



Contilance

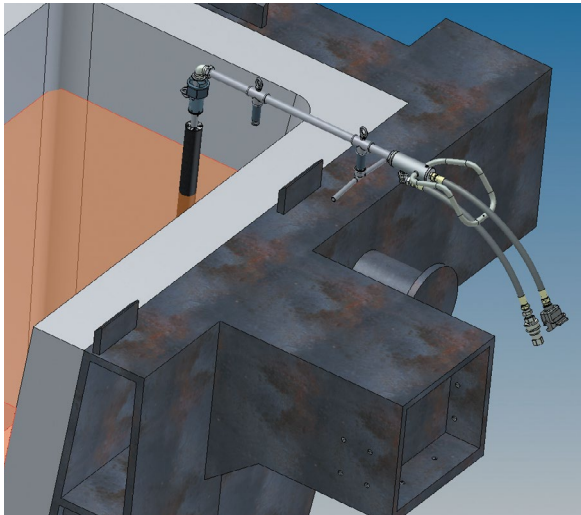
Continuous temperature measurement
in molten iron and steel

The Contilance system

The Contilance system safely, reliably, and continuously measures liquid steel temperature in the tundish of a continuous casting plant. It is designed to endure the harsh environment.

The Contilance sensor is best suited to short casting sequences as it can be reused. It is designed to deliver an accurate temperature measurement for up to 10 hours.

The Contilance system can be easily positioned using a simple bracket, and the sensor can then be immersed into the tundish. The bracket enables the lance to pivot, allowing the sensor to move with the liquid metal level.



Contilance application

The Contilance system is also used to continuously measure the temperature of liquid iron in the blast furnace runner and various foundry applications.

The benefits of Contilance are:

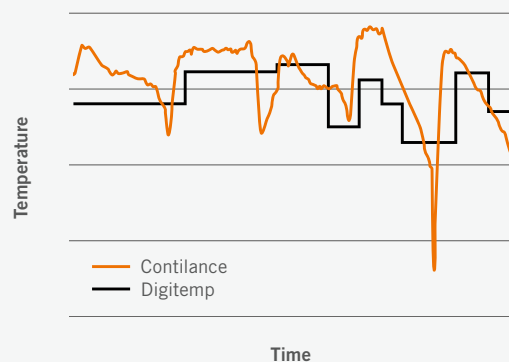
- improved safety by reducing, as far as possible, the operator's exposure to the molten steel
- continuous temperature measurement
- fast thermal response
- light weight and easy to handle

- improved output is achieved by optimizing the casting speed
- temperature trends for process control are easily monitored
- the system is reusable on short sequences and is easy to install and set up.



