



Kryo 560 - 16



The **Kryo 560 - 16** incorporates all of the critical features expected from a high class biological freezer. The system is specifically designed and specified for Human work, 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 larger 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 laboratory. 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 and verification before running and data storage for the last 5 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. In line with the specification for Human use, the system has been fitted with **numerous safety features**. These 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.

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 250/500ml bags, horizontally or vertically in chamber
- Ampoule capacity: 726 x 2ml in baskets
- Straw capacity: 608 x 2ml on canes (horizontal)
- Lower temperature limit: -180°C
- Cooling rates: -0.01 to $-50^{\circ}\text{C}/\text{Min}$
- Controlled heating rates: 0.01 to $10^{\circ}\text{C}/\text{Min}$
- System controller: MRV
- System Pump: LNP4
- System Dewar: LAB 30
- PC Software: Delta T

For further information on this or any other product from PLANER contact the Sales Department at

Planer plc Windmill Road Sunbury Middlesex TW16 7HD

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 Specifications

Range	+30.0°C to -180°C
Heating rates	0.01°C/min to 10°C/min.
Cooling rates	-0.01°C/min to -50°C/min.
Accuracy	$\pm (0.3 + 0.005 \times TM)^{\circ}\text{C}$ (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 Specifications

Dimensions	80mm high x 220mm wide x 350mm deep
Weight	2.6 Kg approx.
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	5

Chamber Specifications

Weight Kg	23
capacity litres	16
chamber dimensions mm	305h x 230w x 230d
0.25ml straws	608 horizontal 250 vertical
0.5ml straws	608
2ml ampoules	726
50ml blood bags	22
250ml blood bags	11
500ml blood bags	11
Power Requirements (Includes MRV Controller)	115V ~ 50/60Hz 1500VA / 230V ~50/60Hz 1500VA