



# Large Scale Freeze Dryer

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## Large Scale Freeze Dryer LLFD-A1 Series

Large scale production freeze dryers are specifically designed to meet the requirements of industries where large quantity or bulk samples needs to be freeze dried in single cycle. This LLFD-A1 series comes with condensing rate of 25kg, 40kg and 60kg per batch for 20L, 40L, 60L freeze dryers respectively. The pre freezing and drying process are completed on shelf with temperature accuracy of  $\pm 1^{\circ}\text{C}$ . Equipped with CFC-free refrigeration, vacuum drying with low noise compressor for safe and noiseless functioning. Its corrosion resistant body is configured strictly following ISO & CE standards.

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### Features

- ❄ Condenser separated from drying chamber
  - ❄ Better water capture capability and shorter drying time
  - ❄ Freeze drying area with the 1.96 to 4.4  $\text{m}^2$  range
  - ❄ Pre-freeze and drying processes are completed on shelf
  - ❄ Silicon oil fills hollow shelves, with most uniform shelf temperature, consistent and repeatable drying
  - ❄ Stainless steel construction of condenser, operation panel and shelves
  - ❄ Data recorded automatically and output can be done by USB flash disk
  - ❄ Graphic LCD display with a clear layout showing the drying curves
  - ❄ 32 groups program can be stored, each program can be set up 36 segments
  - ❄ PC software, CIP system are optional to achieve remote control
  - ❄ Features nitrogen valve and eutectic test device (optional)
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### Applications

These large scale production freeze dryers are used in research, medicine and pharmaceutical manufacturing plants and food industries where bulk amount of sample has to be freeze dried in short time.

# Large Scale Freeze Dryer

## Specifications

Model No	LLFD-A10	LLFD-A11	LLFD-A12
Capacity	25kg/batch	40kg/batch	60kg/batch
Condenser Temperature	Min. $\leq -70^{\circ}\text{C}$		
Vacuum Degree	$<10\text{Pa}$		
Freeze-Drying Area	1.98m <sup>2</sup>	2.96m <sup>2</sup>	4.4m <sup>2</sup>
Bulk Capacity	20L	40L	60L
Dimension	610x810mm	610x810mm	915x1210mm
Shelves	4+1 ,100mm spacing	6+1, 100mm spacing	4+1 ,100mm spacing
Temperature of Shelf	$-50\sim+70^{\circ}\text{C}$		
Voltage Supply	380V, 50Hz		
Cooling	Water cooling, 4.2 m <sup>3</sup> /h, temp.<30 <sup>o</sup> C	Water cooling, 4.5 m <sup>3</sup> /h, temp.<30 <sup>o</sup> C	Water cooling, 6m <sup>3</sup> /h, temp.<30 <sup>o</sup> C
Defrosting	Water, 270 L/ batch, temp. 50 <sup>o</sup> C	Water, 300 L/ batch, temp. 50 <sup>o</sup> C	Water soaking, 350 L/ batch, temp. 50 <sup>o</sup> C
Dimensions of Base Unit	2500 x1210 x2700 mm	3000 x1200 x2700 mm	3600 x1300 x2800 mm
Vials Capacity $\Phi 12\text{mm}$	12600 pcs	16000 pcs	28000 pcs
Vials Capacity $\Phi 16\text{mm}$	9800 pcs	10000 pcs	15000 pcs
Vials Capacity $\Phi 22\text{mm}$	3600 pcs	5300 pcs	8000 pcs
Weight	2600kg	2800kg	3500kg



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