Laboratory freeze dryers
coolvacuum.com

Coolvacuum
a Dara Pharma company

LyoEpic
TriEpic

Maximum performance
and capacity for
small batches
and R&D departments.



DOMINIQUE DUTSCHER SAS

LyoEpic

Reliability and flexibility for all applications.

Ice condenser capacity up to 18 kg.

Output for 2R up to 3,650 vials.

Laboratory / Small scale production.

540 x 630 x 970 mm.

Ice condenser capacity up to 18 kg.

The LyoEpic range includes mobile equipment with increased number of features and configuration possibilities to use in laboratories or as pilot equipment.

A wide variety of accessories allow using this equipment during the initial phases of the conceptual development as well as during the recipe development phase of high-value products.



Ice condenser temperature up to -85 °C*.



Lightweight unit, easy to transport (with wheels). Weight from 95 kg*.



* According to the model.

DOMINIQUE DUTSCHER SAS

TriEpic

Reliability and flexibility for all applications.

Ice condenser capacity up to 30 kg.

Output for 2R up to 10,800 vials.

TriEpic has been created for shared use of multiple formats and infinite freeze drying, when the equipment is required at different times and for different cycles.

TriEpic freeze dryers allow processing different formats at the same time as they may be equipped with rectangular, circular chambers or stainless steel manifolds simultaneously.



Ice condenser temperature up to -85 °C*.



Lightweight unit, easy to transport (with wheels). Weight from 140 kg*.

* According to the model.

Laboratory / Small scale production.

1.840 x 630 x 970 mm.

Ice condenser capacity up to 30 kg.



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Base Software

Coolvacuum leading automation solutions for freeze-drying processes offer a safe, reliable and user-friendly control and data acquisition for the system.

In R&D and drug development, data recording and recipe adjustment are of special importance, as they define, develop, and set the parameters for efficient future production and obtaining maximum performance from the freeze-dried product. All automation and controls are designed to current GAMP guidelines and comply with CFR21 part 11 regulations.

Users	Register with different user levels from the freeze dryer's control screen.
Recipe programming	Enter the freeze-drying recipes parameters from the control screen.
Data export	Production data can be extracted via USB or memory card.



Base Software.



Control from smartphone.
Real-time data.

Vacuum pumps

Two-stage rotary vane pumps in oil bath are used for medium and low pressure and are suitable for the R&D centers and laboratory environment.

- Oil level sight glass.
- Maximum vacuum 4 x 10^{-3} mbar.
- Input connections 25 KF.
- Robust and silent.
- Easy maintenance.
- Hybrid pump for organic solvents.

References:

Ref. LE-LABOVAC-P12
12 m^3/h pump

Ref. LE-LABOVAC-P24
24 m^3/h pump

Ref. LE-LABOVAC-CH12
12 m^3/h with resistance for chemical products

Ref. LE-LABOVAC-CH24
24 m^3/h with resistance for chemical products



Always working with top manufacturers.



Coolvacuum can adapt its equipment and install a specific pump depending on product or process requirements.

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Accessories



Ref. LE-CAMP-4370-CV
Ref. LE-CAMP-6370-CV

With Resistances
Ref. LE-CAMP-4370-H-CV
Ref. LE-CAMP-6370-H-CV

Circular chamber with manual closing of vials.
Electrically heated shelves (optional).
Number of shelves: 4 / 6 usable + 1 for closing.
Shelves clearance: 80 / 60 mm.
Shelves area: 0,43 / 0,66 m^2.
Tray size: ø 370 mm.
Tray included.
Height increase: 550 mm.



Ref. LE-CAMP-6370

With Resistances
Ref. LE-CAMP-6370-H

Circular chamber with 6 shelves.
Electrically heated shelves (optional).
Shelves clearance: 80 mm.
Shelves area: 0,65 m^2.
Tray size: ø 370 mm.
Tray included.
Height increase: 550 mm.



Ref. LE-COLM-6M
Ref. LE-COLM-12M
Ref. LE-COLM-24M

Stainless steel manifolds for 6 / 12 / 24.
Neoprene valves included for 6 / 12 / 24.
Valves connection: CN 29 / 32.
Height increase: 320 / 570 mm.



