bronze and brass - Cu alloys; Al-based alloys, etc.)
- Required operating temperature range: + 5 - + 40 ° C - standard version,
or from - 20 ° C - low-temperature option.

THANKS FOR ATTENTION

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