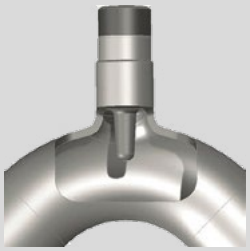
PROCESS INSTRUMENTS

TEMPERATURE



HYGIENIC TEMPERATURE MEASUREMENT WITH THERMOWELLS

BACKGROUND

The German manufacturer Labom has supplied its patented clamp-on solution as a non-invasive alternative for hygienic measurement of pipelines for many years in the pharmaceutical and biotechnology industries for example. This case study looks at the key benefits of the Labom GA2730 thermometer.

CHALLENGE

Combining maximum accuracy and ambitious hygiene standards over and over again poses a real challenge to measuring solutions in the biotechnology and pharmaceutical industries. The use of hygienically designed thermowells has proven itself to be effective over time for temperature measurement.

The traditional method of temperature measurement is invasive, that means the measuring sensor, consisting of a Pt100 element and thermowell, is installed through a bore hole in the container or the pipe directly into the media to be measured. Yet the key issue for applications in the food, biotechnology and the pharmaceutical industries require a hygienic product design and process connection. This is the only way that contamination of the agent can be avoided.

SOLUTION

With the GA2730 thermometer, the measuring device is fixed to the outside of the pipe using a sleeve. The measuring sensor does not penetrate into the pipe, rather it measures the temperature of the pipe wall which can be mounted in the running process without drilling and welding. This saves the user time and costs and is highly reliable. The clamp-on method is very handy, for example for monitoring vapour sterilisation processes in which a minimum of 120 degrees Celsius must be reached in the process pipe. If this temperature is measured at the outside wall the operator can be reassured that in the pipe it already has been exceeded. This makes it easier to provide the proof of the sterilisation temperature.

RESULT

Labom has developed the HIT thermowell system for Hygienic Invasive Temperature Measurement. It consists of standardised sections of straight or angled pipe, which has a small welded thermowell.

All HIT sections of pipe have an M12 device connection, which directly matches the GA2730 resistance thermometer from the Labom MiniTherm range. The device can therefore be screwed into the HIT components and used in a range of process lines.

EQUIPMENT SUPPLIED

- **Labom GA2730 thermometer**

***Credit to Author:** Dipl. Ing. Rainer Schol. © 2014. Labom. **Source:** https://www.labom.com/files/downloads/publikationen/fachbeitraege/HIT-Hygienic-temperature-measurement-with-thermowells__technical-article__EN.pdf