INNOTEG

Innovation • Accuracy • Reliability

InnoFreeze Pro Multi-Purpose Desktop Freeze Dryer

About INNOTEG

INNOTEG is an independently developed brand under the Tegent Group, a high-tech enterprise specializing in the research and production of scientific instruments and equipment. We are a professional manufacturer that integrates laboratory equipment research and production, method development, laboratory instrument sales, and technical services. We have established long-term strategic partnerships with several internationally renowned brands and have assembled a team of experts in freeze-drying technology, both domestic and international, with over 30 years of industry experience.

By continuously absorbing and innovating upon cutting-edge international freeze-drying technology, we are committed to providing our customers with high-performance, technologically advanced freeze-drying equipment. Our devices are renowned for their high efficiency, low energy consumption, and exceptional stability. Additionally, we offer comprehensive customized solutions and worry-free after-sales services to ensure that every customer enjoys the most satisfactory user experience.

For many years, INNOTEG has been dedicated to developing efficient laboratory innovation equipment. The company places great importance on research and technological reserves, consistently maintaining a high proportion of investment in research and development. We have established a skilled R&D team composed of PhDs, Masters, and industry experts, who have conducted fruitful research and development in the field of instrument analysis technology. Furthermore, INNOTEG actively collaborates with major research institutions and universities to promote the industrialization of scientific research achievements. Leveraging our strong R&D capabilities and focusing on forward-looking technology development, we have launched a variety of scientific instruments and laboratory consumables.

INNOTEG Collaborative Research and Development Expert Team.

For over 30 years, we have been deeply rooted in the scientific instrument industry, maintaining close and profound collaborations with universities, research institutions, and industry experts both domestically and internationally. Simultaneously, we have built an experienced and skilled R&D team within the company, engaged in research and development work in instrument analysis technology.

Renowned Scholars from Home and Abroad	Industry Senior Experts	Professional Research and Development Team
▪ Domestic Research Institutes ▪ Royal Society of Canada ▪ German Technical Team	▪ Global Scientists in the ▪ Freeze-Drying Field ▪ Authority Team in Microextraction	▪ Domestic Research Institutions ▪ Royal Society of Canada ▪ International Technical

Craftsmanship and quality are the foundational principles of INNOTEG, embodying our unwavering commitment to excellence.

Currently, the company has achieved ISO 9001 certification, which signifies that our responsibility towards product quality represents the greatest assurance for our customers.

Product Features

Ultra-Low Temperature Refrigeration System

- Exceptional Cooling Performance: Maximum ice condensation capacity of 7 kg, with the Lowest Condenser Temperature as low as -100°C;
- Equipped with a fully enclosed compressor imported from Europe, utilizing single-machine mixed environmentally friendly refrigeration technology, independent plate heat exchanger, high-power condenser, ensuring stable operation of the entire refrigeration system with minimal vibration and low noise, resulting in low condenser temperatures.

Comprehensive Control System

- Control program with a +5” color touchscreen that displays and records vacuum, condenser temperature, and material temperatures, generating a freeze-drying curve. It can continuously record data on material and equipment conditions, supporting offline data browsing, analysis, printing, and storage, with a USB data storage serial port;
- Features automatic detection of vacuum level; if the vacuum level does not meet standards, the vacuum pump operation will cease;
- Includes cumulative usage time function for the vacuum pump, providing reminders for timely replacement of vacuum pump oil;
- Features secondary start delay protection for the compressor and thermal overload protection devic;
- Equipped with a double-stage rotary vane vacuum pump with anti-backflow design, utilizing international standard KF25 quick-connect clamps.

Professional Structural Design

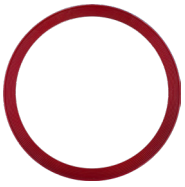
- The machine casing features an integrated arc structure, with a screen that protrudes at a 45°angle, adhering to ergonomic principles while being simple, elegant, and aesthetically pleasing. The top contact surface of the unit is made of 304 stainless steel plate, resistant to corrosion and acid-alkali;
- The condenser has a large opening, with no refrigeration coil inside, facilitating faster sublimation rates and easier cleaning. The entire material rack can be fully placed within the condenser chamber, offering a sample freezing function without the need for an additional ultra-low temperature freezer or liquid nitrogen for freezing;
- Unique condenser flange cold bridge condensation prevention design, with a specially designed wavy sealing ring, molded for multiple sealing protections.

Main Components

Embraco Compressor

Vacuum pump

Inficon Vacuum gauge



Condenser with multiple Sealing Rings

Various Configurations Available for Selection

The drying chamber apparatus is categorized into three types: Standard Type, Multi-Manifold Type, and Standard Multi-Manifold Type.

Standard Type

Suitable for freeze-drying bulk materials such as powders, granules, and solutions.

Multi-Manifold Type

Designed for Wide mouth glass flask or Eggplant shaped flask externally.

Standard Multi-Manifold Type

Incorporates functionalities of both the Standard Type and Multi-Manifold Type.

Model / parameter	InnoFreeze Pro		
Product drying chamber	Standard Type	Multi-Manifold Type	Standard Multi-Manifold Type
Freeze-Drying Area（m^2）	0.12m^2	16 ports	0.12m^2+10 ports
Lowest Condenser Temperature(°C)	⩽ -100°C（No Load）		
Condenser Volume（L）	13L		
Maximum Condenser Capacity（Kg）	7Kg		
Maximum Ice Condensing Capacity in 24 hours（Kg）	3Kg		
Achieved Standard Vacuum Level（pa）	5pa		
Ultimate Vacuum Level（pa）	1pa		
Number of Material Shelf	4 Shelves	/	4 Shelves
Diameter of the Material Tray（mm）	Ø200		
Material shelf Clearance（mm）	60mm（Detachable and Adjustable）		
Volume of Solution that the Material Tray Can Accommodate（L）	1.2L		
Installed Power Capacity（220V 50HZ）	1.7KW		
Operating Noise（dB）	⩽60dB		
Ambient Temperature(°C)	⩽26°C		
Net Weight（Kg）	95Kg		
Net Weight（mm）	W680*D680*H570		
Note	The overall dimensions and weight do not include the external vacuum pump and drying chamber . The standard drying chamber has a height of 345mm, while the manifold type stands at 525mm.		

www.innoteg-instruments.com
innoteg@innoteg-instruments.com
400-006-9696