

# Laboratory Freeze Dryer

## 1. Freeze-dryer working principle

Freeze drying is an advanced method of dehydration, whose process takes advantage of the principle of ice crystal's lyophilization under purified vacuum condition, in which the water in ice form on the frozen goods can be directly lyophilized into steam without melting in advance, thus the goods are dried. Through freeze drying processing items are easy to long-term preservation, after adding water, which can be restored to the original state and keep the biochemical characteristics and structure of the material. Freeze drying has more demonstrated its advantage for thermally labile substances, such as antibiotics, vaccine, blood products, enzymes and other biologics.

## 2. Application area

### 1.1 Food industry

Vacuum freeze dryer could be used in the drying vegetables, meat, fish, condiment instant food and specialty etc. for keeping the foods original fresh look, smell, taste, shape. The freeze-dried products can regain water competently and could be easily longer stored and less-costly transported.

### 1.2 Nutrition and health care industry

Vacuum freeze dryer nurture products such as Royal jelly, ginseng, terrapin, rainworm etc. are more natural and original.

### 1.3 Pharmaceutical industry

Vacuum freeze dryer could be used in the drying of Chinese and western leechdom, such as blood serum, blood plasma, bacterin, enzyme, antibiotics, hormone, etc.

### 1.4 Biomedicine research

Vacuum freeze dryer could long-termly store blood, bacteria, artery, bones, skin, cornea, nerve tissue and organs, etc which can regain water and rebirth competently.

## 3. Key features

- 1.1 Imported refrigerating compressor, reliable, long working time;
- 1.2 Cascade refrigerating technology, reduce freeze drying time, low noise, large refrigerating capacity and water catching ability. high-quality secure performance;
- 1.3 Touch screen, LED display, graph and data show freeze drying process, PID control, convenient to know more information according the data;
- 1.4 With viewing windows, convenient to observe freeze drying process. Pre-freeze function, automatic from vacuum to dried, easy to operation.
- 1.5 Chamber made of 304 Stainless steel, anti-corrosion, easy to clean, can be able to bear the long term usage;
- 1.6 Material rack made of 304 Stainless steel, convenient to operate and easy to clean;



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- 1.7 It protects samples by filling with inert gas;
- 1.8 Rectangular shape shelves has high intensity, easy to operate and clean. Chamber using high light transmittance, observe the process visually.
- 1.9 Temperature recorder is optional features, set recording spot, monitor real time.
- 1.10 Eutectic point test device and stoppering device are optional features.

#### 4. Specifications list

Type	Usable shelf area	Condenser final temperature	Ice capacity	Final vacuum	Power
SDL-FD-3(with capping type)	0.315 m <sup>2</sup>	≤-60°C ( idling condition )	3Kg/24h	≤10Pa	2.5kw including heating 0.5kw
SDL-FD-3	0.315 m <sup>2</sup>	≤-60°C ( idling condition )	3Kg/24h	≤10Pa	3.5kw including heating 0.5kw
SDL-FD-5	0.54 m <sup>2</sup>	≤-60°C ( idling condition )	5Kg/24h	≤10Pa	4.5kw including heating 1.5kw
SDL-FD-10	1.07 m <sup>2</sup>	≤-60°C ( idling condition )	10Kg/24h	≤10Pa	7kw including heating 2kw
SDL-FD-10(with capping type)	1.07 m <sup>2</sup>	≤-60°C ( idling condition )	20Kg/24h	≤10Pa	7kw including heating 2kw
SDL-FD-20	2.25 m <sup>2</sup>	≤-60°C ( idling condition )	20Kg/24h	≤10Pa	14.5kw including heating 2kw
SDL-FD-20(with capping type)	2.25 m <sup>2</sup>	≤-60°C ( idling condition )	20Kg/24h	≤10Pa	14.5kw including heating 2kw
SDL-FD-30	3 m <sup>2</sup>	≤-60°C ( idling condition )	30Kg/24h	≤10Pa	4.5kw including heating 1.5kw

All products should be subjected to any change without notification.  
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# Laboratory Cold Water Machine

## 1 Key features

- 1.1 Low noise, high precision temperature control, stable and reliable performance;
- 1.2 Imported vortex compressor host, stable performance of refrigeration;
- 1.3 Digital display water temperature;
- 1.4 Automatic control and protection alarm device, fault signal output;
- 1.5 Adjustable Water temperature and flow according to need;
- 1.6 The stainless steel tank and water pump;
- 1.7 Simple operation, long time continuous work;
- 1.8 According to the different requirements, design and produce a body and fission machine;
- 1.9 Foreign high efficiency compressor, safe and energy-saving, low noise;
- 1.10 Italian and German expansion valves, electromagnetic valves and other refrigerant accessories;
- 1.11 Imported Japanese temperature controller, precisely, stable, reliable;
- 1.12 Original electrical components, such as Siemens, Mitsubishi, Omron etc.

