

Kryo 520 - 16



The Planer Kryo 520 - 16 entry level biological freezer for freezing of non critical Cell Lines

- ❑ Designed for freezing of cell lines in ampoules
- ❑ Compact, top opening design
- ❑ Controller displays demand, sample and chamber temperatures, programme stage and current temperature graphic
- ❑ Menu driven controller, simple to programme and operate
- ❑ Forced laminar flow of coolant in chamber offers high efficiency, even cooling
- ❑ Full, logical upgrade path available to add features e.g.:-
 - ◆ Start above ambient
 - ◆ Controlled heating
 - ◆ Data Printing
 - ◆ Communications port for PC connection
 - ◆ Fast cooling rates

The **Kryo 520 - 16**, although an entry level biological freezer, incorporates many of the critical features of the more established freezers in the Planer range. Whilst not recommended for Human work, due to the **limited lower temperature of -100 °C**, the flexibility of the system is ideal for the freezing of cell lines.

Offering multiple programming combined with flexible temperature rates, most standard protocols can be accurately and reproducibly completed with the **Kryo 520 - 16**.

Should applications change, or the regulation of processes require greater validation or data retention, the unit may be **simply upgraded** with the addition of the Planer Upgrade Packs which include a built in printer and PC connection. This is compatible with Planer's comprehensive DeltaT™ software application. When fitted with the integral printer, any of the last 10 freezing runs may be graphed.

Planer developed the world's first programmable freezer in the 1970's. Since then in conjunction with its customers it has pioneered the field of controlled rate freezing for biological and other materials on a world-wide basis, with many breakthroughs and awards.

Together with **distributors in over fifty countries** Planer works with customers and users continually. It is their needs which drive development. For this reason Planer aims to supply an integrated range that can be easily upgraded.

This means, for example, that as techniques alter, throughput increases or validation requirements change, there should be an **easy upgrade path** to add an extra software level, a new inventory package or upgraded hardware to your system.

SPECIFICATION OVERVIEW

- Chamber volume: 16 litres
- Ampoule capacity: 726 x 2 ml ampoules in baskets
- Lower temperature limit: -100 °C
- Cooling rates: -0.01 to -30 °C/min
- System controller: MRV light
- PC Software: Delta T™ Lite (*Upgradable to DeltaT or DeltaT-iQ*)

SYSTEM REQUIREMENTS

5 psi or 22 psi Liquid Nitrogen Supply

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TECHNICAL SPECIFICATION - Kryo 520 - 16

System Specifications

Range	Ambient to -100 °C/min (*Upgradable to +40 °C to -140 °C)
Heating rates	None (*Upgradable to 0.01 °C/min to 10 °C/min)
Cooling rates	-0.01 °C to -30 °C (*Upgradable to -50 °C)
Accuracy	±(0.3 + 0.005 x 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 Specifications

Dimensions	80 mm high x 220 mm wide x 350 mm deep
Weight	2.6 kg approx.
Display	240 x 64 LCD with CCFL backlight
Printer	None (*Upgradable to 320/640 dot thermal printer)
Keypad	20 key membrane keypad
Programmable cooling rate range	-0.01 °C/min to -30.0 °C/min
Number of profiles	10
Steps per profile	32
Number of stored runs	10

Chamber Specifications

Weight	23 kg
Capacity	16 litres
Chamber dimensions (mm)	350 mm high x 230 mm wide x 230 mm deep
0.25 ml straws	608 horizontal or 250 vertical
0.5 ml straws	608
2 ml ampoules	726
50 ml blood bags	22
250 ml blood bags	11
500 ml 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

* Upgradable

This product has upgrades for heating, cooling, printing and pc connectivity. See Upgrades Pack Sheet.