

# LyOrganic series

## Freeze dryer for organic solvent

LyOrganic series is designed for applications dealing with both organic solvents and inorganic solvents. Typical applications include organic dyes and pigments, polymers in benzol, organic substances in solvents, preparative HPLC fractions, solvent removal after chromatography, etc.

Condensor chamber temperature reaches  $-105^{\circ}\text{C}$ , vacuum degree is controlled during the process, oil-free vacuum pump is supplied as standard, meeting high requirement of organic solvent drying.

LyOrganic series freeze dryers are compact in design, high-efficiency in performance, smart in operation, and dependable in daily use.



### ► Resistant to organic solvents

Typical examples include HPLC fractions with organic or inorganic solvents, such as acetonitrile, TFA and other alcohols, or other products with t-butanol, DMSO, etc.

### ► Special system configurations for safety:

LyOrganic series freeze dryers are compact in design, high-efficiency in performance, smart in operation, and dependable in daily use.

- Durable: high-quality materials for excellent chemical resistance, such as coated stainless steel ice condenser, and solvent-resistant seals
- High performance internal condenser; most solvents are frozen or liquefied in the chamber at  $-105^{\circ}\text{C}$
- Solvent-resistant oil-free vacuum pump

### ► Innovative features

- Compact, high-performance laboratory systems with a small footprint
- 7" touch screen installed with LyoSmart operating system
- Programmable freeze-drying steps
- Controlled vacuum degree for optimized process times
- Built-in ice condenser coils for higher efficiency
- Fast defrost via integrated hot gas
- Automatic non-return venting valve
- Low noise level: 54 dB(A)
- Solvent-resistant oil-free vacuum pump

### ► LyoSmart operating system

7" touch screen controller, installed with advanced LyoSmart operating system, assisting users to optimize the freeze-drying process.

- Display of ice condenser temperature and vacuum
- Indirect product temperature determination based on vapor pressure curve
- Manual or automatic drying process optional
- Programmable freeze-drying steps
- Vacuum degree of each step can be set and controlled independently
- Historical data recorder for convenient analysis of processing
- Password access protection



### ► Vacuum degree control

- The vacuum degree and duration of each step can be set and controlled at auto mode
- Vacuum control to reduce drying times by up to 40%
- Real-time vacuum degree is displayed on the screen

### ► Various "one button" mode

- One-button start: in auto mode, press "START" to start process according to preset program
- One-button stop: vacuum valve shut off automatically
- One-button vent: aeration valve controls vacuum vent gradually
- One-button defrosting: hot air defrosting of cold trap, to enter a new process faster

### ► Advanced cooling system

- -105°C: 2-compressor cascade system, suitable for organic solvents with ultra low freezing points
- SECOP brand compressor for durable use

### ► Optimized flange seal

- Flat surface & L-shaped sealing ring design, no need for extra manual pressure
- Vacuum grease not required, easier to use and clean
- Proven excellent sealing performance for long-term use



### ► Choose the system fits your application best!

Product designation format

**LyOrganic**    **8/12**

Product series    Ice capacity (in kg)

**L**

Temperature level

**Drying Package**

F/U

► **The various models have different maximum ice capacities:**

Max. ice capacity	Performance	Ice condenser temperature	Models
8 kg	6 kg/24h	-105°C	LyOrganic 8LF, LyOrganic 8LU
12 kg	8 kg/24h	-105°C	LyOrganic 12LF, LyOrganic 12LU

**The LyOrganic series are available in two defined packages, fully aligned to the requirements of freeze drying with organic solvents.**

► **Organic solvent package – manifold**

- LyOrganic freeze dryer main machine
- Drying manifold with 12/24 chemical-resistant connection valves for flasks
- Vacuum sensor
- Vacuum control to reduce drying times by up to 40%
- Drain valve
- Internal condenser, stainless steel with solvent-resistant material coating
- Oil-free vacuum pump
- Stainless steel vacuum hose



► **Organic solvent package – manifold and shelves:**

- LyOrganic freeze dryer main machine
- Acrylic chamber with 8 rubber connection valves
- 4-layer shelves with unique ShelfFlex™ design
- Vacuum sensor
- Vacuum control to reduce drying times by up to 40%
- Drain valve
- Internal condenser, stainless steel with solvent-resistant material coating
- Solvent-resistant seals and connectors
- Oil-free vacuum pump
- Stainless steel vacuum hose



Manifold	Shelves			
Number of vessels	Number	Φ	Area	Spacing
8	4	265 mm	0.20 m²	70 mm

► **ShelfFlex™ design**

Taking advantage of unique ShelfFlex™ design, various configurations with different layers and spacing are available.

Shelves				
Configuration	Number	Φ	Area	Spacing
1	2	265 mm	0.10 m²	140 mm
2	3	265 mm	0.15 m²	105 mm
3	4	265 mm	0.20 m²	70 mm
4	8	265 mm	0.40 m²	35 mm

\*For configuration 4, another 4 pcs of shelves to be ordered as optional.

## Specification



Model		LyOrganic 8LT	LyOrganic 8LU	LyOrganic 12LT	LyOrganic 12LU
Basic	Type	Desktop	Desktop	Floor-standing	Floor-standing
Ice condenser	Temperature	-105°C	-105°C	-105°C	-105°C
	Max. ice capacity	8 kg	8 kg	12 kg	12 kg
	Chamber volume	15 L	15 L	21 L	21 L
	Performance	6 kg/24h	6 kg/24h	8 kg/24h	8 kg/24h
Control	Display	7" touch screen	7" touch screen	7" touch screen	7" touch screen
	Operating system	LyoSmart	LyoSmart	LyoSmart	LyoSmart
	Ice condenser temperature display	●	●	●	●
	Product temperature sublimation	●	●	●	●
	Vacuum degree display	●	●	●	●
	Vacuum gauge	●	●	●	●
	Vacuum control	●	●	●	●
	Vacuum venting	Automatic	Automatic	Automatic	Automatic
	Controlled gas (N <sub>2</sub> , clean air, etc) backfill	●	●	●	●
	Hot gas defrosting	●	●	●	●
	Data record	●	●	●	●
Data	USB port	○	○	○	○
	RS232 port	○	○	○	○
Cooling system	Number of compressor	2	2	2	2
	Compressor brand	SECOP	SECOP	SECOP	SECOP
Power	Voltage (V/Hz)	220/50;220/60;120/60	220/50;220/60;120/60	220/50;220/60;120/60	220/50;220/60;120/60
	Rated power	1750 W	1750 W	2100 W	2100 W
Noise level	Freeze dryer	52 (dB)	52 (dB)	52 (dB)	52 (dB)
Dimensions	Main unit (W x D x H)	780*550*430 mm	780*550*430 mm	700*1015*650 mm	700*1015*650 mm
Weight	Main unit	83 kg	83 kg	145 kg	145 kg
Manifold package for flasks	Manifold type	T-type	-	Tree-type	-
	Number of vessel ports	12	-	24	-
	Flask	250ml * 6 & 500ml *6	-	250ml *12 & 500ml *12	-
Universal drying package	Drying chamber	-	Acrylic	-	Acrylic
	Shelves	-	4	-	4
	Number of vessel ports	-	8	-	8
	Flask	-	250ml * 6 & 500ml *6	-	250ml * 6 & 500ml *6
Vacuum pump	Vacuum pump, oil-free	●	●	●	●
	Vacuum pump hose	●	●	●	●

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

● Basic equipment    ○ Optional    - Not available