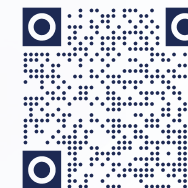




OXFORD CRYOSYSTEMS

# CRYOSTREAM 1000



SAMPLE COOLING MADE SIMPLE

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# CRYOSTREAM 1000

From its highly stable, precise temperature control to its fast cooldown time and integrated autofill, every iteration of the Cryostream has expanded the list of available features. Now, forty years since its invention, the latest version of the world leading open-flow cryogenic gas cooler unifies the controller, pump and dry-air unit into a single gas supply module (GSM). This minimises the system's overall footprint while simplifying cabling and installation.

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All new electronics and firmware provide combined status reports and intelligent diagnostic information, enabling the system to issue service notifications, automatically regulate the shield flow and run with greater energy efficiency. In addition, the control software now supports new functionality for remote annealing, offering precise, low latency control of the gas flow over the sample.

A newly designed coldhead no longer needs to be removed from the cabinet when performing vacuum regeneration, as the pump-out port has been relocated to the rigid leg, and now includes an LED status indicator, providing the user with immediate visual feedback on the system's status.



All available variants of the Cryostream 1000 continue to use out tried and tested technology to turn liquid Nitrogen from the Dewar into a stable stream of Nitrogen gas at the desired temperature, with an integrated dry-air shield.

Whether you choose the Standard (80K – 400K), Plus (80K – 500K) or Compact (80-500K) Cryostream 1000, our carefully calibrated temperature mapping ensures that the gas temperature seen at the sample is at the desired set-point, and the well established features of the Cryostream remain, such as fast bi-directional ramping, high stability and superior laminar flow.

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# KEY FEATURES

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- **Gas Supply Module:** Combines the Nitrogen pump, dry-air supply and touch screen controller into a single, compact and portable enclosure that reduces cabling, simplifies installation and improves the user experience.
- **LED Status Indicator:** The coldhead now provides the user with immediate visual feedback on the Cryostream's operational status without the need to refer to the control screen.
- **7' Touch Screen:** A large, durable touch screen now displays more information with improved viewing angles and easier navigation.
- **Remote Annealing:** Controlled and programmable interruption of the gas flow over the sample for annealing without physical manipulation (also available via an open network protocol).
- **Auto Shield Flow:** Automatically optimised shield gas flow rates, eliminating potential user error.
- **Intelligent Diagnostics:** An integrated real-time clock now tracks the use of the system, notifying the user of upcoming service requirements, helping to eliminate unscheduled downtime.
- **Eco Mode:** Continual monitoring of the dry-air module eliminates any unnecessary run time, saving energy and reducing maintenance.
- **Improved Pump-out Port Design:** Relocated to the rigid leg and re-designed for ease of use, this eliminates the requirement to remove the coldhead from the cabinet during vacuum regeneration.
- **Service & Maintenance:** Within all Cryostream 1000s is a storage compartment containing all spare parts required for a full service. This, coupled with its modular design, ensures maintenance can be performed quickly and easily by the user, reducing unscheduled downtime.
- **2 Year Standard Warranty:** All Cryostream 1000 systems ship with a two year warranty as standard.



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# ACCESSORIES

## Autofill\*

Designed in conjunction with the 60L Dewar (supplied with the Cryostream 1000 system), the optional Autofill system includes:

- Level probe and oscillator box
- Solenoid valve and T-piece
- All Autofill hoses and cables



ES60 Dewar

## Key features of the Autofill:

- Displays the liquid nitrogen level in the 60L Dewar
- Definable minimum and maximum stop levels (20% and 80% by default)
- User programmable interval fill timer<sup>†</sup>
- Bypass to enable manually filling
- Remote monitoring of liquid level via Cryoconnector and Oxford Connect, with user programmable fill level<sup>‡</sup>

The Autofill system is easy to assemble, and will arrive pre-calibrated and optimised for the standard 60L Cryostream Dewar.

For reasons of safety:

\*An appropriate oxygen monitoring system must be used

<sup>†</sup>The user must be present during fill cycles

<sup>‡</sup>It is not possible to activate the flow of liquid nitrogen from a remote location

## Varibeam Stand

The optional Varibeam is a robust and low-weight coldhead stand providing easy-to-adjust orientation and positioning, ensuring precise alignment of the gas stream. The Varibeam is compatible with a wide range of diffractometer configurations.



### GAS SUPPLY MODULE (GSM)

Dimensions & weight	Max (43cm W x 57cm D x 87cm H, 75kg)
Mains power supply	100-120VAC 50/60Hz 220-240VAC 50/60Hz
Power consumption	1.0 kW
Liquid nitrogen consumption	0.6 litres/hour* at 5 litres/minute gas flow <sup>†</sup>
Temperature stability	0.1 Kelvin
Cool-down time to 100 Kelvin	20 minutes <sup>‡</sup>

### COLDHEAD

Temperature range	80-400 Kelvin Standard 80-500 Kelvin for Plus and Compact
Length of flexible transfer line	1500 mm or 3000 mm

### ES60 DEWAR

Volume	60 litres
Construction	welded stainless steel with brushed finish
Overall height	725 mm
Overall diameter	457 mm
Internal depth	650 mm
Weight empty	36 kg
Weight full	Approx 96 kg
Neck size	NW50 KF fitting 50mm bore

### VARIBEAM

Max. table to sample height (Cryostream vertical)	600 mm
Max. horizontal distance to sample from Varibeam column	430 mm
Weight	7 kg

### AUTOFILL

Calibrated level probe Transfer line length	1.5m standard / 4m optionally
Gas Supply Module to Pressurised Dewar Distance (dependant upon Option Selection)	6m Nominal, 9m Maximum

\* At temperatures below 90 K, LN2 consumption may increase to 1.2 L/hour.

<sup>†</sup> Turbo mode gives an increased flow rate of 10 litres/minute.

<sup>‡</sup> When using 1.5m transfer line, 25mins if using 3m transfer line.

Subject to change.

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# SERVICE & SUPPORT

## Support for all our customers

Oxford Cryosystems' products are known for their ease of use and reliability, but if users require technical advice and assistance, support is available through our network of service engineers, agents and via telephone and email. In addition, we offer a substantial library of tech-notes and user guides to assist the user.

## Service when you need it

The maintenance work required to sustain optimal performance of the Cryostream 1000 has been kept to a minimum, and our engineers have ensured that each internal module is easily accessible so that all maintenance is as convenient as possible. In addition, all spare parts required for a full service are included in a convenient storage compartment.

For further details and assistance, please contact [support@oxcryo.com](mailto:support@oxcryo.com) or your local agent.



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# PHILOSOPHY

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Purchasing a product from Oxford Cryosystems is an investment in over forty years of research and development in high-precision cryogenic sample coolers. Our experts collaborate with scientific institutions across the globe to deliver innovative solutions to complex cryogenic sample cooling and produce highly effective and easy-to-use instruments that enable discoveries at the cutting edge of science and technology.

Low-temperature devices are more than mere accessories; they are central to research and development. This is why Oxford Cryosystems is taking product development further, reducing the intricate problems of precise temperature control to simple interfaces that effortlessly integrate with external equipment, providing the benefit of highly precise, reliable and efficient cryo-devices to customers worldwide.





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