

AI-Biomass Analyzer

Real-time analysis with state-of-the-art sensors and our AI platform.

1. Overview

Biomass processing facilities handling large volumes of material can deploy AI-Biomass Analyzer to improve the efficiency, accuracy and the biomass quality assessment. Improving quality and reducing operational costs is essential for sustainability and profitable production. **AI-Biomass Analyzer, based on hyperspectral vision and sensors combined with our AI platform, enables continuous real-time monitoring of biomass.**

2. Challenges

Biomass processing facilities look to improve several aspects of fuel quality control. **Constant variations in humidity, particle size, and calorific value make it difficult to obtain reliable real-time data,** as current control relies on spot and deferred sampling. This creates a blind spot between material reception and entry into the boiler, meaning changes in the biomass quality are not detected in time to make informed decisions. Poor-quality biomass can affect production through thermal efficiency losses, combustion instability, and accelerated wear on critical components.

3. Solution

AI-Biomass Analyzer incorporates hyperspectral vision and sensors, working with our AI platform to measure key fuel variables such as **calorific value, moisture and volumetric flow rate** in real time. **The system is also capable of detecting contaminants that could cause damages, including chlorine-producing materials, sulphur, and foreign objects.** Installed non-intrusively directly on the main feed belt, the system scans 100% of incoming biomass continuously. **AI-Biomass Analyzer** delivers data via standard 4–20 mA signals enabling native integration into existing DCS/SCADA systems and allowing plant operators to act proactively from the control area.

4. Results

AI-Biomass Analyzer provides complete visibility over incoming fuel, maximizes automation of the inspection process, and enables data-driven decision making. Among the key capabilities and advantages the solution delivers:

A/ Real-time decisions: ensuring compliance while maximizing the calorific value potential.

B/ Our technology ensures that the biomass is used with maximum energy value and thermal stability.

C/ Structured and analytical database: quality can be compared by supplier, allowing risks to be anticipated.

