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.

Condenser chamber temperature reaches –105°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 PTFE coated stainless steel ice condenser, and solvent-resistant seals
- High performance internal condenser, most solvents are frozen or liquefied in the chamber at –105°C

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)

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
- USB port to download data
- 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

- Built-in ice condenser coils for higher efficiency
- -105°C: 2-compressor cascade system, suitable for organic solvents with ultra low freezing points
- SECOP brand compressor for durable use



Ease of use and durability

- 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
- PTFE coated stainless steel ice condenser, resistant to organic solvents

Choose the system fits your application best!

Product designation format

LyOrganic	8/12	L	Drying Package
Product series	Ice capacity (in kg)	Temperature level	T/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 8LT, LyOrganic 8LU
12 kg	8 kg/24h	-105°C	LyOrganic 12LT, 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 chemical-resistant connection valves for flasks
- 250ml & 500ml flask (qty refer to specification sheet)
- Vacuum sensor
- Vacuum control to reduce drying time by up to 40%
- Drain valve
- Internal condenser, stainless steel with solvent-resistant PTFE material coating
- High performance oil-free vacuum pump, resistant to organic solvents
- Vacuum pump hose

Organic solvent package – manifold and shelves



- LyOrganic freeze dryer main machine
- Drying chamber with 8 rubber connection valves
- Rack supporting board
- 250ml & 500ml flask (qty refer to specification sheet)
- 4-layer shelves with unique ShelFlex™ design
- Vacuum sensor
- Vacuum control to reduce drying time by up to 40%
- Drain valve
- Internal condenser, stainless steel with solvent-resistant PTFE material coating
- Solvent-resistant seals and connectors
- High performance oil-free vacuum pump, resistant to organic solvents
- Vacuum pump hose

ShelFlex™ design

Unique ShelFlex™ design, various configurations with different number of shelves and spacing are available.

Shelves				
Configuration	Number	Φ	Area	Spacing
1	2	260 mm	0.11 m²	120 mm
2	3	260 mm	0.16 m²	90 mm
3	4	260 mm	0.22 m²	70 mm
4*	8	260 mm	0.44 m²	45 mm

*For configuration 4, another 4 pcs of shelves shall be ordered as optional accessories, along with an extended-height drying chamber.

Advantages

- All-inclusive package, avoid confusion in accessory selection
- ShelFlex™ design, adjustable shelf number and spacing with flexibility
- Cost-effective, fulfill more applications with lower cost
- Fast delivery, UNIVERSAL package always in stock for urgent demand

Various freeze-drying packages for different applications



Manifold		Shelves				
No.	Number of connection valves	Number	Φ	Area	Spacing	Stopper
1	8	4	260 mm	0.22 m²	70 mm	-
2	8	2	250 mm	0.10 m²	120 mm	●
3	-	4	260 mm	0.22 m²	70 mm	-
4	-	2	250 mm	0.10 m²	120 mm	●
5	8	-	-	-	-	-
6	12	-	-	-	-	-
7	24	-	-	-	-	-

● Basic equipment - Not available

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	●	●	●	●
	Ultimate vacuum (mbar)*	0.015	0.015	0.015	0.015
	Vacuum venting	Automatic	Automatic	Automatic	Automatic
	Controlled gas (N2, clean air, etc) backfill	●	●	●	●
	Hot gas defrosting	●	●	●	●
Data	Data record	●	●	●	●
	USB port	●	●	●	●
Cooling	Compressor	SECOP compressor x 2	SECOP compressor x 2	SECOP compressor x 2	SECOP compressor x 2
Power	Voltage (V/Hz)	220/50	220/50	220/50;220/60;120/60	220/50;220/60;120/60
	Rated power	1700 W	1700 W	1900 W	1900 W
Noise level	Freeze dryer	52 (dB)	52 (dB)	52 (dB)	52 (dB)
Dimensions	Main unit (W x D x H)	800*533*400 mm	800*533*400 mm	700*650*1015 mm	700*650*1015 mm
Weight	Main unit	83 kg	83 kg	145 kg	145 kg
Manifold package for flasks	Manifold type	T-type	-	T-type	-
	Number of vessel ports	12	-	12	-
	Round bottom flask**	250ml * 6 & 500ml *6	-	250ml * 6 & 500ml *6	-
Universal drying package	Drying chamber	-	Acrylic	-	Acrylic
	Rack	-	4-shelf	-	4-shelf
	Rack supporting board	-	●	-	●
	Number of vessel ports	-	8	-	8
	Round bottom flask*	-	250ml * 6 & 500ml *6	-	250ml * 6 & 500ml * 6
Vacuum pump	Vacuum pump SVF-100DR (oil-free)	●	●	●	●
	Vacuum pump NDD12 (with oil)	○	○	○	○
	Vacuum pump hose	●	●	●	●

*: The ultimate vacuum 0.015 mbar is achieved when working with vacuum pump NDD12 (NAVAC brand).
**: Flasks are supplied free of charge. Compensation is not applicable in case of damage during transportation.
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