## 2 Products List

Model	Refrigerating capacity		Out-water pressure MPa	Water flow l/min	Power W	Water Tank volumeL	Dimensions (L* W* Hmm)
	Kw/h	Kca/h					
SDL-CW-300W	0.3	258	0.06	20	260	5	505*230*500
SDL-CW-600W	0.6	516	0-2	30	1000	15	650*500*765
SDL-CW-1KW	1	860	0-2	30	1000	15	650*550*915
SDL-CW-1.5KW	1.5	1290	0-2	30	1000	15	650*500*915
SDL-CW-2KW	2	1720	0-2	30	1340	27	650*550*915
SDL-CW-2.5KW	2.5	2150	0-2	30	1340	27	650*550*915
SDL-CW-3KW	3	2580	0-2	30	1800	45	800*600*1065
SDL-CW-3.5KW	3.5	3010	0-2	30	1800	45	800*600*1065
SDL-CW-4KW	4	3440	0-2	30	1800	45	800*600*1065
SDL-CW-4.5KW	4.5	3870	0-2	30	2200	45	800*600*1065
SDL-CW-6KW	6	5160	0-2	30	2760	45	800*600*1065
SDL-CW-6.5KW	6.5	5590	0-2	30	2760	45	800*700*1100
SDL-CW-8KW	8	6880	0-2	30	3300	60	800*700*1100
SDL-CW-10KW	10	8600	0-2	30	4300	80	1200*715*1325
SDL-CW-15KW	15	12900	0-2	30	5100	85	1200*715*1325



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SDL-CW-18KW	18	15480	0-2	60	6410	180	1350*800*1550
SDL-CW-20KW	20	17200	0-2	60	7150	180	1350*800*1580
SDL-CW-25KW	25	21500	0-2	60	7800	180	1350*800*1580
SDL-CW-30KW	30	25800	0-2	60	9900	200	1610*900*1850
SDL-CW-40KW	40	34400	0-2	100	11500	260	1750*900*1850

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# Ultra-low Temperature Refrigerator

## 1 Key features

- 1.1 Refrigeration system using imported components, reliable, long working time;
- 1.2 Special designed compress unit make sure low power supply.
- 1.3 Adopt efficient air cooling condenser, cooling effect is good, fast refrigeration;
- 1.4 Thermal insulation door and secondary seal inside doors, make it easy to use and reduce cooling loss, save energy;
- 1.5 Environmental ultra thick insulation layer, reducing cold energy loss effectively, saving energy, increasing rof service life;
- 1.6 Control and the inside temperature indicating device installed in the front of the box, without opening, can view and adjusting the inside temperature , beautiful, practical, generous;
- 1.7 Microcomputer temperature control, temperature digital display, easy to see;
- 1.8 Microcomputer control, more precise and safe;
- 1.9 System is equipped with safety protection device, ensure the system safe and reliable operation;
- 1.10 With perfect sound-light alarm system;
- 1.11 Perfect alarm system (over-temperature alarm system fault alarm) and temperature recording system (optional) to ensure the items in preserve in safety.
- 1.12 Horizontal products can be produced according to customer requirements with visualization glass doors on top.

## 2 Ultra-low temperature refrigerator list

Series	Model	Working chamber(L)	Inner dimension (W* D* H mm)	Outside dimension (W* D* H mm)	Power (W)	Temperature Range(°C)
-40°C Vertical type	SDL-40-30-V	30	270*265*400	470*490*1120	200	-15~-40
	SDL-40-60-V	60	364*405*409	540*620*1115	240	
	SDL-40-80-V	80	380*410*500	620*660*1275	350	
	SDL-40-158-V	158	460*455*800	700*700*1580	380	
	SDL-40-328-V	328	500*500*1300	760*765*1960	480	
	SDL-40-400-V	400	550*630*1140	850*930*1950	650	
	SDL-40-550-V	550	600*700*1300	860*965*1960	700	



