



Tianjin First Cold Chain Co.,Ltd

Freeze dryer machine description

The freeze dry machine is an advanced way for drying materials. The freeze dryer machine firstly freezes the materials with water under low temperature, then sublimates the water under vacuum state directly, remove the water vapour by condensation to dry the material.

The physical, chemical and biological statement of the material state stay unchanged. The damage to volatility composition and denaturalization nutrition ingredient under heating condition is lowed. The material after processing is porous and volume is almost the same as before processing. So due to large contact are, when the material is added with water, it can recover quickly and has longer storage life in sealed container.

The freeze dry machine can be widely used for developing and producing various heat sensitive biological products, such as vaccine, medicines, fruit vegetable vacuum packing, etc.

The dry machine is of compact structure, full automatic control, easy to maintain and operate, with following advantages:

1. Vacuum state, the drying material quality is as good as frozen material.
2. PLC control with touchable human-computer operating interface, to realize real-time recording for multi-channel temperature data in drying processing and available for observation in curve form.
3. The shelf temperature control curve can be preset to realize the automatic sublimation.



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1. Small intelligent freeze-drying machine

型号 model	TF-HFD-1	TF-HFD-4	TF-HFD-6	TF-LFD-1	TF-LFD-4	TF-LFD-6	TF-LFD-1A	TF-LFD-4A	TF-LFD-6A
搁板面积 (m ²) Lyophilizing acreage	0.1	0.4	0.6	0.1	0.4	0.6	0.1	0.4	0.6
冷阱温度(°C) Cold trap temperature	-40			-45			-60		
极限真空度(Pa) Ultimate vacuum	15			15			10		
物料处理量 (kg/批) Material handling capacity(kg/Wholesale)	1~2	4~6	6~8	1~2	4~6	6~8	1~2	4~6	6~8
搁板间距(mm) Shelf Spacing	45	45	50	45	45	50	45	45	50
电源 Power Supply	220V;50HZ			220V;50HZ			220V;50HZ		
功率(W) Power	750W	1100W	2300W	750W	1100W	2300W	1700W	2500W	4500W
设备重量(Kg) Equipment weight	50	80	120	50	80	120	50	80	120
物料盘尺寸(mm) Shelf Dim	140*278; 3层(floor)	200*450; 4层(floor)	300*400; 5层(floor)	140*278; 3层(floor)	200*450; 4层(floor)	300*400; 5层(floor)	140*278; 3层(floor)	200*450; 4层(floor)	300*400; 5层(floor)
外形尺寸 (cm) External Dimensions	40*55*70	51*70*85	70*80*130	40*55*70	51*70*85	70*80*130	55*62*85	60*70*105	70*80*130



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2. Food freeze dryer machine

Technical parameters

型号Model	TF-FZG-5	TF-FZG-10	TF-FZG-20	TF-FZG-30	TF-FZG-50	TF-FZG-100	TF-FZG-150	TF-FZG-200	TF-FZG-300	TF-FZG-400	TF-FZG-500	TF-FZG-1000
有效搁板面积(㎡) Shelf freeze-dried area	0.5	1	2	3	5	10	15	20	30	40	50	100
搁板工作温度(°C) Shelf Temp	-30~+80											
搁板温差(°C) Shelf Temp.difference	±1°C											
冷凝器温度(°C) Cool trap coil temperature	≤-35											
冷凝器捕水量(kg) Dewatering	7	12	25	40	60	120	200	250	350	550	700	1500
箱内极限真空(Pa) Ultimate vacuum	10											
冷却水(≤25°C)流量(T/H) Cooling water(≤25°C) Flow Volume(T/H)	1	2	3	5	5	8	10	15	25	35	40	100
化霜方法 Defrosting method	喷淋+水淹 Spray+Water flooded											
使用环境 Use environment	温度5°C~-30°C 相对湿度 < 75% temperature 5°C~-30°C relative humidity < 75%											
总功率(kw) Total power	15	18	22	25	28	40	50	60	90	130	150	300
设备安装面积 与高度(㎡x m) Equipment installation area and height	4x2	8x2.5	15x2.5	20x2.5	25x2.5	35x2.5	40x2.5	45x2.5	50x2.5	60x2.5	60x2.5	200x3



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3. Production dryer machine

型号Model		TF-SFD-100	TF-SFD-150	TF-SFD-200	TF-SFD-250	TF-SFD-300	TF-SFD-350	TF-SFD-400
搁板面积Shelf area	m ²	10	15	20	25	30	35	40
有效搁板面积 Shelf freeze-dried area	m ²	10.33	14.76	20.31	24.38	29.7	36	40.5
装瓶数 Bottling number	个/Φ16MM Individual/Φ16MM	46400	66400	92800	109700	133600	153600	182200
	个/Φ22MM Individual/Φ22MM	23700	33900	47400	56000	68300	70500	93000
散装溶液量 Bulk solution	L	220	290	400	480	590	590	800
搁板尺寸 Shelf Dim	宽 MM width	915	1215	1215	1215	1515	1515	1515
	深 MM depth	1215	1215	1520	1520	1520	1830	1830
搁板数量 Shelf Layer	个 Individual	9+1	10+1	11+1	13+1	13+1	13+1	15+1
搁板间距 Shelf Spacing	MM	100						
搁板温度范围 Shelf Temp	°C	-55 ~ +70						
冷凝器温度 Cool trap coil temperature	°C	-70						
冷凝器最大捕水量 Maximum Dewatering	KG	220	290	400	530	640	750	750
压缩机Compressor		S6H-20.2Y*2	S6F-30.2Y*2	S6F-25.2Y*2	S6F-30.2Y*3	S6G-30.2Y*3	S6F-30.2Y*4	S6F-30.2Y*4
真空泵Vacuum pump		E2M80	E2M175	E2M275	E2M275	E2M275	E2M275	E2M275
罗茨泵Roots pump		EH250	EH250	EH500	EH1200	RH1200	RH1200	RH1200
循环泵 Circulating pump		TOP-SD65/13	TOP-SD65/13	CNF40	CNF50	CNF50	CNF50	CNF50
水环泵 Water ring pump		2BV2070	2BV2070	LEZM125	LCM150	LEM150	LEM150	LEM150
主阀口径 Main valve caliber		400	500	600	600	700	800	800



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电加热Heating		20	30	40	50	60	70	80
极限真空 Ultimate vacuum	Pa	1						
系统泄露率 System leakage rate	PA.m ³ /S	0.1						
装机功率 Total Power	KW	72	103	141	151	182	212	222
冷却水量 Cooling water	m ³ /H	18	25	37	37	42	50	50
压缩空气 compressed air	Pa	0.6~0.8						
长long	MM	5800	6200	6500	6600	6600	6600	6600
宽width	MM	2500	2500	2600	2600	2600	2700	2700
高height	MM	3400	4100	4100	4300	4600	4800	4800
设备重量 Equipment weight	KG	15000	21200	23800	2800	31000	34000	36000
纯蒸汽耗量 Pure steam consumption	KG	200	230	280	320	380	380	450
纯水/注射水量 Injection water	L/M	160	200	230	260	280	280	300



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