Specifications

Kyratec.

Thermal Cycling Technology	High performance active heating and cooling using 6 quality peltier elements arranged as 3 independant control zones
Temperature Range	4°C – 99°C
Temperature Accuracy	±0.5°C over full range, typically < ±0.1°C at 60°C
Temperature Uniformity	±0.3°C, 30 seconds after target (range 40°C - 90°C) Typically < ±0.1°C at 60°C
Temperature Resolution	0.1°C increments
Heating/Cooling Rate	5°C/sec typical heat & cool between denat & aneal (block). 7°C/sec Peak (block).
Well Configuration	96-well block supporting: 0.2 mL tubes or strip tubes with flat or domed caps; 96-well high-or low skirt plates with strip caps, adhesive cover, or oil overlay
Recommended Reaction Volume	5 - 60ul
Thermal Gradient* (SC300G)	Programmable 0–24°C across block width (12 wells)
Condensation Control	Automatic utilising applied pressure heated lid
Heated Lid Temperature Range	Controllable 60°C – 115°C
Dimensions	Width: 180mm (7") Depth: 285mm (11.2"); 350mm (13.8") including cables Height: 190mm (7.5") lid closed; 340mm (13.4") lid open
Weight	5.5kg (11 lbs)
Colour	Pewter on black
Electrical	100–240 VAC @ 4 Amp (50/60 Hz) Automatic voltage sense, standard IEC Inlet plug
External Connectivity Interface	USB interface to Windows based PC USB host port - file transfer to and from USB memory stick - mouse/keyboard connection - printer (potential future software release)
Internal Interface	Embedded graphical controller with 7" widescreen touch sensitive colour backlit display
Software	Supplied with unlimited user licenses, Free upgrades available via web download
Internal memory	256MB, enough for 10,000+ saved profiles
Functionality	Multiple thermal zones, Touch Down/Up, Long Range, Thermal Gradient*, Program Pauses, Temperature Graphing, On-screen Help, User Accounts, Profile Load and Saving, Manual Mode, USB File Transfer, Post run reporting, Auto restart and more.
Included Accessories	Power Cable, User Manual, Touch Screen Stylus

Ordering Information		
	Triple-Zone	**SC300T**
	Gradient* (Not available in all regions)	**SC300G**
	Uni-Block	**SC300U**

SuperCycler

TRINITY

High Performance
Triple Zone Thermal Cycler

Kyratec.

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(*Gradient instrument is available selected regions only)

Platform

The SuperCycler Trinity is a high performance thermal cycling system configured and optimised for industry standard 200ul individual or strip tube (domed or flat-capped) or 96-well plates (low or high skirt) with strip caps or adhesive film seals. It incorporates state of the art electronics, precision quality peltier devices and a flexible user interface.

Trinity Series Powerful Thermal Engine

At the heart of the Trinity series instruments lies 3 fully independant sets of peltiers, temperature sensors and control electronics. This powerful and reliable thermal engine is capable of delivering high ramp rates in excess of 5°C per second with our standard low thermal mass alloy block whilst maintaining a long peltier life and low well to well temperature variation. Three configuration Trinity instruments are available.

Uniblock -	Single temperature zone.
Gradient* -	Up to 24 degree thermal gradient across the block width.
TripleZone -	Three phisically independent blocks providing multiple temperature areas with minimal thermal interference between the zones in a standard 96 well plate format.
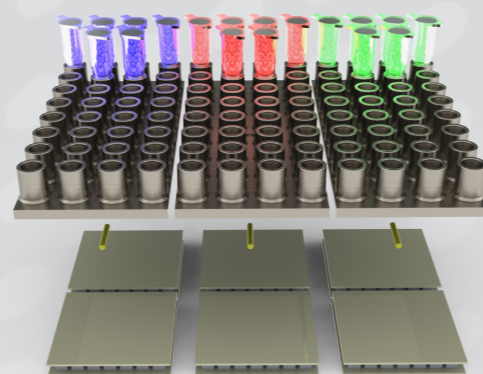
TripleZone block shown

The TripleZone Advantage

The unique Trinity TripleZone block format allows you to not only optimise your reactions but to also run multiple differently thermal optimised reactions in a single run at exactly defined temperatures. Whilst a gradient instrument is usefull for optimising a given reaction it does not generally provide as effective a means of running more than one optimised reaction at a defined independant temperature.

