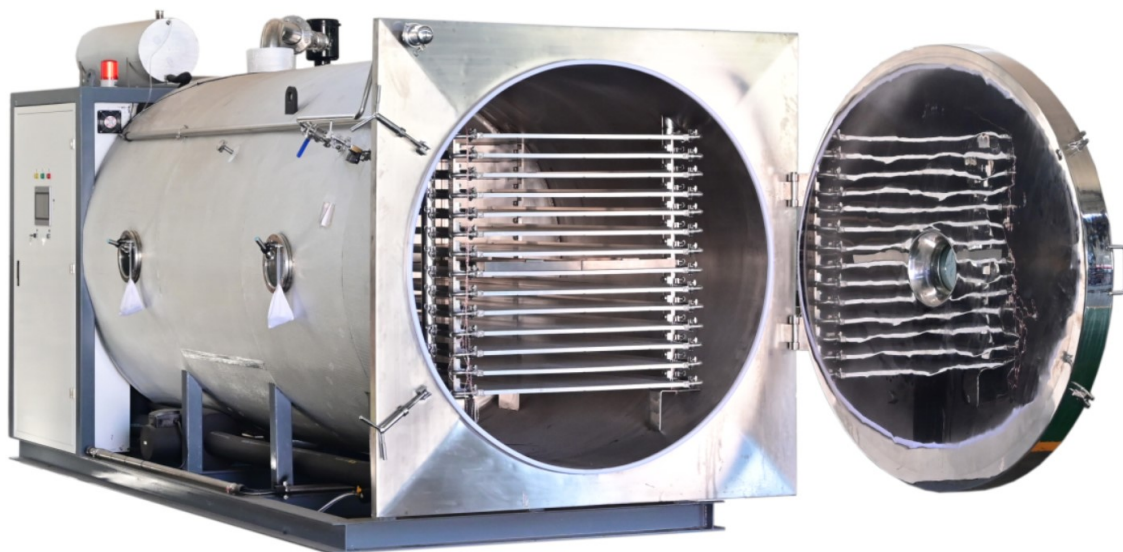


FOOD FREEZE DRYER

FDRS SERIES



Commercial Food Freeze Drying Machine

Vikumer's FDRS series freeze dryers are designed to perform food freeze dry, can meet commercial small to medium production requirements. Typical applications include fruits, vegetables, herbs, meat, soup, dairy, candy, nutrient and health care products. The range machines with robust quality that suit industrial 7*24 heavy use.

All-include Structure

The FDRS freeze dryers are all-in-one design: all the machinery that involved with the operation of it is mounted on a steel frame, pre-assembled in our factory and a thorough quality and performance test before it is shipped. Ready to operate delivery.

High Automation and Labor Saving

FDRS freeze dryers are equipped with our FD-MEGA controller Ver 2.0, a PLC based control system that enables operator control the machine functions via a user-friendly touch screen HMI.

The HMI interface allows operator controls all the key components on/off, valves open/close, and real-time monitoring their work status. Which means nobody is needed go to technical room to do manual works while control the system.

Stainless Steel Finished

The drying chamber, condenser, shelves, trays and other fittings are fabricated from high quality stainless steel, which is long lasting and ensure a hygiene production environment.

Thus, the FDRS freeze dryer machines offer an almost unlimited amount of application possibilities to meet any of the industry production needs.





Superior Quality Drying Chamber

The product chamber features sturdy, stainless steel fabricated which is engineered and produced strictly follow pressure vessel directive. External of drying chamber wall, several reinforce rings are welded to ensure its long lifespan and never distortion, and up to 100mm thick PUF is injected for power saving.

Conductive Heating Method

The heat-plates are S/S304 made, surface polish roughness better than 1um and flatness better than +/-1mm/m. Products are placed in trays and load onto the heat-plates, in place freezing and drying inside freeze dryer. The heat transfer method between shelves and material trays are by conductivity.

Temperature Controlled Shelves

The shelves are sandwich type that enable heat transfer fluid circulates inside. The fluid can be chilled and heated, and the temperature is settable. Thus, the FDRS system is capable of in place freezing.

In-place freezing reduces labor cost, product transfer times and avoid contamination risk, and user no need buy extra IQF equipment.

External Type Ice Condenser

The ice condenser is installed behind the product chamber, and is coils type for high efficiency. The coils are cooled by refrigerant direct expansion, and are evenly divide to several circuits by a coolant distributor to guarantee all coils have similar temperature for evenly icing.

External type ice condenser ensures exceptional temperature uniformity across the drying chamber, as it will not influence the shelf module.

