Advanced carbon and sulfur determination

High sensitivity  High data quality  Extreme durability  Great flexibility
Elementar developed a CS analyzer which combines highly accurate data with easy to use, clean, and automated processes. Experience the new level of carbon and sulfur determination in metals and inorganic materials. The new inductar® CS cube is full of innovative and advanced ideas to make CS analysis easy to use and more reliable.
Innovative ideas

Innovative ideas combined with state-of-the-art technologies let the inductar CS cube clearly stand out from the crowd. The new construction design captures dust and debris within the ceramic crucibles. Moreover, the energy-efficient solid-state induction furnace enables high temperatures up to 2,000 °C. Combined with high-performance detectors, the inductar CS cube shows excellent accuracy and lowest possible limit of detection.

Reliable results

The highly optimized combustion process – a well-known highlight of all Elementar instruments – always guarantees reliable and accurate results. High quality materials, well structured construction design, and long-living components make the system unrivaled, robust, and durable.

Automated analysis

The fast and precise autosampler with its innovative robotic arm (patent pending) allows unattended 24/7 operation. The sequence of all 89 sample positions is user configurable and can be changed at any time. Automation is further accomplished by automatic weight transfer from balance, barcode reader support and easy LIMS integration. The inductar CS cube is controlled via an intuitive, feature-rich, multi-language software. It is easy to use and configurable to fulfill all requirements in R & D, quality control, and high-throughput laboratories.

Unsurpassed system uptime

The inductar CS cube is developed for unsurpassed user convenience and maximum robustness for 24/7 operation. The proprietary solid-state technology for the induction furnace ensures a virtually unlimited lifetime of components. This finally makes a frequent exchange of oscillator tubes obsolete. By design, no tedious cleaning operation is required to handle dust and debris. Maintenance work, which is a tool-free task, is performed within seconds.

CLEAN COMBUSTION

A cleaner combustion than any system built in the past is achieved with this new technology. Our innovative construction principle in combination with the high ceramic crucibles reduces contamination of the system by dust and debris to an absolute minimum. This is achieved by a top-down oxygen gas stream. With this approach a unique sheath gas flow is established, which minimizes adhesion of dust and debris at the combustion tube. Dust and debris, which are formed during combustion process, are captured inside the ceramic crucibles. This set-up allow for parts like combustion tube or dust filter to be cleaned less often and of course measure more accurately.
Advanced carbon and sulfur analysis for inorganic materials

**Easy to use equipment**
The inductar CS cube is the latest in fast carbon/sulfur analysis for metal species. With an accessible yet high-tech driven design, this system is built to reduce maintenance efforts and maximize combustion tube lifetime. Other reagent lifetimes are monitored by automated indicators within our advanced software. The tool-free clamp connection system ensures reliable leak-tight seals while operating the instrument. Thus customers can enjoy smooth sample analysis with high sample throughput.

**Quality you can trust**
Our consumables and spare parts are designed to meet the highest quality standards and reliability. They are certified and validated in accordance with international norms and standards. We do not compromise on quality of our parts and chemicals – allowing us to guarantee the remarkable lifetime of our instruments.

### Sample types analyzed

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Carbon [%]</th>
<th>Sulfur [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARAGING STEEL</td>
<td>0.0014 ± 0.0001</td>
<td>0.0025 ± 0.0001</td>
</tr>
<tr>
<td>CARBON STEEL</td>
<td>0.1738 ± 0.0010</td>
<td>0.1309 ± 0.0022</td>
</tr>
<tr>
<td>FERRO MANGANESE</td>
<td>0.3469 ± 0.0011</td>
<td>0.0045 ± 0.0008</td>
</tr>
<tr>
<td>CAST IRON</td>
<td>2.8201 ± 0.0073</td>
<td>0.2420 ± 0.0006</td>
</tr>
<tr>
<td>WHITEHEART MALLEABLE IRON</td>
<td>3.2023 ± 0.0067</td>
<td>0.2430 ± 0.0035</td>
</tr>
<tr>
<td>TiO₂ BASED PIGMENT</td>
<td>0.0037 ± 0.0001</td>
<td>0.0003 ± 0.0001</td>
</tr>
<tr>
<td>PORTLAND CEMENT</td>
<td>0.1007 ± 0.0008</td>
<td>1.9092 ± 0.0270</td>
</tr>
<tr>
<td>SIC BASED AUTOMOTIVE CATALYST</td>
<td>0.2340 ± 0.0009</td>
<td>-</td>
</tr>
<tr>
<td>ANTI-PIPING COMPOUND</td>
<td>6.3955 ± 0.0681</td>
<td>-</td>
</tr>
</tbody>
</table>

**Ideal solution for**
- Steelworks
- Foundries
- Automotive industry
- Cement industry
- Ceramic industry

**Sample types analyzed**
- Steel
- Cast iron
- Non-ferrous metals
- Cements
- Other inorganic materials

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**High sensitivity**
Outstanding sensitivity thanks to high performance, state-of-the-art technology.

**High data quality**
Outstanding precision and accuracy through high performance combustion. Longterm stability of calibration.

**Extreme durability**
Outstanding robustness and longevity thanks to state-of-the-art technology.

**Great flexibility**
Wide range of materials analyzable. Upgradeable at any time.