

INTRODUCTION

PCR thermal cyclers provide a system for performing variety of PCR applications. Polymerase Chain Reaction (PCR) is a technique for amplifying nucleic acids *in vitro*, emulating the natural DNA replication process.

Amplification of a samples is achieved by subjecting through cycles of different temperatures allowing the reaction mixture to proceed with the replication process. The reaction volume is in microliters and minute variations in temperature uniformity and accuracy could potentially affect the results of the analysis.

To get reliable PCR results, it is important that the following are ensured in thermal cyclers:

- Temperature accuracy
- Uniform temperature across the block
- Minimal overshoot
- Accurate hold time

Esco offers services to ensure that your thermal cycler can provide the reproducibility and reliability of your PCR results.

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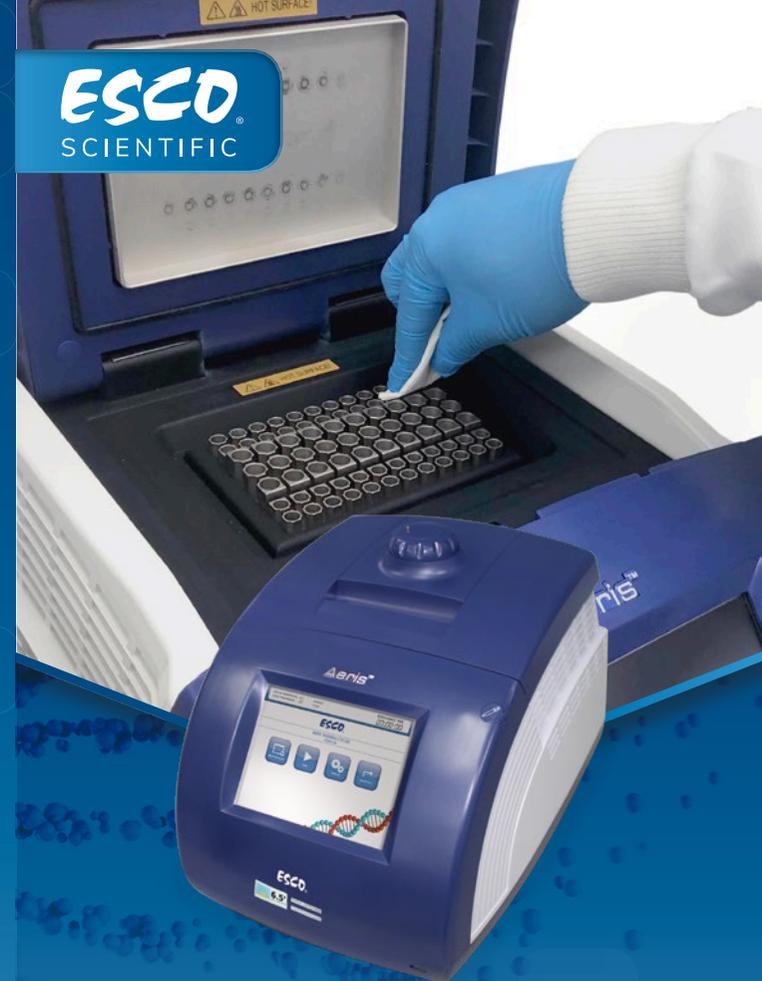
A collection of social media and application icons. The top row includes Facebook (@EscoLifesciences), Twitter (@EscoLifesci), YouTube (@EscoLifesciences), LinkedIn (@Esco), and Instagram (@EscoLifesciences). Below this are logos for various services and apps: Esco Global, Esco Customer Service, Esco Lock Service, ESCONet, Dr. Einesco, and Filtra Check Game. The second row features: LVES App (Your Quick Guide to Safety Cabinets), ULTF App (Personal ULTF Touch Screen Interface App), iRMAP, ESCO FH Fan Selector, Mrs Einesco Fertilization Obstacle Game, and Cattacktics!



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Esco PCR Thermal Cycler Services

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**Esco PCR Thermal
Cycler Services**

**PREVENTIVE MAINTENANCE
SERVICES**

Scheduled Maintenance

Regular checkup of your thermal cycler ensures that the thermal cycler can perform the variety of PCR protocols as designed.

No.	Description of Task to Perform	Maintenance to be carried out		
		Week	Year	As Needed
1	Cleaning of Sample Well and Hot Lid	✓		
2	Cleaning Exterior Surfaces	✓		
3	General Inspection		✓	
4	Check Controls and Display		✓	
5	Check Hot Lid Knob		✓	
6	Decontamination			✓

Cleaning of Sample Well and Hot Lid

- Disinfect of the block wells and hot lid with laboratory cleaning agent



Cleaning exterior surfaces

- Wipe the body of the thermal cycler with soft, damp cloth.



General Inspection

- Electrical Supply, Safety, Fuse
- PC Interface (if any)

Check Controls and Display

- Check control buttons, HMI screen, casing, and LCD display for any cracks, loss of functionality and responsiveness.



Check Hot Lid Knob

- Check the hot lid knob if it can be tightened.

Decontamination

- Decontamination should performed as needed.

**TEMPERATURE VALIDATION
AND CERTIFICATION**

Services include validation of temperature accuracy, uniformity and hold time. This is to ensure that PCR programs you setup on the instrument can be reliably performed. Temperature mapping is performed to check if set temperature is within the acceptance criteria. It is recommended that the thermal cycler be validated and certified yearly.



**TROUBLESHOOTING AND
PARTS REPLACEMENT**

Esco provides technical support for troubleshooting errors of thermal cyclers as well as experimental results. Esco provides replacement parts for components that might fail while the product is in service.

IQ/OQ VALIDATION

Esco provides our customers instructions for Installation /Operation Qualification (IQ/OQ) protocol of our products. Esco also can perform these services directly on behalf of its customers or arrange them through independent approved local certifiers. The availability may vary from country to country and region to region. Also, Esco can train customer employees to perform IQ/OQ.

TRAINING AND WORKSHOPS

Esco offers training for users of thermal cycler on the procedures included in the User and Service Manuals.

SERVICES TO OTHER BRANDS

Esco does not only provide services to its own product line but also for other brands. Esco assures that your thermal cycler will be properly checked according to your needs.