

forced air drying oven for the pharmaceutical industry

The forced air drying oven heats the air through the electric heating element, and then makes the air circulate inside the box through the forced convection fan to realize the uniform heating and drying of samples, which is used for drying, baking, melting wax and heat treatment.

Forced Air Drying Oven

The forced air drying oven is a versatile instrument widely used in experimental research and production processes across food, chemical, pharmaceutical, electronics, and other industries. It offers high safety, precise temperature control, and uniform drying performance for a wide range of applications.

Main Features

1. **High Safety:** Over-rise alarm system automatically warns of excessive temperatures, preventing equipment damage and safety incidents.
2. **Accurate Temperature Adjustment:** Special function keys enable precise temperature setting for stability and repeatability.



3. **Convenient Operation:** Fixed value operation and timer control allow automatic stop after completion, reducing manual intervention.
4. **Auxiliary Menu Functions:** Includes over-rise alarm, deviation correction, and menu lock for enhanced safety and convenience.
5. **Vertical Dual-Airway Air Jacket Design:** Turbo centrifugal fan creates forced convection, ensuring uniform temperature distribution.
6. **Fan Speed Control:** Adjustable speed for drying light, fine, or powdery samples to match airflow with sample needs.
7. **Long and Stable Operation:** Forced fan cooling keeps fan temperature below 50 °C, extending fan lifespan.
8. **Wide Temperature Range:** Room temperature +10 °C to 300 °C.
9. **Forced Convection Air Circulation:** Ensures uniform heat distribution.

Working Principle

The oven uses an electric heating element to heat air, which is then circulated by a turbo centrifugal fan through a vertical dual-airway air jacket. This design creates a uniform airflow, ensuring even heating of samples. Fan speed can be adjusted for different sample types. Integrated alarm and protection mechanisms guard against temperature over-rise for safe operation.

Advantages

1. **Temperature Uniformity:** Dual-channel air jacket and forced convection guarantee even sample heating and minimal temperature gradients.
2. **Energy-Saving & Efficient:** Fan speed control and forced convection improve heat utilization and reduce energy waste.
3. **Safe & Reliable:** Advanced control and alarm systems ensure operator and equipment safety.
4. **Easy Operation:** Features include timing, fixed value, and automatic stop to simplify operation and minimize human error.

Application Areas

1. Laboratory research: Sample drying, baking, and heat treatment for chemical, biological, and physical experiments.
2. Food industry: Food drying, wax melting, baking, and other processes preserving flavor and nutrients.
3. Electronics industry: Drying and baking electronic components, circuit boards, sensors, and precision parts.
4. Pharmaceutical industry: Drying herbs, drug curing, and melting, complying with GMP requirements.
5. Material processing: Suitable for drying powdery or granular substances in various materials.

Optional Configurations

1. **Partition:** Flexible internal space adjustment for diverse sample drying needs.
2. **RS485 Interface:** Supports external device data exchange for remote monitoring and operation.
3. **Printer and Recorder:** Real-time temperature and status recording for data archiving and analysis.
4. **Remote Control & SMS Alarm:** Enables remote management and monitoring with SMS alerts.
5. **U Disk Data Storage:** Convenient data saving and export for post-experiment analysis.