



# LyoQuest

Bench Top Laboratory Freeze-dryer



Freeze-drying is a very effective process to dry sensitive products. It is becoming more and more used in fields such as pharma, basic research, archeological research, food industry, leading to a higher demand for knowledge about the process or parameters that may influence it. Telstar with more than 65 years of experience brings to the market a very robust, easy to use and compact range of freeze-dryers; for both R+D and production applications.

## LYOQUEST: The best small freeze-dryer choice

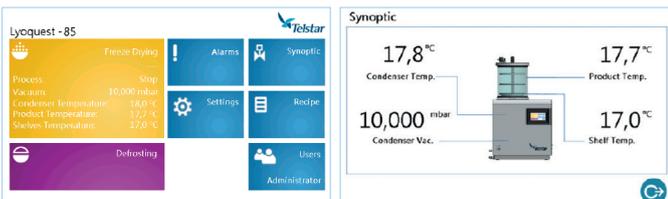
Extremely compact design integrating robust technical features and outstanding control performances. The Telstar benchtop freeze dryer has been developed to meet the most demanding requirements of a research freeze dryer. Selected features allow understanding of the most important parameters of the process, as well as helping the optimization of the process itself.

This model, specifically developed for basic research in biotechnology and scientific institutes, has demonstrated great performance in the mentioned biotechnological research applications as well as in many other applications such as food and agricultural areas of development.

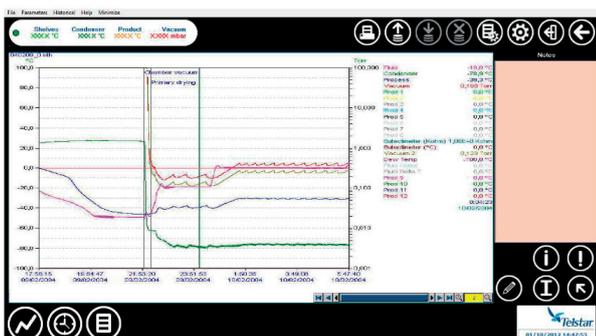
Users can develop recipes for basic research and first steps in lyophilization.

## Lyoquest main features

- Plug and play freeze-dryer
- Compact bench mounted table-top unit
- Three models: Lyoquest -55, LyoQuest -85 and Lyoquest Arctic
- Two options available for Lyoquest -55 and Lyoquest -85:
  - NO PLUS: No shelves temperature controlling
  - PLUS: shelves temperature controlling (up to +70°C)
- Air cooled refrigeration
- Friendly and highly performing software; PLC system control + colour touch-screen;
  - Parameters: Condenser temperature, shelves temperature, product temperature, vacuum value, process time, alarms & events, recipes
  - User friendly interface



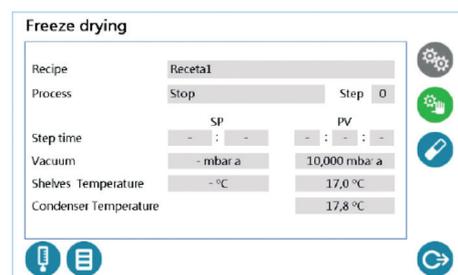
- Vacuum pump outside the cabinet
- Monitoring software (Lyologger) to connect unit to PC.



- Possibility of freezing samples inside the condenser



- Many accessories allowing freeze drying in ampoules, vials, bulk..
- Possibility to work in AUTOMATIC; SEMIAUTOMATIC AND MANUAL mode.
- Possibility to save up to 4 different recipes with 10 steps each.
- Each recipe with 4 selectable processes: stop, freezing, cool+vacuum and heat shelves (only available in PLUS version and ARCTIC)



- Quick defrosting thanks to heating outside the condenser which allows the ice block to be easily removed.
- Double login feature: operator and administrator password options

## One step forward: LyoQuest Arctic

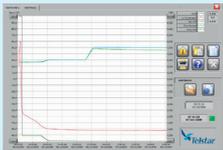
Committed to sustainability, Telstar introduce Lyoquest Arctic version, the innovative freeze dryer that user HFC & HFO free refrigerant gases.

This Lyoquest guarantees long-term compliance with increasingly restrictive international regulation (F-gas normative)

