

## 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*



The Kryo 750 - 30 is a unique integrated freezing system for the cryo-preservation 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, Delta T™ - this offers multiple protocols and data viewing online, 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 tempe-

perature 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.

### PRODUCT SPECIFICATIONS

|                          |  |
|--------------------------|--|
| Chamber volume           | 29 litres  |
| Capacity                 | 20 x 250/500ml blood bags, horizontally/vertically in chamber, or 40 x 50ml blood bags, horizontally/vertically in chamber |
| Ampoule capacity         | 1452 x 2ml   |
| Straw capacity           | 1216 x 2ml   |
| 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   |
| System Pump              | Cylinder   |
| System Dewar             | N/A  |
| PC Software              | Delta T™   |

- 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 OPERATION FEATURES

- 1 Start above ambient
- 2 Controlled heating
- 3 Comms port for PC connection
- 4 Fast cooling rates

| DIMENSIONS                      |   |          |
|---------------------------------|---|----------|
| Front Loading                   | External  | Internal |
| Height                          | 55 cm   | 26 cm    |
| Width                           | 79 cm   | 46.5 cm  |
| Depth                           | 48 cm   | 25 cm    |
| TOP LOADING                     |   |          |
| Height                          | 48 cm   | 25 cm    |
| Width                           | 79 cm   | 44.5 cm  |
| Depth                           | 55 cm   | 26 cm    |
| Weight                          | 45 kg (shipping weight inc. packaging) approx.  |          |
| CAPACITY                        |   |          |
| 2ml ampoules                    | 1452  |          |
| 0.5ml straws                    | 1216 horizontal or vertical   |          |
| 0.25ml straws                   | 1216 horizontal or vertical   |          |
| 50ml blood bags                 | 40 (dependent on manufacturer)  |          |
| 250ml blood bags                | 20 (dependent on manufacturer)  |          |
| 500ml blood bags                | 20 (dependent on manufacturer)  |          |
| Circulation                     | Horizontal laminar flow   |          |
| Temperature range               | +100°C to -160°C  |          |
| Cooling medium                  | Liquid nitrogen 22 ±2 psi   |          |
| Heater                          | 1000W   |          |
| Sensors: Control and sample     | 4-wire Platinum resistance thermometer. Sensors are linearised in software to international standards that utilise a 4096-point lookup table based on BS1904:1984 Table 1. Calibration facility provided. |          |
| 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.)<br>(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               | 16.7mV/°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  |          |