

Aeris™

Conventional PCR Thermal Cyclers

Esco offers a choice of Conventional Thermal Cycler designed to meet critical requirements for all kinds of PCR processes, such as Gradient PCR, Touch down PCR, High throughput PCR, *in situ* PCR and so on, using a variety of PCR tubes, strips, plates and slides. Designed to meet critical requirements for pathogen detection and quantification.



AERIS-BG096

The Aeris™ thermal cycler offers five interchangeable blocks designed to meet critical requirements for different applications. It comes with an intuitive touch screen to deliver easy-to-use programming; **AeonStar™** Peltier is qualified to deliver outstanding and precise performance and unique **IsoHeat™** temperature control technology delivering high heating and cooling rates with excellent temperature accuracy and uniformity. **SmartDrive™** automatic block recognition increases user convenience. **AerisLine™** software enables the remote control of up to 30 individual units via one PC.

ADDITIONAL FEATURES

- Multi-block capability with automatic block recognition software minimizes the need for manual settings
- Adjustable hot lid temperature and ramp rate
- Powerful software that meets a variety of experimental requirements, such as Touchdown PCR, Time Release PCR, *In Situ* PCR, and others
- The Peltier module, electronics, and sensors are precision tuned and tested to ensure the longest operating lifespan possible
- Pre-programmed methods provide easy choice
- Large internal memory that can store up to 250 individual protocols and unlimited data using USB memory stick or PC
- Password protection guarantees secure system access
- AerisLine™ allows you to control up to 30 Aeris™ thermal cyclers via one PC

По вопросам продаж и поддержки обращайтесь:

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Ангарск (3955)60-70-56
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Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

eus@nt-rt.ru || <https://escolifesciences.nt-rt.ru>

General Specifications, Aeris™ Thermal Cycler

Model Code	AERIS-BG096	AERIS-B4830	AERIS-BG384	AERIS-BD048	AERIS-B4076
Sample Capacity	96 x 0.2 mL	48 x 0.2 mL + 30 x 0.5 mL	384 wells	48 x 0.2 mL + 48 x 0.2 mL	4 slides <i>in situ</i>
Application Consumables	0.2 mL tubes 96-well microplates 12 x 8 strips 8 x 12 strips	0.2 mL tubes 0.5 mL tubes 4 x 12 strips	384-well microplates	0.2 mL tubes 6 x 8 strips	4 slides <i>in situ</i>
Maximum Heating Rate	4.0°C/sec	2.8°C/sec	2.8°C/sec	4.0°C/sec	1.8°C/sec
Maximum Cooling Rate	4.0°C/sec	2.8°C/sec	2.8°C/sec	4.0°C/sec	1.8°C/sec
Gradient Capability	Yes	-	Yes	-	-
Gradient Rate	30-105°C	-	30-105°C	-	-
Max. Gradient	1-30°C	-	1-30°C	-	-
Temperature Control Mode	Tube or Block				
Temperature Range	4-105°C				
Over-temperature Cut-Out	Yes				
Number of Programs	Up to 250 programs, unlimited with USB flash drive				
Maximum Hold Time	59 min and 58 sec				
Temperature Accuracy	≤±0.1°C below 50°C				
Temperature Uniformity	≤±0.2°C below 55°C				
Hot Lid Temperature Range	30-110°C (Adjustable, Default 105°C, Automatic Hot-Lid)				
PCR Sample Volume	10-100 µL				
Tm Calculator	Auto				
Extensive Experiment Application	Option setting for time up/down is between 0-9 min 59 sec, which is suitable for Long PCR Temperature when up/down is between 0.1°C to 9.9°C, it is suitable for Touchdown PCR				
Auto Re-start on Power Failure	Yes				
Connection to PC Control	Yes				
Software	AerisLine™				
Operation System	Windows XP / Windows Vista / Windows 7 / Windows 8				
Pre-Run Sample Cooling	Yes, 4°C				
Language	English, Chinese, Spanish				
USB	Yes				
Display	6.5" Color LCD Touch Screen				
Dimensions (W x D x H)	306 x 386 x 295 mm (12.0" x 15.2" x 11.6")				
Power Supply, Consumption	100-240 VAC, 50/60 Hz, 600 W				
Warranty	2 years				
Net Weight	9 kg (19.8 lbs) (without block)				
Shipping Weight	10 kg (22.0 lbs)				
Shipping Dimension (W x D x H)	420 x 540 x 370 mm (16.5" x 21.3" x 14.6")				

*The parameters are tested under optimized lab environments.

