

Spire Automation & Innovation, India.

*Inspiring Generations...*

## LYOPHILIZER- MINI LYO



### SALIENT FEATURES

- **compact bench top design of freeze dryer**
- Ice capacity of 1.5Kg.
- It is ideal for small volume drying and is cost effective.
- It is ideal for all freeze drying applications using 6-port column flask manifold
- The unit made out of hermetically sealed compressor and with 100 litres/ min direct motor drive rotary vane type vacuum pump of double stage with air ballast having ultimate vacuum of 1x30 toot or pump head & vacuum indication by digital pirani gauge indicator.
- Vacuum Pump having vacuum level up to 0.01 to 0.005 mbar (Optional Vacuum controller)
- Hot gas defrost and switch
- Optional features: Data can be recorder by temperature chart recorder or data logger with software for storing data and downloading data to computer for storage & print.

### SPECIFICATIONS:

<b>Model</b>	<b>Mini Lyo- 20 / Mini Lyo- 40</b>
<b>Volume</b>	2 litres
<b>Ice capacity 24 Hrs</b>	1.2 Kg
<b>Max</b>	1.5 Kg
<b>Ultimate low temperature (2 different temperature range available)</b>	<b>- 20 / -40°C</b>
<b>Condensor MOC</b>	SS 304 or 316 as demanded
<b>Compressor</b>	¼ HP for -20°C / 2 x ¼ HP for -40°C
<b>Vacuum pump</b>	200 liters per min
<b>Weight</b>	70 Kg (-20°C) / 90 Kg (-40°C)
<b>Size</b>	550 x 550 / 650 x 850
<b>Power Supply</b>	AC 220V, 50-60 Hz, 1 phase

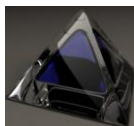
**NOTE: CUSTOMIZED SOLUTION ALSO AVAILABLE ON REQUEST**

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## LYOPHILIZER / FREEZE DRYER : LYO 210



### SAILENT FEATURES

- 6 / 8 / 12 Port Manifold Dryer made of SS 304 / Acrylic
- Microprocessor based controller to control temperature of Lyophilisation.
- Sample loading in manifold as well as tray
- Floor Model
- Vertical drying chamber made of thick gauge 304 grade stainless steel, top open able
- Condenser trap: all non-magnetic stainless steel.
- Vacuum pump : "HINDHIVAC / CROMTON GREAVES / EQUIVALAENT" make vacuum pump of double stage capacity with direct driven motor. Sealed with built in anti suck back facility and gas ballast system and operated on single phase motor.
- Ultimate Vacuum pressure level : 0.001 to 0.0002 mbar (as per customer selection of Vacuum Pump capacity)
- Instrumentation: Digital temperature indicator cum controller, having 1°C temp display resolution. PT 100 temp sensor having

sensitivity of 0.1°C

- Digital solid state temperature indicator LED display for display of temp & electronic vacuum indicator.
- Internal condensing coil made of copper / SS
- Built in CFC free refrigeration system with hermetically sealed compressor of Emerson / Danfoss Make
- Quick vacuum release valve cum water drain valve as built in component
- Heavy duty castor wheels for easy movement.
- Power supply: single phase 230V, 50Hz AC

### SPECIFICATIONS

Model	LYO 110	LYO 120	LYO130	LYO 210	LYO 220	LYO 230
Temp range	-20 to -40°C	-20 to -40°C	-20 to -40°C	-40 to -80°C	-40 to -80°C	-40 to -80°C
Condenser Temp	-45°C	-45°C	-45°C	-80°C	-80°C	-80°C
Max Ice Condensing Capacity per 24 hours**	3	5	10	3	5	10
Vacuum Pump Air displacement capacity LPM	250	350	500	250	350	500
Manifold Dryer	6	8	12	6	8	12
Cylindrical Drying chamber size ( mm )	250 x 250	250 x 325	250 x 400	250 x 250	200 x 325	250 x 400
Refrigeration system	Single	Single	Single	Cascade	Cascade	Cascade

**\*\*Note :** This specification is based on freeze drying water as aggressively as possible. The ability to collect ice is application dependent and your actual rate will most likely be lower.

#### OPTIONAL ITEMS (ADDITIONAL FEATURES) :

- Touch screen controller within built thermal printer
- Hot gas defrost feature having temp of 48°C to defrost condenser with quick turnaround time
- Adaptors for connecting flasks of 100ml, 150ml, 250ml & 500ml

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