

### FD-30L

#### Tray Freeze Dryer



- **400L Ice Capacity**
- **29.7m2 Shelf Area**
- **All-include Structure**
- **Versatile&Economic**

FD-30L shelf freeze dryer designed to fit commercial and industrial freeze drying process, material loading by bulk in trays, the machine designed meet GMP requirements.

The freeze dryers designed consider a lot of factors that will guarantee your success freeze drying result and high dried quality, we provide standard factory models as well

Standard Specification:	
Shelf Area	<b>29.7m2</b>
Shelf Type	Fixed, Bulk loading
Shelves Temp.	-50C to +70C
Shelf Size	1800*1500mm
Shelves	11+1
Ice Capacity	400kgs
Condenser Temp.	-45C or -80C
Condenser Location	Rear side of drying chamber
Defrost	Water soaking
Vacuum Degree	<3Pa
Vacuum Pumps	Rotary Pumps + Roots Blower
Compressor	Reciprocating
Power Install	85kwh
Size	7500*2200*3000mm
Voltage	380V/50-60Hz/3P
Controller	PLC + Touch Screen
Main Material	AISI304 or 316L

Technical Features:	System Performance:																										
<p><b>CONTROL SYSTEM:</b></p> <ul style="list-style-type: none"> <li>● PLC + Touch screen system, PC connectivity.</li> <li>● Automatic and Manual operation selectable.</li> <li>● System working status diagram display.</li> <li>● Freeze Drying status &amp; data display.</li> <li>● Drying data auto storage, could download to U disk.</li> </ul> <p><b>DRYING HOUSE &amp; DOOR:</b></p> <ul style="list-style-type: none"> <li>● Design according to GB pressure container directives.</li> <li>● Rectangular or cylindrical chamber with extra thick insulation.</li> <li>● Mirror finished walls, shelves, doors and accessories.</li> <li>● Hinged door, in front door and side drying house have viewing ports.</li> <li>● Plates and drying house inner wall mirror finish.</li> </ul> <p><b>SHELVES:</b></p> <ul style="list-style-type: none"> <li>● Stainless steel made, Mirror finish.</li> <li>● Sandwich type plates fill silicone oil, all plates have both freezing and heating function: -50C ~ +70C.</li> <li>● 29.7m2 useable shelf area, 11 plates (size 1500*1800mm) with material loading capacity, 1 for extra radiant temperature.</li> </ul> <p><b>CONDENSER:</b></p> <ul style="list-style-type: none"> <li>● Condenser house in rear side of drying chamber, Stainless steel material for both coils and walls, surface mirror finish.</li> <li>● Condenser floor slope design for water thoroughly discharge.</li> <li>● Exclusive designed coils route, high performance vapor collection.</li> </ul> <p><b>VACUUM SYSTEM:</b></p> <ul style="list-style-type: none"> <li>● Roots blower and backing pump combination, with vacuum adjust controller.</li> <li>● Pneumatic isolation valve installed between condenser and pump.</li> </ul>	<table border="1"> <tbody> <tr> <td>Shelves Lowest Temp.</td> <td>-50C</td> </tr> <tr> <td>Shelves Temp. Range</td> <td>-50C to +70C</td> </tr> <tr> <td>Shelves Cooling Rate</td> <td>+20C to -40C &lt;60min</td> </tr> <tr> <td>Shelves Heating Rate</td> <td>&gt;1C/min</td> </tr> <tr> <td>Shelves Temp. Uniformity</td> <td>Freezing: ±2C Heating: ±1C</td> </tr> <tr> <td>Shelves &amp; Wall Roughness</td> <td>Ra&lt;0.5</td> </tr> <tr> <td>Shelves Flatness</td> <td>&lt;0.5mm/m</td> </tr> <tr> <td>Condenser Lowest Temp.</td> <td>-45C or -80C</td> </tr> <tr> <td>Condenser Cooling Rate</td> <td>+20C to -40C &lt;30min</td> </tr> <tr> <td>Condenser Coil Roughness</td> <td>Ra&lt;0.5</td> </tr> <tr> <td>Vacuum Rate</td> <td>Atm to 0.1mbar &lt;30min</td> </tr> <tr> <td>Vacuum Final</td> <td>&lt;3Pa</td> </tr> <tr> <td>Vacuum Leakage</td> <td>&lt; 5x10<sup>-2</sup>mbarL/s</td> </tr> </tbody> </table> <p><b>COMPRESSOR SYSTEM:</b></p> <ul style="list-style-type: none"> <li>● Reciprocating compressor, oversized for stable performance.</li> <li>● 1 stage compressor for -45C condenser, or 2 stage for -80C condenser.</li> <li>● Water cooled condenser and cooling tower include.</li> <li>● Brazed plate heat exchanger for shelves cooling, refrigerant direct expand for condenser cooling.</li> </ul> <p><b>HEATING SYSTEM:</b></p> <ul style="list-style-type: none"> <li>● Heated silicone oil drive by a centrifuge pump recycle inside shelves.</li> <li>● Individual electric heater provides heating energy.</li> </ul> <p><i>Vikumer® Freeze Dry designed and manufactured freeze drying machine in China. Quality assured freeze dryer with CE marked.</i></p>	Shelves Lowest Temp.	-50C	Shelves Temp. Range	-50C to +70C	Shelves Cooling Rate	+20C to -40C <60min	Shelves Heating Rate	>1C/min	Shelves Temp. Uniformity	Freezing: ±2C Heating: ±1C	Shelves & Wall Roughness	Ra<0.5	Shelves Flatness	<0.5mm/m	Condenser Lowest Temp.	-45C or -80C	Condenser Cooling Rate	+20C to -40C <30min	Condenser Coil Roughness	Ra<0.5	Vacuum Rate	Atm to 0.1mbar <30min	Vacuum Final	<3Pa	Vacuum Leakage	< 5x10 <sup>-2</sup> mbarL/s
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