

Freeze Dryer (Lyophilizer) Catalog



Esquire Biotech (SSI Unit)

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PROFILE

Esquire Biotch is a professional manufacturer of new technical instrument and equipment for life sciences. The company is registered as a small scale industry (SSI) in Government of Tamilnadu, and our main products line are Freezedryers (Lyophilizers) for biological food and pharma industries, Probe sonicators for cell lysis, nano particle dispersion, bio-diesel production, industrial sonicators, Deep Freezers -80 deg.C , Biosafety cabinets class-II A2/B2, Class-III, PCR Cabinets, CO2 incubators, Stomacher for food microbiology, UV-Vis Spectrophotometer.

The scientific management, advanced technology, innovation idea, rich experience, excellent after sale service as well as large scale production capacity guarantee our products' quality a leading level in the industry. Our products have been widely used in the national key laboratory, the medical institution as well as pharmaceutical enterprise.

Full of the energy and hope, with perseverance and confidence , Esquire Biotech team will persistently promote quality and technology to satisfy customers' needs. We are committed to getting the trust of customer by good service and reasonable price. Our company sincerely hope that we can cooperate with more clients at home and abroad in the future.

Freeze Dryer (Lyophilizer)

Freeze dryer is widely used in medicine, pharmacy, biology research, chemical industry and food production ,etc. After freeze drying process, a long term preservation for material is much easier. They can be restored to original state and maintain their chemical and biological characteristics after being watered.

The vacuum freeze drying technology, which is also called sublimation drying, is a technical method that freezes the samples in advance, and then sublimates its moisture under vacuum state.

Types : standard type, manifold type, top press type, manifold top press type, T-type.

Series: Esquire Biotech manufacturers EBT Series laboratory freeze dryers, pilot scale freeze dryers and small scale production freeze dryer and big scale production freeze dryer.

EBT-10 N Series Bench Top Freeze Dryer



standard type (-50°C)



top press type (-50°C)



manifold type (-50°C)



Manifold top press type (-50°C)



T-type (-50°C)



standard type (-80°C)



top press type (-80°C)



manifold type (-80°C)



Manifold top press type (-80°C)

T-type (-80°C)

EBT-12N /18N Series Floor Type Freeze Dryer



Standard type



top press type



**EBT 18N
manifold type**



Manifold top press type



T-type



Standard type

top press type

manifold type

manifold top press type

T-type

EBT 10N/12N/18N Series of Freeze Dryer for laboratory research

EBT-10 freeze dryers are designed as bench top models, EBT-12/18 as floor type with caster.

Types: standard type, top press type, manifold type, manifold top press type, T-type

Main features

- Color LCD touch screen ,English control panel,display freeze drying curve, save data
- Big opening condenser has pre-freezing function
- CFC-free refrigerant, low noise compressor, good efficiency,long service life
- Condenser ,trays, drying shelf are all stainless steel 304
- Acrylic drying Chamber safe and visible
- Small volume , easy and convenient operation
- With USB port to output freeze drying data, open and view in Excel format

Options

- | | | |
|----------------------------------|----------------------------------|--------------------------------------|
| * Nitrogen inflation valve | * Electricity heating defrosting | * Electric heating shelf (EBT-10/12) |
| * Anti oil return valve for pump | *Exhaust filter for pump | * Air inlet filter for pump |

