ARUN TECHNOLOGY
MADE TO MEASURE

37 ANIVERSARIO CIENTEC

CALIBUS

CMOS-based LIBS Analyser Measuring Carbon in Ferrous

INNOVATIVE SPECTROMETERS FOR ELEMENTAL ANALYSIS

THE FIRST & ONLY CMOS-BASED CARBON ANALYSER

The **CALIBUS** is the latest in a series of laser-induced breakdown spectrometers (LIBS) from ARUN Technology. It is **the first and only CMOS-based LIBS analyser** in the market to measure carbon in ferrous.

The new **CALIBUS** is an ideal analytical solution for QA/QC, metallurgical manufacturing and machining, petrochemical industries, mining, scrap metal and recycling (figure 1).

Figure 1: Examples of where the CALIBUS has been used.

The **CALIBUS** has a wide spectrum range of 190nm—800nm. This range can detect more than 20 elements including C, Li, Be, B, Na, Mg, and Si.

The detection speed is fast! Analytical results can be shown in 1 second and efficiency is 10-30 times improved in comparison to other available conventional portable OES spectrometers in the market.

Because of the integrated CMOS technology, the LIBS is able to provide a higher precision test data.

The universal curve function makes it easy to just pick up and start testing straight away.

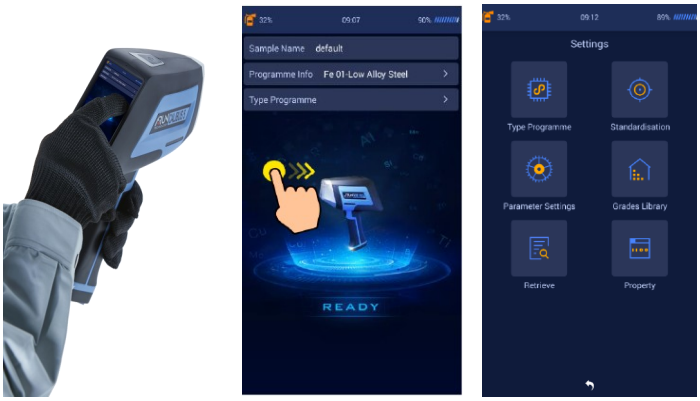


Figure 2: Illustrating (on the left) Changing the settings with 1 swipe.

THREE LIGHT ROOM DESIGN

Better resolution is achieved by three optical cells (figure 3): one is specific for detecting Carbon. This feature enables to achieve greater number of elements to be detected.

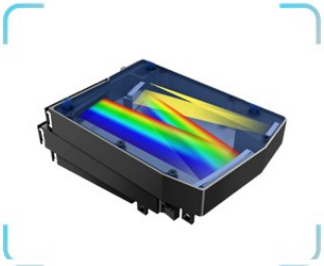


Figure 3: Three-optical cell lightroom

Its portability and weight at approximately 2kg, makes it easy to use in any situation and environment.

Laser safety eyewear (figure 4) is recommended. Appropriate eyewear for use with the CALIBUS must be rated with an optical density of 5 or greater.

Figure 4: Illustrating appropriate safety goggles being worn during testing

AMAZING EFFICIENCY

The argon purge technology reduces background noise and improves analysis results.

One argon canister can perform to carry out 300 excitations. A portable gas cylinder comes with the **CALIBUS** instrument (figure 5). It is used for topping up the argon canister (up to 15 times). This means an amazing 4,500 tests can be continuously performed on site.

Figure 5: Argon gas cylinder

Figure 6: Portable protective case

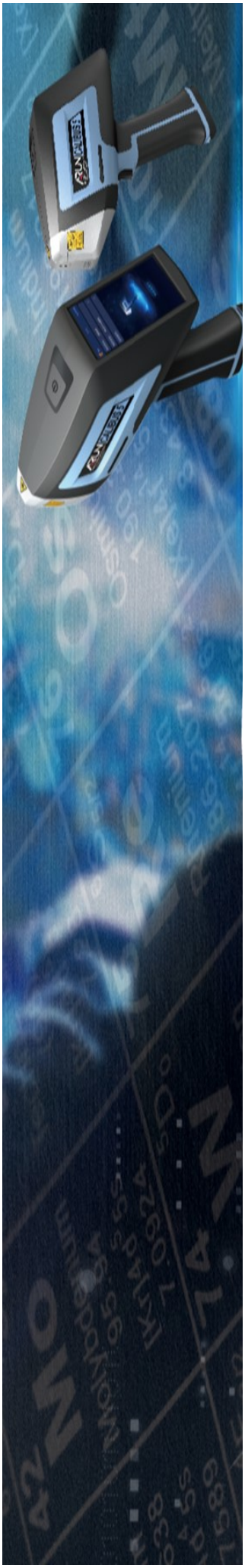
INTERACTIVE INTERFACING

Figure 7: Data transfer between LIBS and Android device

The smart phone and tablet interactive interface makes the **CALIBUS** more convenient to use. It has a 5-inch colour, high resolution touch screen that is protected with a super impact-resistant glass material.

The LIBS is equipped with a camera function so the position of the sample can be seen on the screen during testing.

The screen has an adjustable daylight display function so that the results can be clearly viewed in any indoor and outdoor environment.



TECHNICAL SPECIFICATIONS

Number of Models	3
Laser Source	Pulse laser Laser pulse 50Hz Laser wavelength 1064nm
Wavelength Range	190 –800nm
Number of Optical Cells	3
Sensor	CMOS
Operating Temperature	0°C to +40°C
Operating Humidity	20% - 95%
Weight	Approximately 2kg
Dimensions	92mm x 295mm x 245mm
Operating System	Android
Argon System	Flush
Analysis Time	1 second
Anti-Combustion	Positive pressure combustion-proof
Certification/Compliance	IP56
Display Screen	5” colour touch screen
IEC	IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-11
Element Analysis Capabilities	C, Si, Mn, Cr, Ni, Mo, Cu, V, Ti, Al, Be, B, Li, Na, Pb, Sn, Fe, Cu, Mg, Zn, Co and more!
Battery	A single battery operates 6-10 hours depending on the environmental temperature. Two rechargeable lithium batteries are included.

Table 1: Table showing technical specifications for CALIBUS

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Systems

Part No.	Model	Product Description
TBA	CALIBUS Al	Single-optic LIBS analyser. 220-700nm. Al base only. Does not analyse carbon.
TBA	CALIBUS 3S	High resolution LIBS carbon analyser. 190-800nm. Al, Fe and Cu bases. Does not analyse carbon.
TBA	CALIBUS 5	High resolution LIBS carbon analyser. 190-800nm, argon flushing. For Al, Fe and Cu bases. Can analyse carbon.

3 Year Warranty

ARUN offers a standard 3-year warranty on every new instrument purchase

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