Ref. LE-CAMP-6370-8M

With Resistances
Ref. LE-CAMP-6370-H-8M

Circular chamber with 6 shelves.
8 neoprene valves (included).
CN 29 / 32 connection for flasks.
Electrically heated shelves (optional).
Shelves clearance: 80 mm.
Shelves area: 0,65 m^2.
Tray included.
Height increase: 550 mm.



Ref. LE-CAMPC-565

With Resistances
Ref. LE-CAMPC-565-H

Rectangular chamber with 5 shelves.
Electrically heated shelves (optional).
Shelves clearance: 43 mm.
Shelves area: 0,82 m^2.
Tray size: 420 x 390 mm.
Tray included.
Height increase: 475 mm.

LyoEpic & TriEpic References

Reference / Model	Ref. LE-LYOEPIC55	Ref. LE-LYOEPIC85	Ref. LE-TRIEPIC55	Ref. LE-TRIEPIC85
Ice condenser temperature	-55 °C	-85 °C	-55 °C	-85 °C
Overall dimensions (W x D x H)	540 x 630 x 970 mm		1.840 x 630 x 970 mm	
Ice condenser capacity	18 kg		30 kg	
Ice condenser capacity for 24 h	8 kg / 24 h		16 kg / 24 h	
Electrically heated shelves	Optional		Optional	
Number of shelves	1	2	1	2
Electric power	850 W	1,100 W	850 W	1,100 W
Weight	95 kg	120 kg	140 kg	150 kg

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LyoLab Mini

Pilot freeze dryers

LyoLab Mini has the same production characteristics as Coolvacuum's pilot equipment LyoLab, but reduced dimensions.

Its compact design and a wide variety of control options make LyoLab Mini the best choice for companies or laboratories that wish to manufacture small batches to be scaled up to larger production facilities.

LyoLab Mini, made of AISI 316 L, is equipped with an automatic vials stoppering. LyoLab Mini features a fluid recirculation system for heating and cooling of the trays.



Pilot range ecatalogue

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TriEpic INFINITY

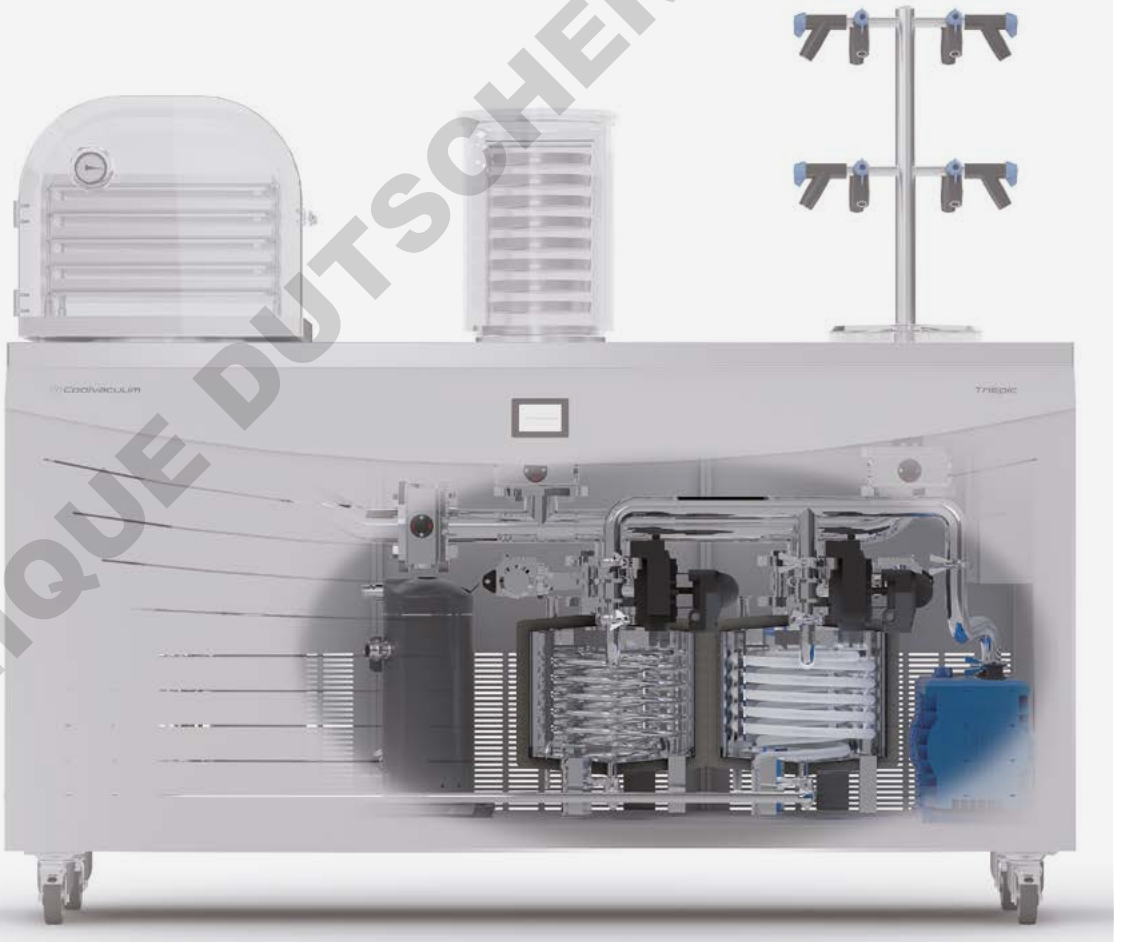
Coolvacuum's Infinity Technology™ allows maintaining infinite freeze-drying cycles, alternating two condensers automatically when they reach their maximum capacity. While one condenser is in use, the other one can be drained to avoid downtime.

