

## **CABINET CONSTRUCTION**

The cabinet of Labtop Chambers is insulated with high density CFC free Poly Urethane Foam. Interior of the chambers are mirror finish stainless Steel (304 SS, 0.8 mm thick). The exterior is white powder coated (1.0 mm thick) mild steel and the door has magnetic gasket with a keyed door lock. Specially designed solid stainless steel wire mesh trays ensure even temperature distribution and storage inside. GMP models are in total stainless steel (Inside S. S 304 with mirror finish and outside. S.S 304 dull finish and inner S.S316 is also available on request at extra cost ).



## **REFRIGERATION SYSTEM**

The cooling is effected by CFC free refrigeration system with a condensing unit located inside the chamber. Labtop condensing units are characterised by high-efficiency heat transfer and low power consumption.



- CFC free eco friendly refrigeration system
- Inner grooved copper tubes and slit aluminum fins for superior heat transfer
- Filter drier for moisture and dirt protection
- Safety and control devices for better system protection
- Thermally protected and permanently lubricated fan motors

## **SAFETY FEATURES**

- Miniature circuit breaker to protect electronic components in case of abnormal power supply
- Audio visual alarm when temperature deviates from set temperature
- Provision mobile alert via GSM Technology
- Safety cut off when temperature crosses 60.0 °C.
- Overload protector to safe guard the compressor
- 180 seconds Time delay for compressor switch ON

## **CONTROL SYSTEM**

- Micro-control based Temperature controller
- 4 digit, 7 segment LED display
- Password protected keypad lock
- Visual alarm for faulty Sensor
- Display of set value and process value
- High quality PT-100 Sensor for better accuracy
- Programmable temperature Hi-low alarm setting



## PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEM

A **programmable logic controller (PLC)** is a digital computer used for automation of controlling electromechanical processes, such as control of Temperature, Relative Humidity, Standby systems and event management with less maintenance hence no moving parts.

- 4.3" HMI with color Display and touch screen
- Configurable access for 72 users
- Privilege based grouping
- Multi level Password protected Human Machine Interface (HMI)
- Data storage to record set values, process values, date & time with variable time intervals
- Display of set value and process value
- High speed Ethernet connectivity
- Temperature controlled by PLC
- 1- 99 hrs timer
- Incorrect password attempt and user lock
- Online data can be printed with date and time stamp
- Non operational screen auto logout
- Configurable maintenance reminder pop up alarm
- Individual Alfa numeric user ID and password
- User operation will be recorded and saved in memory
- Online and offline Log reports on HMI
- Safety cut off for over shoot and under shoot
- Programmable alarms with event management
- Precise control of temperature by using PID control action
- Data storage capacity up to 200000 readings
- Self diagnostic system with error messages



## **ALERT MANAGEMENT:**

- SMS alert message can be send to 5 users with notifications
- Email alert can be sent to 15 users with notifications
- Call alert can be send to 5 users with voice messages with notifications

## **Salient Features:**

- Foamed in place CFC free PUF insulation ensures temperature stability and reduced power consumption.
- Unidirectional air flow system assures even temperature distribution and quick recovery after door openings.
- Specially designed solid stainless steel wire mesh trays ensure even temperature distribution.
- Chamber illumination with fluorescent LED light
- U shaped Stainless Steel Nichrome wire heater
- Caster wheels for ease of mobility
- High quality PT-100 Sensor for better accuracy

Technical Specifications					
Volume	100 Liters	200 Liters	300 Liters	400 Liters	600 Liters
Temperature Range	5.0 -60.0 °C				
Accuracy	± 0.5 °C				
Uniformity	±1.0 °C				
Control system	Micro control / PLC				
No. Doors	Single	Single	Single	Single	Single
No. Of tray	2	3	4	4	4
Power	775 W	775 W	775 W	800 W	1150 W
Voltage	230 ACV , 50/60Hz				
DIMENSIONS (W X D X H ) IN MM AND WEIGHT (KG)					
Internal Dim	435x400x600	505x400x1005	565x450x1205	635x530x1205	745x670x1205
External Dia	580x845x1275	650x880x1680	710x935x1885	780x1010x1880	890x1150x1960
Packing size	707x972x1478	777x1007x1883	837x1062x2088	907x1137x2083	1017x1277x2163
Net Weight	120	145	200	255	280
Gross Weight	175	225	275	325	350