ORDERING INFORMATION

Ordering Information, Aeris™ Thermal Cycler

Model Code	Item Code	Description
AERIS-MB	2210003	Aeris™ Thermal Cycler Main Body (100-240 VAC)
AERIS-BG096	1360004	Aeris™ Thermal Cycler Block (96 x 0.2 mL)
AERIS-B4830	1360005	Aeris™ Thermal Cycler Combined Block (48 x 0.2 mL + 30 x 0.5 mL)
AERIS-BG384	1360006	Aeris™ Thermal Cycler Block (384 wells)
AERIS-BD048	1360007	Aeris™ Thermal Cycler Dual Block (48 x 0.2 mL)
AERIS-B4076	1360008	Aeris™ Thermal Cycler (4 slides <i>in situ</i>)

FLEXIBLE - YOUR APPLICATION, YOUR CYCLER

Five Interchangeable Blocks



AERIS-BG096 G-96 WELL

Applicable consumables: 0.2 mL tube, 96-well microplate, 12 x 8 strips, 8 x 12 strips



AERIS-BG384 G-384 WELL

Applicable consumables: 384-well microplate



AERIS-B4830 48 x 0.2 mL + 30 x 0.5 mL WELL

Applicable consumables: 0.2 mL tubes, 0.5 mL tubes, 4 x 12 strips



AERIS-B4076 4 IN SITU SLIDES

For In Situ PCR

Applicable consumables: 4 slides *in situ*



AERIS-BD048 D-48 X 0.2 mL

Two in one! Two independent experiments may be carried out at the same time.

Applicable consumables: 0.2 mL tubes, 6 x 8 strips

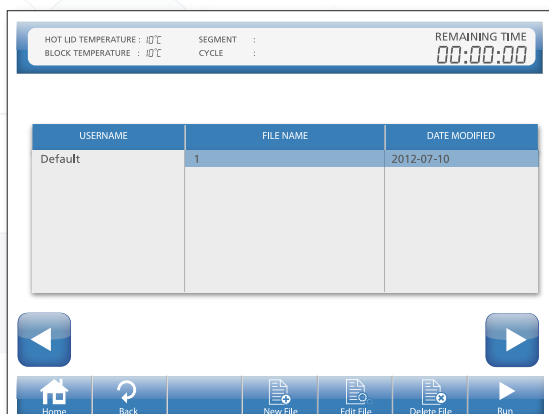
EASIER PROGRAMMING



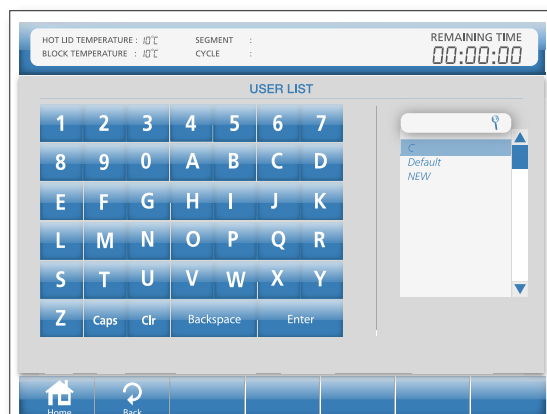
Main Interface



New Protocol



Shortcut



Run

WIDER APPLICATION



Why Use Nested PCR?

Nested PCR is a modification of a polymerase chain reaction technique intended to reduce PCR product contamination due to the amplification of non-specific primer binding sites.



Why Use Long PCR?

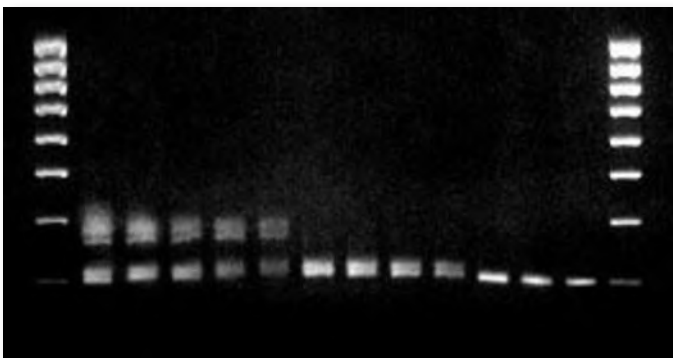
Long PCR, a new technique based on ordinary PCR, applied to amplify the PCR template longer than 5 Kb.



Why Use Touchdown PCR?

Touchdown PCR is a method of polymerase chain reaction by which primers avoid amplifying non-specific sequences. The annealing temperature during a polymerase chain reaction determines the specificity of primer annealing. The melting point of the primer sets the upper limit on annealing temperature. At temperatures just below this point, only very specific base pairing between the primer and the template occurs.

