

# RXH-144

## Hot Air Dry Oven



**EQUIPMENT  
TECHNICAL PARAMETER**

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## MACHINE OVERVIEW

This equipment uses electricity as the heat source, and under forced circulation by a fan, the hot air layer flows through the drying plate to transfer heat to the material, taking away the humidity in the material. According to the different requirements of the material and the different states of the drying process, the proportion of air discharge and circulation can be adjusted, thereby achieving the dual improvement of drying speed and heat utilization rate. This is also the advantage of the hot air circulation drying oven.

This oven is a tray type gap drying equipment with a wide range of versatility, suitable for dehumidification, solidification, and drying of materials and finished products in industries such as pharmaceuticals, chemicals, food, light industry, electronics, etc., such as raw materials, raw medicines, traditional Chinese medicine decoction pieces, powders, granules, granules, honey balls, pigments, spices, packaging bottles, dehydrated vegetables, food, plastic resins, electrical components, baking paints, etc.

## **MACHINE FEATURES**

1. Most of the hot air is circulated inside the box, with high thermal efficiency and energy conservation;
2. The whole machine has low noise and smooth operation. Temperature control, easy installation and maintenance;
3. Utilizing the principle of forced ventilation, there is a adjustable air distribution plate inside the box, which ensures uniform drying of materials;
4. It has a wide range of applications and can dry various materials, making it a universal drying equipment.

## **MANUFACTURING REQUIREMENTS**

1. Production capacity: Maximum drying capacity each time~240kg
2. Operating temperature: Room temperature~120 °C (adjustable)
3. Heating source: Electric
4. Electric heating: heating power of 27kw, with a set of stainless steel 304 heating pipes installed in the top air duct of the box; Cooperate with instrument PID and solid-state relay to stabilize output and adjust the temperature inside the chamber
5. In order to shorten the drying time, improve the drying efficiency, and ensure the uniformity of temperature in each layer by evenly sending hot air into every corner of the box, three hot air circulating axial flow fans are installed on the right side of the box, with a total air volume

of 12600m<sup>3</sup>/ h. The fan has a power of 0.55KW and a voltage of 380V, and is a high-temperature resistant fan.

6. Four matching drying trucks, made of stainless steel square tubes and stainless steel plates. The stainless steel plates are bent into tracks and made of SUS 304 material. The drying wheels are made of high-temperature resistant nylon (4-inch)
7. The external dimensions of the drying car are: 705 wide, 940 deep, and 1380mm high (including wheels)
8. There are 96 matching baking trays, with dimensions of 460 × 640 × 45 (mm) and material of 304 stainless steel. They are formed by one-time stamping (with straight or rolled edges optional and punched as needed), with a thickness of  $\geq 0.7\text{mm}$ .
9. The four corners inside the box are all rounded corners, and the intersection between the corners is a spherical semi-circle, which is convenient for cleaning and smooth hot air flow. The outer surface of the box is free of unevenness, flat, smooth, and beautiful, meeting the requirements of GMP.
10. The joints of the surface panels inside the box are all formed by argon arc welding and fully welded, and polished. They are produced as a complete assembly.
11. The box door is a front facing door, consisting of 2 doors. The door structure is a lever pressed structure, and the door pressure strip is a high-temperature resistant silicone rubber sealing strip, with excellent insulation performance.
12. To supplement some fresh air inside the oven and meet the cleanliness requirements, two air inlets are made at the top of the hot air circulation fan of the oven, equipped with a high-temperature and high-efficiency filter (200x200x150mm), and two air inlets are installed in the oven.
13. In order to improve drying efficiency, ensure that the moisture inside the box is quickly and evenly discharged outside the box, and meet the cleanliness requirements, a dehumidification port is made at the top of the box, and a high-temperature and high-efficiency filter (200x200x150mm) is installed. There is one dehumidification port in the box, and a dehumidification fan is installed on top of it. The dehumidification time is

automatic dehumidification, and the power of the dehumidification fan is 370 W/380V;

Simultaneously install electric check valves, dehumidification check linkage, and check valves  $\varphi$  60 per piece.

14. The high-temperature and high-efficiency filters at the top of the box, including the air inlet and dehumidification air outlet, are both made of quick installation, making them easy to disassemble and clean
15. To ensure that the bottom plate of the box does not deform during long-term use and the drying truck enters and exits smoothly, the steel structure at the bottom of the box is strengthened
16. The diagonal feeding rack for the inlet and outlet of the supporting drying truck is made of 304 stainless steel plate with a thickness of 2.0 mm. The hinges on the diagonal feeding rack are a set of lock type hinges made of stainless steel round steel.
17. The track groove on the bottom plate of the box is a concave convex closed track groove, which is made on top of the bottom plate inside the box. It is fully welded without gaps or dead corners and meets the latest requirements of GMP, making it easy for insulation inside the box and preventing impurities from entering the box.
18. The external dimensions of the box are: door width 2460 x depth 2100 x height 2280 (mm)
19. The outer surface plate is made of 304 stainless steel plate with a thickness of 1.2 mm, which is a laminated matte plate.
20. Studio dimensions: Door width 1600 x depth 2000 x height 1460 (mm)
21. The inner plate is made of 304 stainless steel plate with a thickness of 1.2mm to 1.5mm, which is a laminated matte plate.
22. In order to minimize the loss of temperature inside the box, save energy consumption, and ensure the temperature in the working environment, the insulation layer of the box is 60 mm thick and filled with high-temperature and fire-resistant insulation cotton.
23. To ensure that the hot air is evenly fed into the box, a staggered adjustable air distribution plate is installed outside the left and right air duct layers inside the box, which is movable