Specifications

Model	Unit	EBT-10N		EBT-12N		EBT-18N	
		Top press	standard	Top press	standard	Top press	Standard 8 port manifold
Drying area	m ²	0.08/0.1	0.12/0.18	0.08/0.1	0.12/0.18	0.09/0.12	0.18/0.27
Condenser temperature	°C	-80°C					
Vacuum degree	Pa	<20 (0.2 mbar)					
Condenser capacity	kg/24 hours	3-4		3-4		6	
Sample tray	Φmm x layer	Φ180 x3/4	Φ200x4/6	Φ180 x3/4	Φ200x 4/6	Φ200x 3/4	Φ240 x 4/6
Shelf spacing	mm	70/50	70/50	70/50	70/50	70/50	70/50
Bulk capacity (10mm thickness)	Liter	0.8/1	1.2/1.8	0.8/1	1.2/1.8	0.9/1.2	1.8/2.7
Vial capacity Φ12mm	Pcs	492/656	820/1230	492/656	820/1230	615/820	1220/1830
Vial capacity Φ16mm	Pcs	279/372	460/690	279/372	460/690	345/460	680/1020
Vial capacity Φ22mm	Pcs	147/196	244/366	147/196	244/366	183/244	348/522
Optional manifold	ports	8 ports					
Optional flask	ml	1000ml, 500ml, 250ml, 100ml					
Vacuum Pump Flow Rate	L/S	2 L/S, 7.2 m ³ /h		2 L/S, 7.2 m ³ /h		2 L/S, 14.4 m ³ /h < 20 Pascals vacuum (0.2 mbar)	
Voltage	V, Hz	220V ,50 Hz 110V, 50Hz/60Hz		220V ,50 Hz 110V, 50Hz/60Hz		220V ,50 Hz	
Power	W	970/1400(-80°C)		1070/1400(-80°C)		1400/1800(-80°C)	
Dimension	mm	565x 420 x (360+430) 830 x680x(400+430) (-80°C)		560x460x(710+430) 660x460x(710+430) (-80°C)		635x540x(970+430) 735x540x(970+430) (-80°C)	
Weight	kg	80 130(-80°C)	75 125(-80°C)	85 140(-80°C)	80 135(-80°C)	125 155(-80°C)	120 150(-80°C)

EBT-10 T type vacuum freeze dryer



EBT-10T Freeze Dryer is suitable for freeze-drying experiment in laboratory. It is bench top equipment.

This equipment is used for long term preservation for bacteria, fungi and other microbial strains. After freeze drying process, samples can be sealed in the ampules.

Main features

- Color LCD touch screen, English control panel, display freeze drying curve, save data
- Big opening condenser has pre-freezing function
- CFC-free refrigerant, low noise compressor
- Condenser stainless steel 304
- Small volume , easy and convenient operation
- With USB port to output freeze drying data, open and view in Excel format

Options

- * Nitrogen inflation valve
- * Anti oil return valve for pump

- * Electricity heating defrosting
- * Exhaust filter for pump
- * Air inlet filter for pump

Technical Parameter

Model	EBT-10 T
Condenser capacity	3 kg /24h
Condenser temperature	-50℃ (-80 ℃ optional)
Vacuum degree	< 20 Pa (0.2 mbar)
Rubber sealed valve	24 pcs, for 24 ampule , special requirement can be customized
Cooling	Air cooling, draughty, ambient temperature ≤25℃
Vacuum pump flow rate	2 L/S, 7.2 m³/h
Voltage	220V ,50 Hz 110V, 50Hz; 110V, 60Hz
Power	970 W/1400W(-80℃)
Dimension	565×420×(360+340) mm 830 x680x(400+430)mm (-80℃)
Weight	70 kg/120kg (-80℃)

EBT-12 T/18T type vacuum freeze dryer



EBT-12/18T Freeze Dryer is suitable for freeze-drying experiment in laboratory. It is floor type equipment.

This equipment is used for long term preservation for bacteria, fungi and other microbial strains. After freeze drying process, samples can be sealed in the ampules.

Main features

- Color LCD touch screen, English control panel, display freeze drying curve, save data
- Big opening condenser has pre-freezing function
- CFC-free refrigerant, low noise compressor
- Condenser stainless steel 304
- Small volume , easy and convenient operation
- USB port to output freeze drying data, view in Excel format

