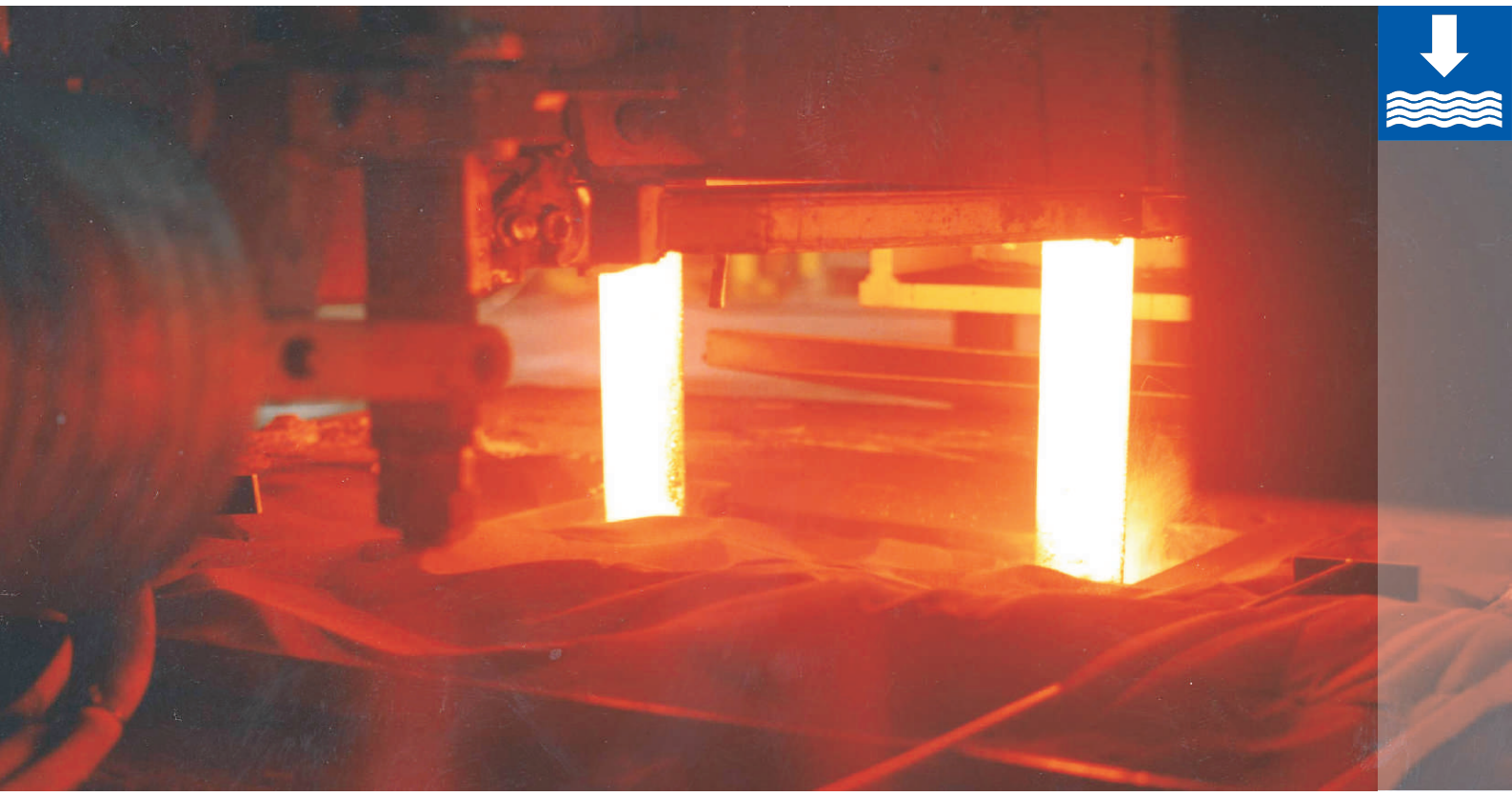
Continuous Casting

castXpert LB 452

Radiometric Mould Level Measurement



BERTHOLD TECHNOLOGIES

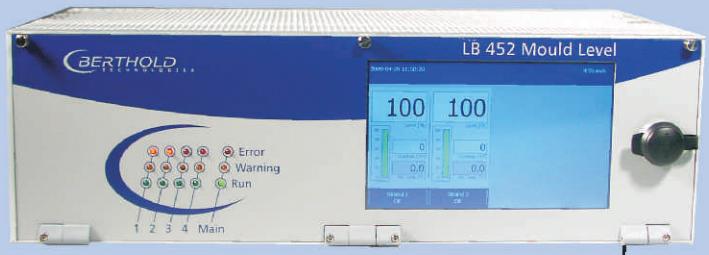
Excellence in Mould Level Measurement

The radiometric measuring system castXpert LB 452 is used in continuous casting plants for monitoring the mould level. The sophisticated system provides a highly accurate and reliable measurement - for many years of operation. The radiometric mould level measurement is maintenance-free and applicable for different mould types. Successful applications can also be found in Beam Blank and Round casters.

