

Freeze Dryer and Programmable Vacuum Freeze Dryer

Shelf Temperature Control
-50°C to +80°C
Cold Trap Temperature
-50°C to -85°C



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TFD Series

>> TABLE TOP FREEZE DRYER

Little giant of lyophilizer, subminiature freeze dryer; This is our smallest freeze dryer model. We guarantee this compact design will fit on every lab table. Easy for moving.

TFD Series

FD Series

>> FREEZE DRYER

Automatic control system;
customer can operate from drying to defrosting by pushing a button at once.

Automatic purge system;
Automatic purge system prevents backward of vacuum oil to protect sample.

FD Series



FDS Series

>> FREEZE DRYER WITH SHELL FREEZER

Strong freezing system ;
High capacity sealed refrigeration system can drop inside chamber temperature down to -40 degree in a short time to pre-freeze the sample. This system prevents samples from change affected by heat.

FDS Series

MCFD Series

>> FREEZE DRYER WITH CONCENTRATOR

Simultaneous freeze drying and concentration drying;

Freeze dryer with concentrator can use various tube (from 1.5ml micro tube to 50ml tube), so customer can spend space wisely, economically.

MCFD Series





Standard Specification Freeze Dryer

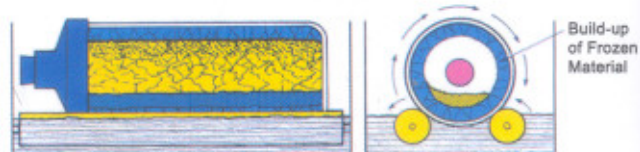
- Table Top Model(TFD Series)
- Floor Model(FD Series)
- Anti-corrosion Model(FDA Series)

Model No	TFD5503	TFD8503	FD5508	FD5512	FD5518	FD8508	FD8512
Ice capacity/day	2 Liters		5 Liters	10 Liters	12 Liters	5 Liters	10 Liters
Total ice capacity	3 Liters		8 Liters	12 Liters	18 Liters	8 Liters	12 Liters
Condenser temperature	to -55°C	to -85°C	-50°C to -55°C			-75°C to -85°C	
Refrigeration system	1/3 Hp	2Unit x 1/3 Hp	1/3 Hp	3/4 Hp		2Unit x 1/3 Hp	2Unit x 3/4
Cabinet dimensions	800W x 650D x 400H						
Electrical requirements	200-230 Vo						
Vacuum pumps	115 Liters		165 Liters		240 Liters	165 Liters	
Weight	68 Kg	86 Kg	120 Kg	122 Kg	130 Kg	145 Kg	147 Kg
Certification	ISO9001, ISO						
Recommended optional accessories for freeze dryer	D/Chamber 12ports		D/Chamber 16ports		D/Chamber 18ports	D/Chamber 12ports	D/Chamber 16ports
	M/Chamber 4-24ports		M/Chamber 4-24ports		M/Chamber 4-24ports	M/Chamber 4-24ports	M/Chamber 4-24ports
	P/Heater (PH1212)		P/Heater (PH1316)		P/Heater (PH1316)	P/Heater (PH1212)	P/Heater (PH1316)
	V/Pump ISL-115	V/Pump ISL-136		V/Pump ISL-201		V/Pump ISL-136	
	Pump Inlet filter		Pump Inlet filter		Pump Inlet filter	Pump Inlet filter	Pump Inlet filter
	Pump exhaust filter		Pump exhaust filter		Pump exhaust filter	Pump exhaust filter	Pump exhaust filter
	Complete flask		Complete flask		Complete flask	Complete flask	Complete flask
	Flask adapter		Flask adapter		Flask adapter	Flask adapter	Flask adapter
	Vacuum oil		Vacuum oil		Vacuum oil	Vacuum oil	Vacuum oil
	Vacuum grease		Vacuum grease		Vacuum grease	Vacuum grease	Vacuum grease
Other		Other		Other	Other	Other	



Freeze Dryer

- with Shell Freezer Model(FDS Series)
- with Concentrator Model(MCFD Series)