## Main Accessories

	Accessory	Description	Main Characteristics	Dimensions
 <p>* LQ Plus only</p>	Chamber with manifold and stoppering (58913)	<ul style="list-style-type: none"> <li>•Chamber for freeze-drying of samples in bottles, bulk or vials.</li> <li>•Chamber with heated shelves</li> </ul>	<ul style="list-style-type: none"> <li>•Includes stoppering device for closing vials under vacuum or controlled atmosphere</li> <li>•Includes 8-port manifold for freeze-drying of samples in bottles</li> </ul>	<ul style="list-style-type: none"> <li>•Chamber Ø 215x300mm</li> <li>•Shelves Ø160mm</li> <li>•Distance between shelves 70mm</li> </ul>
 <p>* LQ Plus only</p>	Chamber with manifold (61660)	<ul style="list-style-type: none"> <li>•Chamber for freeze-drying of samples in bottles, bulk or vials.</li> <li>•Chamber with heated shelves</li> </ul>	<ul style="list-style-type: none"> <li>•Includes 8-port manifold for freeze-drying of samples in bottles</li> </ul>	<ul style="list-style-type: none"> <li>•Chamber Ø 215x300mm</li> <li>•Shelves Ø160mm</li> <li>•Distance between shelves 70mm</li> </ul>
 <p>* LQ Plus only</p>	Chamber (62302)	<ul style="list-style-type: none"> <li>•Chamber for freeze-drying of samples bulk or vials</li> <li>•Chamber with heated shelves</li> </ul>		<ul style="list-style-type: none"> <li>•Chamber Ø 215x300mm</li> <li>•Shelves Ø160mm</li> <li>•Distance between shelves 70mm</li> </ul>
 <p>* LQ Plus only</p>	Chamber with stoppering (61659)	<ul style="list-style-type: none"> <li>•Chamber for freeze-drying of samples bulk or vials</li> <li>•Chamber with heated shelves</li> </ul>	<ul style="list-style-type: none"> <li>•Includes stoppering device for closing vials under vacuum or controlled atmosphere</li> </ul>	<ul style="list-style-type: none"> <li>•Chamber Ø215x300mm</li> <li>•Shelves Ø160mm</li> <li>•Distance between shelves 70mm</li> </ul>
 <p>* LQ Plus only</p>	Large Chamber with stoppering (71280+7904)	<ul style="list-style-type: none"> <li>•Large chamber for freeze-drying of samples in bottles, bulk or vials.</li> <li>•Chamber with 3 heated shelves</li> </ul>	<ul style="list-style-type: none"> <li>•Includes stoppering device for closing vials under vacuum or controlled atmosphere</li> <li>•Chamber can be set with 4 shelves</li> </ul>	<ul style="list-style-type: none"> <li>•Chamber Ø315x440mm</li> <li>•Shelves Ø240mm</li> <li>•Distance between shelves 70mm</li> </ul>
 <p>* LQ Plus only</p>	Large Chamber (71280)	<ul style="list-style-type: none"> <li>•Chamber for freeze-drying of samples in bottles, bulk or vials.</li> <li>•Chamber with 3 heated shelves</li> </ul>	<ul style="list-style-type: none"> <li>•Chamber can be set with 4 shelves</li> </ul>	<ul style="list-style-type: none"> <li>•Chamber Ø 315x440mm</li> <li>•Shelves Ø240mm</li> <li>•Distance between shelves 70mm</li> </ul>
	8-port Manifold (70205)	<ul style="list-style-type: none"> <li>•Manifold for freeze-drying of samples in bottles.</li> </ul>	<ul style="list-style-type: none"> <li>•CN 29/32 port size connection until 16 port manifolds</li> </ul>	
	Drip Tray (61683)	<ul style="list-style-type: none"> <li>•Tray to collect ambient water condensed in external part of bottles</li> </ul>		<ul style="list-style-type: none"> <li>•Dimensions Ø 730mm</li> </ul>

## Main Accessories

	40-port Manifold (7917)	•Manifold for freeze-drying of samples in ampoules.	Possibility to 80 port manifold
	Cubic chamber in stainless steel (1715583+ 647009 or 647010 or 647011)	•Chamber for freeze-drying of samples in bottles, bulk or vials. Not heated shelves	Until 6 shelves with a maximum surface 0,77 m <sup>2</sup> . 484 x 340 x 376
	Lyologger	•Software for data processing	

**Other ACCESSORIES:** Contact Telstar for different flask, ampoules and vials. Solvent resistant LQ available on request. PYREX Chamber option on request. Contact Telstar for any special application.

## Technical Data

ICE CONDENSER		LQ-55	LQ-85	LQ Arctic-85
Condensation surface	m <sup>2</sup>	0.25		0.25
Minimum temperature (T <sub>s</sub> + 21°C)	°C	-53 ±3	-83 ±3	-83 ±3
Ice capacity	kg	8 (4 kg/24 h)	8 (6 kg/24 h)	8 (6 kg/24 h)
Material		AISI - 316L		AISI - 316L
REFRIGERATION UNIT		LQ-55	LQ-85	LQ Arctic-85
Number of compressors		1	2	2
Hermetic type		One stage		One stage
Refrigeration power (at 35°C)	W	495	800	800
Refrigerant (free of CFCs)		R-507	R-507 / R-23	R-290 / R-170
Refrigeration of the unit		By air circulation		
EQUIPMENT		LQ-55	LQ-85	LQ Arctic-85
Proces vacuum. Unloaded, T <sub>s</sub> ≤ 21°C, condenser temperature: -55°C (Lyoquest -55), condenser temperature: -85°C (Lyoquest -85), condenser temperature: -85°C (Lyoquest Arctic -85),	mbar	< 5 x 10 <sup>-2</sup>	< 3 x 10 <sup>-2</sup>	< 3 x 10 <sup>-2</sup>
Dimensions (height x width x depth)	mm	480 x 425 x 575		480 x 506 x 575
Weight	kg	65	70	71

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