Swift™ Spectrum 96 Real Time Thermal Cyclers

Esco is proud to introduce a 2nd Generation platform for quantitative real-time PCR. After 3 years of development, Esco has released a new model Swift Spectrum Real Time 96 encompassing new technology. Swift Spectrum Real Time 96 well retains the reliability, flexibility and efficiency based on Swift Spectrum Real Time 48. It also introduces a more advanced detection system design with an X-Y scan system and a customized Peltier which provide a better heating/cooling rate, temperature accuracy and stability.

Swift Spectrum Real Time 96 well system brings more possibilities for researchers of all experience levels by conducting absolute quantification, SNP and relative quantification in an easy-to-use software interface. Unlike Swift Real Time 48 wells, this new model has a capacity of 96 samples and implements them by dual-color scanning within 5.5 seconds via open platform chemistry on up to 8 multiple channels.

✓Features:

❑Reliability

- Multi-point temperature control ensures highly consistent temperature within the 96 sample holes.
- The advanced optic fiber transmission technology makes the photo-electric detection system highly sensitive and reliable.
- Long-life LED light source, paired excitation, dual high-sensitivity PMT synchronous detection.

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❑Flexibility

- 6-Channel LED-PMT based optical system for FAM™,SYBR® Green, HEX, VIC®, JOE™, TAMRA™, TEXAS RED, ROX™, CY3, TET, CY5, NED, LcRed ; Extra 2 channels can be customized.
- Automatic hot-lid technology needs no manual opening/closing and ensures constant pressure of hot-lid used with different test tubes.
- The longer wavelength dyes are excited more efficiently, resulting in better sensitivity and precision.
- Automatic temperature control mode (Tube/Block) switch based on sample volume.
- Wide block temperature range: 4-105°C, with SOAK low temperature conservation function.
- Data inquiry – Administration of results database.
- Selectable power setting between AC 100-240V

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❑Stability

- The constant temperature function of SOAK realizes low-temperature storage of PCR reagent.
- LED excitation light source – long life and low maintenance
- Stable and correct 1~36°C gradient function makes PCR condition optimal.

❑Efficiency

- PCR reaction tube is unnecessary to open, which protects products during and after PCR from contamination and ensures correct results.
- Designated line scan mode, Rapid for a 96 wells dual-color scanning. 6 channels can be finished scanning within 21.12s.

INTRODUCTION

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.

These PCR thermal cyclers also provide the capability for quantifying and estimating the original concentration of the template.

These features enable the use in variety of applications for molecular biology.

List of Applications

- Molecular Diagnostics
- Expression Studies
- Genotyping
- Other Molecular Biology Research
- Forensics
- Quality Control Testing

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Real-time PCR Thermal Cyclers

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Real-time PCR Thermal Cycler

KEY FEATURES

- Fast heating/cooling rate for faster run time
- Offers 6-zone independent temperature control for accurate results
- Low energy consumption
- Built-in computer for stand-alone operation from PCR program input, monitoring, to analysis.

OTHER FEATURES

Touchscreen Display

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

Multiple Configurations

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

6 Channels

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

Automatic Sample Cavity

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

SPECIFICATIONS

MODEL	SWT-PG-96
Sample Capacity	96 x 0.2 ml
Applicable Consumables	0.2ml tubes, 96-well microplates, 12 x 0.8 strips, 8 x 12 strips (transparent caps)
Reaction Volume	10-100 µl
Max. Heating/Cooling Rate	Heating: 6°C/sec Cooling: 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
Dimension (W x D x H)	380 x 400 x 380 mm

ORDERING INFORMATION

PRODUCT	Swift™ ProGene
Item Code	2210039
Model	SWT-PG-96
Description	SWIFT PROGENE, SWT-PG-96, REAL-TIME PCR

✓ Models:

Spectrum96 Real Time PCR Detection System		
Module Code	**SWT-SPT-RT-96-4**	**SWT-SPT-RT-96-8**
Sample Capacity	96 × 0.2mL PCR tubes(Bottom Transparent), 12 x 8 strips, 96-Well PCR plate (full-skirted)	
Optical module		
Excitation	LEDs	
Detection	1 photo-multiplier tube for 4 channels	2 photo-multiplier tubes for up to 8 channels
Excitation Wavelength	300-800nm	
Emission Wavelength	500-800nm	
Channel And Fluorescence	F1:FAM, SYBER Green I F2:VIC, HEX, TET, JOE F3:CY3, NED, TAMRA F4:ROX TEXAS-RED	F1:FAM, SYBER Green I F2:VIC, HEX, TET, JOE F3:CY3, NED, TAMRA F4:ROX TEXAS-RED F5:CY5 F6:LightCycler Red F7 and F8 for customized purpose

