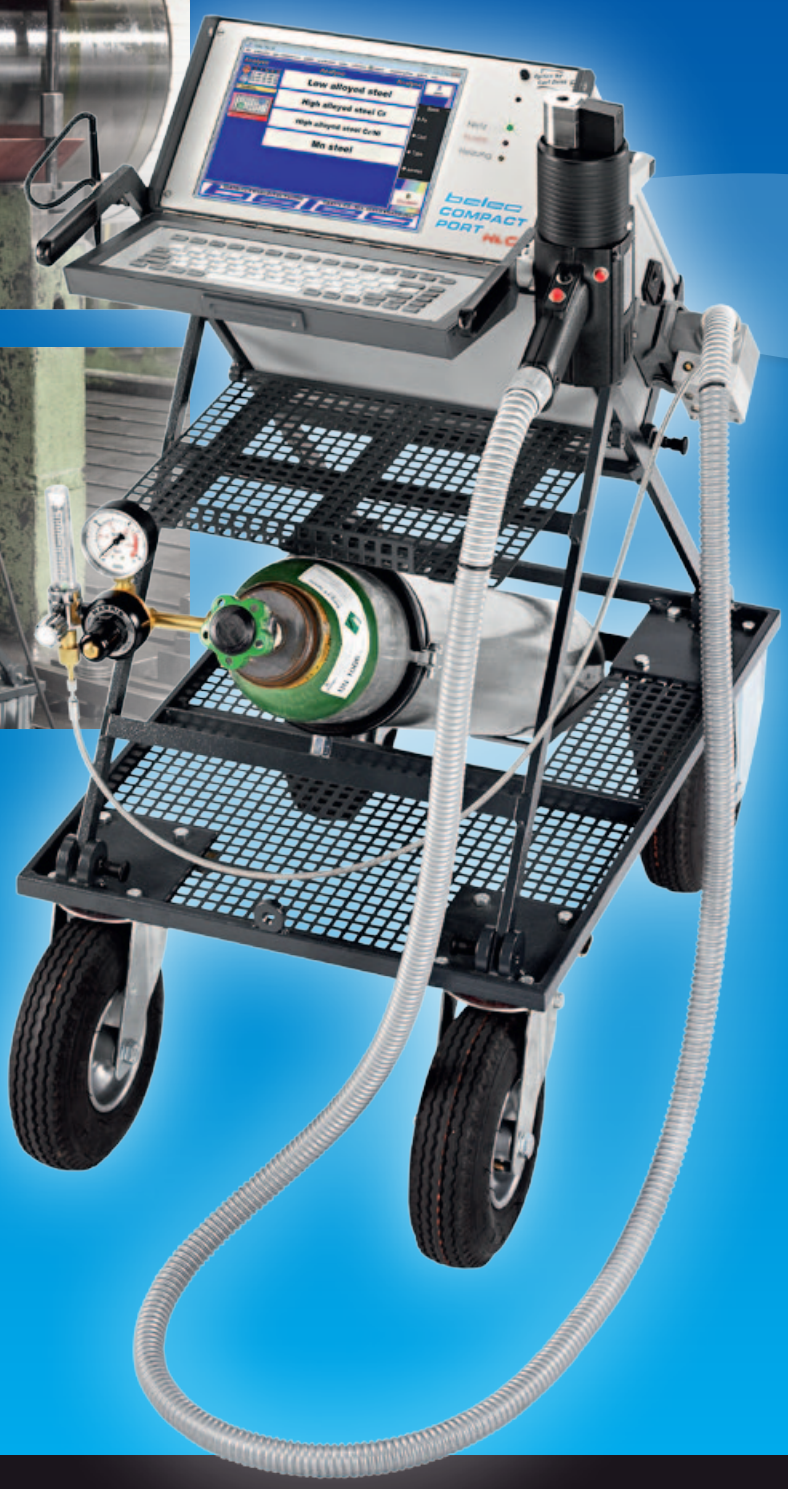


Belec Compact Port HLC

(Hybrid Low Carbon)

*World's only Portable Hybrid-Spectrometer for Perfect Carbon Analysis in Combination with Maximum Flexibility and Latest **6GSO-System***

SPEKTROMETRIE OPTO-ELEKTRONIK belec

NEW!

