

STABILITY CHAMBER



APPLICATIONS

Pharmaceutical Industry – Stability testing of drugs, medicines, and vaccines as per ICH guidelines.

Electronics & Electricals – Testing reliability of PCBs, semiconductors, and components under humidity stress.

Automotive & Aerospace – Checking parts, coatings, and materials against climatic stress.

Packaging Industry – Testing packaging durability under humid conditions.

Textile & Leather – Evaluating shrinkage, dimensional stability, and durability.

Food Industry – Shelf-life testing under controlled humidity.

Research & Development – Material behaviour studies under environmental stress.

A **Stability Chamber** is used to simulate and control temperature and humidity conditions for testing the durability, reliability, and performance of materials, components, and products under specific environmental conditions.

KEY FEATURES

- **Stainless Steel Inner Chamber** corrosion resistant, easy to clean.
- **Double Walled Construction** with insulation for thermal efficiency.
- **Precise Temperature & Humidity Control** $\pm 0.5^{\circ}\text{C}$ / $\pm 2\text{--}3\%$ RH accuracy.
- **Temperature Range** commonly 20°C to $+60^{\circ}\text{C}$ or custom ranges.
- **Humidity Range** 40% to 95% RH.
- **User-friendly Control System** digital PID/PLC-based touchscreen.
- **Observation Window & Interior Light** for sample monitoring.
- **Safety Features** (overheat protection, alarms, automatic cut-off).
- **Programmable Cyclic Operation** temperature/humidity variation cycles.
- **Data Logging & USB/RS-485 Interface** for recording test parameters.
- **Caster Wheels** for easy mobility



TECHNICAL SPECIFICATION

Temperature Range	: 20°C-60°C
Humidity Range	: 40%RH-95%RH
Accuracy	: ±0.5°C/±2.0%RH
Uniformity	: ± 1°C/3.0%RH
Suitable for	: 25°C & 60 %RH, 30°C & 65%RH, 40°C & 75 %RH, 30°C & 75% Specially designed chambers for Low Humidity conditions such as 25°C & 40%RH, 40°C & 25 RH, 30°C & 35 %RH

CONSTRUCTION :

- Constructed and fabricated on fully automatic CNC machines. Chamber Interior is fabricated of stainless steel with dull/mirror finish & exterior is of stainless steel for GMP Model /G.I. Powder coated for standard Model.
- The inner working chamber is water & vapour tight high-grade stainless steel. All seams are arc-welded & passivity for strength & durability.
- Chambers are provided with effective air circulation system, heating & cooling systems and humidity generator system.
- Double Door: Inner full viewing glass door and outer door insulated with lock and key arrangement. Inner& outer doors are sealed by silicone sponge rubber gasket.
- Control panel with electrical switch gear and refrigeration system mounted on top for easy service accessibility.
- Equipment mounted on heavy castor wheels for easy movement.
- Heavy Duty Solid Stainless Steel duly electropolished wire mesh /perforated type trays are provided which are easy to clean, time & effort saving also adjustable for convenience

CONTROL SYSTEMS :

Option 1: (PID controller based)

- Microprocessor based PID controller with auto tuning for accurate control of temperature and humidity conditions.
- Rotronic make 4-20mA sensors for better accuracy / Pt100 Sensor for Temperature & Direct% RH electronic capacitance type humidity sensor.
- Data Storage unit facility to store data and to print directly on printer or transfer to software with Date, Time, SV, PV, Door Open/ Close, Power On/Off remarks.
- Safety: Temperature & Humidity High/Low Alarm, Temperature very High/ Low cut off, Water level low cut off.
- Software (21 CFR PART-11 Compliance) : Log data, Event data, Audit Trail data, E-Records & E-Signatures, Graphical analysis & Data acquisition.

Option 2: (HMI + PLC controller based)

- 7" HMI with TFT LCD Colour touch screen with password protection for all parameter actual status monitoring of utilities like Sensor, Heating & Cooling System, Humidity System)
- Rotronic make 4-20mA sensors for better accuracy.
- PLC with auto tuning facility for accurate control of temperature and humidity conditions.
- PLC system for auto changeover of standby systems.
- Data Storage unit facility to transfer the data to software via Ethernet for web based online remote monitoring with Date, Time, SV, PV Door Open/ Close, Power On/Off remarks. Direct report printout provision from HMI.

Safety / Alert:

Temperature & Humidity High / Low alarm, Temperature & Humidity High / Low cut off, Low water level cut off, Auto change over for standby systems.

Software (21 (FR PART-11 Compliance) :

Log data, Event data, Audit Trail data, E-Records & E-Signatures, Graphical analysis & Data acquisition

AVAILABLE SIZES

Model No	Internal Dimension In mm				
	Capacity	Width	Depth	Height	No. Of Tray
PTE-SC 611 A	72 Ltrs	400	400	450	2
PTE-SC 611 B	90 Ltrs	450	450	450	2
PTE-SC 611 C	120 Ltrs	450	450	600	2
PTE-SC 611 D	224 Ltrs	600	600	600	2
PTE-SC 611 E	336 Ltrs	600	600	900	2
PTE-SC 611 F	400 Ltrs	600	600	1100	3
PTE-SC 611 G	500 Ltrs	600	600	1330	4
PTE-SC 611 H	600 Ltrs	800	800	950	4
PTE-SC 611 I	800 Ltrs	800	800	1250	4
PTE-SC 611 J	1000 Ltrs	800	800	1570	4
PTE-SC 611 K	1600 Ltrs	1600	800	1250	10
PTE-SC 611 L	2000 Ltrs	1600	800	1570	10

OPTIONAL ADD ONS

- Stand by Cooling System
- Stand by Humidity System
- Scanner (8 Temp. + Monitoring Purpose) 8 RH for Online
- Mobile Alert System
- Security Alarm System
- 21 CFR Compliance