Q4 MOBILE

The next generation mobile metals analyzer

Innovation with Integrity
Q4 MOBILE CREATES VALUES.
Identify, sort, analyze.

The new freedom in mobile OES
The Q4 MOBILE marks a milestone in the history of mobile optical emission spectroscopy. For all fields of applications in metal sorting, PMI, and analysis, the Q4 MOBILE offers innovative solutions such as patented CCD optics, special power management, hybrid cable and much more.

Most compact design
Q4 MOBILE is one of the most compact and lightest integrated spectrometers. Even a battery is already built-in and the 24 kg unit can run independent from mains supply. For special tasks, various cable lengths are available. The ultra-light probe and the light hybrid cable make this configuration very handy.

Top-end analytical performance
The latest addition to the Bruker Elemental product portfolio falls into the tradition of high-end performance. The patented optic, source generator, orthogonal plasma observation, combined with latest spectra deconvolution algorithms provide an analytical performance close to laboratory instruments. Even challenging applications like carbon, sulphur, or nitrogen determination are possible.

Versatility in applications
The application areas are diverse. Besides inspection of incoming goods — the quick testing of coils on the truck, for example — the mix-up test is the classic application. The portability of the Q4 MOBILE allows inspection away from the lab, giving convenient access to incoming goods. Contract laboratories and inspectors can easily transport the instrument directly to the job for on-site analysis. Unsorted scrap, including carbon steels, can be quickly tested in the scrap yard. With the help of the analysis the various alloys can be differentiated and valuable and precious material delivered to customers. Q4 MOBILE is versatile!

Plug and analyze
Q4 MOBILE offers highest efficiency. As soon as you power on, you are ready to start working. The patented Adaptive Ambient Compensation (AAC) technology does not require any warm-up time! Q4 MOBILE is always stable - instantly.

The universal power management system allows to operate the instrument with any power source between 12 and 230 volts. The integrated battery pack lasts for more than 200 sparks, making the unit truly mobile. The new hybrid cable in various lengths add further flexibility. The optionally available, attachable iPod™ shows the complete analysis screen remotely using a Wifi connection. Q4 MOBILE is best equipped for all scenarios of mobile metal testing!
Great analytical performance wherever you go.

**Identify**

When it comes to Positive Material Identification the Q4 MOBILE provides a fast, easy and complete method for every metal component. 100% alloy verification is part of the ISO 9000 certification for many fabricators. Getting the verification right at an early stage prevents any possibility of a costly alloy mix-up, dramatically reducing scrap and improving product quality. That’s how Q4 MOBILE “creates values”!

**Sort/Mix-up**

The Q4 MOBILE’s grade libraries contain a good number of alloy definitions. In addition, users may create their own user-defined library or modify existing libraries. Using these libraries the Q4 MOBILE can reliably sort any metal. Switch on, shoot, and the green light signals OK. In case the tested material is not the expected grade, you see the red signal together with the next matching grade. It has never been easier to quickly sort your metals!

**Analyze**

The mode „Analysis“ gives you the concentration of every required element in the metal. From traces to high concentrations, the analysis of different kinds of matrices, such as iron, nickel, cobalt, aluminium, copper, titanium and many more is possible. Due to its innovative solutions, limits of detection and precision of the Q4 MOBILE are close to laboratory instruments. FIPOS extends the capabilities even to elements like P, S, Sn, As, B, N, and others.

**Features**

- most compact design
- ultra-light probe
- hybrid cable allowing longer, lighter, more flexible probe cabling
- thermal stability without warming-up times ensure instant availability
- combined arc/spark pistol with quick change adapter
- patented CCD optic with outstanding resolution and thermal stability
- user-friendly touch-screen operation and built-in probe display
- special power management, supports all forms of power suppliers

---

**Check program: Incoming Inspection**

<table>
<thead>
<tr>
<th>Element</th>
<th>Mass %</th>
<th>Nominal Mass %</th>
<th>Nominal Value</th>
<th>Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0,02</td>
<td>0,020</td>
<td>0,02</td>
<td>2,00</td>
</tr>
<tr>
<td>Si</td>
<td>0,140</td>
<td>0,1400</td>
<td>0,14</td>
<td></td>
</tr>
<tr>
<td>Mn</td>
<td>0,7</td>
<td>0,806</td>
<td>0,7</td>
<td></td>
</tr>
<tr>
<td>Cr</td>
<td>1,074</td>
<td>1,074</td>
<td>1,07</td>
<td></td>
</tr>
<tr>
<td>Ni</td>
<td>0,085</td>
<td>0,085</td>
<td>0,08</td>
<td></td>
</tr>
<tr>
<td>Cu</td>
<td>0,271</td>
<td>0,2710</td>
<td>0,27</td>
<td></td>
</tr>
<tr>
<td>Al</td>
<td>0,019</td>
<td>0,0190</td>
<td>0,02</td>
<td></td>
</tr>
<tr>
<td>Mo</td>
<td>&lt;0,003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nb</td>
<td>&gt;0,003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>&gt;0,003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ti</td>
<td>&gt;0,003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>&gt;0,003</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fe</td>
<td>97,2</td>
<td></td>
<td></td>
<td>98,4</td>
</tr>
</tbody>
</table>