What has only been possible with huge laboratory spectrometers so far now becomes a reality with mobile spectrometers, too – the unique hybrid spectrometer Belec Compact Port HLC – developed by Belec engineers.

Flexibility combined with highest accuracy: High-quality, digital sensors (CCD) cover the whole spectral range and therefore offer a consequent line selection without compromise.

Analog detectors (photomultipliers) present an inimitable performance related to detection limits and accuracy – especially for certain elements as carbon.

– "PMT meets CCD"

– Unique combination of accepted and latest technique for mobile metal analysis

– Make use of the whole customized OES power spectrum

The Smallest of its Kind

High performance, easy handling and flexible application areas make the spectrometer **Belec Compact Port HLC** a reliable analysis instrument for quality assurance. Whether it is used for measurements in production areas, on pipes in construction sites or on scrap yards – moving from one application to another is no problem for the instrument with its temperature stabilized climatic spectrometer chamber.

– Sturdy trolley offers mobility and stability against collapse at the same time

– Trolley offers storage space for necessary accessories as e.g. grinding machine for sample preparation, printer, etc.

– convenient weight and size

– battery-supplied operation possible

belec

Secure, Fast and Precise

Within only a few seconds you can detect and analyze up to 70 elements in metals.

With accurate sample preparation there is hardly any analytic task that cannot be solved – no matter where or what sample shape is given.

- Analysis of Phosphor (P) und Sulfur (S) with Argon Probe UV*
- Analysis of Nitrogen (N) in duplex steels
- Quick mix –up checking with Air Sparking Probe
- Analysis of wires, tubes or small parts of different sizes with our Belec adapters

More Flexibility: The Belec Probe Connector

All three types of probes are easily interconvertible.

There is no need for time consuming probe head conversion when switching from arc-to-sparc.

- Ergonomic sparking probes
- Designed for daily, regular use
- Flexible optical fibre up to 8m* length

Sparking Probe Features	Argon Probe	UV Probe (N*)	Air Probe
argon-flushed sparking probe incl. C-analysis	●	●	–
argon-flushed sparking probe incl. P, S, N*-analysis	–	●	–
probe connector system	●	●	●
quick mix-up checking	–	–	●
multi fibre quartz optics, 3m to 8 m*	●	●	●
adapters for tubes, wires + small parts	●	●	●
non-destructive material testing	●	●	●

*optional

Belec Spektrometrie
Opto-Elektronik GmbH

Hamburger Str. 12
49124 Georgsmarienhütte
Deutschland / Germany

Fon +49 5401 8709-0
Fax +49 5401 8709-28

info@belec.de
www.belec.de

Belec Compact Port HLC

Mobile Spectrometer for Metal Analysis

SPEKTROMETRIE OPTO-ELEKTRONIK belec

Optics by Carl Zeiss

Zertifiziertes Management-System ZDH ZERT DIN EN ISO 9001:2008
Reg.-Nr.: Q1 0310014

Belec Compact Port HLC

Mobile Spectrometer for Metal Analysis

Technical Data

Optics
- double spectrometer in Paschen-Runge mounting using the latest 6GSO-System (6th Generation Spectrometer Optic System)
- Rowland circle diameter 300 mm
- usable wavelengths 190-410 nm
- Zeiss-Grating with 3600 lines/mm
- reciprocal dispersion 0,9 nm/mm (1st order)
- shock resistance
- high-speed photomultipliers for perfect carbon analysis and determination of h- and l-alloyed steels
- temperature stabilized detectors with wavelength depending configured entrance window (US-licensed)
- integrated noise compensation

Belec Compact Port HLC

(Hybrid Low Carbon)

World's only Portable Hybrid-Spectrometer for Perfect Carbon Analysis in Combination with Maximum Flexibility and Latest 6GSO-System

