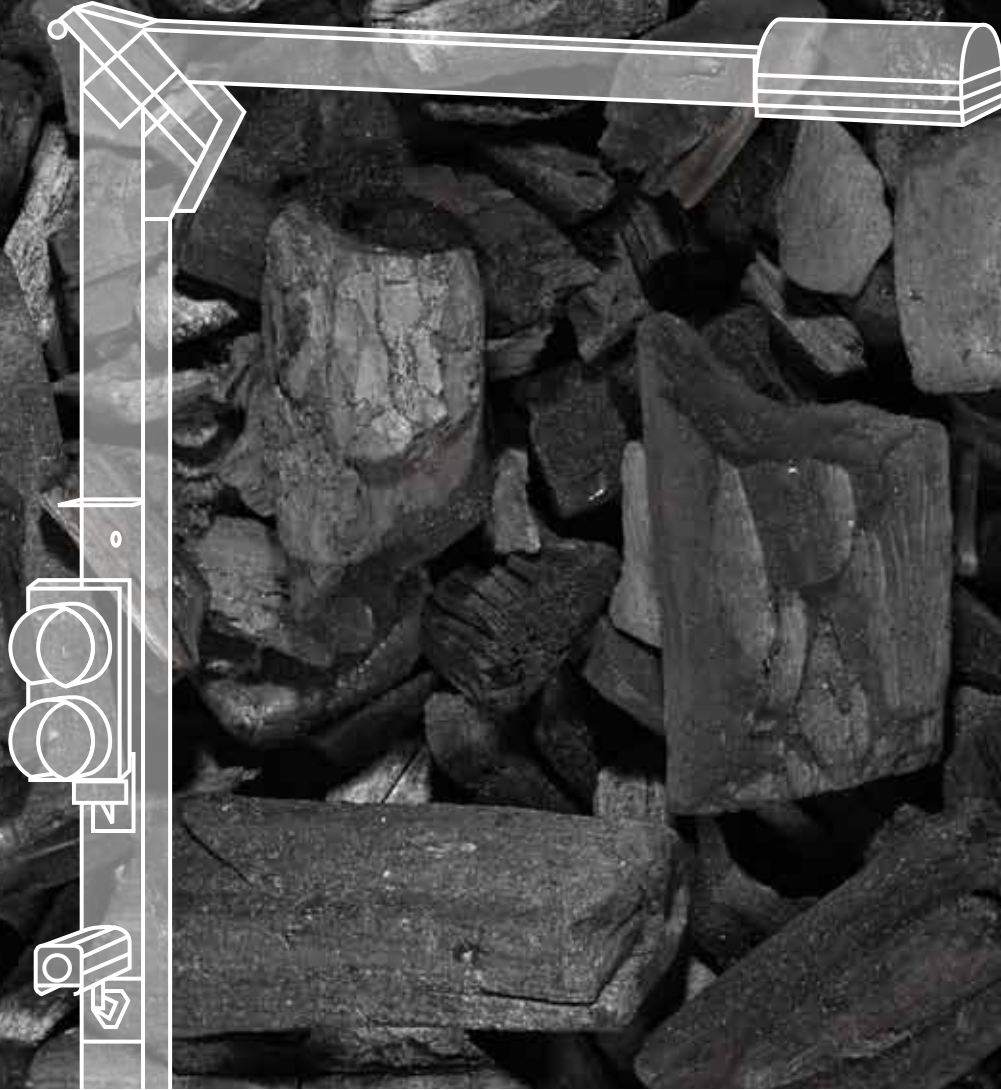




WOODTECH
MEASUREMENT SOLUTIONS

AN EXCELSYS
COMPANY



COALMETER[®] 4000

HIGHLY-PRECISE LASER VOLUME MEASUREMENT SYSTEM FOR COAL LOADS

COALMETER[®] 4000 is the latest innovation in measurement systems, utilizing highly-precise laser technology to measure the volume of loose coal loads in open containers in a quick, accurate, and reliable manner. A complete register is produced for subsequent revision.