Model No	FDS5508	FDS5512	FDS5518	FDS8508	FDS8512	FDS8518
Ice capacity/day	5 Liters	10 Liters	12 Liters	5 Liters	10 Liters	12 Liters
Total ice capacity	8 Liters	12 Liters	18 Liters	8 Liters	12 Liters	18 Liters
Condenser temperature	-50°C to -55°C			-75°C to -85°C		
Refrigeration system	1/3 Hp	3/4 Hp		2Unit x 1/3 Hp	2Unit x 3/4 Hp	
Cabinet dimensions	1					
Electrical requirements	200-230 Vo					
Vacuum pumps	165 Liters/Min		240 Liters/Min	165 Liters/Min		240 Liter
Weight	178 Kg	182 Kg	190 Kg	203 Kg	207 Kg	215 K
Certification	ISO9001,					
Recommended optional accessories for freeze dryer	D/Chamber 12ports	D/Chamber 16ports	D/Chamber 18ports	D/Chamber 12ports	D/Chamber 16ports	D/Chamber 1
	M/Chamber 4-24ports	M/Chamber 4-24ports	M/Chamber 4-24ports	M/Chamber 4-24ports	M/Chamber 4-24ports	M/Chamber 4
	P/Heater (PH1212)	P/Heater (PH1316)	P/Heater (PH1316)	P/Heater (PH1212)	P/Heater (PH1316)	P/Heater (PH
	V/Pump ISL-136		V/Pump ISL-201		V/Pump ISL-136	
	Pump Inlet filter		Pump Inlet filter		Pump Inlet filter	Pump Inlet filter
	Pump exhaust filter		Pump exhaust filter		Pump exhaust filter	Pump exhaust
	Complete flask		Complete flask		Complete flask	Complete flask
	Flask adapter		Flask adapter		Flask adapter	Flask adapter
	Vacuum oil		Vacuum oil		Vacuum oil	Vacuum oil
	Vacuum grease		Vacuum grease		Vacuum grease	Vacuum grea
Other		Other		Other	Other	

Accessories of freeze dryer

Vacuum Pumps



	Super Deluxe		Anti - Corrosion			
Model NO.	ISL-136	ISL-201	ISLA-045	ISLA-115	ISLA-165	ISLA-318
Capacity	165L/Min	240L/Min	45L/Min	115L/Min	165L/Min	318L/Min
Type	Direct Driven					
Ult-Pressure	5 x 10 ⁻⁴ Torr			4 x 10 ⁻⁴ mbar		
Gas Ballast	Equipped with Vacuum Pumps					

- High quality, corrosion resistant materials
- Advanced oil lubrication-ensures reliable running even at high gas loads
- Proven oil and air suck-back protection
- Complete range of easy-to-fit accessories to protect both pumps and the environment
- Low noise levels and minimum vibration
- Direct drive-built to exacting safety standards
- Opposed two-vane design helps prevent blades sticking
- Easy maintenance with effective international service back-up

Electronic Vacuum Gauge	EVG2150	0 to 5000 m Torr
High Vacuum Oil	V04000	4L/Pkg
High Vacuum Grease	VG5400	5.4 Oz/Ea
Flask Filter Paper	FP0012	1000 Ea/Pkg



SAT 0001 Soda Acid Trap
Secondary trap connects in series with freeze dry system and vacuum pump to prevent migration of corrosive chemicals into pump interior. Clear acrylonitrile body allows visual check of color indicating media.



IF2560 Pump Inlet filter
Disposable filter prevents oil backsteaming from the vacuum pump and protects the pump from damage from submicron particles. Includes filter assembly and one set of filter cartridges. Life approximately 1000 hours at 10 microns vacuum.



EF2561 Pump Exhaust Filter.
Disposable filter removes all visible oil mist from vacuum pump exhaust. May be exhausted into work area without duct. Includes filter assembly, one set of filter tubes mesh pad and back pressure gauge, 0-15 psig. Life approximately 2500 hours at 10 microns vacuum.



PT5503 Portable Table
Has two shelves of chemical resistant, high pressure laminate to accommodate the 3 Liter Table top Freeze Dryer System and a Vacuum Pump. Frame is welded steel tubing with 6" casters. Glacier white and charcoal. Supports loads up to 200 kg. 605(W) x 915(D) x 930(H). Shipping weight 24 kg.

SAT 0002 Replacement Soda Salt Media for Acid Trap

Drying Chamber & Manifold Chambers



DC 1212 Drying Chamber
275H x 230 Dia mm,
12-Port, 304 stainless steel.

DC1316 Drying Chamber
320H x 300Dia mm,
16-Port, 304 stainless steel.

HDC1316 Heated Drying Chamber
320H x 300Dia mm 304 stainless steel. Complete with a 3-shelf product heater with +43°C high limit thermostat.

DC1218 Drying Chamber
320H x 300Dia mm,
18-Port, 304 stainless steel.



