

MAC

PILOT FRONT LOADING FREEZE DRYER (LYOPHILIZER)



MADE IN INDIA

FOR THE WORLD

Images for reference purpose only, may change according to model & size

MSW-137(PFD)

www.macroscientificworks.com

HOW PILOT FREEZE DRYER WORKS:

- All "MAC" units are provided with following basic requirements:-
- A Drying Chamber or Manifold on/in which the containers with pre-frozen samples are connected/placed.
- A high Vacuum double stage pumping system with gas ballast with ultimate vacuum of less than 50 microns in the system and 10 microns on pump head to facilitate the vapour flow to the condenser for speedy drying.
- A low temp. condenser to trap the moisture vapour and allow the non-condensable vapours to go to the pump for release to the atmosphere.

CONSTRUCTION & SALIENT FEATURES

- Outer chamber made of CRC sheet duly powder coated and inner chamber is made of stainless steel (non-magnetic).
- Housed in a super structure steel frame it is mounted on swivel casters.
- Complete with Perspex see through lid.

- High grade PUF INSULATED between outer and inner chamber for minimal thermal losses.
- Condenser Trap : All non-magnetic stainless steel fabricated, argon welded, dished-bottom for complete effluent removal.
- Refrigeration coils made of copper bonded to outside of condenser heavily insulated.
- Low noise compressor, good efficiency, long service life.
- CFC Free refrigeration
- Complies with international standards of green environment.
- Big opening condenser has pre-freeze function.
- Condenser (COLD TRAP) and top panel are all stainless steel (SS-304 grade).
- Secure and intuitive transparent drying room.
- Small volume, easy and convenient operation.
- TFT Touch Screen Display Controller.
- Program can be altered during running process.

TECHNICAL SPECIFICATIONS & ORDERING INFORMATION

No Load Condenser Temperature	-50°C
Drying Chamber	Available in Rectangular or Cylindrical Chambers (Option)
No. Load Freezer Drying Capacity	3 - 5 Kgs.
Vacuum Degree	< 10 Pa
Vacuum Probe	Electric Vacuum Transducer
Vacuum Indicator	Digital Vacuum Indicator
Vacuum Seals	Made of silicon rubber
Ultra Ultimate Vacuum (Pump Head)	1 x 10 ⁻² torr
Vacuum Pump	Direct drive motor rotary vane type vacuum pump of double stage with Air ballast having ultimate vacuum of 1x10 ⁻² torr on pump head
Thermal Insulation Material	Polyurethane Foam
Shelf Number (Supplied / Maximum)	2 / 5
MOC (Shelf)	Stainless Steel
Ambient Conditions	Ambient temperature ≤ 25°C
Voltage	220V, 50Hz

MODEL	FREEZE DRYING AREA	CONDENSOR TEMPERATURE	DRYING DRUM CAPACITY	COOLING DRUM CAPACITY	ICE FREEZING CAPACITY (KG/24Hr.)
#LYO-50(PFD)	0.25 m ²	-80°C	50 Ltrs.	17.50 Ltrs.	17.50 Ltrs.
#LYO-60(PFD)	0.33 m ²	-80°C	60 Ltrs.	17.50 Ltrs.	17.50 Ltrs.



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