Options

- * Nitrogen inflation valve
- * Anti oil return valve for pump

* Electricity heating defrosting

* Exhaust filter for pump

* Air inlet filter for pump

Technical Parameter

Model	EBT-12T	EBT-18T
Condenser capacity	3 kg /24h	6 kg/24h
Condenser temperature	-50℃ or -80 ℃	
Vacuum degree	< 20 Pa (0.2 mbar)	
Rubber sealed valve	24 pcs, for 24 ampule , special requirement can be customized	
Cooling	Air cooling, draughtly, ambient temperature ≤25℃	
Vacuum pump flow rate	2 L/S, 7.2 m ³ /h	4 L/S, 14.4 m ³ /h
Voltage	220V ,50 Hz 110V, 50Hz; 110V, 60Hz	220V ,50 Hz 110V, 50Hz ; 110V, 60Hz
Power	1070 W/1400W(-80℃)	1400 W/1800W(-80℃)
Dimension	560x460x(710+430)mm 660x460x(710+430) mm (-80℃)	635x540x(970+430)mm 735x540x(970+430) mm (-80℃)
Weight	80kg/135kg(-80℃)	120kg/150kg(-80℃)

EBT-18S series vacuum freeze dryer

With electricity heating shelf, increasing drying speed

With programmable function, shelf temperature can be set in drying process

Unlimited programs can be stored, and each program can be set up 36 segments



EBT-18S standard type



Standard type



top press type



manifold type



manifold top press type



T-type

EBT-18S series vacuum freeze dryer for Laboratory

EBT-18 S vertical freeze dryer is suitable for experiment and a small amount production.

Types: standard type, top press type, manifold type, manifold top press type

Main features

- CFC Free refrigerant
- Big opening condenser has pre-freeze function
- low noise compressor, good efficiency, long service life
- Small volume , easy and convenient operation
- Color LCD touch screen, English control panel , display sample temperature curve, condenser temp. curve, shelf temp. Curve, vacuum degree curve and compound curves, save data
- Login facility on control panel; Multilevel password protection, effectively prevent illegal operation.
- Unlimited programs can be stored, and each program can be set up 36 segments
- Condenser, drying shelf, trays are made of stainless steel 304
- Electrical system with PID control, to speed drying process
- With USB port to output drying data, to open and view in Excel format.

Options

- * Nitrogen inflation valve * Electricity heating defrosting * vacuum degree adjustment * Eutectic point test
 * Anti oil return valve for pump * Exhaust filter for pump * Air inlet filter for pump

Technical Parameters

Model	Unit	EBT-18 S		EBT-18 S	
		Standard		Top press	
Drying area	m ²	0.18 m ²	0.27 m ²	0.09 m ²	0.12 m ²
Condenser temperature	°C	-50 °C or -80 °C			
Vacuum degree	Pa	<20 (0.2 mbar)			
Condenser capacity	kg/24 hours	6 kg /24h		6kg /24h	
Sample tray	Φ mm x layer	Φ240 x 4	Φ240 x 6	Φ 200 x3	Φ 200 x4
Shelf spacing	mm	70	50	70	50
Shelf temp. range	°C	-40 to +60			
Bulk capacity (10mm thickness)	Liter	1.8 L	2.7 L	0.9 L	1.2 L
Vial capacity Φ 12mm	Pcs	1220	1830	615	820
Vial capacity Φ 16mm	Pcs	680	1020	345	460
Vial capacity Φ 22mm	Pcs	348	522	183	244
Optional manifold	ports	8 ports			
Optional flask	ml	1000ml, 500ml, 250ml, 100ml			
Vacuum Pump	L/S	4 L/S, 14.4 m3/h		4 L/S, 14.4 m3/h	
Flow Rate	W	1400/1800W(-80°C)		1400/1800W(-80°C)	
Voltage	V, Hz	220V ,50 Hz; 110V, 50Hz/60Hz		220V ,50 Hz; 110V, 50Hz/60Hz	
	Power	1400/1800W(-80°C)		1400/1800W(-80°C)	
Dimension	mm	635x540x(970+430)mm		635x540x(970+430)mm	
		735x540x(970+430)mm (-80°C)		735x540x(970+430) mm (-80°C)	
weight	kg	120/150(-80°C)		125/155(-80°C)	

EBT-10F Vacuum Freeze Dryer for Laboratory

Pre-freezing and drying process both made on shelf.