TriEpic Infinity is designed to comply with the requirements of R&D centers and laboratories, where freeze dryers are intensively used.

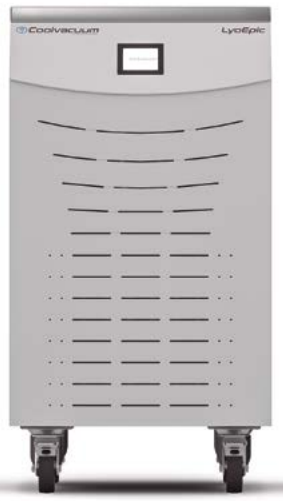
- Infinite ice condenser capacity.
- Ice condenser final temperature up to -85 °C*.

INFINITY TECHNOLOGY™

* According to the model.



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Specifications

- Ice condenser in AISI 316L stainless steel with internal coil.
- Detachable product temperature probe.
- Air-cooled refrigerating compressor (air-cooling free from HCFC).
- Automatic defrost cycle of ice condenser by hot gas.
- Three user levels protected with passwords.
- Programming of automatic cycle recipes.
- Interactive graphs for vacuum and temperature control.
- USB connector for data export and graphs generating.
- LAN Ethernet output for monitoring and controlling in remote with PC or App.
- Sound level <68 dB (A).
- External vacuum pump supplied with gas Ballast for removing water vapours and other condensable vapours from the oil.
- Exhaust gases filter and check valve for the vacuum pump.

Optional equipment

- Ice condenser temperature up to -55 °C / -85 °C.
- Coolvacuum's Trend Software for registering cycle/batch data.
- SCADA software for acquiring all the relevant data from production, according with FDA 21CFR part 11.
- Remote connection.
- Vacuum control for cycle optimization.
- Organic solvent ice condenser.
- Capacitive vacuum probe.
- Infinite ice condenser for continuous freeze-drying.
- Chamber ice condenser isolation valve.

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online ecatalogue

PRODUCTION GMP

FREEZE DRYING EQUIPMENT



LyoNano

For small batches

From 0.5 to 2.5 m²

Designed for aseptic batches.
Compact and adaptable.



LyoCompact

Small scale production

From 2 to 6 m²

Compact solutions. Cutting-edge technology with a reduced footprint.