MC 1224, MC3412, MC1324, MC1204, Manifold Chamber
Manifolds are ideal for lyophilizing in serum bottles, ampules or small flasks. Fabricated of type 304 stainless steel the manifolds are complete with neoprene valves which snap into place, eliminating weldment which may corrode and leak.

Specifications

Model NO.	DC1212	DC1316	DC1218	HDC1316	MC1224	MC3412	MC1324	MC1204
1/2 Valve	12Ea	8Ea	18Ea	8Ea	24Ea	Non	12Ea	4Ea
3/4 Valve	Non	8Ea	Non	7Ea	Non	12Ea	12Ea	Non
Materials	Stainless steel 304				Clear acrylic cover		Stainless steel 304	

Flask for Freeze Dryer



ilShin Lab valve specially designed considering safety of sample itself after drying. It is consisted of "backfilling system" which protects sample from air pollution through vent input in Neoprene body.

Valve body is made of Neoprene which does not change with heat in case of ampule sealing with sealing torch, so it can be used for a long time and safely. There're 1/2" and 3/4" standards and ampule valve without ampule adapter is prepared.



Specifications of Flask

Flask Size	Complete Flask	Flask Bottom	Flask Top	Diameter	Flask Bottom H.L.D.
40ml	CF0040	FB0040	FT0034	1/2"	78mm x 34mm
80ml	CF0080	FB0080	FT0034		115mm x 34mm
120ml	CF0120	FB0120	FT0059	3/4"	69mm x 60mm
150ml	CF0150	FB0150			85mm x 60mm
300ml	CF0300	FB0300	145mm x 60mm		
600ml	CF0600	FB0600	135mm x 90mm		
900ml	CF0900	FB0900	FT0090	190mm x 90mm	
1200ml	CF1200	FB1200		240mm x 90mm	
2000ml	CF2000	FB2000		380mm x 90mm	

Valves

Valve Size	Complete Valve	Polypropylene Stem Only	Neoprene Body Only
1/2"	CV0012	PS0012	NB0012
3/4"	CV0034	PS0034	NB0034
3/8"	CVA0012	PSA0012	NBA0012

Adapter of Flask

Material	Diameters	Straight Adapter	4S Band Adapter
Borosilicate Glass	1/2" Flask Top to 1/2" Valve	SA0012	BA0012
	3/4" Flask Top to 3/4" Valve	SA0034	BA0034
Stainless Steel	1/2" Flask Top to 1/2" Valve	SA0021	BA0021
	3/4" Flask Top to 3/4" Valve	SA0043	BA0043
Multi Adapter	1/2" 3-way	SA0003	



PH1316, PH1212, Product Heater
Three shelf Product Heaters fit inside Drying Chamber for bulk drying operation.

PH1316 : for Drying Chamber DC 1316

PH1212 : for Drying Chamber DC 1212



CDC3333 Clear Drying Chamber
330h x 330 diameter, includes 20mm thick, clear acrylic cover, gaskets and electrical pass-through for transform cords. Provides visibility into chamber during bulk drying.



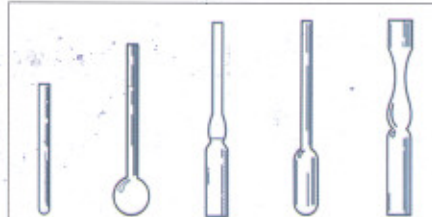
STK0001 Sealing Torch
Specifically designed for flame sealing Freeze Dry Ampules.

Serum Bottles



Size	20mm Corkage	13mm Corkage	Split Stopper	Aluminum Seals	Sleeve Stopper
2ml		SB0002	SPS-13	ALS-13	
3ml		SB0003			
5ml	SB0005		SPS-20	ALS-20	SLS-20
10ml	SB0010				
20ml	SB0020				
30ml	SB0030				
50ml	SB0050				
100ml	SB0100				
125ml	SB0125				

Ampules

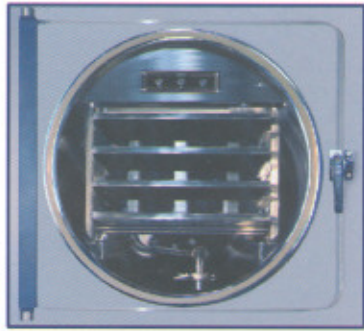


Size	Straight	Bulb-Type	Flat Bottom	Round Bottom	Stoppers
1ml	AST01	ABT01	AFB01		ASP01
2ml			AFB02		ASP02
4ml	AST04				
5ml		ABT05	AFB05		ASP05
10ml			AFB10	ARB10	ASP10
25ml			AFB20	ARB20	
50ml			AFB50	ARB50	

Vacuum Stopping Adapter VSA-13 13mm. VSA-20 20mm.	Sealed Crimper: SC-13: For 13mm Corkage. SC-20: For 20mm Corkage	AA-12 Adapter: Connects Ampules to 1/2" valves: 10 Ea/Pkg.	AS-10 Stopper: Stopper for Stopping Ampules. 100 Ea/Pkg.

