

# Kryo 750 - 30



The Kryo 750 - 30 is a unique integrated freezing system for the cryopreservation of large volumed samples or samples in large numbers.

The easy access front opening door is closed via a 3 point closure system, ensuring a leak free seal which helps to prevent the door freezing closed at low temperatures; additional protection is provided by heated door seals.

The freezer's 'on board' control system is operated with a unique two button process. This ensures that the user cannot accidentally run the wrong protocol, enabling rapid user training and absolute process verification.

Optionally the system may be operated via Planer's PC application, DeltaT™ - this offers multiple protocols and data viewing on-line, as well as data capture and storage for validation. The software is multi-level password protected to ensure only authorized users carry out procedures. User calibration to external standards is featured.

The large easy access chamber offers great flexibility and high capacity to ensure the most demanding laboratory requirements can be met. Protocols can be based on '**sample temperature event**' triggering, which combined with the fast cooling rates and forced laminar flow of the system, ensures high efficiency cooling at the fusion temperature. This enables efficient **latent heat removal**, creating optimum sample viability post thaw.

**The Planer Kryo 750-30 flexible cryogenic system designed for freezing of Bone Marrow, Stem Cells, Pharmaceutical Cell Lines, Skin, Cord Blood and other critical samples in high volumes**

- Designed for freezing of samples in bags, ampoules and straws
- Unique 2 button operation
- Standard PC software enables password protected multiple protocols
- Protocol stage "trigger on sample", or chamber temperature, or time
- Unique forced laminar flow cooling system ensures most efficient, even cooling
- Top, or Front opening for easy loading
- Heated door seal prevents freezing shut at cryogenic temperatures
- Inner chamber removable for sterilisation
- Standard operating features:-
  - ◆ Start above ambient
  - ◆ Controlled heating
  - ◆ Comms port for PC connection
  - ◆ Fast cooling rates

## SPECIFICATION OVERVIEW

- Chamber volume: 29 litres
- Capacity: 20 x 250/500 ml blood bags, horizontally/vertically in chamber, or 40 x 50ml blood bags, horizontally/vertically in chamber
- Ampoule capacity: 1452 x 2 ml
- Straw capacity: 1216 x 2 ml
- Lower temperature limit: -160 °C
- Cooling rates: -0.1 to -50 °C/min
- Controlled heating rates: 0.1 to 10 °C/min
- System controller: Integral
- PC Software: DeltaT Lite  
(Upgradable to DeltaT and DeltaT-iQ)

## SYSTEM REQUIREMENTS

5 psi or 22 psi Liquid Nitrogen Supply

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## TECHNICAL SPECIFICATION - Kryo 750 - 30

<b>Dimensions - Front Loading</b>		External	Internal
Height		55 cm	26 cm
Width		79 cm	46.5 cm
Depth		48 cm	25 cm
<b>Dimensions - Top Loading</b>		External	Internal
Height		48 cm	25 cm
Width		79 cm	44.5 cm
Depth		55 cm	26 cm
Weight		45 kg (shipping weight inc. Packaging) approx.	
2 ml ampoules		1452	
0.25 & 0.5 ml straws		1216 horizontal or vertical	
50 ml blood bags		40 (dependent on manufacturer)	
250 & 500 ml blood bags		20 (dependent on manufacturer)	
Circulation		Horizontal laminar flow	
Temperature range		+100.0 °C to -160 °C	
Cooling medium		Liquid Nitrogen 22 ±2 psi	
Heater		1000W	
Accuracy		±0.5 °C at a hold at 0 °C (dynamic accuracy depends on actual programme, e.g. Rate of change of temperature)	
Heating rates		0.01 °C/min to 10 °C/min	
Cooling rates		-0.01 °C/min to -50 °C/min (0.01 °C/min to -10 °C below -80 °C)	
Programmable cooling rate range		-0.01 °C/min to -99.9 °C/min	
Operating positions		Vertical or horizontal	
Thermal cutout		120 °C cutout	
Power Requirements		103 - 126VAC 50/60Hz 1200VA (max.) (470VA freezing only, with seal and bearing heaters operating). The freezer may be damaged by voltage surges in excess of 15 % above nominal.	
Chart sensitivity		16.7 mV/°C. Nominal impedance > 10K	
Recorder		Scaling: 0V = -200 °C, +5V = +100 °C	
Standards		Designed to comply with BSEN 61010, CSA22.2No.125-M1984, CSA22.2No.151-M1986, EN50082-2, EN50081-2	
Storage temperature		-10 °C to +70 °C	
Storage humidity		Up to 95 % non-condensing	
Operating temperature		5 °C to 40 °C	
Operating humidity		Less than 90 % non-condensing	
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