

Freeze Dryers

■ Application in Production, Pharmaceutical and Food Industry



- Round and rectangular drying chambers up to 5 m³
- Two- chamber systems with separation valve
- Hinged and sliding doors
- Flexible size of shelves and distances up to 90m²
- Materials made of stainless steel 316TI, 316L
- Compressor and / or N2-liquid cooling up to -150°C
- Condenser for ice up to 800kg/24h, condenser for solvents

- Steam sterilization SIP
- Remove of sample in lock
- Visualization of process
- Sealing system for vials
- Trays for product
- Explosion- proof version
- GMP conform version, pharmaceutical sector
- Documentation / Qualification



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Vacuum Equipment
CATALOGUE

FREEZE DRYER



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Freeze Dryers

For freeze drying in research laboratories.

The housing of this benchtop freeze dryer is made of finely brushed 1.4301/AISI 304 stainless steel resistant to all commercially available disinfectants. The lid is made of anodized aluminium.

■ Laboratory vacuum freeze dryer VaCo 2 Package



MICROPROCESSOR CONTROL AND TOUCH PANEL	12 VACUUM PORTS, STANDARD TAPER (2/16)
BASE COMPLETELY OF STAINLESS STEEL	ACRYLIC DRYING CHAMBER
Technical data	VaCo 2
Condenser volume	5.7 litres
Condenser temperature	-50°C to +80°C
Ice condenser capacity	2 kg / 24h
Max. ice capacity	3 kg
Dimensions of base unit (W x H x D)	400 x 400 x 470 mm
Weight of base unit	40 kg at +50°C, 55 kg at +80°C

Include in the package :

- Sublimator VaCo 2
- Condenser package for temperatures down to -50°C
- Acrylic drying chamber Ø 200 x h 360mm
- Cover with 8 vacuum connections
- Inner rack made of stainless steel with 3 shelves, Ø 175mm
- Vacuum control VaCo2

■ Laboratory vacuum freeze dryer VaCo 5 Package



SUITABLE FOR ANY LABORATORY TABLE	12 VACUUM PORTS, STANDARD TAPER (2/16)
EASY-TO-CLEAN SURFACE	INTERNAL RACK WITH HEATING FEATURE
Technical data	VaCo 5
Condenser volume	16 litres
Condenser temperature	-80°C to +80°C
Ice condenser capacity	5 kg / 24h
Max. ice capacity	8 kg
Dimensions of base unit (W x H x D)	600 x 600 x 530 mm
Weight of base unit	60 kg at +50°C, 78 kg at +80°C

Include in the package :

- Sublimator VaCo 5
- Condenser package for temperatures down to -80°C
- Manifold made of stainless steel 12
- Vacuum control VaCo 5

Freeze Dryers

■ Laboratory vacuum freeze dryer VaCo 10 Package



AUTOMATIC DEPOSIT FOR ICE CONDENSER	UP TO 24 VACUUM PORTS, STANDARD TAPER (2/16)
EQUIPPED WITH MAINTENANCE ROLLERS AS A STANDARD FEATURE	VARIABLE DISTANCE BETWEEN SHELVES
Technical data	VaCo 10
Condenser volume	50 litres
Condenser temperature	+50°C to +80°C
Ice condenser capacity	10 kg / 24h
Max. ice capacity	20 kg
Dimensions of base unit (W x H x D)	700 x 900 x 750 mm
Weight of base unit	75 kg at +50°C, 85 kg at +80°C

Include in the package :

- Sublimator VaCo 10
- Condenser package for temperatures down to -50°C
- Acrylic drying chamber 400/500
- Cover with 12 vacuum connections
- Inner rack, 6 shelves, unheated, dia.: 370mm, variable shelf distance
- Vacuum control VaCo10

■ VaCo series accessories

Zirbus recommend to use Edwards Vacuum

Pumps RV series for their Freeze dryer.

As official Edwards Distributor Ezzi Vision is

able to supply you the best vacuum pump who will suit your activity.

Contact us for more information.

All Vaco Series are customizable.

Contact us to request a quote.

VaCo SERIES ACCESSORIES

As modular systems, these laboratory lyophilizers can be equipped with various options. Additional accessories available upon request.

1 ICE CONDENSER TEMPERATURE

The ice condenser can be selected for aqueous solutions at a temperature of 80°C or for solvents containing or free-freezing point products at a temperature of -80°C.

2 CHEMISTRY HYBRID VACUUM PUMP

The chemistry hybrid pump, which has been optimized for non-aqueous, is a combination of a two-stage rotary vane pump and a chemically inert, two-stage membrane pump. This type of pump has been designed for creating a vacuum in chemical applications in which solvents result in heavy condensates. The pump achieves an ultimate vacuum (with no-gas ballast) of 2×10^{-3} mbar.

3 DRYING CHAMBER

The drying chamber is positioned along with a base plate directly at top of the ice condenser and serves as a vacuum chamber that accommodates the rack insert. Depending on the needs of the application, the chamber is available either in acrylic glass or stainless steel. Customers may choose between the normal acrylic lid and a lid with vacuum ports for connecting additional flasks.

4 HEATED SHELVES

Optional heated shelves for accelerating processes ensure the necessary heat input for freeze-drying.

5 ALUMINIUM RACK INSERT

The rack insert allows users to place products on multiple levels. You can vary the number of shelves – and thus the distance between them – to accommodate your product. In order to accelerate the drying process, the rack insert can also be upgraded to include an optional heating feature.

6 VARIABLE DISTANCE BETWEEN SHELVES

The variable shelf height allows users to adjust shelf height. The ideal solution for products in containers of varying sizes.

7 VACUUM CONTROL

A magnetic valve situated between the vacuum pump and condenser controls the previously set vacuum.

8 MECHANISM FOR SEALING VIALS

For sealing vials under a vacuum. After the drying process, the shelves can be collapsed, which seals the vials. (Only with VaCo 5 and VaCo 10)

9 VACUUM PUMP

This compact, oil-coated rotary vane pump is designed for reliable, continuous operation, and achieves an ultimate vacuum (with no gas ballast) of 2×10^{-3} mbar. The pump includes an exhaust oil mist filter (EMF) in order to prevent oil aerosols from entering the surrounding air.

10 STAINLESS STEEL DRYING RACK

Exclusively for drying materials in Racks and/or jars. The drying rack is placed on the ice condenser and can be connected to sample vials using a 2/16 standard taper valve.

11 DRYING PANS

Product drying pans are made of stainless steel. The surface is polished for easy cleaning.

12 AMPOULE ADAPTER

The ampoule adapter serves as a means of extending the vacuum valve, and can accommodate up to 18 ampoules (depending on the adapter).