Modular Sub-systems

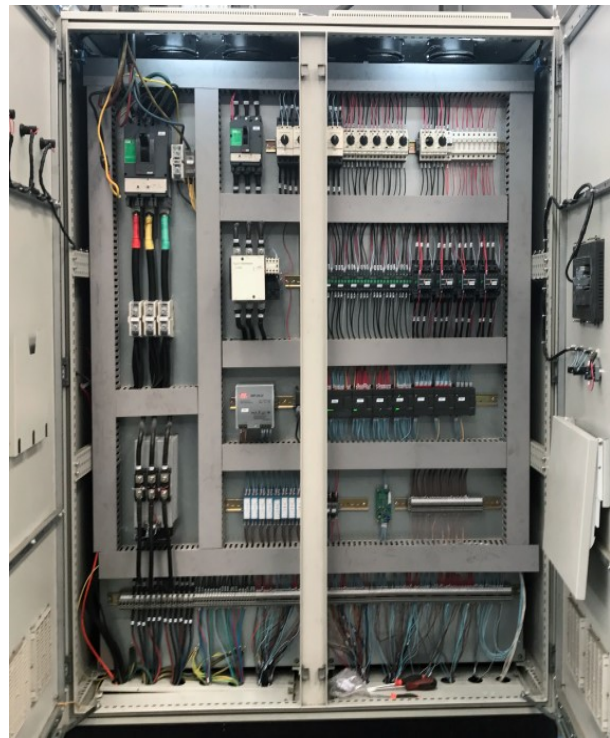
Subsystems such as vacuum pump, refrigeration compressor, heat transfer fluid pump and heaters are placed below and behind the product chamber. Each sub-system as an individual module and linked together by the PLC. This design has been proved easy to produce and to maintain. And a wide range of accessories can be selected to match the particular needs of customers.



Industrial Versatile Control System

The control system of the FDRS freeze dryers are PLC and user-friendly touch screen HMI based. The PLC is use to control machine functions, perform interlock checks, and generate processes and device alarms. The HMI enables user program freeze drying recipes, execute it automatically and monitoring system running status.

- Alive display main components working status and key parameters.
- Freeze drying recipes management.
- Real-time freeze drying trend.
- Data logging and can be exported via USB.
- Automatic and semi-automatic working.
- Alarms information.
- Users, authorization and password.
- Probes and gauge calibration.

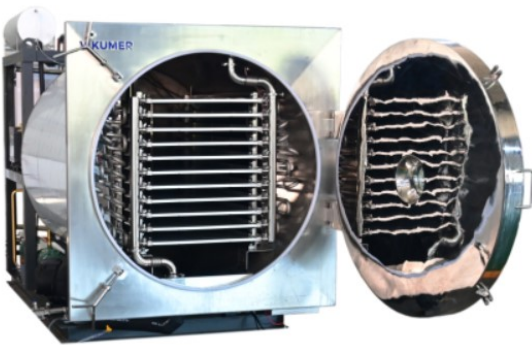


Technical Specifications

	FD-5RS	FD-10RS	FD-20RS	FD-30RS
Shelf Area	4.8m ²	9.7m ²	20.2m ²	30.4m ²
No. of Shelves	9+1	9+1	13+1	13+1
Shelf Size	610*910mm	910*1210mm	1210*1310mm	1210*1960mm
Shelf Spacing	50mm	50mm	50mm	50mm
Shelf Temp.	-35C ~ +100C	-35C ~ +100C	-35C ~ +100C	-35C ~ +100C
Final Vacuum	<15Pa	<15Pa	<15Pa	<15Pa
Condenser 24Hrs	50Kgs	100Kgs	200Kgs	300Kgs
Condenser Total	75Kgs	150Kgs	330Kgs	550Kgs
Condenser Temp.	-45C	-45C	-45C	-45C
Voltage	380V/50Hz/3P	380V/50Hz/3P	380V/50Hz/3P	380V/50Hz/3P
Power	12Kwh	20Kwh	32Kwh	45Kwh
Size (mm)	1300*3200*2450	1500*3800*2450	1800*4800*2650	2000*5800*2650

Performance Specifications

Shelf Temperature Control Range	-35C ~ +100C
Lowest Shelf Temperature	-40C
Shelf Temperature Control Accuracy	<+/-1C
Shelf Temperature Uniformity	<+/-1C
Shelf Cooling Rate +20C to -40C	<90Min
Shelf Heating Rate	>1C/Min
Lowest Condenser Temperature	-45C
Condenser Cooling Rate +20C to -45C	<30Min
Condenser Defrost Time	<60Min
System Final Vacuum	<15Pa
Vacuumize To 133Pa	<60Min
Leak Rate	<5Pa L/Sec
Refrigerant	R404a



FD-5RS with Internal Ice Condenser

Batch Loading Capacity Reference

Model	FD-5RS	FD-10RS	FD-20RS	FD-30RS
Common Fruits	50Kgs	100Kgs	200Kgs	300Kgs
Herbs & Floral	20Kgs	40kgs	80Kgs	120Kgs
Candies	15Kgs	29Kgs	60Kgs	90Kgs
Shelf Area	4.8m2	9.72m2	20.2m2	30.4m2
Condenser Performance	50Kgs/24Hrs	100Kgs/24Hrs	200Kgs/24Hrs	300Kgs/24Hrs

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