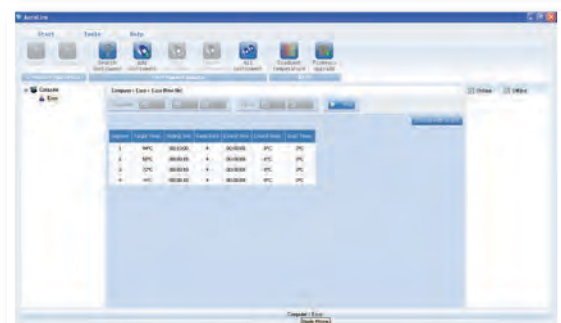
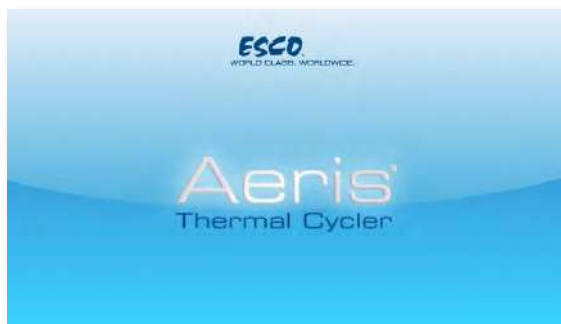
End Point Analysis Result



The best conditions are found in Well 10, where the temperature was 63.2°C.

Note: Experimental determination of optimal annealing temperature. The calculated primer annealing temperature was 56.5°C. The actual annealing temperature was 63.2°C.

AERISLINE™ PC SOFTWARE



Easy Setup

Network Enabler Administrator helps you configure the instrument by IP address.

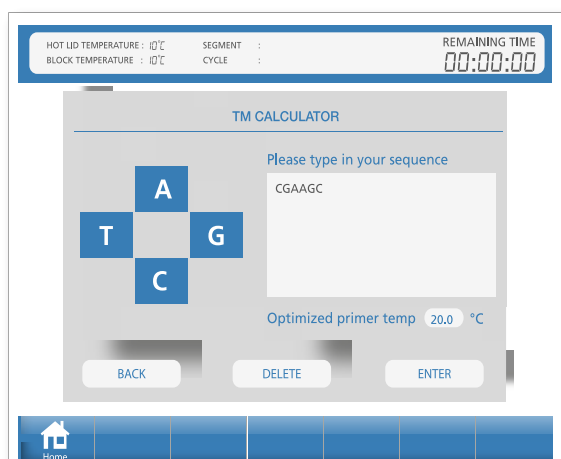
Simple

Once you install the software, you get easy access to set up protocols and edit the program.

Powerful

One PC can control up to 30 Aeris™ Thermal Cyclers.

TM CALCULATOR



Tm calculator allows you to calculate the optimal PCR annealing temperature based on the sequence of a pair of primers. The Tm calculator by default calculates by the simpler GC content.

THREE MODES OF OPERATION



- 1 Stand-Alone Unit**
Operate directly with keypad.



- 2 PC Controlled**
Operate cycler via PC, and save programs.



30x

- 3 Satellite Function Via AerisLine™**
Up to 30 Aeris cyclers can be controlled from one PC.

AERIS™ COMPONENTS

USB Port



Touch Pen



Black Cable



For single unit connecting to AeriLine™ PC software

White Cable



For multiple units connecting to AeriLine™ PC software

Fuse



USB PORT

- User friendly
- Convenient and quick data transfer
- Convenient USB port and RJ45 port simplify data transfer and product updates between the Aeris™ Thermal Cycler and USB memory stick

Storage



There are up to 250 protocols that can be saved in the internal memory; unlimited with use of USB memory stick and PC. Save as many of your commonly used programs as you want

RJ45



Aeris™ Thermal Cycler and PC / Laptop (update software via RJ45 port when enhancements are available)

AERIS™ BENEFITS

- Saves time when programming with the intuitive color touch screen
- Keeps the latest operation records which deliver the proven reliability of PCR results
- Durable design to guarantee longer instrument lifespan
- T_m calculator for optimized primer annealing temperature
- Flexibility for extensive applications such as Long PCR and Nested PCR
- Hot lid temperature adjustment to secure the temperature control on the block and to prevent condensation and water evaporation on the hot lid itself
- Better performance with temperature accuracy



Swift™ MiniPro®

Conventional PCR Thermal Cyclers

The Esco Swift™ MiniPro® thermal cycler is a low cost personal thermal cycler with a compact footprint, suitable for a variety of critical experimental applications, such as Touch Down PCR, Time Release PCR and others. The Swift™ MiniPro® thermal cycler uses advanced peltier technology to achieve precise temperature control and fast ramp rates with minimal over- and under-shoot for process speed and accuracy.