With electricity heating function, increasing drying speed Shelf temperature can be controlled by program.

Set freeze drying program on touch screen

Unlimited programs can be stored, and each program can be set up 36 segments.



EBT-10F standard type



EBT-10F top press type

EBT-10F Vacuum Freeze Dryer for Laboratory

Types: standard type, top press type

Main Features

- Pre-Freezing and drying process are both made on shelf
- With electric heating function, with programmable function, and PID control standard
- Login facility on control panel; Multilevel password protection, effectively prevent illegal operation.
- Unlimited programs can be stored, and each program can be set up 36 segments
- Color LCD touch screen, English interface, display freeze drying curves, save data
- Inner wall of drying chamber, condenser, shelf, trays are of stainless steel 304
- Top press type is suitable for vials, vials can be sealed under vacuum state.
- With USB port to output drying data, to open and view in Excel format.
- With Nitrogen inflation valve

Options

- * Electricity heating defrosting
 - * vacuum degree adjustment
 - * Eutectic point test
 - * Anti oil return valve for pump
 - * Exhaust filter for pump
 - * Air inlet filter for pump
- *Alarm: ambient temperature too high, vacuum degree abnormal, condenser temp. too high, shelf temp. too high, pre-freezing process finishing, drying process finishing

Technical parameter

Model	Unit	EBT-10F (-50℃)		EBT-10F (-80℃)	
		Standard type	Top press type	standard type	Top press type
Drying area shelf	m ²	0.2	0.1	0.2	0.1
	layer	2	1	2	1
Shelf spacing	mm	70		70	
Shelf size	mm	265x400x25		265x400x25	
Tray size	mm	260x395x25		260x395x25	
Condenser temperature	℃	Min. ≤ -55	Min. ≤ -55	Min. ≤ -80	Min. ≤ -80
Shelf temperature range	℃	-50~+100		-70~+100	
Bulk capacity	Liter (10mm thickness)	2	1	2	1
Vacuum degree	Pa	≤20		≤20 (0.2 mbar)	
Condenser capacity	kg/24 hours	5		5	
Vacuum Pump Flow Rate	L/S	4		4	
Voltage	V, Hz	220v ,50 Hz; 110v 50Hz/60Hz		220v ,50 Hz; 110v 50Hz/60Hz	
Power	W	1700		2100	
Cooling	-	Air cooling, draughty, ambient temperature ≤25℃			
Vial capacity Φ12mm	Pcs	1554	777	1554	777
Vial capacity Φ16mm	Pcs	868	434	868	434
Vial capacity Φ22mm	Pcs	440	220	440	220
Style of press	-	N/A	By hand	N/A	By hand
Dimension	mm	605x610x1200	605x610x1330	605x610x1200	605x610x1330
Weight	Kg	191	195	197	201

EBT-30FD/50FD Electrical Heating Series Pilot Scale Freeze Dryer

Pre-freezing and drying process both made on shelf.

With electricity heating function, increasing drying speed Shelf temperature can be controlled by program.

Set freeze drying program on touch screen

Unlimited programs can be stored, and each program can be set up 36 segments.



EBT -30FD standard type



EBT-50FD standard type

EBT-30FD/50FD Electrical Heating Series Pilot Scale Freeze Dryer

Types: standard type

Main Features

- Pre-Freezing and drying process are both made on shelf
- With electric heating function, with programmable function, and PID control standard
- Login facility on control panel; Multilevel password protection, effectively prevent illegal operation.
- Unlimited programs can be stored, and each program can be set up 36 segments
- With organic glass observation window, the whole process is easy to see
- Color LCD touch screen, English interface, display freeze drying curve, save data
- Inner wall of drying chamber, condenser, shelf, trays are of stainless steel 304
- With USB port to output drying data, to open and view in Excel format.
- With Nitrogen inflation valve