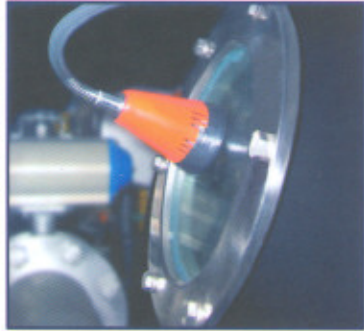


Programmable Vacuum Freeze Dryer :



<< Sample insert chamber :

1. Using compulsory circulation method for heat-transmission allows equality of shelf temperature. So sample can be stabilized and equally dried.
2. -40°C pre-freezing system is equipped. so customer don't need separate freezer.
3. Easy drying procedure without moving sample.
4. Transparent acrylic door for easy check of drying sample in chamber
5. Light lamp outside chamber for sample check in dark chamber



< Outside lamp >

>> Control System :

1. With Touch Screen Control System. customer can monitor whole drying procedure and store/print as per customer's need. It allows perfect control of sample drying data.
2. Customer can check drying procedure through screen easily.

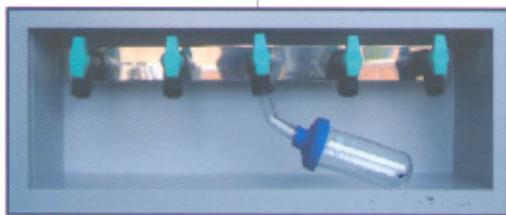


>> Dialing System

Model No : DS0119



1. Automatic alarm signal and sound when alarm system is working
2. Automatic dial contact to five telephone number as per customer's setting
3. 30 seconds voice message recording function
4. 4 hours back-up battery in case of electricity power failure

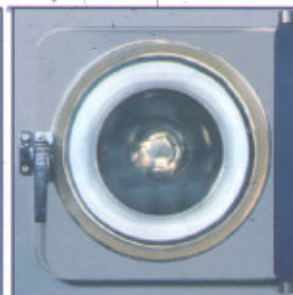


<< Manifold chamber :

1. Separated drying system with chamber drying system.
2. Not disturbing ongoing drying procedure in chamber system.
3. Customer can use manifold drying system when they want to dry separated sample during chamber drying procedure.

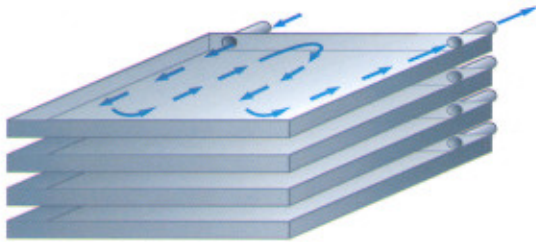
>> Cold Trap Refrigeration System :

1. Ice holding method protects refrigeration system by expanding cold trap surface. Hot gas solenoid method is selected as defrosting system. With quick defrosting system, equipment can be used effectively.
2. Transparent acrylic door for easy check of ice holding procedure in cold trap.



Control System :

With Touch Screen Control System, customer can monitor whole drying procedure and store/print as per customer's need. It allows perfect control of sample drying data.