SWT-MIP-0.2

SUPERIOR PERFORMANCE

Excellent Temperature Uniformity

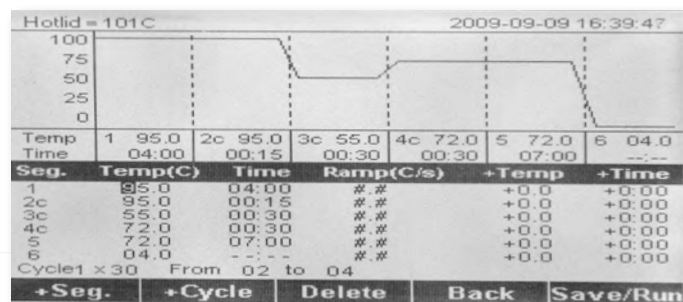
Unique IsoHeat™ temperature control technology guarantees extremely uniform temperature between central and edge wells. Block temperature uniformity is $<0.3^{\circ}\text{C}$.

High Temperature Precision

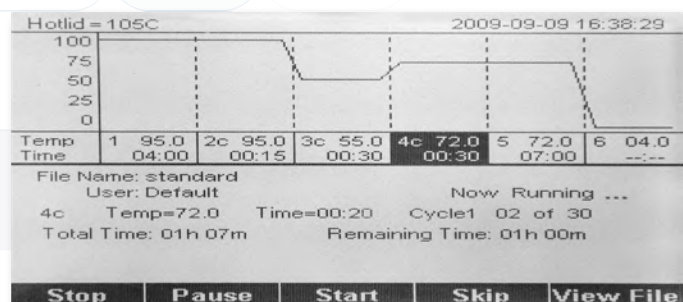
Precisely tuned and tested AeonStar™ peltier, temperature sensor, and proprietary control algorithms provide highest temperature accuracy. Block temp. accuracy is $<0.3^{\circ}\text{C}$.

Outstanding Ramp Rate

Proprietary aluminium block with superior thermal conductivity properties delivers superb heating and cooling performance, equal to the gold blocks of other brands. High ramp rate of up to $5.0^{\circ}\text{C} / \text{sec}$.



Protocol Setting Display



PCR Running Display

CONVENIENCE

Compact Footprint

User-friendly ergonomic design, small footprint to conserve available bench top space. Lightweight - only 3.5 Kg (7.7 lbs).

Convenient Setup, Fast Run

Pre-programmed methods are available for your convenience or you can enter thermal cycling values to program your own methods.

Friendly Interface

Large screen shows all information in one page. Easy, graphical programming for temperature, holding time, ramp rate, pause and other functions ensures intuitive operation.

Adjustable Hot Lid

Prevents reagents from evaporating. Hot lid height is adjustable to suit all kinds of tubes.

Adjustable Ramp Rate

High ramp rate of up to $5.0^{\circ}\text{C} / \text{sec}$. Suits all reagents. Allows protocols to be transferred from other cyclers.

STABILITY

Robust Security

Automatic restart saves setpoints and guarantees successful PCR cycling in the event of power interruption.

Long Warranty Period, Peace of Mind

The peltier module, electronics and sensors are precision tuned and tested to ensure the longest operating lifespan possible. Backed by an industry leading 3 year warranty for main body, 2 year warranty for block.

Certified Quality

ISO 9001:2000 Certificate

ISO 14001:2004 Certificate

CE & EMC
Certificate

General Specifications, Swift™ MiniPro® Thermal Cycler

Model Code	SWT-MIP-0.2- _	SWT-MIP-0.5- _
Sample Capacity	24 x 0.2 mL	18 X 0.5 mL
Applicable Consumables	0.2 mL tubes, 3 X 8 strips, 24-well microplates	0.5 mL tubes
Temperature Range	4-99°C	
Maximum Heating Rate	5.0°C / sec	4.0°C / sec
Maximum Cooling Rate	4.0°C / sec	3.0°C / sec
Temperature Uniformity	±0.3°C	
Temperature Accuracy	±0.3°C	
Hot Lid Temperature Range	30-110°C (Adjustable, Default 105°C, Automatic Hot-Lid)	
PCR Sample Volume	10-100 µL	
Temperature Control Mode	Tube or Block	
Display	Graphical LCD	
Protocol Capacity	100 protocols	
PC Interface	RS232 for software updates	
Dimension (W x D x H)	212 x 297 x 200 mm (8.3" x 11.7" x 7.9")	
Power Supply, Consumption	100-120 VAC / 200-240 VAC, 50/60 Hz, 200 W	
Warranty	2 years	
Net Weight	3.5 kg (7.7 lbs)	
Shipping Weight	4.5 kg (9.9 lbs)	
Shipping Dimensions (W x D x H)	320 x 420 x 330 mm (12.6" x 16.5" x 13.0")	