Options

- * Electricity heating defrosting * vacuum degree adjustment * Eutectic point test
- * Anti oil return valve for pump * Exhaust filter for pump * Air inlet filter for pump
- * Alarm: ambient temperature too high, vacuum degree abnormal, condenser temp. too high, shelf temp. too high, pre-freeze finishing, drying process finishing

Technical Parameter

Model	Unit	EBT-30FD standard	EBT-50FD standard
Drying area	m ²	0.4	0.6
shelf	layer	4	6
Shelf spacing	mm	50	50
Shelf size	mm	300x340x15	300x340x15
Bulk capacity 10 mm thickness	Liter	4	6
Condenser capacity	kg/24 hours	6	10
Shelf temperature range	°C	-50 ~ +100 (-55 °C) -70 ~ +100 (-80 °C)	-50 ~ +100 (-55 °C) -70 ~ +100 (-80 °C)
Vacuum degree	Pa	≤20	≤20
Condenser temperature	°C	-55 °C or -80 °C	-55 °C or -80 °C
Voltage	V, Hz	220V, 50 Hz	380V, 50Hz
Cooling	-	Air cooling, draughty ambient temperature ≤25°C	Air cooling, draughty ambient temperature ≤25°C
Vial capacity Φ12mm	Pcs	2916	4374
Vial capacity Φ16mm	Pcs	1600	2400
Vial capacity Φ22mm	Pcs	872	1308
Defrosting	-	Off Cycle Defrosting	Off Cycle Defrosting
Installed Power	W	2800	3000
Dimension	mm	700mm*850mm*1230mm	700mm*850mm*1400mm
Weight	Kg	300	400

EBT-30F/50F Series Pilot Scale Freeze Dryer

Pre-freezing and drying process both made on shelf.
Silicon oil heating , shelf temperature can be controlled by program.
32 groups program can be stored, each program can be set up 36
segments Set freeze drying program on touch screen



EBT-30F standard type



EBT-30FT top press type



EBT-50F standard type



EBT-50FT top press type

EBT-30F/50F Series Freeze Dryer for pilot scale

Types: standard type and top press type

Main Features

- PLC control standard, with programmable function
- Freeze and drying process are both made on shelf
- Silicon oil heating, shelf temperature accuracy is $\pm 1^{\circ}\text{C}$
- Color LCD touch screen, English interface, display of freeze drying curves, store data
- Login facility on control panel; Multilevel password protection, effectively prevent illegal operation.
- Inner wall of drying chamber, condenser, shelf, trays are of stainless steel 304
- 32 groups program can be stored, each program can be set up 36 segments
- With USB port to output drying data, to open and view in Excel format.
- With Nitrogen inflation valve

Options

- * Electricity heating defrosting (EBT-30F/50F standard type) * vacuum degree adjustment * Eutectic point test
- * Anti oil return valve for pump * Exhaust filter for pump * Air inlet filter for pump
- * Alarm: ambient temperature too high, vacuum degree abnormal, condenser temp. too high, shelf temp. too high, pre-freeze finishing, drying process finishing
- * PC and control software, to control freeze dryer in PC, save freeze drying data

Technical Parameter

Model	Unit	EBT-30F		EBT-50F	
		Standard	Top press	standard	Top press
Drying area	m ²	0.4	0.3	0.7	0.5
shelf	Layer (top shelf for heat radiation)	4+1	3+1	4+1	3+1
Shelf spacing	mm	50	70	50	100
Shelf size	mm	300x340x15	300x340x20	360x480x15	410x410x20
Bulk capacity (10mm thickness)	Liter	4	3	7	5
Condenser capacity	kg/batch	6		10	
Shelf temp. range	°C	-50 ~ +70		-50 ~ +70	
Vacuum degree	Pa	≤20		≤20	
Condenser temperature	°C	Min. ≤-70		Min. ≤-70	
Electricity Power	V, Hz	220V /50 Hz, single phase		380V/ 50Hz, three phase	
Cooling	-	Air cooling, draughty ambient temperature ≤25°C		Air cooling, draughty ambient temperature ≤25°C	
Vial capacity Φ12mm	Pcs	2916	2187	4676	3705
Vial capacity Φ16mm	Pcs	1600	1200	2772	2058
Vial capacity Φ22mm	Pcs	872	654	1440	1050
Electric defrosting	-	N/A	Available	N/A	Available
Style of press	-	N/A	Hydraulic	N/A	Hydraulic
Dimension	mm	880x735x1310	1230x830x1600	960x785x1450	1165x1310x1950
Weight	kg	360	560	500	860

