



Liquid Aluminium Level Measurement

To obtain a homogeneous oxide-free aluminium die cast, the aluminium level in the open mould must be kept constant to within 1mm. A constant level is achieved by controlled tilting of the furnace. The current level is measured and monitored from above with air-cooled eddy current sensors. A temperature-stable output signal and the high operating temperature of the eddy current sensors are particularly significant in this measurement.

Requirements for the measurement system

- Measuring range: 40mm (80mm)
- Accuracy: $\pm 0.08\text{mm}$ (+ 0.16mm)
- Resolution: $4\mu\text{m}$ ($8\mu\text{m}$)

Ambient conditions

- Temperature: 720°C
- Medium: liquid aluminium

Reasons for choosing the system

- Eddy current systems work for non-ferromagnetic metals as well as ferro magnetic
- Large measuring ranges
- Robust sensors for harsh environments (found-ries)
- Good temperature stability
- High survival temperature (150°C)

System design

- DT3300
- U40 sensor
- U80 sensor