



# FREEZE DRYER



***INNOVA Bio-Meditech Inc.***

ADD:952 Troy Schenectady Road,  
Executive Office Suite 116  
Latham,NY 12110, ALBANY County, USA.  
Email: [info@innobiomed.com](mailto:info@innobiomed.com)  
Website: [www.innovabiomed.com](http://www.innovabiomed.com)

***Qingdao Innova Bio-Meditech Co.,ltd***

ADD: No. 1057 Jinshui Road,  
266100, Qingdao,China  
Email: [info@innobiomed.com](mailto:info@innobiomed.com)  
Website: [www.innovabiomed.com](http://www.innovabiomed.com)

# INNOVA Bio-Meditech

Is one of the leading global providers of laboratory and medical devices. Firmly committed to our mission of “sharing innovative bio-meditech solutions with the world”, we are dedicated to innovation in the fields of Biology Project, Life Science, Pharmacy Industry and Medical Treatment. Headquartered in Boston, USA, Innova Bio-Meditech possesses a sound distribution and service network with business partners in North and Latin America, Europe, Africa and Asia-Pacific etc. Innova has built up a well estab-

lished R&D, manufacture network with 4 centers in Boston, Beijing, Qingdao, and Shanghai. Inspired by the needs of our customers, we adopt advanced technologies and transform them into accessible innovation. This means constant effort and research, in order to more fully understand and anticipate the developments of the market, produce constantly upgraded product ranges by adding new products year after year.



AMERICA

CHINA



*Secure quality, Continuous Innovation*

# Freeze Dryer

Freeze dryer is widely applied in pharmaceutical industry, biotechnology industry, biological science industry, materials science industry, chemical industry, food and agriculture industry etc. It is used to produce vaccines, drugs and permanently store biological tissues/organs.



Innova INOFD freeze dryer is specialized designed for small batch test in laboratory. The Bench Top and Console freeze dryers are with advanced design and occupies small area.



## Humanized Design

7" colorful touch panel, can display the product samples temperature, cold trap temperature and vacuum etc in digital and curve.

Touch panel with tilt design conforms to ergonomics and operate more comfortably.



Optional for gas interface: can inject inert gas

Optional for Cold trap electrical heating defrost function

Optional for rack heating which is help to test in production

Eutectic point testing, it can have sublimation temperature

## Freeze Dryer/Accessories

### Accessories

Stopper Chamber		Standard Stopper with 8 port manifolds		Standard Chamber with 8 manifolds	
Standard Chamber		Stainless steel with 8 port manifolds		Valve and Freeze Drying Bottle	
Isolation Valve		24 EA Drying Shelf		Stainless steel Drying Chamber	

## Pilot Freeze Dryer

Pilot freeze dryer is a small in-situ freeze-drying equipment. It is applied not only in pharmaceutical pilot workshop and small batch production but also in food or medicinal freeze-drying process. Situ freeze-drying technology is one of advanced international constructor design which avoid the contamination during materials transfer and realize the dry sublimation automatically. Pilot freeze dryer is with rack heating programmable function and memory freeze-drying curve which convenient users to get the freeze-drying production technology.

It is divided into standard type and gland type.



## Reliable Performance

World famous compressor (SECOP) , high performance. lubricating oil with Sole design ensure the compressor work stable in high and low environment which enhance the compressor life.

World famous dry-filter to avoid moisture and Impurity went into refrigerant system.



The rack is cooled and heated through Silicone oil. The temperature accuracy is  $\leq 1$  °C, the refrigerant and heating are uniformity.

In-situ freeze-drying design, avoid the contamination during material transfer. High transparent organic glass in Drying chamber helps users to observe materials changes.

Cold trap and drying chamber are separately designed which is with high moisture capture and fast dry time.

Chamber is made of stainless steel, anti-corrosion and easy cleaning. Each rack is with temperature sensor and monitor the materials temperature changes in each rack.

Square racks easy to cleaning

With gas valve, can inject dry inert gas.



## Humanized Design

7" Colorful touch panel, can digital and curve display the real time status and historical data.

Large FAT32 files system storage can store all data for more than 1 month.

USB interface can download the freeze-drying data to U disk



Rack temperature can adjustable, controllable which helps to search for freeze-drying technology. It is two types manual and automatic type. The Automatic process can setting 36 programs, each program can set 40 temperature range, it can meet different requirements on freeze-drying process.



- Automatic frost
- Optional Eutectic point test function helps users to control materials' sublimation point
- Optional Freeze drying flask

## Bench Top Freeze Dryer

Model	INOFD-10S	INOFD-10T	INOFD-10P	INOFD-10PT
Type	Standard chamber	Stoppering chamber	Standard chamber with 8 port manifold	Standard stoppering chamber with 8 port manifold
Final condenser temp (°C)	-55	-55	-55	-55
Vacuum Degree (Pa)	<10	<10	<10	<10
Condenser volume (L)	9	9	9	9
Freeze drying area (m2)	0.12	0.09	0.12	0.09
Ice condenser capacity (Kg/24h)	3	3	3	3
Qty of shelf	4	3	4	3
Material loading capacity/shelf (ml)	300	300	300	300
Material loading capacity (ml)	1200	900	1200	900
Freeze drying time (h)	24	24	24	24
Manifold	/	/	8 pieces	8 pieces
USB Interface	Y	Y	Y	Y
Drying Chamber(standard)	Transparent acrylic			
Vacuum Pump(standard)	Model: 2XZ-2, Speed: 2L/S (China-Made)			
Control System	Microprocessor, touch screen			
Power supply (V/Hz)	220V/50Hz,60Hz			
Exterior dimension (WxDxH mm)	582*625*530/960			
Note	Shelf(plate) heating and cold trap(ice condenser) defrosting function are optional;			
	The vacuum pump is independently packed in a separate package;			
	The freeze dryer shipment includes vacuum pump, standard drying chamber and all accessories, like valve, flask etc, if needed			