ORDERING INFORMATION

Order Information, Swift™ MiniPro® Thermal Cycler

Model Code	Item Code	Description
SWT-MIP-0.2-1	2210009	Swift™ MiniPro® Thermal Cycler With 24 x 0.2 mL Block 110 VAC 50/60 Hz
SWT-MIP-0.2-2	2210010	Swift™ MiniPro® Thermal Cycler With 24 x 0.2 mL Block 220 VAC 50/60 Hz
SWT-MIP-BLC-1	1360019	Swift™ MiniPro® Block 1 (24 x 0.2 mL)

Swift™ ProGene

Real-time PCR Thermal Cyclers

Real-time PCR thermal cyclers provide a system for the efficient amplification of nucleic acids in vitro, while offering capability to monitoring the PCR reaction in real-time.



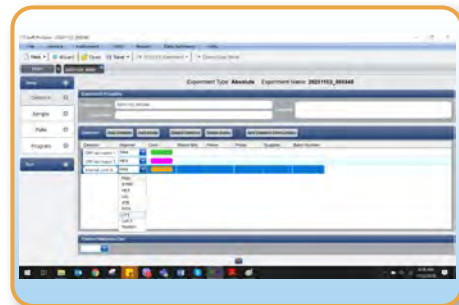
Esco Swift™ PCR Thermal Cyclers also provide the capability for quantifying and estimating the original concentration of the template. It is designed with fast heating/cooling rate for faster run time and offers 6-zone independent temperature control for accurate results.

ADDITIONAL FEATURES:



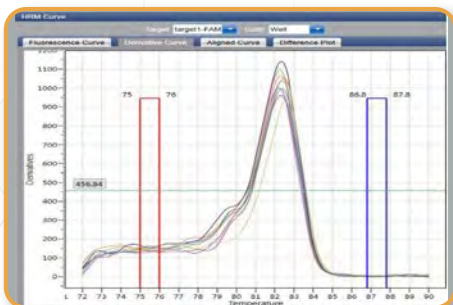
Touchscreen Display

- Large display allows for stand-alone operation or can import programs through USB port.



6 Channels

- Standard 5 channels plus additional for user customization, allowing specific detection of particular wavelength.



Multiple Configurations

- Variety of PCR applications can be performed including: quantification, SNP, and HRM analysis.



Automatic Sample Cavity

- Automatic insertion and ejection of PCR plates or tubes to the system.

General Specification, Swift™ ProGene Real-time PCR Thermal Cycler

Model Code	SWT-PG-96
Sample Capacity	96 x 0.2 mL
Applicable Consumables	0.2 mL tubes, 96-well microplates, 12 x 0.8 strips, 8 x 12 strips (transparent caps)
Reaction Volume	10 -100 µL
Maximum Heating Rate	6°C/sec
Maximum Cooling Rate	5°C/sec
Temperature Uniformity	≤±0.2°C
Temperature Accuracy	±0.1°C
Temperature Display Resolution	±0.15°C
Temperature Control Mode	Block or Tube
Temperature Range	4-105°C (increment of 0.1°C)
Hot-lid Temperature Range	30-110°C
Excitation Wavelength	300-800 nm
Emission Wavelength	500-800 nm
Channels	6 Channels F1: FAM, SYBR Green I F2: VIC, HEX, TET, JOE, TAMRA, CY3, NED F3: ROX, Texas-Red F4: Cy5 F5: Cy5.5 F6: Customized
Gradient	6 independent temperature control zones
Linear Dynamic Range	1-10 ¹⁰ copies/L
Power Requirements	100-240 V, 50/60 Hz, 1000W
Communication Interface	USB to PC adapter, Bluetooth
Alarms	Hot-lid overheat protection and alarm Switching power supply overheat protection
Dimensions (W x D x H)	380 x 400 x 380 mm (15.0", 15.7", 15.0")
Warranty	2 years
Net Weight	32 kg (70.5 lbs)
Shipping Weight	55 kg (121.3 lbs)
Shipping Dimensions (W x D x H)	720 x 680 x 650 mm (28.3" x 26.8" x 25.6")

ORDERING INFORMATION

Ordering Information, Swift™ ProGene Real-time PCR Thermal Cycler

Model Code	Item Code	Description
SWT-PG-96	2210039	Swift™ ProGene Real-time PCR Thermal Cycler

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