Thermal Cycler		
Max Block Heating Rate*	4.0â„ƒ /sec	
Max Block Cooling Rate*	4.0â„ƒ /sec	
Gradient Block	Over 12 Rows	
Gradient Range	1â„ƒ- 36â„ƒ	
Temperature Accuracy	±0.1â„ƒ	
Temperature Uniformity	±0.3â„ƒ	
Temperature Range	4â„ƒ- 105â„ƒ	
Hot Lid Temperature Range	30â„ƒ ~110â„ƒ (Adjustable, Default 105â„ƒ, Automatic Hot-lid)	
Temperature Control Mode	Block or Tube	
Spectrum PC software		
Operation System	Windows 2000/XP Excel 2000/2002/2003, Access 2000/2002/2003	
PC Configuration	Memory: 512M, Hard Disk: 10GB, CPU: Pentium 4, Virtual Memory:>=1000MB	
Multiplex Analysis	Up to 4 targets per well	Up to 8 targets per well
Scan Mode	Entire plate or designated line	
Scan Time	5.5s (F1/F2 full 96-well plate scan)	
Data Analysis Methods	Absolute Quantification, Standard Curve, Relative Quantification, Melting Curve, SNP Genotyping	

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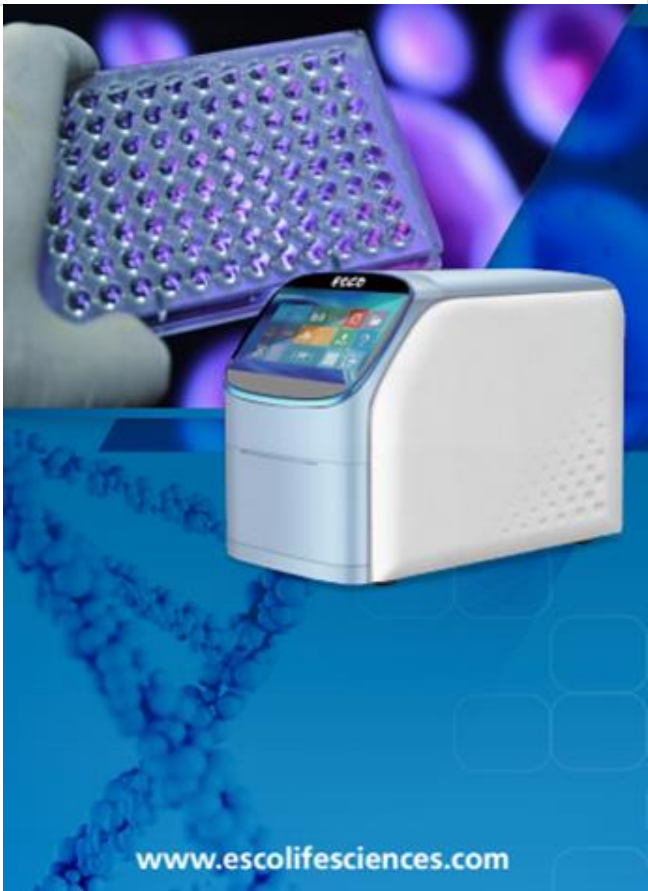
Complete System	
Sample Volume	5-100uL
Interface	1 X RS232C, 1 X USB, 1X Blue Tooth for PC control
Dimensions (W × D × Hï¼‰	395mm X430mm X352mm (15.5'' X 16.9'' X 13.9'')
Net Weight	28 kg (62 lb)
Power Supply, Consumption	100-240V, 50/ 60Hz; 600W
Electrical Approvals	CE
Warranty	2 years



Description of Order parts	Order Code
Swift™ Spectrum RT Cycler 96 (110 - 240V)	SWT-SPT-RT-96

*SWT-SPT-RT-96 includes main body, block and software. PC is not included.

✓ Accessories:

1.Rubber typhoon
2.PVC socket
3.repeat mask
4.Fuse
5.Compact Disc

❑ Options:

1.Power cable/250V 10A
2.Power cable/125V 12A
3.RS232C Converter Box
4.USB Converter Box
5.Bluetooth Converter Box

❑ Additional Information:

Software

In addition to program and assay set-up, the Swift Spectrum Intuitive software can be programmed to perform a variety of analyses in addition to program and assay set-up. These include:

•Quantification and relative quantification
•2nd derivative fluorescence curve values
•Fit point analysis
•Block fragmentation
•SNP and more.