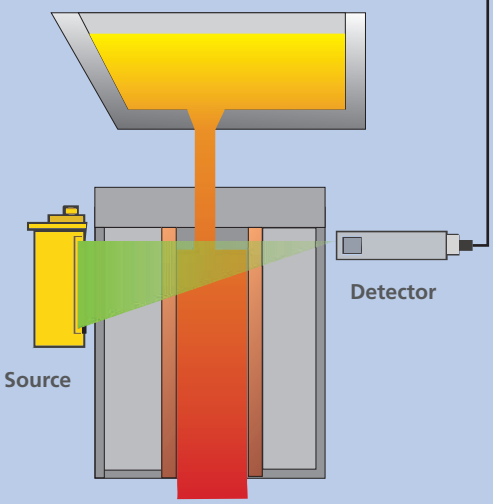
Display & Evaluation

- **Extremely Fast**
  The unmatched cycle time of 5ms secures a very smooth output signal, allowing reliable control of the process.
- **Information Plus+**
  Temperature and detector status are continuously monitored and displayed in the evaluation unit.
- **Data Log**
  An internal data log stores all measuring values and configurations. The data can be easily downloaded via the USB-port at the front.
- **Easy operation**
  The colour display with touch screen panel and the customer-oriented software guarantees easy operation and calibration procedure.
- **Measure x 4**
  Up to four measuring channels can be served by one evaluation unit - each with separate power supply and CPU, enabling the individual measuring channels to work comepletely independent of each other.
- **Monitored Current Output** Patent pending
  The monitoring feature continuously checks the plausibility of the output signal, by comparing the generated current with the measured level. Therefore highest signal reliability is achieved.

developed according to IEC/EN 61508



castXpert LB 452
Evaluation unit

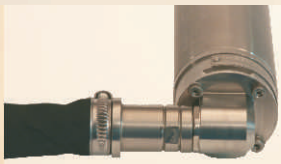


Measuring Principle

Radiation is attenuated as it passes through the mould. This attenuation is measured by a detector. As mould and wall thicknesses are constant, the radiation is only affected by a change of mould level. The measuring performance is irrespective of temperature, dust and vibrations. All components are mounted inside the mould and are therefore protected from steel splashes

LB 6739 detector

Heavy-Con plug



90° cable entry

Options:
- **Cable entry straight or 90°**
- **Heavy-Con plug or open cable ends**

GAMMAcast - Highly Durable Detectors

Our detectors are characterized by their excellent sensitivity for gamma radiation, leading to a significant reduction of source size. Installed directly at the mould, GAMMAcast detectors are exposed to the most hostile process conditions. They are specifically designed for this application and provide highest mechanical stability and reliability.

- **PlugProtect**
  Absolute tightness is guaranteed with this new connection technology. It provides quick and easy exchange of cables and reliably prevents water intrusion.
- **Robust Detector Design**
  The new detector design results in high shock resistance and an increased detector life.
- **Heat Protection**
  GAMMAcast detectors are also available with water cooling option. The FEP isolation and a specific heat protection hose shield the cables from heat and steal splashes.
- **Electromagnetic Compatibility**
  Applications containing electromagnetic stirrers can be solved without any additional protection.

NEW!

AOS - Activity Optimized Source

By varying the activity along the source, the accuracy at the operation point can be significantly improved, while the total source size doesn't have to be increased. The source size can even be reduced in many cases, depending on the measuring conditions. The castXpert LB 452 assists the corresponding calibration procedure.

Technical data castXpert LB 452

Evaluation unit LB 452	
Design	19" module, 3HE / protection class IP 20 with 7" colour display and touch screen
Weight	depending on assembly approx. 4,5 kg...5,5 kg
Assembly	max. 4 measuring channels per unit
Mains supply	90-264 VAC, 50/60 Hz
Power consumption	1 measuring channel approx. 30 VA, any further channel approx. 15 VA
Operating temperature	0 °C...+50 °C, (32 °F...122 °F) no condensation
Storage temperature	-20 °C...+70 °C, (-4 °F...+158 °F) no condensation
Profibus DP	in preparation

Measuring channel - basic module	
Measuring amplifier	CPU and power supply
Current Output	0/4...20 mA with monitored current output, isolated, max. 500 Ω switchable source or sink mode cycle time: 5ms
Digital Output	1 relay for error message max. 33 VAC, 46 VDC, 5A non-inductive
Digital Inputs	2 digital inputs, isolated for external full and empty calibration

Measuring channel - extension module (option)	
Current Output	0/4...20 mA with monitored current output, isolated, max. 500 Ω switchable source or sink mode
Digital Outputs	2 relays for min./max. level and detector temperature max.33 VAC, 46 VDC, 5 A non-inductive
Digital Inputs	2 digital inputs, isolated for external selection of up to 4 calibration curves

Software	
Operating interface	Windows CE, touch screen, english dialog
Data log	Cps, level, detector temperature, date and time for each measuring channel, min. log-intervall: 0,5 s Option: data storage max. 400 days with 4 measuring channels
Calibration	Plausibility check to avoid calibration errors. Calibration curve: linear or polygon

GAMMAcast detector LB 6739	
Scintillation counter	stainless steel housing 1.4301 CsI-crystal Ø 40/50 or Ø 25/50
Operating and storage temperature	-20 °C...+50 °C, (-4 °F...+122 °F) water cooling required at > 50 °C
Mains supply	12-24 VDC, approx. 1,2 W
Protection class	IP 67
Weight (without cable)	approx. 2 kg with water cooling: approx. 3kg
Communication	RS 485
Water cooling	connection R1/4 max. pressure: 600 kPa
Cable at detector	FEP-isolation (up to +205 °C / +401 °F) heat protection hose PlugProtect connector
Cable after junction box	6-wire, shielded max. cable length for 6 x 1,5mm²: 500 m

your local distributor

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