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	SDL-40-638-V	638	700*700*1300	960*965*1960	750	
	SDL-40-750-V	750	800*700*1300	1060*965*1960	1650	
	SDL-40-940-V	940	1000*700*1335	1240*1000*2000	1700	
-40°C horizontal type	SDL-40-60-H	60	410*410*353	670*755*995	300	
	SDL-40-118-H	118	700*470*360	900*750*920	300	
	SDL-40-218-H	218	960*470*570	1160*750*860	350	
	SDL-40-318-H	318	1330*470*570	1530*750*860	400	
	SDL-40-460-H	460	1380*500*660	2110*885*1095	780	
	SDL-40-568-H	568	1720*520*654	1880*670*795	600	
	SDL-40-1000-H	1000	2118*751*713	2265*898*850	800	
-60°C Vertical type	SDL-60-30-V	30	270*265*400	470*490*1120	350	-25~-65
	SDL-60-60-V	60	364*405*409	540*620*1115	450	
	SDL-60-80-V	80	380*410*500	620*660*1275	400	
	SDL-60-158-V	158	460*455*800	700*700*1580	630	
	SDL-60-328-V	328	500*500*1300	760*765*1960	550	
	SDL-60-400-V	400	550*630*1140	850*930*1950	750	
	SDL-60-550-V	550	600*700*1300	860*965*1960	750	
	SDL-60-638-V	638	700*700*1300	960*965*1960	1300	
	SDL-60-750-V	750	800*700*1300	1060*965*1960	1400	
	SDL-60-940-V	940	1000*700*1335	1240*1000*2000	1700	
-60°C horizontal type	SDL-60-60-H	60	400*400*360	600*680*920	350	
	SDL-60-118-H	118	700*470*360	900*750*920	450	
	SDL-60-218-H	218	960*470*570	1160*750*860	500	
	SDL-60-318-H	318	1330*470*570	1530*750*860	550	
	SDL-60-460-H	460	1380*500*660	2110*885*1095	780	



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-86°C Vertical type	SDL-86-30-V	30	270*265*400	470*490*1120	350	-40~-86
	SDL-86-60-V	60	364*405*409	540*620*1115	450	
	SDL-86-80-V	80	380*410*500	620*660*1275	480	
	SDL-86-158-V	158	460*455*800	700*700*1580	630	
	SDL-86-328-V	328	500*500*1300	760*765*1960	550	
	SDL-86-400-V	400	550*630*1140	850*930*1950	750	
	SDL-86-550-V	550	600*700*1300	860*965*1960	750	
	SDL-86-598-V	598	700*680*1255	940*950*1920	1600	
	SDL-86-638-V	638	700*700*1300	960*965*1960	1300	
	SDL-86-750-V	750	800*700*1300	1060*965*1960	1400	
SDL-86-940-V	940	1000*700*1335	1240*1000*2000	1700		
-135°C horizont al type	SDL-135-118-H	120	500*400*560	1270*780*965	550	-86~-135

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# Chromatography Freezer

## 1 Main Characteristic

- (1) Imported refrigeration compressor, reliable, low noise.
- (2) Air cooling method, no need water.
- (3) Multi-function type configuration, three layer can open frame, not only as chromatography experiment, but also be used for samples kept in cold storage.
- (4) High inside space, easy to operate.
- (5) The double perspective glass door with lock, provide dew proof function.
- (6) All stainless steel inner wall, clean sanitation, and corrosion resistance.
- (7) Two fixed columns, and two heavy open layers.
- (8) With light, disinfection lamp, and upper and lower internal power outlet.
- (9) The updated intelligent temperature control instrument, the temperature setting and the measurement are all digital display.
- (10) With temperature deviation alarm function.

## 2 Specifications

Model	Temperature	Volume	Power	Type	external dimensions	Exterior surface material
SDL-CF-1	1°C ~ 10°C	800L	500w	Normal	750*870*1950	steel plates with plastic-spra
SDL-CF-1	1°C ~ 10°C	800L	500w	Normal	750*870*1950	All stainless steel
SDL-CF-1	1°C ~ 10°C	800L	500w	Multi-function	750*870*1950	steel plates with plastic-spra
SDL-CF-1	1°C ~ 10°C	800L	500w	Multi-function	750*870*1950	All stainless steel
SDL-CF-2	1°C ~ 10°C	1230L	500w	Normal	1310*765*1950	steel plates with plastic-spra
SDL-CF-2	1°C ~ 10°C	1230L	500w	Normal	1310*765*1950	All stainless steel
SDL-CF-2	1°C ~ 10°C	1230L	500w	Multi-	1310*765*1950	steel plates



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				function		with plastic-spra
SDL-CF-2	1°C ~ 10°C	1230L	500w	Multi- function	1310*765*1950	All stainless steel

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