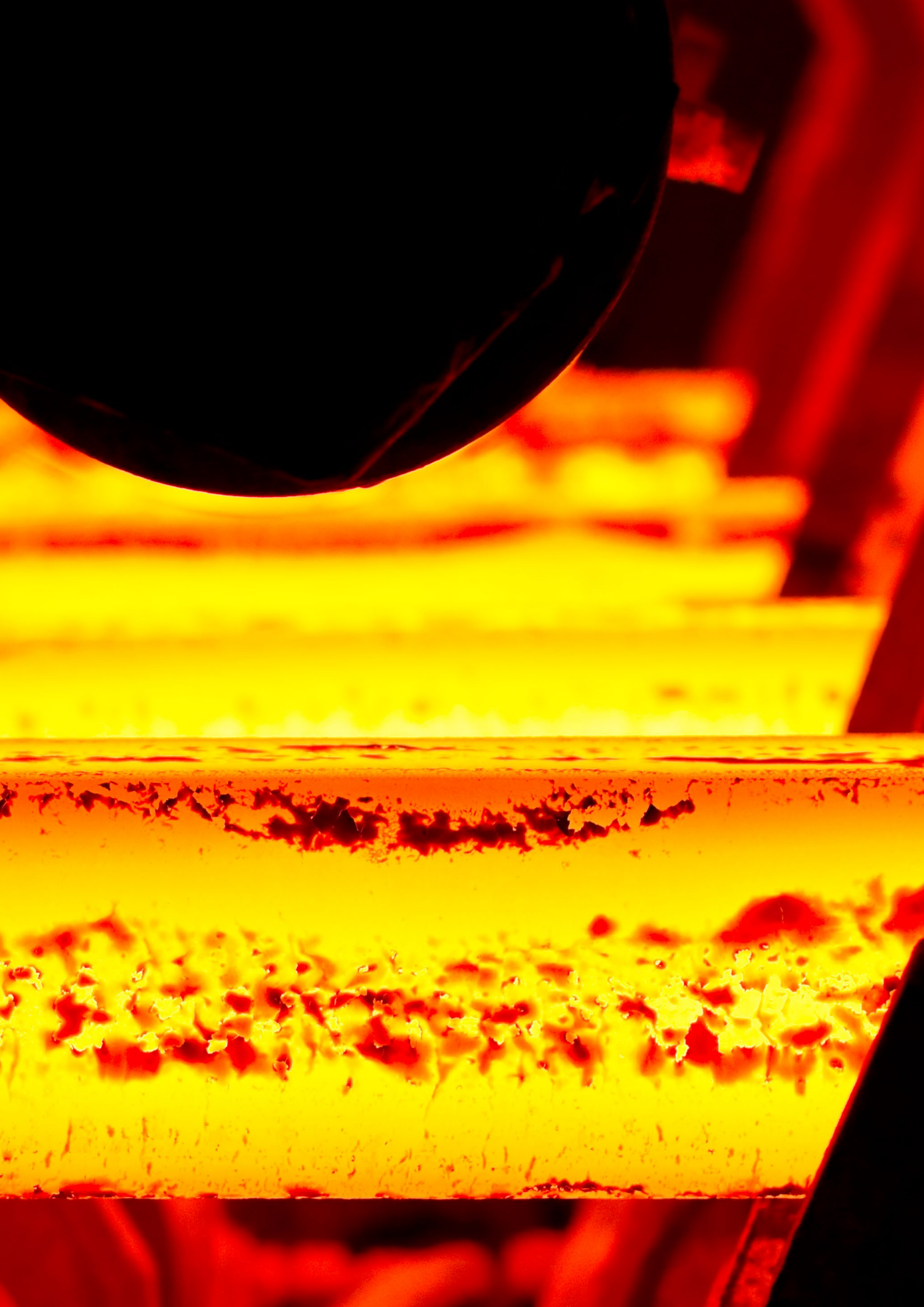
Conti-Lab E instrument

MEAS GRAPH



The graph shows the difference between spot measurements and continuous measurements given by the Contilance sensor. You can see the dynamic nature of continuous measurement as highlighted.