Sparking Probes
- argon-flushed sparking probe for exact analysis, including C, P, S and N*
- argon flow 0.1l/min in standby and 2.5 l/min during analysis
- argon control on probe plug, independent from instrument
- air probe for quick mix-up checking
- adapters for wires, pipes and small parts available for all probes
- lightweight shockproof plastic probe housing
- start an clear buttons easily hand-operated
- signal on mix-up identification: visual display for "repeat" and "reject", start button is blocked until confirm button is pressed
- multi fibre quartz optics, standard lengths 3m to 8m*
- low-wear tungsten electrode
- silver electrode for air probe
- probe connector system
- adapters available for different sample types as wires, tubes or small parts
- customized adapters on demand

Source
- sparking generator with maximum 400 Hz frequency
- unipolar discharge
- separate parameter for pre-sparking and integration selectable via software
- ignition frequency program specifically selectable via software
- discharge power program specifically selectable via software
- arc source for air probe, optional
- ignition voltage 20 kV

Electronics
- temperature stabilization, at 0.1°C exact
- separate AD-converter board for each detector, mounted on multichannel board, coupled by high-speed USB port
- integrated noise suppression
- integrated background compensation
- unlimited numbers of measuring channels, configurable for several bases

Dimensions

– width	16.5 in. (420 mm)
– height	7.9 in. (200 mm)
– depth	19.3 in. (490 mm)

Weight

– analysis unit	37.5 lbs.(17,00 kg)
– UV probe	3.9 lbs. (1,75 kg)
– argon probe	2.9 lbs. (1,30 kg)
– air probe	1.8 lbs. (0,80 kg)

Power Supply
- 230V/50Hz or 110V/60Hz
- 100W in stand-by mode
- 600W during analysis

Computer Hardware
- system-integrated industrial computer system
- Intel® Atom™ Processor N270 (1.60 GHz)
- 1 GB RAM (max. 2 GB)
- 2.5" hard disk 60 GB minimum
- 10.4"TFT colour display
- touch screen
- special dust and moisture protected keyboard integrated in hinged lid
- 3x USB 2.0 ports
- ethernet interface

*optional

Belec Spektrometrie
Opto-Elektronik GmbH

Hamburger Str. 12
49124 Georgsmarienhütte
Deutschland / Germany

Fon +49 5401 8709-0
Fax +49 5401 8709-28

info@belec.de
www.belec.de

SPEKTROMETRIE OPTO-ELEKTRONIK belec

Optics by Carl Zeiss

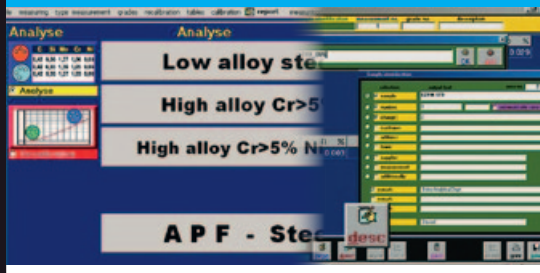
Zertifiziertes Management-System ZDH ZERT DIN EN ISO 9001:2008 Reg.-Nr.: Q1 0310014

win 21

Documentation Made Easy

Our software Belec WIN 21 convinces its users: easy to handle, always up-to-date and best operation conditions by clear arrangements. Measuring values and statistics are displayed at the touch of a button and can then be printed out or archived.

The analysis values can easily transmitted in a local network via Ethernet connection.



Belec WIN 21 Analysis and Quality Control Program

Software
- arbitrary operating system, e.g. MS Windows XP
- Remote-Service-System
- display of analysis values at each measurement
- as many analysis programs to customer specifications as required
- individual analysis parameters for each program
- automatic program selection (APF)
- analysis computation with: background correction, curve position correction, additive and multiplicative inter-element correction
- automatic correction with standard types
- easy and simultaneous recalibration of several programs
- mix-up checking by comparison with reference measurement
- grade checking by comparison with analysis regulations
- type calibration and type measurement
- tolerances for every analysis program and element in absolute and relative weight percentages, individually adjustable
- average and standard deviation from chosen measurements
- warning signal, when calibration curve is exceeded
- automatic reminder of regular recalibration
- automatic display of quality description or material number
- alloy data bank, 100,000 qualities and more storable (only limited by computer storage capacity)
- text size on monitor variable for optimum legibility
- protocol storage function
- report memory function for later analysis, printing and archiving
- several statistic functions with graphical representation
- automatic profiling system

Subject to technical modifications