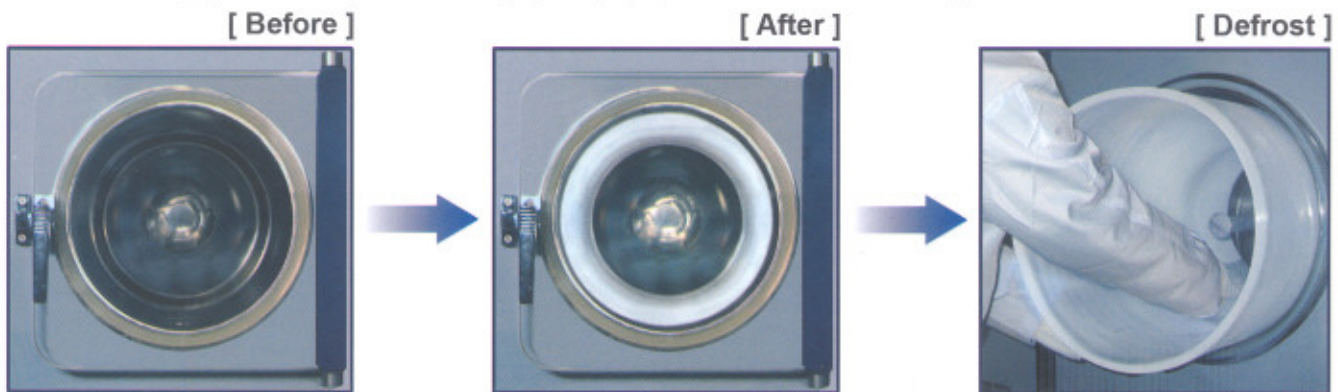


Shelf System :

Using compulsory circulation method for heat-transmission allows equality of shelf temperature. So sample can be stabilized and equally dried.

Cold Trap Refrigeration System :

Ice holding method protects refrigeration system by expanding cold trap surface. Hot gas solenoid method is selected as defrosting system. With quick defrosting system, equipment can be used effectively.



Programmable Vacuum Freeze Dryer Specification

Model No	PVTFD10R	PVTFD10RS	PVTFD20R	PVTFD20RS	PVTFD30R	PVTFD30RS	PVTFD50R	PVTFD50RS	PVTFD100R	PVTFD100RS
Ice capacity/24 hours(Liters)	8		16		24		40		80	
Total ice capacity(Liters)	10		20		30		50		100	
Condenser temperature	-70 °C to -80 °C									
Shelf temperature	-40 °C to +80 °C									
Shelf dimensions(WxDxH)	400W x 500D x 20H				500W x 800D x 20H				805W x 1005D x 20H	
Shelf areas	0.2m ² /Sh, 0.6m ² /3Sh		0.2m ² /Sh, 1.0m ² /5Sh		0.4m ² /Sh, 1.6m ² /4Sh		0.4m ² /Sh, 2.8m ² /7Sh		0.8m ² /Sh, 6.4m ² /8Sh	
Shelf quantity	3+1 = 4EA		5+1 = 6EA		4+1 = 5EA		7+1 = 8EA			
Refrigeration system	2HP x 2EA		3HP x 2EA		5HP x 2EA		7.5HP x 2EA		10HP x 2EA	
Cabinet dimensions (WxDxH)	1390W x 850D x 1765H	1470W x 1023D x 1905H	1300W x 1891D x 1895H	1450W x 2003D x 2140H	1600W x 2415D x 2210H					
Certification	NEP, ISO9001, ISO14001 certified									
Electrical requirements	220/230V, 50/60Hz, Single / Three phase				380V, 50/60Hz, Three phase					
Vacuum Pump	417 Liters / Min		648 Liters / Min		841 Liters / Min				1600 Liters / Min	
Stoppering System	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

** Sh : Shelf

PVTFD200R	PVTFD300R	PVTFD500R	PVTFD1000R	PVTFD1500R	PVTFD2500R
160	240	400	800	1200	2000
200	300	500	1000	1500	2500
-70 °C to -80 °C					
-40 °C to +80 °C					
1005W x 1205D x 30H	1210W x 1510D x 30H	1220W x 2020D x 30H	777.5W x 3250D x 25H	777.5W x 5050D x 25H	777.5W x 805D x 25H
1.2 m ² /Sh, 10.8 m ² /9Sh	1.8 m ² /Sh, 18 m ² /10Sh	2.2 m ² /Sh, 28.6 m ² /13Sh	2.5 m ² /Sh, 40 m ² /16Sh	3.9 m ² /Sh, 62.4 m ² /16Sh	6.25 m ² /Sh, 104 m ² /16Sh
9+1 = 10EA	9+1 = 10EA	11+1 = 12EA	16+1 = 17EA	16+1 = 17EA	16+1 = 17EA
20HP x 2EA	30HP x 2EA	50HP x 2EA	100HP x 2EA	150HP x 2EA	210HP x 2EA
2970W x 2855D x 2160H	3500W x 3390D x 2375H	3516W x 4616D x 2347H	3115W x 9000D x 3155H	2630W x 10900D x 3062H	2630W x 15600D x 3062H
NEP, ISO9001, ISO14001 certified					
380V, 50/60Hz, Three phase					
4000 Liters / Min	6680 Liters / Min	14000 Liters / Min	15500 Liters / Min	16600 Liters / Min	18560 Liters / Min
No	No	No	No	No	No

** Above specification can be changed according to suppliers situation