



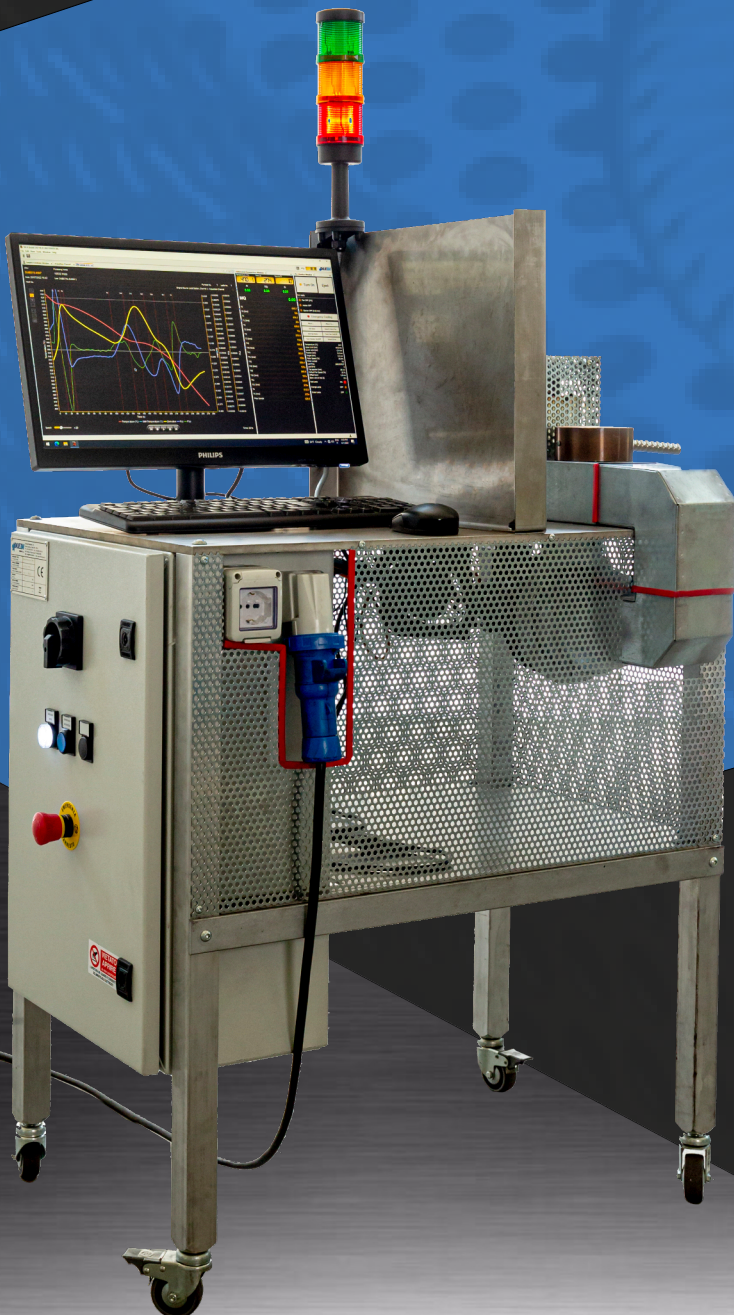
TAL Melt Quality System

Revolutionizing Melt Quality Control
with Critical Output Data

The TAL Melt Quality System surpasses traditional melt quality analysis for non-ferrous alloys by delivering a comprehensive set of critical output data in Realtime.

This innovation stands apart from competitors by offering real-time insights into the casting process, optimizing production efficiency, and reducing costs.

NO OTHER MACHINE IN THE MARKET CAN PROVIDE THIS LEVEL OF DETAILED INFORMATION IN SUCH A RAPID TIMEFRAME.



Real-time solidification monitoring

Continuously monitor the solidification curve and its derivatives, providing invaluable insights into foundry metallurgical processes.

Process optimization

Analyse samples from various stages (e.g., pre-filtration, degassing) to fine-tune the casting process for each alloy.

Material quality evaluation

Assess the quality and integrity of solidified material in real-time, including microstructural properties like shrinkage and modification levels.

Process efficiency and cost reduction

Obtain element properties rapidly, eliminating the need for expensive and time-consuming lab tests, leading to optimized production and significant cost reductions.

Precise data acquisition

Gather data from different casting stages to refine material acceptability ranges and ensure consistent quality.

Material characterization

Precisely determine the chemical composition of alloys through associated chemical analysis, revealing the percentage of each element.

Specific Data Examples:

Chemical composition

Weight percentages of Silicon, Titanium, Boron, Strontium, Copper, Magnesium, etc.

Microstructural data

Aluminium grain size, effectiveness of grain refiners and silicon modifiers, etc.

Iron contamination level and intermetallic formation:

Type and percentage of intermetallic compounds.

Presence of precipitates

Identify precipitates like Magnesium precipitates.

Mechanical properties of the melt

Gain insights into the mechanical characteristics of the analysed melt.

Customizable data

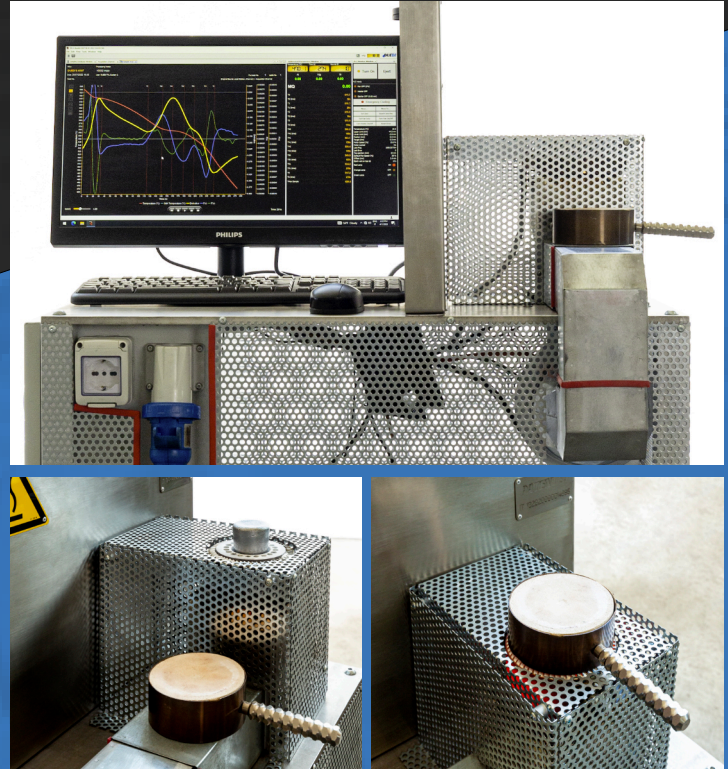
Collect additional information specific to your foundry's processes.

User-Friendly Design

The TAI Melt Quality System prioritizes ease of use. The hardware and software combination seamlessly automates the analysis process, ensuring efficient and reliable operation.

High-accuracy output

Leverage an innovative thermodynamical analysis method to achieve an impressive accuracy in results up to 92%.



Technical Datasheet

Size of the TAI Machine	805 x 510 h1620 mm
Weight of the TAI Machine (movable)	80 kg
Weight of the solidified sample	300 g ($\pm$ 50 g)
Power supply	230 V
Working time of the analysis	5 - 10 minutes
Operative System	Microsoft Windows



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