Kryo Series Precision Controlled-Rate Freezers

Kryo 550 -16 - Biological Freezer

- Designed for critical samples
- Integrated compact design
- Focused Control Technology gives high reliability
- 16 litre chamber - bags, ampoules or straws
- Lower temperature limit -180 ºC for good cell viability
- Controlled thawing

Kryo 550

The Kryo 550-16 incorporates all of the critical features expected from a high specification biological chamber. The -180 ºC to + 40 ºC temperature range allows flexibility for a wide range of applications and protocols. The -180 ºC end temperature ensures the sample integrity while transferring to long term storage.

The integrated Focused Control Technology provides secure and accurate profile control. This ensures that even when connected to a host PC, the freezer control remains unaffected by any failures that may occur on a external computer or network. The controller includes protection against short term power failures.

PC connectivity is provided by an RS232 connection providing profile editing, real-time run graphs and PC storage of run data via the DeltaT application. Calibration and Qualification tools can also be provided when connected to DeltaT-iQ.

Alternatively the optional in-built server provides a quick and trouble-free method of accessing the host device from any PC on a network. The heart of the unit is the device-specific application and web site, resident in the server which allows customised access to the host device.

The web enabled 550 also benefits from simple connection to an ethernet network, no software to install and SMTP mail server for e-mail notifications.

FCT

Focus control technology (FCT) is Planer's answer to avoidable failures. FCT uses a single dedicated control board (PID engine), which runs the freezer not subject to interference from other processes.

All other processes such as local keypresses, displays and comms with a PC are handled by a separate control board.

The PID Engine handles all of the current run operation, including the current profile and current KryoFile. The profile is downloaded to the PID Engine which then runs the freezer independently.

The profile contains the information about temperatures and hold times and the KryoFile stores information on the resultant temperature variants. The PID engine contains a micro processor which also handles the control and measurement of the current run.

Power failure protection is designed to bridge the gap between power failing and a back-up generator cutting in. All freezers have 1 minute power failure protection built in. If power returns within 1 minute freezing will continue normally without user intervention.

Focus Control Technology (FCT) encompasses a number of advanced features built into every Planer freezer to give the highest degree of reliability. For further information on the benefits of Focused Control Technology please contact Planer.

SPECIFICATION OVERVIEW

- Integrated compact design
- Focused Control Technology
- 16 litre chamber
- **Bag capacity:** 11 x 250/500ml bags, or 48 x PALL bags
- **Vial capacity:** 784 x 1.0-2.0 ml or 588 x 1.0 - 5.0 ml in baskets
- **Straw capacity:** 2904 x 0.25ml (on canes), 968 x 0.5ml (on racks)
- **Lower temperature limit:** -180 ºC
- **Cooling rates:** -0.01 to -50 ºC/min
- Controlled heating
- **PC Software:** Delta T™ included

SYSTEM REQUIREMENTS

5 psi or 22 psi Liquid Nitrogen Supply

Planer plc, 110 Windmill Road, Sunbury, TW16 7HD, UK +44(0)1932 755000 www.planer.com

Kryo Series precision controlled-rate freezers

Kryo 550 - 16 - fully featured biological freezer

System Specification:

• Range	+30 ºC to -180 ºC
• Heating rate	0.01 ºC/min to 10 ºC/min
• Cooling rate	-0.01 °C/min to -50 °C/min
• Controller accuracy	±0.3 °C measured on a hold at 0 °C
• Storage temperature	-10 °C to +50 °C
• Storage humidity	5 % to 95 % relative humidity non-condensing
• Operating temperature	5 °C to 40 °C
• Operating humidity	5 % to 90 % relative humidity non-condensing

PC Connectivity:

• RS232	For connection to DeltaT and DeltaT-iQ
• Optional 10 base T	kryo·connect module. Please contact Planer plc for details

Chamber Specification:

• Weight (approx)	23 kg
• Capacity	16 litres
• Chamber dimensions	Internal 350 mm high x 230 mm wide x 230 mm deep External 450 mm high x 650 mm wide x 420 mm deep
• 0.25 ml straws	2904 on canes or 456 on racks
• 0.5 ml straws	968 on canes or 456 on racks
• Vials	784 x 1.0ml - 2.0ml or 588 x 1.0ml - 5.0ml
• 50ml blood bags	22
• 250ml - 750ml blood bags	11
• Display	3.5 digit LCD
• Keypad	3 key Run/Stop/Sample keypad
• Programmable Cooling Range	
• Power requirements (including MRV Controller)	115V~ 50/60Hz 1500VA / 230V~ 50/60Hz 1500VA

Recommendation of additional equipment:

• 5 psi System	System Pump - LNP4-C System Dewar - MVLAB 30 or PB35
• 22 psi System	System Cylinder - MVEUROCYL230SB Phase Separator - MVPHASE
• 22 psi System (alternative)	Vacuum Jacketed Pipe Work System Phase Separator - MVPHASE

Planer plc, 110 Windmill Road, Sunbury, TW16 7HD, UK +44(0)1932 755000 www.planer.com