LyoCool

Medium scale production

From 7 to 15 m²

Optimal balance.
Maximum flexibility.

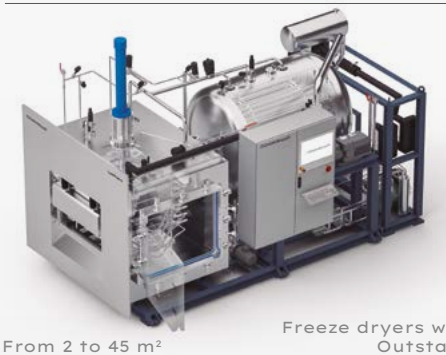


LyoPro

Large scale production

From 16 to 45 m²

Maximum performance.
Large-scale security and reliability.



LyoPharm

All types of production

From 2 to 45 m²

Freeze dryers within everyone's reach.
Outstanding standardization.

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Our commitment, your guarantee.

Coolvacuum is a synonym for trust and reliability. Our pursuit of excellence and customer-oriented service complements our high-quality equipment and high level of commitment. Coolvacuum offers, from the very beginning, a wide and flexible range of products and services designed to provide you with optimal support and ensure the machine's performance at its full capacity.

Coolvacuum's range of service 4.0, following the "Flexibility in motion" concept, takes advantage of cutting-edge technological advances, such as augmented reality or predictive maintenance, to provide the best technical support in terms of quality, efficiency, effectiveness, and response time.

Our technicians are available 24/7 to assist and solve any technical problems remotely worldwide. Coolvacuum's service excellence is achieved thanks to a cross-functional team of more than 15 nationalities and personalized customer attention managers. Represented in more than 80 countries with continuous support from local offices and sales representatives.



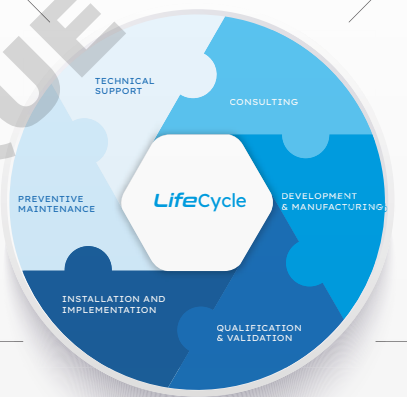
Worldwide assistance, present in more than 80 countries.

LifeCycle

Technical Support
Our team offers local and remote support to attend to attend any technical need.

Preventive Maintenance
We plan and adapt our interventions and specific actions to your production calendar.

Installation and Implementation
It is essential to adapt to the client's requirements, so that our interventions at the clients facilities have the least possible impact on their activity.



Consulting
Understand and satisfy customer's needs to find personalized solutions.

Development and Manufacturing
The services are planned and executed in a clear, direct, and rigorous way.

Qualification and Validation
All the necessary services are documented and executed so that the products are easily validated.

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Documentation and qualification

In pharmaceutical production, Good Manufacturing Practices (GMP) are essential to guarantee that the manufacturing process is constantly controlled according to the quality standards so the drugs can be used safely.

Therefore, there must be systems to provide documented proof that correct procedures are consistently followed at each step in the manufacturing process, ensuring clarity and traceability of the product quality data acquisition. At Coolvacuum, we defined specific actions to ensure that our document management, which we call GDP (Good Documentation Practices), fulfills this objective.

The qualification documentation can be adapted to the specific needs of the client offering an individual approach.

DESIGN PROTOCOLS

- Qualification Project Plan (QPP).
- Functional and Design Specifications (FDS).
- Hardware Design Specifications (HDS).
- Software Design Specifications (SDS).
- Risk Assessment (RA).

TEST PROTOCOLS

- Design Qualification (DQ).
- Computer System Validation (CSV).
- Factory Acceptance Test (FAT).
- Site Acceptance Test (SAT).
- Installation and Commissioning (IAC).
- Installation Qualification (IQ).
- Operational Qualification (OQ).
- Record of qualification deviations.
- Record of qualification change controls.



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Flexibility in motion

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