## Console Freeze Dryer

Model	INOFD-12S	INOFD-12T	INOFD-12P	INOFD-12PT
				
Type	Standard chamber	Stoppering chamber	Standard chamber with 8 port manifold	Standard stoppering chamber with 8 port manifold
Final condenser temp (°C)	-55 or -80	-55 or -80	-55 or -80	-55-55 or -80
Vacuum Degree (Pa)	<10	<10	<10	<10
Condenser volume (L)	9	9	9	9
Freeze drying area (m2)	0.12	0.09	0.12	0.09
Ice condenser capacity (Kg/24h)	4	4	4	4
Qty of shelf	4	3	4	3
Material loading capacity/shelf (ml)	300	300	300	300
Material loading capacity (ml)	1200	900	1200	900
Freeze drying time (h)	24	24	24	24
Manifold	/	/	8 pieces	8 pieces
USB Interface	Y	Y	Y	Y
Drying Chamber(standard)	Transparent acrylic			
Vacuum Pump(standard)	Model: 2XZ-2, Speed: 2L/S (China-Made)			
Control System	Microprocessor, touch screen			
Power supply (V/Hz)	220V/50Hz,60Hz			
Exterior dimension (WxDxH mm)	480*620*920/1370			
Note	Shelf(plate) heating and cold trap(ice condenser) defrosting function are optional;			
	The vacuum pump is independently packed in a separate package;			
	The freeze dryer shipment includes vacuum pump, standard drying chamber and all accessories, like valve, flask etc, if needed.			

Model	INOFD-18S	INOFD-18T	INOFD-18P	INOFD-18PT
				
Type	Standard chamber	Stoppering chamber	Standard chamber with 8 port manifold	Standard stoppering chamber with 8 port manifold
Final condenser temp (°C)	-55-55 or -80	-55-55 or -80	-55-55 or -80	-55-55 or -80
Vacuum Degree (Pa)	<10	<10	<10	<10
Condenser volume (L)	23	23	23	23
Freeze drying area (m2)	0.18	0.135	0.18	0.135
Ice condenser capacity (Kg/24h)	6	6	6	6
Qty of shelf	4	3	4	3
Material loading capacity/shelf (ml)	450	450	450	450
Material loading capacity (ml)	1800	1350	1800	1350
Freeze drying time (h)	24	24	24	24
Manifold	/	/	8 pieces	8 pieces
USB Interface	Y	Y	Y	Y
Drying Chamber(standard)	Transparent acrylic			
Vacuum Pump(standard)	Model: 2XZ-2, Speed: 2L/S (China-Made)			
Control System	Microprocessor, touch screen			
Power supply (V/Hz)	220V/50Hz,60Hz			
Exterior dimension (WxDxH mm)	560*710*950/1390			
Note	Shelf(plate) heating and cold trap(ice condenser) defrosting function are optional;			
	The vacuum pump is independently packed in a separate package;			
	The freeze dryer shipment includes vacuum pump, standard drying chamber and all accessories, like valve, flask etc, if needed.			

## Pilot Production

Model	INOVD-20S	INOVD-30T	INOVD-50S	INOVD-50T	INOVD-100S	INOVD-100T	INOVD-200S	INOVD-200T
								
Type	Standard	Top-press	Standard	Top-Press	Standard	Top-press	Standard	Top-press
Shelf temp (°C)	-50 ~ 70	-50 ~ 70	-50 ~ 70	-50 ~ 70	-50 ~ 70	-50 ~ 70	-50 ~ 70	-50 ~ 70
Final condenser temp (°C)	-80	-80	-80	-80	-80	-80	-80	-80
Vacuum Degree (Pa)	<10	<10	<10	<10	<10	<10	<10	<10
Freeze drying area (m2)	0.24	0.3	0.5		1		2	
Condenser capacity (Kg/24h)	6.5		10		15		30	
Shelf specification (L*W*H mm)	300*400*15	295*335*15	360*476*20		360*480*15	600*480*15	500*900*15	
Qty of shelf	2	3	4	4	6	4	6	6
Distance between shelves(mm)	80		70	95	80	80	100	
Liquid material loading capacity (L)	4.5	4	10	8	15		30	
Temperature uniformity (°C)	±1	±1	±1	±1	±1	±1	±1	±1
Defrost funINOion	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
USB Interface	Y	Y	Y	Y	o	Y	Y	Y
Control System	Microprocessor, touch screen		Microprocessor, touch screen		Microprocessor, touch screen		Microprocessor, touch screen	
Penicillin bottle Φ22	760	805	1408	1056	2016	2016	4100	4100
Penicillin bottle Φ16	940	1550	2728	2046	3960	3960	7800	7800
Penicillin bottle Φ12	2120	2800	4920	3690	7200	7200	14400	14400
Power supply (V/Hz)	220V/50Hz,60Hz		220V/50Hz,60Hz 380V/50Hz,60Hz		220V/50Hz,60Hz 380V/50Hz,60Hz		380V/50Hz,60Hz	
Exterior dimension (WxDxH mm)	1200*750*1250	1200*750*1600	1200*850*1500	1200*850*1850	1500*850*1600	1500*850*1950	2100*850*1800	2100*850*2100