

AUTOCLAVE CHAMBER/LOAD TEMPERATURE MEASUREMENT

APPLICATION

Due to increasing international demand following the introduction of a more advanced range of products the client, a large pharmaceutical manufacturer, was compelled to target and remove areas of known inefficiency.

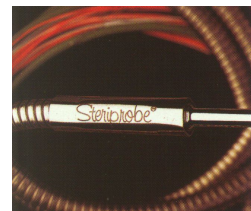
PROBLEM

Frequent failures were being experienced with the existing type of autoclave temperature sensor and it became obvious that it would be essential to reduce this 'down time' if future production targets were going to be met.

The original autoclave load probes consisted of a conventional probe with up to 10 metres of flying lead in a silicone jacket. For the operator to load the product cart into the machine, all the load probes needed to be mounted in their predetermined product location and with their flying leads clear of any obstruction.

Should the silicone jacket 'snag' any small obstruction during these maneuvers, this would often lead to small tears in the silicone, thus permitting steam to penetrate to the lead wire insulation. At the end of the cycle, capillary action then allowed any remaining condensate to percolate down to the detector, giving rise to incorrect measurements on future cycles.

It was also essential to ensure that during these procedures the flying lead was always clear of the autoclave door, which if inadvertently closed could 'chop' through the lead wire jacket.



SOLUTION

Several trials were carried out under varying load conditions. The Steriprobe® with its double interlock stainless steel conduit was identified as being the probe most consistently reliable. Five autoclaves were initially fitted, each with five Steriprobe® assemblies. A policy of gradual replacement of the original probes as and when failures occurred was then instigated. For further information please see Data Sheet PDS-003-100.

BENEFIT

The high flexibility of the stainless steel conduit allowed ease of probe location and small obstructions did not hinder autoclave loading. Whilst autoclave doors or cart wheels could deform the conduit if it became trapped, it rarely had any detrimental operational effect. An additional benefit was that the operators found the Steriprobe® easier to handle and preferred its use since it enabled them to reach their production target without interruption.

Steriprobe® is a registered trademark of Thermal Detection Ltd.

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