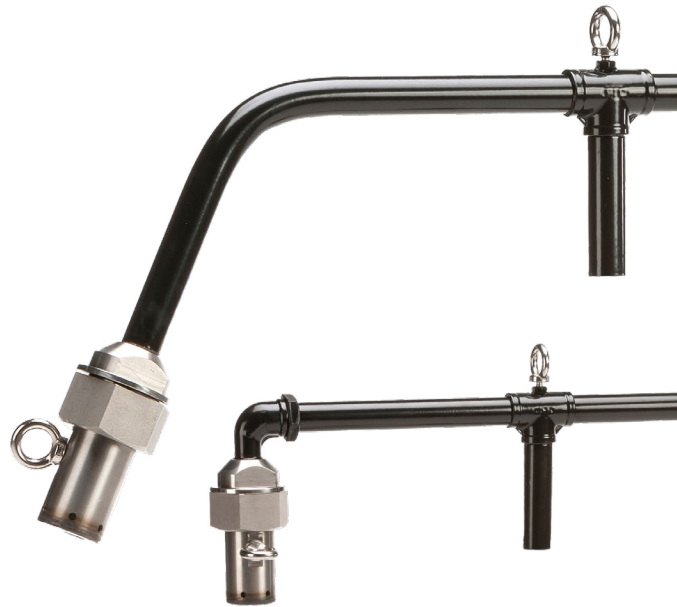
Contilance measuring graph



The parts of the system

The following shows the essential parts of the Contilance measurement system

1



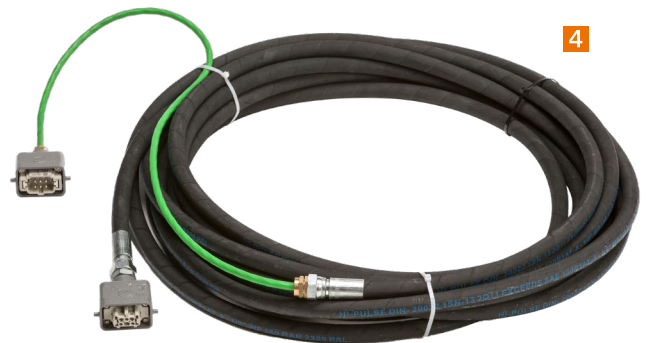
2



3



4



1 Conti-Lab E instrument

Processes and displays the measurements

2 Air pressure regulator

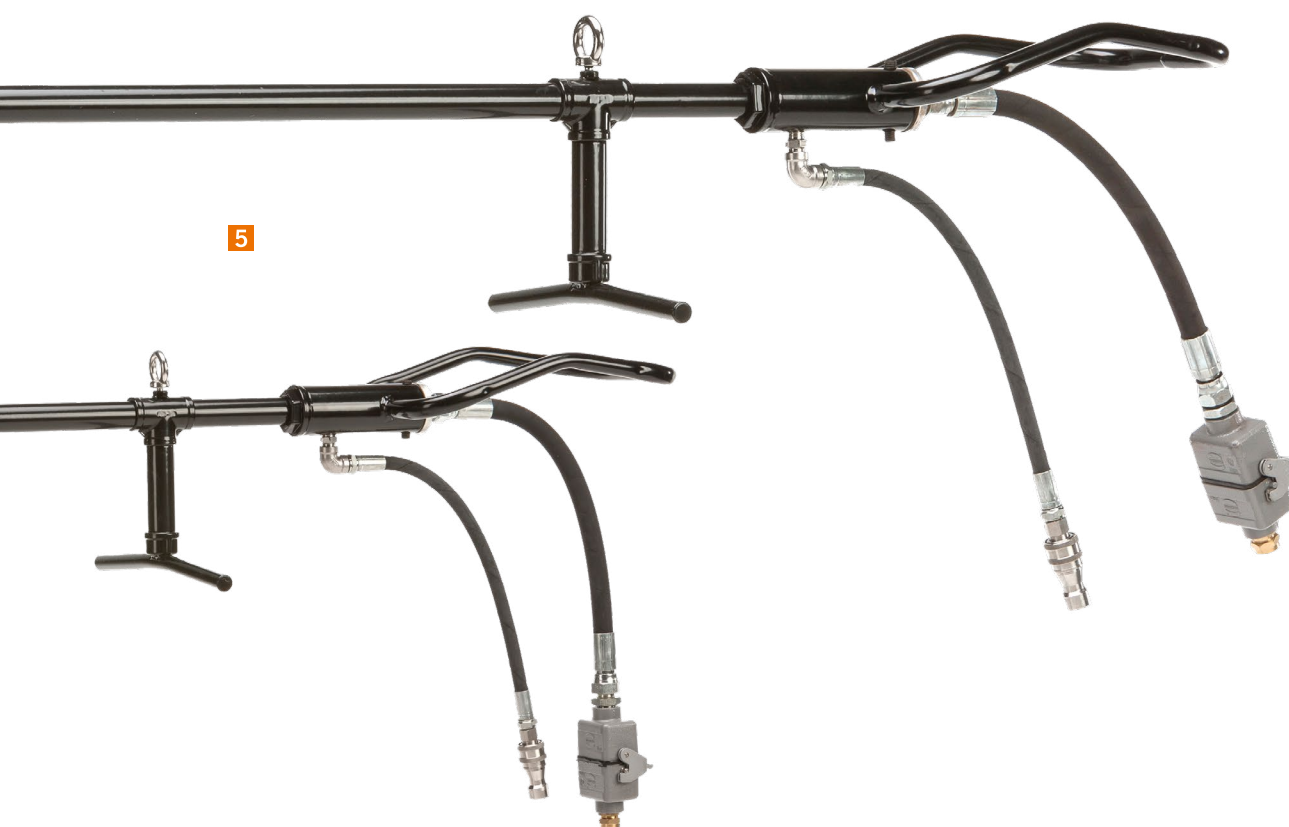
Controls the flow of air for cooling

3 15-metre air cooling hose

Connects the air pressure regulator to the lance

4 15-metre signal cable

Connects the instrument adapter cable with the lance



5

5 Contilance lance
Angled (above) and 90° (below) Contilance lance

6

6 Contilance 900
Measurement sensor

7

7 Contilance 650
Measurement sensor



8

8 Instrument adapter cable
Connects the instrument to the lance

Setup, Operation and Connection

Preparing the system

The Contilance system is quick and easy to install. The main steps are:

- connecting the air supply to the air-cooled lance
- connecting the lance to the measurement instrument
- connecting the Contilance sensor to the lance

CONTILANCE LANCE

CHOOSING THE RIGHT LANCE BASED ON THE APPLICATION.

Angled Contilance lance:

- is best suited to open, powder-coated tundishes or the blast furnace runner.

90° Contilance lance:

- is best suited to lid-covered tundishes.

A regular air supply keeps the lance and sensor head cool to ensure:

- accurate temperature measurement
- safe handling
- extended inner cable longevity



Angled Contilance lance

Using the system

Contilance continually measures the casting temperature throughout a casting sequence allowing closed-loop caster control.

The Contilance sensor is usually inserted after the tundish is filled and will stay there until the tundish is drained.

The Conti-Lab E is a robust instrument designed to be placed close to the measuring point. Its large display ensures readability from a distance of up to 30 meters.

Connecting the system

The Contilance system features its own signal and extension cables, which deliver temperature readings to the instrumentation on the shop floor and in the control room. Alarms, various outputs, and calibration and check devices are also available, facilitating easy service and maintenance of the system.

The Conti-Lab E instrument can link to the plant PLC via a number of programmable communication options.



90° Contilance lance



Conti-Lab E instrument
and sensors



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