

LyoCubic Series

In-situ Laboratory Freeze Dryer

With an all-in-one workflow from pre-freezing to secondary drying, LyoCubic delivers unmatched convenience to routine tasks.

The cooling shelf realizes pre-freezing and in-situ process. Simply load your liquid samples into chamber from the front, no need to put samples into a freezer firstly, nor lift the tall & heavy cylindrical freezing chamber of a traditional lab freezer dryer.

The combination of heated shelf and controlled vacuum levels accelerates desorption drying, significantly shortening cycle times and lowering residual moisture.



► In-Situ freeze-drying: simplified processing

- **All-in-one integration:** The temperature-controlled shelves handle both pre-freezing and drying. Simply load your liquid samples into chamber, let LyoCubic do the rest - no external deep freezer or manual sample transfer required.
- **Front-loading convenience:** The ergonomic front-door design replaces traditional lift-off cylindrical freezing chamber. Loading and unloading samples are as easy as using a standard laboratory refrigerator.



► Optimized efficiency & shortened cycle time

- **Accurate vacuum control:** controlled vacuum lowers resistance, allowing water vapor to escape much faster.
- **Shelf heating:** shelf heating delivers the energy needed for vaporization, accelerating desorption drying & significantly shortening cycle time.

► Advanced cooling system

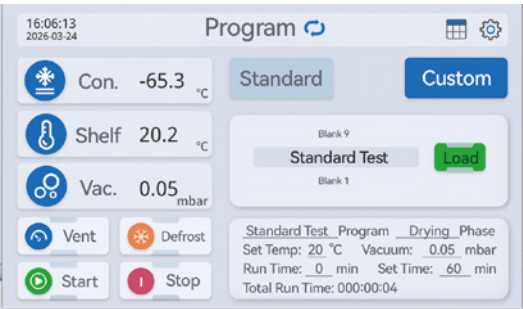
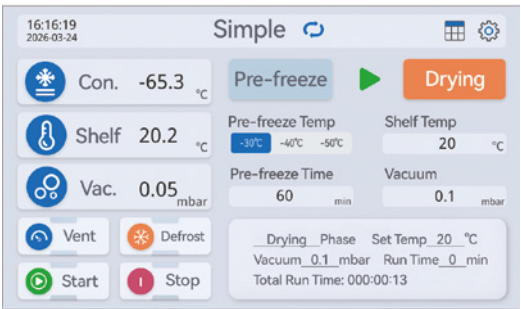
- Single chamber system with a 4kg capacity built-in ice condenser
- 60°C: single compressor system
- 90°C: 2-compressor cascade system
- SECOP brand compressor for durable use

Simplified User Interface

“One button drying”: Powered by LyoSmart C system, LyoCubic series allows users to run an entire cycle with a single touch for routine tasks, eliminating complex programming.

“One button operation”:

- One-button start: in auto mode, press to start process according to preset program
- One-button stop: vacuum valve shut off, preventing product polluted due to vacuum back suction of pump oil
- One-button vent: aeration valve controls vacuum vent gradually, preventing product polluted due to vacuum back suction of pump oil
- One-button defrost: hot air defrosting of condenser, to enter a new process faster



The LyoCubic series UNIVERSAL package contains:

- LyoCubic freeze dryer main machine
- Pirani vacuum gauge
- Pressure control valve
- Product tray
- High performance vacuum pump(with oil)
- Vacuum hose



Optional Manifold:

For applications working with flasks, please select the 12-port manifold as additional accessory.



Choose the system fits your application best!

Product designation format:

LyoCubic **4** **S/M**
Product series Ice capacity (kg) Temperature level

Temperature level	Temperature	Cooling system	Typical application area
S	-60°C	1 compressor	Aqueous products
M	-90°C	2 compressors cascade	Products with low freezing points

Specification



Model		LyoCubic 4S	LyoCubic 4M
Basic	Type	Desktop, in-situ	Desktop, in-situ
Ice condenser	Temperature	-60°C	-90°C
	Max. ice capacity	4 kg	4 kg
	Performance	4 kg/24h	4 kg/24h
Shelf	Temperature range	-50°C~+50°C	-50°C~+50°C
	Area	0.1 m ²	0.1 m ²
	Dimensions(W*D)	280*372 mm,1	280*372 mm,1
	Product tray(W*D*H)	280*372*30 mm	280*372*30 mm
Control	Controller	7" touch screen	7" touch screen
	Operating system	LyoSmart C	LyoSmart C
	Ice condenser temperature display	●	●
	Shelf temperature display	●	●
	Vacuum degree display	●	●
	Pirani vacuum gauge	●	●
	Ultimate vacuum*	0.01mbar	0.01mbar
	Vacuum venting	Automatic	Automatic
	Hot gas defrosting	●	●
Data	Data record	●	●
	USB port	●	●
Cooling	Compressor	SECOP compressor x 1	SECOP compressor x 2
Power	Voltage & frequency	220V 50Hz	220V 50Hz
	Rated power	900 W	1500 W
Noise level	Freeze dryer	55 dB(A)	60 dB(A)
Dimensions	Main unit (W*D*H)	710*600*510 mm	710*600*510 mm
Weight	Main unit	105 kg	125 kg
Manifold	12-port T-type manifold for flasks	○	○
Vacuum pump	Vacuum pump, with oil	●	●
	Vacuum pump, oil-free	○	○
	Vacuum pump hose	●	●

*: The ultimate vacuum 0.01 mbar is achieved when working with vacuum pump NDD12 (NAVAC brand).

● Basic equipment ○ Optional - Not available

The data provided refers to the base unit with ambient conditions of +10 °C to +25 °C. Subject to change without prior notice.