**1.0756**

**ACCEPT**

---

**Great analytical performance wherever you go.**
Q4 MOBILE is innovation

Latest technologies, user-friendly interfaces, advanced applications: our seasoned R&D team has created the next generation of mobile metal testing. Here are some of the many innovative aspects of Q4 MOBILE:

**Hybrid Cable**

A lighter, more bendable, extremely tough, easy to handle cable replaces the old hard-plastic hoses. This hybrid cable transports power, signals, gas and light all in one cable. The fibre light guide is well-protected in the soul of the cable. High-tech at work!

**Display**

A two-line, illuminated LCD display allows to show -depending on mode- element concentrations or grade ID. This makes the operation independent from the position of the unit’s main screen. Optionally an iPod™ or iPad™ can be connected to the system to see even more data locally.

**Elemental.Suite Software**

The touch-screen software supports all working modes of the system with simple, informative screens. An alloy table is integrated for PMI. Analysis results can be stored and reported. Different user-roles define available functionality, ensure safety and integrity, and simplify operation.

**Adapters**

Various adapters make it easy to analyze curved shapes, rod & wires, weld seams, etc. Adapter sets are available for both spark and arc mode and can easily be mounted to the probe with a simple quick change mechanism.

**FIPOS**

The folded-in-probe-optical system (FIPOS) is embedded into the probe. It allows elements in the ultra-violet range of the spectrum - like P, S, As, B, Sn, N - to be analyzed. It also offers improved performance on carbon analysis. The patented optics offers an ultra-high resolution.

**Analytical performance wherever you go: Q4 MOBILE sorting metals in a scrap yard**

The rugged steel cart is easy to manoeuvre in any terrain. The four big wheels with its wide track width and axis distance make it a pleasure to move around scrap yards, cross rail tracks, etc.. It offers ample space for the instrument and all accessories like gas bottle, angle grinder, tool box. Also the Q4 MOBILE can be mounted in two orientations which allow 2- and 4-wheel operation. A truly mobile system in every detail.
Q4 MOBILE IS INNOVATION.
Made by Bruker.

With a simple mechanism it is possible to quickly change from arc to spark mode. Two LED “headlights” illuminate the measurement spot.  
Ignition and electronic components are securely embedded into the rugged housing. IP class allows operation in rough conditions. 
Ergonomically designed and light-weighted, the probe suits for long hours and high work load. The hybrid cable supports this.

The easy-to-use software interface is operated via a touch screen panel. It can be stowed away for transport. 
The light housing with a stable carry grip allows easy transportation. A simple on/off LED button signals status. 
The small high capacity battery easily slides in. Hot swap allows battery change without switching off. Adapters for other power sources are available.

The optical system is well protected. It provides stable results even in quickly changing environments. 
Docking port for the probe ensures reliable connection of arc/spark probes or FIPOS. 
All electronic boards are EMC & RoHS compliant. Power management gives flexibility: use any power source.
Technical Data Q4 MOBILE

Patented Optical System
- Uncoated CCD detectors with lowest dark current
- ClearSpectrum® technology for advanced spectra deconvolution
- Active Ambient Compensation (AAC)

Analytical Solution Packages (ASP)
- Different matrix calibration packages available for arc/spark
- ASPs cover all major elements & alloy groups
- Upgradable for future expansion

Source Generator
- Maintenance-free, two phase PWM Generator
- Low ripple ARC max. 5 A
- Frequency 50 to 1000 Hz (spark model)

Probe
- Hybrid cable length 4 m / 10 m
- Combined arc/spark probe with quick-change
- Ultra-light probe
- Integrated display
- FIPOS: probe for UV elements like P, S, As, Sn, B, N

Environmental Range
- -10 °C to 50 °C; 14 °F to 122 °F

Software
- Intuitive Windows® based software with 12,1” touch-screen for simple routine operation
- Various user levels for secure and task-specific operations
- Working modes for sorting, PMI, and quantitative analysis
- Alloy library for grade definitions
- SQL result database with various export formats

Instrument
- Power Supply Mains Operation: 100-240 V ± 15 %
- 11 - 28 V DC, max. 360 W optional external battery pack
- Dimensions: 507 x 530 x 310 mm; 20 x 20.9 x 12.2 inches (WxDxH)
- Weight: 24 kg, 52.91 lbs.

At your service

Although each Q4 MOBILE has integrated service functions and you could easily use remote online support, we also like to talk to you personally. Call our local service or the headquarter in Germany. A network of international offices and representatives guarantees a competent customer support worldwide. We will be pleased to assist you with all the questions you may have around your Q4 MOBILE. Regular training courses and customized local training are vital elements of our know-how transfer. Please contact your local office.