Calibrating Critical Sensors for Dry Heat Sterilization

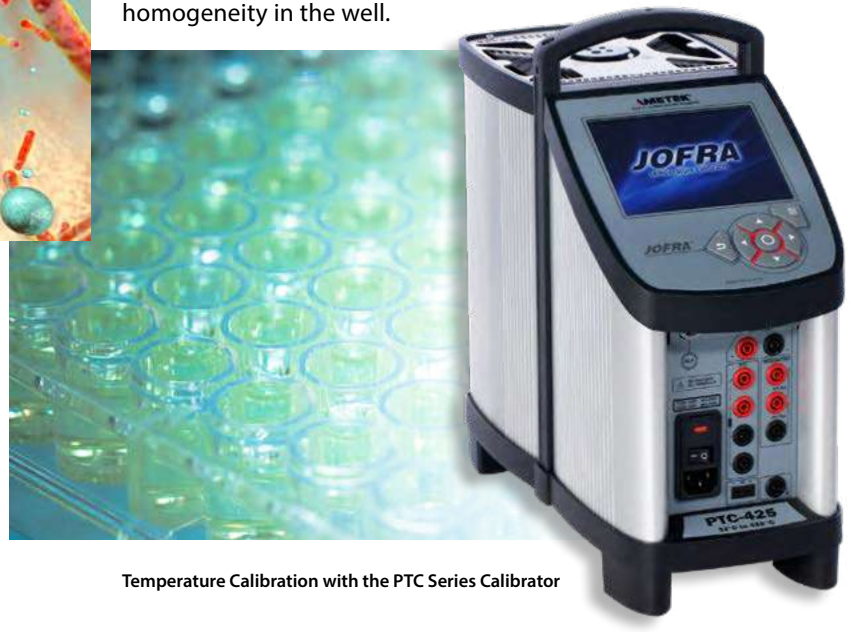
Pharmaceutical labs wage a constant battle with bacterial pathogens and other contaminants that may compromise the safety and efficacy of the drugs and medicines they produce. Of special concern are bacterial pyrogens (endotoxins and exotoxins) which, when present, can cause a fever. As traditional sterilization techniques are not effective on these tiny organisms, labs employ a process called Depyrogenation to ensure that their solutions and surfaces are free of the bacteria.

Depyrogenation (or Dry Heat Sterilization) uses extremely hot air, at temperatures exceeding 350°C (600°F) to burn away the bacterial pyrogens. Super-hot ovens, called Depyrogenation Tunnels, are used to generate the necessary heat. Glass vials, used for the storage of pharmaceuticals, are placed in the tunnel, where they travel through various heat zones and are subjected to extreme, dry heat, ridding them of the pyrogens.

Each sterilization zone within the Depyrogenation Tunnel contains temperature sensors. As a regulatory requirement, and to ensure that the tunnel is functioning properly and within specification, all dry heat sterilizers undergo rigorous inspection and validation. This makes it critical that the embedded sensors undergo regular temperature calibration.

PTC Series Temperature Calibrators Offer Necessary Peace of Mind

With their absence of liquid — and its potential for spillage and contamination — dry block temperature calibrators provide the best means of calibrating these all-important sensors; and the PTC-425 was specifically developed for this application. AMETEK offers five PTC models delivering temperature ranges from -90°C / -130°F up to 660°C / 1220°F. All models feature high accuracy, stability, and speed; and an active dual zone temperature control which delivers excellent temperature homogeneity in the well.



Temperature Calibration with the PTC Series Calibrator