EBT-100F Series Small Scale Production Freeze Dryer

**Pre-freezing and drying process both made on shelf.
Silicon oil heating , shelf temperature can be controlled by program.
32 groups program can be stored, each program can be set up 36
segments Set freeze drying program on touch screen**



EBT-100F standard type



EBT-100F top press type

EBT-100F Series of Freeze Dryer for small scale production

Types: standard type and top press type

Main Features

- PLC control standard, with programmable function
- Freeze and drying process are both made on shelf
- Silicon oil heating, shelf temperature accuracy is $\pm 1^{\circ}\text{C}$
- Color LCD touch screen, English interface, display of freeze drying curves, store data
- Login facility on control panel; Multilevel password protection, effectively prevent illegal operation.
- Inner wall of drying chamber, condenser ,shelf, trays are of stainless steel 304
- 32 groups program can be stored, each program can be set up 36 segments
- With USB port to output drying data, to open and view in Excel format.
- With Nitrogen inflation valve

Options

- * vacuum degree adjustment * Eutectic point test
- * Anti oil return valve for pump *Exhaust filter for pump * Air inlet filter for pump
- *Alarm: ambient temperature too high , vacuum degree abnormal, condenser temp. too high, shelf temp. too high, pre-freeze finishing, drying process finishing
- *PC and control software, to control freeze dryer in PC, save freeze drying data

Technical Parameter

Technical Parameters	Unit	EBT-100F	
		Standard	Top press
Drying area	m ²	1.0	1.152
Shelf	layer	6+1 (top shelf for heat radiation)	4+1 (top shelf for heat radiation)
Shelf spacing	mm	70	100
Shelf size	mm	360x480x15	480x600x20
Bulk capacity	Liter	10L (10 mm thickness)	
Condenser capacity	kg/batch	15	
Shelf temperature range	°C	-50 ~ +70	
Vacuum degree	Pa	≤20	
Condenser temperature	°C	Min. ≤-70	
Electricity Power	V, Hz	380v ,50 Hz	
Cooling	-	Air cooling, draughty ambient temperature ≤25°C	
Electric defrosting	-	Available	
Vial capacity Φ12mm	Pcs	7014	8624
Vial capacity Φ16mm	Pcs	4158	4788
Vial capacity Φ22mm	Pcs	2160	2460
Style of press	-	N/A	Hydraulic
Dimension	mm	1020x750x1700	1330x1310x2200
Weight	Kg	700	1000

EBT-2/3/4/5/8/10 Series of Freeze Dryer for big scale production



**EBT L-2 standard type
type**

EBT L-2 top press



EBT L-3 standard type

EBT L-2/3/4/5/8/10 Series of Freeze Dryer for big scale production

Types: standard type and top press type

Drying area range: 1.98 m² up to 10 m² ; Bulk capacity range : 20 L up to 200 L Main Features

- PLC control standard, with programmable function
- Freeze and drying process are both made on shelf
- Silicon oil heating, shelf temperature accuracy is $\pm 1^{\circ}\text{C}$
- Color LCD touch screen, English interface, display of freeze drying curves, store data
- Login facility on control panel; Multilevel password protection, effectively prevent illegal operation.
- Inner wall of drying chamber, condenser ,shelf, trays are of stainless steel 304
- 32 groups program can be stored, each program can be set up 36 segments
- With USB port to output drying data, to open and view in Excel format
- With Nitrogen inflation valve

