



## 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:  $720^{\circ}\text{C}$
- 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 ( $150^{\circ}\text{C}$ )

### System design

- DT3300
- U40 sensor
- U80 sensor