Technical Specifications				
Volume	800 Liters	1000 Liters	1500 Liters	2000 Liters
Temperature Range	5.0 -60.0 °C			
Accuracy	± 0.5 °C			
Uniformity	±1.0 °C			
Control system	Micro control / PLC			
No. Doors	Double	Double	Double	Double
No. Of tray	8	8	10	10
Power	1500 W	2300 W	2300 W	2300 W
Voltage	230 ACV , 50/60Hz			
DIMENSIONS (W X D X H ) IN MM AND WEIGHT (KG)				
Internal Dim	1120x600x1205	1150x670x1300	1300x890x1300	1500x1030x1300
External Dia	1370x1075x1920	1400x1145x1920	1550x1365x1920	1750x1505x1920
Packing size	1497x1202x2123	1527x1272x2123	1677x1492x2123	1877x1632x2123
Net Weight	310	335	360	380
Gross Weight	400	425	450	480

**Note :**

P Models are with Programmable logic control (PLC)

G Models are made out of Stainless steel 304 (GMP)

## LABTOP DATALINX SOFTWARE

Title 21 CFR Part 11 is the part of Title 21 of the Code of Federal Regulations that establishes the United States Food and Drug Administration (FDA) regulations on electronic records and electronic signatures (ERES). Part 11, as it is commonly called, defines the criteria under which electronic records and electronic signatures are considered trustworthy, reliable, and equivalent to paper records.

- 21CFR-PART 11 compliance
- Browser based software
- Multiple chamber data acquisition on single software.
- Reports in Tabular and Graphical form
- Mean Kinetic Temperature Report.
- Automatic Back up Provision.
- Privilege based Group creation
- Privilege based user creation
- Trend analysis report
- Equipment audit trial report
- User ID with Alfa numeric password protection
- Multi user environment (LAN)
- Multiple level password with automatic expiry
- Electronic signature
- Separate reports for alarm and events
- Remote integrations with Control systems.
- Software audit trial report
- Email, SMS and call alert in case of system failure
- Online and offline trends

## OPTIONAL ACCESSORIES

- **PLC system**  
Programmable Logic Control with Safety controller, auto changeover of Standby systems & other event managements  
With 4.3" Color HMI with touch screen, Ethernet connectivity and security lock for prevention of unauthorized tampering
- **Data Scanner**  
Eight/Sixteen Channel programmable temperature Data Scanner for record, store and print the data online and off line with variable print time intervals, suitable for 80 col. Dot matrix printer.
- **Stand by Refrigeration system**  
Ready to use stand by refrigeration system if the regular system fails (for 600 litres and above ). This includes Compressor, Evaporator, condensers and other accessories.
- **PC interface communication**  
Micro controller based PID controller to record, store and print the set values, process values, Date & time with variable print time intervals with RS-485 communication

- **Software**  
LABTOP "DATALINX " CFR 21 Part 11 compliance windows based communication software for data management. Complete with RS-485 multi dropping to monitor chambers to one software.
- **Timer**  
Micro controller based programmable cyclic timer of 999 Hrs for controlling of various conditions
- **Light bank**  
Chamber Illumination with LED lights bank for photosynthesis studies
- **Ultra violet lamp**  
Chamber illumination with UV-C lamp to sterilize the interior
- **Mobile alert**  
Mobile alert via GSM Technology in case of system failure
- **Door access**  
Biometric magnetic door access for secured door opening and closing with PC interface communication
- **Power Backup**  
Uninterrupted online power supply for PLC in case of power failure
- **Trays**  
Additional tray suitable for above equipment as per your requirement
- **Documentation**  
GMP complaint models LABTOP offers IQ, OQ, PQ and DQ validation with documentation, reports, calibration and test certificates.
- **Calibration**  
The equipment is calibrated with the help of master calibrator, which is certified for its accuracy by Electronics Regional Testing Laboratory (ERTL West) Government of India recognized testing laboratory with traceable reference to National Physical Laboratories (NPL).