Options

- * vacuum degree adjustment * Eutectic point test *CIP system *SIP system
- * Anti oil return valve for pump *Exhaust filter for pump * Air inlet filter for pump
- *Alarm: ambient temperature too high , vacuum degree abnormal, condenser temp. too high, shelf temp. too high, pre-freeze finishing, drying process finishing
- *PC and control software, to control freeze dryer in PC, save freeze drying data

Technical parameter

Technical Parameters	Unit	EBT L-2 Standard type
Drying area shelf	m ²	1.98
	Layer	4+1 (top shelf for heat radiation)
Shelf spacing	Mm	80-100
Shelf size	Mm	610x810x20
Bulk capacity	Liter	20
Condenser capability	kg/batch	40
Shelf temperature range	°C	-50~+70
Vacuum degree	Pa	≤20
Condenser temperature	°C	Min. ≤-70
Cooling	-	Water ,4.2 m ³ /h, temp.<30°C
Defrosting	-	Water soaking 270 L/ batch, Temp. 50°C
Vial capacity Φ12mm	Pcs	12600
Vial capacity Φ16mm	Pcs	6800
Vial capacity Φ22mm	Pcs	3600
Style of press	-	N/A
Dimension	Mm	3300x1300x2500
Compressed air 0.7-1.0Mpa	m ³ /min.	0.1
Weight	Kg	2480

EBTLY Series Vacuum Freeze Dryer (Lyophilizer)

Freeze Dryer Model			EBTLY-2	EBTLY-3	EBTLY-4	EBTLY-5	EBTLY-8	EBTLY-10	EBTLY-15	EBTLY-20	EBTLY-25	EBTLY-30	EBTLY-40	
Nominal area(m ²)			2	3	4	5	8	10	15	20	25	30	40	
Capacity	Shelf area		M ²	1.98	2.96	4.4	5.5	7.75	10.33	14.76	20.63	24.38	29.7	40.5
	Condenser capacity		kg/batch	25	40	60	80	120	210	290	410	480	590	800
	Vials	Φ 22mm	pcs	3600	5300	8000	12700	17800	23700	33900	47400	56000	68300	93000
		Φ 16mm	pcs	9800	10000	15000	24800	34800	46400	66400	92800	109700	133600	182200
		Φ 12mm	pcs	12600	16000	28000	35000	49000	65300	95700	130400	154000	187700	256000
Bulk capacity		L	20	40	60	80	120	210	300	450	500	600	850	
Basic parameter	Shelf size	L	mm	610	610	915	915	915	1215	1215	1250	1250	1500	1500
		W	mm	810	810	1210	1210	1210	1215	1215	1500	1500	1800	1800
	Shelf spacing		mm	100					100-120					
	Shelf numbers		layers	4+1	6+1	4+1	5+1	7+1	7+1	10+1	11+1	13+1	11+1	15+1
	Shelf Max. Temp		°C	+70										
	Shelf Min. Temp		°C	<-50										
	Shelf temp. accuracy		°C	±1										
	Condenser Min. temp.		°C	<-70										
Final vacuum		Pa	<10											
Basic configuration	Cooling water consumption <30°C 0.15-0.2Mpa		m ³ /h	4.2	4.5	6	11	16	20	27	30	33	36	42
	Cooling style			Water cooling										
	CIP-WIP, >65°C 0.15-0.2Mpa		L/min	100										
	Compressed air 0.7-1.0Mpa		m ³ /min	0.1										
	Defrost water (soaking) 50°C 0.15-0.2Mpa		kg/batch	270	300	350	400	1200	1500	2000	3000	4000	5000	7000
	Machine power		W		16	18	20	30	58	84	105	125	145	170
	Total weight		Kg	2600	2800	3500	4200	6000	7000	9000	11000	12000	15000	20000
Dimension	L		mm	2500	3000	3600	3800	5000	6400	6500	7400	8200	9200	9400
	W		mm	1210	1200	1300	1500	1500	2300	2300	2300	2300	2400	2400
	H		mm	2700	2700	2800	2900	2800	3200	3400	3800	4000	4000	4500

