

Kryo 560 - 16



The Planer Kryo 560 - 16 fully featured Tissue Bank freezer for cryopreservation of Bone Marrow, Stem Cells, Skin, Cord Blood and other critical high volume samples

- ❑ Designed for freezing of samples in bags, ampoules and straws
- ❑ Controller displays demand, sample and chamber temperatures, programme stage and current temperature graphic
- ❑ Menu driven controller, simple to programme and operate
- ❑ Protocol stage trigger on sample or chamber temperature or time
- ❑ Unique forced laminar flow system ensures efficient, even cooling
- ❑ Standard operating features:-
 - ◆ Start above ambient
 - ◆ Controlled heating
 - ◆ Data Printing (integral printer)
 - ◆ Comms port for PC connection
 - ◆ Fast cooling rates
 - ◆ Multiple safety features

SPECIFICATION OVERVIEW

- Chamber volume: 16 litres
- Capacity: 11 x 250/500 ml bags, horizontally or vertically in chamber
- Ampoule capacity: 726 x 2 ml in baskets
- Straw capacity: 608 x 2 ml on canes (horizontal)
- Lower temperature limit: -180 °C
- Cooling rates: -0.01 to -50 °C/min
- Controlled heating rates: 0.01 to 10 °C/min
- System controller: MRV
- PC Software: DeltaT Lite
(Upgradable to DeltaT and DeltaT-iQ)

SYSTEM REQUIREMENTS

5 psi or 22 psi Liquid Nitrogen Supply

The **Kryo 560 - 16** incorporates all of the critical features expected from a high class biological freezer. The system is specifically designed with full system safety protection. The -180 °C end temperature **ensures sample integrity during transfer to storage** whilst the flexibility of the system, including protocol stage transition based on sample or chamber temperature or time, is ideal for the more demanding protocols associated with the most advanced cryopreservation techniques.

The high capacity LNP4 active nitrogen pump offers both faster cooling rates and, when combined with a LAB 30 dewar, a large reservoir offering the **reassurance of an extended hold time** at the protocol end temperature. The system sample capacity is sufficient for the busiest laboratory and the state of the art compact design will enhance the most modern facility. The top opening chamber, combined with a unique forced laminar flow pattern of the coolant and cryogenic insulation, ensures even and accurate temperature control in all phases of the protocol and prevents the lid from freezing shut at cryogenic temperatures.

The MRV controller system has been created to offer **multiple protocols** whilst remaining simple to programme and operate. Both during and after a run it offers the widest range of displayed information, alphanumerically and graphically via the easy view display and as a print out on the integral full view printer. Validation is a high priority and the MRV offers password controlled access on multiple user levels, time and date stamping, programme preview/verification before running and data storage for the last 10 runs for subsequent printing.

User calibration with associated hard copy is featured and PC connection compatible with our **comprehensive Delta T™ software** application is standard. These help protect against power failure and PC failure when running with software. Processor or system problems are controlled and the system restarts to protect samples. For example all control and data systems are separated, the controller can be removed from the operating freezer with no loss of programme integrity; data storage and processing are run on completely isolated electronic systems.

Planer plc Windmill Road Sunbury Middlesex TW16 7HD United Kingdom

Telephone +44 (0)1932 755 000 Fax +44 (0)1932 755 001 email: Sales@planer.co.uk website: www.planer.co.uk

TECHNICAL SPECIFICATION - Kryo 560 - 16

System Specification

Range	+30 °C to -180 °C
Heating rate	0.01 °C/min to 10 °C/min
Cooling rate	-0.01 °C/min to -50 °C/min
Controller accuracy	$\pm(0.3 + 0.005 \times TM)$ °C (where TM is the magnitude of the temperature)
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

Controller Specification

Dimensions	80 mm high x 220 mm wide x 350 mm deep
Weight (approx.)	2.6 kg
Display	240 x 64 LCD with CCFL backlight
Printer	320/640 dot thermal printer
Keypad	20 key membrane keypad
Programmable Cooling Rate Range	-0.01 °C/min to -99.9 °C/min
Number of profiles	10
Steps per profile	32
Number of stored runs	10

Chamber Specification

Weight (kg)	23
Capacity (litres)	16
Chamber dimensions	350 mm high x 230 mm wide x 230 mm deep
0.25 ml straws	608 horizontal or 250 vertical
0.5 ml straws	68
2 ml ampoules	726
50 cc blood bags	22
250 cc blood bags	11
500 cc blood bags	11
Power requirements (inc. 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
	22 psi System	System Cylinder - MVEUROCYL230SB Phase Separator - MVPHASE
(Alternative)	22 psi System	Vacuum Jacketed Pipe Work System Phase Separator - MVPHASE