A wide assortment of high-quality Freeze dryers

- We offer a wide range of different freeze dryers, from laboratory bench-top units and pilot systems to small production units.
- Our freeze dryers are **easy to use**, reliable and have a long life.

Use:

In research – The unit is used for various drying procedures. The products can be dried in different containers. This unit is typically used at universities and research laboratories.

Pilot systems– the unit is used to collect information. The information required concerns the dried product or application (optimization of products and drying cycle). This unit is typically used in the pharmaceutical industry as well as in research and development laboratories.

Production – The unit must provide an easy use to manage one product or a series of products. The prime considerations are: low costs per unit of area, endurance and simple use. This unit is typically used by small companies engaged in the field of biotechnology.

Freeze dryers for laboratory use

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	Lio – 5	Lio – 5 LT
External dimensions	470 x 330 x 620 mm	470 x 680 x 620 mm
Condensing capacity	1,2 kg v 12 h 2.3 kg v 24 h	1,2 kg v 12 h 2.3 kg v 24 h
Condensing area	0.17 m2	0.17 m2
Minimum condensing temperature	-55 °C	-110 °C
Condenser volume	7.21 L	7.21 L
Pressure measurement range	0,001 ÷ 100 mbar	0,001 ÷ 100 mbar
Temperature measurement range	- 60 °C ÷100 °C	- 120 °C ÷100 °C
Voltage (±10%) 50/60 Hz	230 V	230 V
Wattage	330 W	690 W
Temperature display	Digital	Digital
Pressure display	Digital	Digital

Additional equipment:

- Various vacuum pumps (Edwards, Vacuubrand, …)
- Acrylic cylinder with shelves for drying on trays
- Manifold with 8 connectors for drying in flasks

- Manifolds with various connectors for drying in glass containers
- Trolley for installing the freeze dryer and the vacuum pump
  More about the additional equipment >>

Freeze dryers for the pilot use

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	LIO - 10	LIO - 1000	LIO - 2000	LIO – 4000	LIO – 8000
External dimensions	700 x 800 x 700 mm	880 x 1500 x 750 mm	880 x 1500 x 750 mm	1400 x 1600 x 1000 mm	1400 x 1600 x 1000 mm
Condensing capacity	5 kg	6 kg	6 kg	8 kg	12 kg
Shelf area	0,1 m2	0,1 m2	0,2 m2	0,455 m2	0,91 m2
Shelf dimensions	310 x 310 mm	310 x 310 mm	310 x 310 mm	650 x 700 mm	650 x 700 mm
Number of shelves	1	1	2	1	2
Shelf temperature range	-40 °C÷ 40 °C	-40 °C÷ 40 °C	-40 °C÷ 40 °C	-40 °C÷ 40 °C	-40 °C÷ 40 °C
Minimum condensing temperature	- 55 °C	- 55 °C	-55 °C	- 55 °C	-55 °C
Temperature measurement range	- 60 °C ÷100 °C	- 60 °C ÷100 °C	- 60 °C ÷100 °C	- 60 °C ÷100 °C	- 60 °C ÷100 °C
Pressure measurement range	0,001 ÷ 100 mbar	0,001 ÷ 100 mbar	0,001 ÷ 100 mbar	0,001 ÷ 100 mbar	0,001 ÷ 100 mbar
Voltage (±10%) 50/60 Hz	230 V	230 V	230 V	3 x 400 V	3 x 400 V
Wattage	1,4 kW	2,4 kW	2,6 kW	3,6 kW	4 kW
Control	Programmable controller and automatic process control				
Procedure recording	Printer or connection to a PC				

Optional additional equipment:

- Various vacuum pumps (Edwards, Vacuubrand, …)
- Different equipment for process control (insulation valves, sensor temperature, ...)
- Printer
- Software for process observation on PC
- Stoppering system for closing the containers in a vacuum or inert atmosphere
- Printer for recording the procedure
- IQ & OQ documentation and performance in the field
- Compressor for compressed air
  More about the additional equipment >>

Case of freeze dryed materials

A pilot freeze dryer Lio-10P is always available in our laboratory, where we can gladly test real materials. The appliance is also used to set the optimum process parameters for for freeze drying of different materials or products.

1. Freeze-Drying of a pharmaceutical solution. Helping in the development for a recognized pharmaceutical company.

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2. Freeze-Drying of figs and asparagus. In cooperation with 'Veleučilište u Rijeci'

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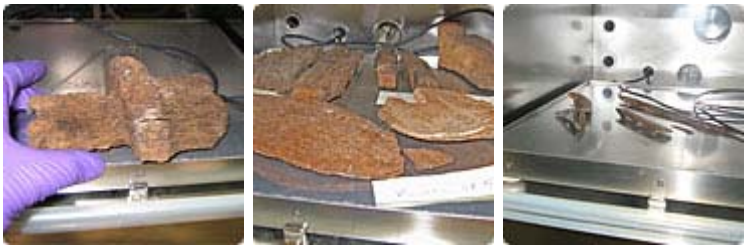
3. Freeze-Drying of waterlogged wood in cooperation with the experts in the field of wood protection and drying, and the experts from the City Museum in Ljubljana.



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Please contact us for more information and questions about our products and services.