



**Presto Stantest Pvt. Ltd.**

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## Climatic Test Chamber



### Model :PTH Series

A climatic test chamber is a laboratory instrument to maintain specific temperature and humidity levels to test products in real-world conditions. The system creates stable or cyclic temperature-humidity profiles, enabling engineers to observe how materials, components, and finished products respond over extended periods.

Climatic testing chambers are widely used in the automotive, electronics, aerospace, pharmaceutical, and consumer goods industries. In these industries, performance, reliability, and material stability under varying climatic conditions are critical.

By finding possible problems like heat stress, moisture damage, material breakdown, or electronic issues early in the design process, climatic test chambers greatly lower the chances of product failures, warranty claims, and expensive recalls.

These chambers help improve overall product quality through repeated and accelerated testing, ensuring long-term durability across wide ranges of temperature and humidity.

Presto Enviro is a trusted climatic chamber manufacturer in India which complies with global testing standards such as IEC, JIS, ASTM, ISO, and DIN, which are often mandatory for product certification and global market acceptance.

With these climatic chambers, years of natural weathering can be sped up to just days or weeks, saving a lot of time and money. Additionally, they provide consistent and accurate results which are crucial for research, product development, and quality assurance programs.





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## Features

- Temperature range from -70°C to +180°C with high accuracy ( $\pm 0.5^\circ\text{C}$ ) for extreme thermal testing
- Humidity control range 20% to 98% RH ( $\pm 2.5\%$  RH) for precise simulation
- Advanced PLC/touchscreen control system with programmable cycles and dwell times
- Uniform air circulation via centrifugal baffles for consistent temperature & humidity distribution
- High-efficiency refrigeration system with cascade cooling and eco-friendly refrigerants
- Corrosion-resistant SUS 304 stainless steel interior and exterior construction
- Integrated dehumidification and humidification systems with automatic water refill
- Compliance with international standards IEC 60068, ISO 16750, MIL-STD-810, ASTM, and JIS
- Safety features include over-temperature protection, low-water alarm, door interlocks, and emergency stop
- High-precision sensors for real-time monitoring of temperature, humidity, and chamber conditions

## Specifications

| Model                 |                          | PT-150-BTC                                                                                                                                                                                                  | PT-300-BTC    | PT-600-BTC     | PT-1000-BTC    |
|-----------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------|----------------|
| Temperature           | Temperature range        | -70°C ~ 180°C (A - 40°C ~ 180°C; B - 70°C ~ 180°C)                                                                                                                                                          |               |                |                |
|                       | Temperature Accuracy     | $\pm 0.1^\circ\text{C}$ to $\pm 1.2^\circ\text{C}$ measured at control sensor Resolution: $0.1^\circ\text{C}$                                                                                               |               |                |                |
|                       | Humidity uniformity      | < 1000 Litres: $\leq 1.5^\circ\text{C}$ . 1000 to 2000 Litres: $\leq 2.0^\circ\text{C}$ . > 2000 Litres: $\leq 2.5^\circ\text{C}$ .                                                                         |               |                |                |
| Humidity              | Ramp rate                | Heating & Cooling: $5^\circ\text{C}/\text{min}$ average as per IEC 60068 3-5 for above temperature range Measured at control sensor between $+155^\circ\text{C}$ to $-45^\circ\text{C}$ in an empty chamber |               |                |                |
|                       | Temperature              | Heating & Cooling: $3^\circ\text{C}/\text{min}$ linear from $+120^\circ\text{C}$ to $-40^\circ\text{C}$ in an empty chamber                                                                                 |               |                |                |
|                       | Humidity control range   | 10.0%RH ~ 98.0%RH                                                                                                                                                                                           |               |                |                |
| Material / components | Humidity fluctuation     | $\pm 1.0\%$ RH                                                                                                                                                                                              |               |                |                |
|                       | Humidity uniformity      | $\pm 2.0\%$ RH                                                                                                                                                                                              |               |                |                |
|                       | Internal material        | SUS304 stainless steel(1.2mm)                                                                                                                                                                               |               |                |                |
| Size                  | External material        | Cold-rolled plate(1.2mm), powder coating                                                                                                                                                                    |               |                |                |
|                       | Heat insulation          | Poly urethane foam(100mm) +glass wool(10mm)                                                                                                                                                                 |               |                |                |
|                       | Heat insulation          | Poly urethane foam(100mm) +glass wool(10mm)                                                                                                                                                                 |               |                |                |
| Material / components | Fan                      | Centrifugal fan (Impeller Fan)                                                                                                                                                                              |               |                |                |
|                       | Refrigeration compressor | Hermetic compressor                                                                                                                                                                                         |               |                |                |
|                       | Cooling mode             | Air cooling or Water cooling                                                                                                                                                                                |               |                |                |
| Size                  | Refrigerant              | R449, R23, R508                                                                                                                                                                                             |               |                |                |
|                       | Evaporator               | Fin - and - Tube Heat Exchanger                                                                                                                                                                             |               |                |                |
|                       | Heater                   | Nickel chromium alloy heating wire                                                                                                                                                                          |               |                |                |
| Size                  | Humidifier               | Steam humidifier                                                                                                                                                                                            |               |                |                |
|                       | Interior size(mm) W*H*D  | 500*400*700                                                                                                                                                                                                 | 650*600*800   | 800*850*900    | 1000*1000*1000 |
|                       | Outer size(mm) W*H*D     | 700*1670*1275                                                                                                                                                                                               | 700*1880*1290 | 1000*1950*1400 | 1200*2050*1780 |
| Size                  | Volume (L)               | 150L                                                                                                                                                                                                        | 300L          | 600L           | 1000L          |
|                       | Weight (kg)              | 380                                                                                                                                                                                                         | 450           | 680            | 840            |
| Working Temperature   |                          | $+5 \sim 35^\circ\text{C}$                                                                                                                                                                                  |               |                |                |

