

Liquid Aluminium Level Measurement

To obtain a homogeneous oxide-free aluminium cast, the aluminium level in the open mould must be kept constant to within 1 mm or better. 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.



Technical details:

- Measuring range: 40 mm (80 mm)
- Accuracy: $\pm 0,08$ mm (+ 0,16 mm)
- Resolution: $4 \mu\text{m}$ ($8 \mu\text{m}$)
- Bandwidth: static to 30 Hz

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 (foundries)
- Good temperature stability
- High survival temperature

System configuration:

RS549 - 3 channel-bench top cabinet

DD500 - digital display

OS550 - oscillator

DL500.04 - demodulator

BC-U40-C6 - matching board

U40 - sensor

C6 - sensor cable

alternative:

BC-U80-C6 - matching board

U80 - sensor

C6 - sensor cable