

## *FD-2L Vacuum Freeze Dryer (lyophilizer)*



FD-L series freeze dryer, Lyophilizer designed for commercial and industrial bulk production, could meet lyophilization process demand in food, pharmaceutical, biological, chemical area, the freeze drying machine with integrated structure and modular systems which is easy maintenance and install, Huayu Brother freeze dryer, Lyophilizer provide you the most reliable and stable working lyophilization equipment based on high advanced Ethernet LYO-Controller, we also accept customized services.

The process works by freezing the material (could be in drying house, minimum temperature -50C) and then reduce the drying chamber pressure to allow the frozen water in the material sublime directly from the solid phase to the gas phase. Now, most freeze dryer shelves have heating functions send more energy to raw material to speed up the sublimation process, FDL freeze dryer heating source from electric heater.

So, freeze drying causes very less damage to the material than other dehydration methods using higher temperature. And freeze Drying technology in pharmaceutical is irreplaceable.

FD-2L is an pilot production freeze dryer design and produce under GMP, Available shelf area 2.16sq.m, 4 shelves, 8 trays and ice capacity 40L in 24hrs, Final vacuum <1Pa.

**Technical Parameters:**

<b>Models</b>	<b>FD-2L (TP, CIP, SIP optional)</b>
Useable trays area	2.16sq.m
Ice capacity	40kgs
Shelves number	4+1
Shelf size	600*900mm
Shelf spacing	70mm
Material tray size	600*450*20mm
Material trays	8pcs
Shelf temperature	-50°C to +70°C
Ice Condenser temperature	-80°C
Vacuum degree	<1Pa
Power install	15kwh
Install size	2500*1500*2500mm
Vials capacity	φ22 >4300pcs