and adjustable, making it easy for the hot air inside the box to be evenly adjusted from top to bottom.

24. The control system of the box is installed on the right side of the box, and the temperature is adjusted by the solid-state relay PID module. It automatically controls temperature and maintains constant temperature, with a smooth process and easy operation.

## MACHINE PAMAMETER

| MOLD                              | RXH-144                | REMARK |
|-----------------------------------|------------------------|--------|
| Overall Dimensions ( mm)          | 3460*2100*2280         |        |
| Working Dimensions ( mm )         | 2400*2000*1460         |        |
| Temperature Range(°C)             | Room Temperature-120°C |        |
| Heating Method ( kw )             | 45KW                   |        |
| Fan Power ( kw)                   | 0.55×4                 |        |
| Supporting Drying Truck (vehicle) | 705×940×1270           | 6      |
| Baking Tray (mm)                  | 640×460×45 mm          | 144    |
| Moisture Removal Power ( w )      | 750W                   |        |
| Weight ( kg )                     | 2400                   |        |

## ELECTRONIC PART LIST

| NO. | NAME                         | MODEL   | MANUFACTURER                     |
|-----|------------------------------|---|----------------------------------|
| 1   | Box Shell                    | δ1.2 mm   | Wuxi                             |
| 2   | Inner Wall Of The Box        | δ1.2-1.5 mm                                       | Wuxi                             |
| 3   | Air Duct And Convection Wall | δ1.2 mm   | Wuxi                             |
| 4   | Trolley Ramp                 | δ2.0 mm   | Wuxi                             |
| 5   | Second Floor Air Duct Board  | δ1.2 mm   | Wuxi                             |
| 6   | Heating Tube                 | SS 304/45kw                                       | Hanyoo                           |
| 7   | Drying Car                   | 30×30×1.5mm                                       | Wuxi                             |
| 8   | Baking Tray                  | 460×640×45mm                                      | Hanyang                          |
| 9   | Insulation Materials         | Aluminum Silicate Fiber Cotton 60mm               | Wuxi Insulation Material Factory |
| 10  | Sealing Material             | Edible high-temperature resistant silicone rubber | Nanjing Xiushen                  |
| 11  | Hinge Compression            | 6 INCH  | Wenzhou                          |
| 12  | Drying Wheels                | 100mm Grivory HT                                  | Guangzhou                        |
| 13  | Control Box                  | SS 304δ1.2 mm                                     | Hanyoo                           |
| 14  | High Efficiency Filter       | 200×200×150×5                                     | Guoyi Purification               |
| 15  | Main Fan                     | 0.55kw×4  | Shengzhou Electromechanical      |
| 16  | Moisture Exhaust Fan         | 0.75kw  | Zhejiang Yinniu                  |
| 17  | Electric Check Valve         | MCφ60/SS 304                                      | Shanghai Yuehua                  |



## LIST OF APPLIANCES

| NO. | NAME                      | MODEL               | BRAND             |
|-----|---------------------------|---------------------|-------------------|
| 1   | Air switch                | 160A                | Chint             |
| 2   | Circuit breaker           | DZ47-60A 2P C10     |                   |
| 3   | Contactor                 | CJX2-0910/1210 220V | Chint             |
| 4   | Contactor                 | CJX2-5011x2 220V    | Chint             |
| 5   | Signal light (red)        | DN16-22BS/4 220V    | Chint             |
| 6   | Signal light (green)      | DN16-22BS/4 220V    | Chint             |
| 7   | Temperature control meter | AK-6                | Changzhou Huibang |
| 8   | Time relay                | DH48S-1Z            | Zhuochuang        |
| 9   | Temperature sensor        | PT-100              | Shanghai Jiashang |
| 10  | Power button              | NP2-BS542           | Chint             |
| 11  | Heating button            | NP2-BS542           | Chint             |
| 12  | Fan button                | NP2-BS542           | Chint             |
| 13  | Electrical wires          | several             | Chint             |
| 14  | Solid state relay         | 160A                | Taiwan            |



A dark blue horizontal banner featuring several white line-art icons related to medicine and healthcare. These include a blister pack of pills, a medicine bottle with a cross, two crossed capsules, a pill bottle, two pills, a syringe, and another blister pack.

# **HANYOO**

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