Open Air Shaker

Why are routine temperature verification and calibration needed?

- This service is recommended due to the critical nature of temperature accuracy during a Polymerase Chain Reaction, particularly during the annealing phase when the binding precision of the primers is affected so greatly by the temperature. Temperature verifications provide confirmation of a pass/fail of the heating block temperature accuracy and consistency
- Over time, the sensors and heaters can drift and require adjustment back into specification
- Temperature is the source of energy in PCR reactions. Proper temperature specification is fundamental to reliable results
- Routine temperature verification ensures that the temperature across all wells on the heating block is accurate and consistent so that reliable and meaningful results are generated
- The outcome of inaccurate and/or poorly reproducible temperature cycling can result in low yields, unwanted artifacts, and unreliable results. Temperature calibration and calibration verification at appropriate intervals of PCRs & thermal-cyclers are necessary
- Temperature calibration adjusts the temperature sensors back to the manufacturers specification; ensuring that temperature specifications have been met to maintain temperature accuracy
- Temperature verification is annually recommended maintenance by the manufacturers that is documented to meet all industry standards

Why is routine preventative maintenance (PM) service important?

- Routine preventative maintenance service is targeted at the prevention of unexpected downtimes through thorough inspection and cleaning of the equipment
- Allows for early detection of potential problems from arising
- Extends the life of the electronics as dust and debris can build up around the internal electronics and heat sinks. Cleaning of these areas help reduce downtime and increase the lifetime of the PCR
- Annual PM service includes temperature calibration and is recommended by MarathonLS and the manufacturers