

## **CABINET CONSTRUCTION**

The cabinet of Labtop Chambers are insulated with high density CFC free Poly Urethane Foam. Interior of the chambers are mirror finish stainless Steel (304 SS,1.0 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 is also available on request



## **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 cascade refrigeration with time delay to safe guard the compressor.
- 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 for mobile alert via GSM Technology.
- Overload Protector to safe guard the compressor.
- 180 seconds time delay for compressor switch ON.

## **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, Speed, Standby systems and event management with less maintenance hence no moving parts.

- PLC with 4.3" touch screen and color Display
- 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
- Connectivity to LABTOP DATALINX central monitoring software
- High quality PT-100 Sensor for better accuracy



## TEMPERATURE CONTROL SYSTEM

- Micro-control based Temperature controller
- 4 digit, 7 segment LED display
- Password protected keypad lock
- Visual alarm for Sensor faulty
- Display of set temperature and process temperature
- High quality PT-100 Sensor for better accuracy
- Temperature alarm system with adjustable high-low alarm limits.
- Micro-controller controls the internal temperature within  $\pm 1.0$  °C.



## SALIENT FEATURES

- Specially designed Stainless steel Plasma basket ensures even temperature distribution.
- 7 days circular chart recorder for recoding the inside temperature
- Castor wheels for ease of mobility
- PUF insulated inner door for to prevent temperature loss
- Anti-condensation by using hot line at the mouth of the cabinet
- Foamed in place CFC free PUF insulation ensures temperature stability and reduced power consumption.
- Various accessories available as option

Technical Specifications			
Temperature (°C)	-80.0		
Accuracy (°C)	± 1.0		
Uniformity (°C)	Better than ± 5.0		
Control system	Micro control / PLC		
Volume ( Liters )	90	170	350
Plasma Bags	90	170	350
No. of Plasma Baskets	2	3	5
Power (W)	400	600	1000
Noise level (db)	Less than 65		
Voltage (VAC)	230 , 50/60 Hz		
DIMENSIONS (W X D X W) IN MM AND WEIGHT (KG)			
Inner Size	420x380x570	490x420x850	580x510x1200
External Size	580x580x1270	650x620x1580	740x710x1830
Packing Size	710x710x1470	780x750x1780	870x840x2030
Net weight (kg.)	110	150	200
Gross weight (kg.)	150	200	250

## LABTOP DATALINX Software

- Multiple Equipment data monitoring on single software.
- Reports in Tabular and Graphical form
- Mean Kinetic Temperature Report.
- Back up Provision.
- Multi user environment
- Multiple level password with automatic expiry
- Electronic signature
- Audit trial report
- Mobile alert via SMS in case of any deviations
- Online and offline trends

## OPTIONAL 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 communications for central monitoring software **Central monitoring 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.

### 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.

**Chart paper**

One packet (100 Nos.) 7 days circular chart suitable for temperature recorder

**Fiber tip pen**

One packet (5 nos.) fiber tip disposable pen suitable for temperature recorderDocumentation

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).