Heated Lid Evaporation Control

The SuperCycler employs an applied pressure heated lid design to keep the air contained within the tube hotter than the reaction volume. This causes any evaporation to condense back into the cooler reaction liquid, thereby eliminating the need for an oil or wax condensation overlay.

Touch Screen Graphical User Interface

A high performance graphical processor with large 7 inch, vivid color touch screen display allows for easy run setup and monitoring. The powerful yet intuitive software makes creation of even the most complex of thermal profiles a breeze. Free software upgrades are provided on our website keeping your instrument up to date with the latest features and developments.

Compact Footprint

Boasting a footprint of only 18x28.5x19cm (WxDxH), the SuperCycler is designed to save valuable bench space within the laboratory. Weighing in at just 5.5kg, this machine is also highly portable for the ever-changing laboratory environment.

USB Connectivity

A front USB port allows for fast, easy file transfer to USB memory stick enabling the sharing of thermal profiles between instruments and users. The use of a USB mouse is also supported.

(*Gradient feature is available in selected regions only)

Interface

The SuperCycler software implements a powerful thermal profile engine. A profile may contain up to 100 events. Each 'event' can be either a hold at temperature, pause, ramp or 2 to 5 step cycling with up to 100 repeats. Any event or step can contain gradient*, touchdown or long range features. An almost unlimited number of profiles may be stored on the device for re-running. Despite its high level of capabilities profile setup is straightforward.

Live Graphing	Gives vivid feedback of the thermal activity.
Manual Control	Enables the user to set the block to a specific temperature quickly without creating a thermal profile. This function is useful for incubating reactions such as DNA digestion or ligation.
Auto Restart	If a power interruption should occur the instrument can automatically restart from the point at wich interruption occurred.
Quickstart Wizard	Enables the user to configure easy to moderate complexity profiles in just moments.
USB Connectivity	Front access USB host port enables file transfer between units using an ordinary USB memory stick. Also supports the use of a mouse. USB PC interface port available on machine rear.
User Accounts	Enables easy separation and organization of user thermal run profiles. Many thousands of profiles may be stored in the large internal 256mb+ memory.
Pause	The 'Pause' feature allows the user to pause the profile at any number of pre-programmed points while emitting an alert beep.
Long Range	Enables the time of a particular cycling step to be automatically increased or decreased by a preset amount over a specified range of cycle repeats.
Touch Down/Up	Enables the temperature of a step to be automatically increased or decreased by a preset amount over a range of successive cycle repeats.
On Screen Help	User manual is inbuilt into the software ensuring that help is never more than a click away.
Run Reporting	Post run report is generated on run completion and may be saved to USB memory stick for inclusion into your run documentation.

Manual Profile Editor
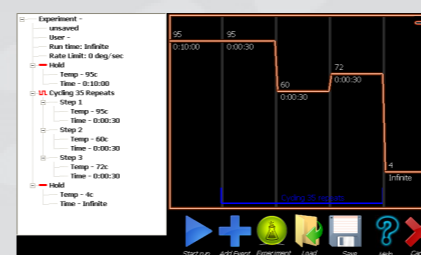
The Manual Profile editor screen displays the current experiment profile in a 'tree list' format with a graphical representation of each thermal step.
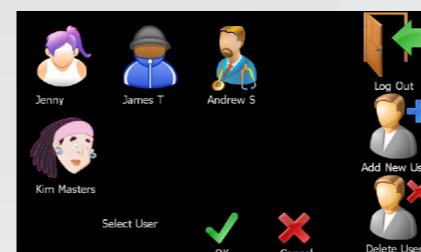
Wizard Mode

The Wizard utility enables the user to configure easy to moderate complexity profiles in just moments.

All the thermal steps which occur in a typical profile are included and the parameters may may be adjusted in just a few clicks.

User Accounts

The User Accounts section allows up to 99 user profiles each with dedicated file storage directory and personalised Icon.

When a user is selected thermal profiles will be loaded or saved to a directory specific to that user providing easy recovery later.

(*Gradient function not available in all regions)