COALMETER[®] 4000 measures coal loads in an objective and simple manner, generating a complete register of all measurements made by the system, thus reducing fraud and improving the transparency of the supplier payment process.



WHAT DOES THE COALMETER[®] 4000 MEASURE?

- **BULK** volume of open-container coal loads
- Useful volume of **EMPTY CONTAINERS**
- Average **DENSITY** of each load (when combined with the weight)
- In addition to coal, the system can measure **OTHER MATERIALS USED IN THE STEEL INDUSTRY** (ore, limestone, coke, pig iron, etc.)
- A **SECOND MEASUREMENT** can be made as each truck leaves to confirm that the truck is leaving without any material inside, ensuring that only the real volume of the material received is paid for (optional module).

BENEFITS

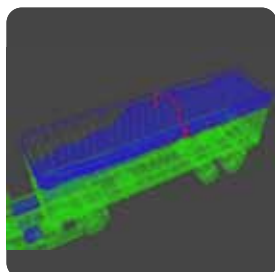
- **REDUCTION IN RAW MATERIAL COSTS**
- **REDUCTION IN OPERATIONAL COSTS**
- **HIGHLY-PRECISE MEASUREMENTS:** Coalmeter[®] 4000 captures over 1 measurements per load, thus achieving a low measurement error.
- **OBJECTIVE:** Using an objective and auditable system reduces buyer/supplier conflicts.
- **AUTOMATIC:** Quick and easy measurements; reduces truck waiting times.
- **WORKPLACE SAFETY:** Zero risk for the operator, as he/she does not need to get on top of the load.
- **100% OF THE LOADS ARE MEASURED:** No sampling or conversion factors.
- **AUDITABLE MEASUREMENTS:** Complete auditing system allows for the subsequent revision of all results.
- **COMPLETE PHOTOGRAPHIC REGISTER:** Digital cameras register the license plate of every truck as well as the material inside of the truck.
- **EASY INTEGRATION** with peripheral systems such as ERP's and vehicle identification systems (TAG). Efficient and effective supply chain management.
- **SUPPORT AND MAINTENANCE:** Remote system monitoring provides online support.

OPERATIONAL PROCESS

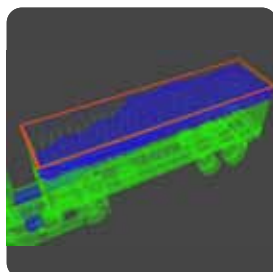
The measurement process is a simple and continuous process, which requires **LESS THAN A MINUTE:**



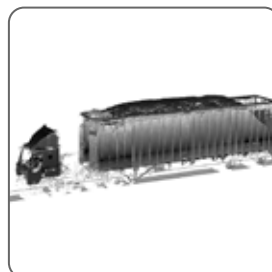
1. **SCANNING:** Truck enters the measurement zone.



2. **PROFILES:** Approximately 300 profiles per load are generated.



3. **SEGMENTATION:** Automatic detection of the container borders.



4. **CALCULATION:** Calculation of the bulk volume of the load.



5. **RESULTS AND AUDITING:** Results and images are stored in the Auditing System.

TECHNICAL SPECIFICATIONS

- Vehicle Speed: 0.6 - 3 mph / 1 - 5 km/hr
- Laser Class: Class 2 (eye-safe)
- Power Requirements: 2kW, 220VAC, 50/60Hz
- Operating Temperature: 14°F to 104°F / -10°C to 40°C

WHY CHOOSE THE COALMETER[®] 4000?

Manual volume measurement of truck loads is subjective and imprecise due to the difficulty of measuring surface irregularities. These imprecisions can create considerable overestimates of the volume received, thus increasing raw material costs. Furthermore, manual measurement is slow, unsafe, and a high-cost operation. The CoalMeter[®] 4000, on the other hand, measures volume quickly, precisely, and reliably, thus creating cost savings, increased yields, and more control over processes.

COALMETER[®] 4000 INCLUDES A COMPLETE AUDITING SYSTEM, WHICH ENSURES THAT EACH MEASUREMENT IS REGISTERED ALONG WITH CORRESPONDING IMAGES, RESULTS, AND ADMINISTRATIVE INFORMATION.