

AUTOCLAVE CHAMBER/LOAD TEMPERATURE MEASUREMENT

APPLICATION

A major pharmaceutical manufacturer of wound dressings was under contract to supply the North American market with a substantial quantity of their lead product. The designated autoclave was a double entry type with product load entering on a wheeled cart from an isolated clean room. In order to fulfil their contractual obligations the autoclave would be required to operate at between 6 and 8 cycles in each 24 hour period and to continue at close to this rate for a minimum time of six months (allowing for regulatory validation procedures and routine maintenance).

PROBLEM

To complete the contract on schedule demanded that all the component parts of the autoclave should operate at optimum efficiency. Of all the component parts, the autoclave chamber probes represented the highest risk, particularly since the process required the use of one chamber probe and four load probes operating together. Previous experience indicated that the planned, concentrated workload would definitely present a problem. In particular, this was because the calibration check, which was carried out once every two weeks, required that the duplex PT100 detectors must not deviate from one another by more than $\pm 0.5^{\circ}\text{C}$. Additional to this, unpredictable failures, such as those caused by steam contamination and operator handling would seriously compromise the efficient execution of the contract.



SOLUTION

Following discussions with various manufacturers and trials of their respective chamber probes, it was decided to opt for the Steriprobe® chamber probe, which although the most expensive of those considered had an excellent track record with other users and offered an enhanced reliability. The autoclave was subsequently fitted with five Steriprobe's®, one acting as a chamber probe and the remaining four as load probes, each probe using duplex PT100 resistance thermometers with a 3 wire connection and to Class 'A' tolerance. For further information please see Data Sheet PDS-003-100.

BENEFIT

The manufacturers contractual obligations were met in full and not one Steriprobe® was effected by steam contamination or moisture ingress. During the six month operation, only five spare chamber probes needed to be replaced and this was due to tolerance degradation caused mainly by operator handling.

Steriprobe® is a registered trademark of Thermal Detection Ltd.

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