

The Tempsens Laboratory and Industrial ovens Series offered a range of precision electric ovens. They are designed for low temperature thermal treatment such as drying, heating and thermal testing in an air-flow assisted environment.

Forced air convection (Hot Air Oven) is used to provide more effective drying and quicker heating, as well as improved temperature uniformity throughout the chamber. With a temperature range of 50 to 500°C, the precision temperature control system provides good stability and uniformity for high quality results.

A digital PID temperature controller, displaying the current temperature and set-point is fitted as standard, with the option of more advanced controllers with additional functionality also available. An independent over-temperature protection device is fitted as standard that prevents the oven exceeding its maximum temperature. Most models have a fan speed controller. All models have a control knob to select internal or external air circulation (or a mixture as desired).

Our ovens are available with optional NABL calibration of the temperature controller and thermocouple as a system or also with a 3-point or 5-point thermal survey of the chamber volume.

As Tempsens offered different series of the ovens, applications and detail of some ovens are explained below:

1. Conveyor Oven

The oven is designed to work up to maximum temperature of 250°C. The main structure is made with high quality mild steel angles and the heating muffle of is made of Stainless Steel grade. Outer body shall be made of CRCA sheets with neat powder coat finish. It consists of metal rollers/wheel for initial movement of tray. The movement of roller is via VFD. Electric Conveyor mesh belt type is used for continuous heating purpose of large quantities of goods. Conveyor belt continuously rotate through the electrically which poses the temperature (ambient to 250°C). Material to be heated is kept at one end on belt which passes through the oven. This is a continuous process

Optional Features

- ✓ Provision for gas/vacuum purging application (Ar, N2, O2, H2, CO2 etc.)
- ✓ Programmable PID Controller with RS-232/RS-485/Ethernet & Data Logging Software
- ✓ Available in standard or as per customer size requirement

Standard features

- Capacity – 4 Liter to 14000 Liters
- Temperature uniformity throughout the chamber with Forced air convection
- Temperature range up to 500°C
- Digital PID temperature controller
- Safety controller for over-temperature protection
- Tubular Heaters/Nichrome are used as a heating element inside the oven for better uniformity



2. Laboratory Oven

Tempsens offered wide range of Laboratory Electric Oven. The laboratory oven models are ideal for general laboratory work and routine heat applications. The Temperature range of the laboratory oven is from ambient to 500 deg C.

Tempsens smallest oven has a capacity of 4 litres, but larger standard volume ovens up to 14,000 litres are available. All the ovens are designed as per customer requirement. Tubular Heaters are used as a heating element inside the oven for better uniformity.

The Forced air hot circulation air ovens achieve a perfect temperature uniformity which is much better than in ovens of most competitors. They can be used for various applications such as e.g. drying, sterilizing or warm storing. The inner chamber is made of Stainless Steel and outer cover will be made of Mild Steel with Powder Coated.

They all provide excellent temperature uniformity and comply with safety standard. Each laboratory oven may be equipped with a number of options to meet customer requirements. This includes, for example, over-temperature protection, individual shelves and runners for different lab applications, digital timers or more advanced laboratory oven temperature control and programmer systems.



3. Four Pocket Oven

Four pocket Electric ovens are mainly having four different zones with individual heating, controlling and switching facility. The electrical oven can be used universally for different heat processes (preheating, tempering, incinerating, annealing, hardening, sintering, soldering) in laboratory and in production. This type of oven is basically used for applications where one material is to pre heated at different temperature or where there is requirement of fast heat treatment of material at different temperature.

The 4 Zone ovens consist of four individual controlling sensors with individual hot zone with tubular type heating element. Tubular heaters are used to obtain uniform temperature



4. Oven for Gas Analyzer:

This is different application of the oven, where complete gas analyzer is fits inside the inner chamber of the oven. The oven is operated in the range of ambient to 200 deg C. The outer chamber is of Stainless steel and Inner chamber is also of Stainless Steel. There are different cutouts inside through which gas analyzer parts are fixed. The gas is passed inside the chamber and it is operated at elevated temperature. Tubular heaters are used for uniform temperature inside the oven and digital PID Temperature controller is used for temperature controlling.



5. Bogie Industrial Oven

Tempens Electric ovens are used for Industrial purpose. Bogie Electric oven is designed for operating temperature range of ambient to 500 deg C. It has sliding mechanism for easy insertion and removal of material from either side. Tubular heaters are used for obtaining uniform temperature. The inner chamber of the oven will have railings of the top on which pipes will be moved inside the oven. It is top loaded bogie oven. There is other design of Bogie Oven in which there is one shuttle in the bottom which will move in and out inside the inner chamber of the oven. Bottom side of the oven, bogie arrangement is made for loading the GT wheels. The bogie will be movable on rails. The bogie is a separate item which is meant for loading the GT wheels. This type of ovens are used where heat treatment of heavy goods are required. Customized sizes are available as per customer requirement. Inner chamber is made of Stainless Steel and Outer body is Mild Steel Powder coated.



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