

# CE-225

## **Mesh Conveyor Heat Tunnel**

# **Operation Manual**



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#### I. Foreword

The CE-225 Mesh Conveyor Heat Tunnel Machine has the advantage of high heating efficiency, accurate temperature control and stable performances.

#### II. Function

The thermal shrink packing method is a popular and economical packaging method in the packing industry. There is an increasing demand for its economical, simple packing and aesthetically pleasing appearance. The product is wrapped with the shrink film and then shrunk and molded to product by heat. The package conforms to the shape of the product and is transparent to show product clearly. The shrink film helps ensure product is protected from moisture, pollution, and scratching or marring.



### **III. Technical Parameters**









| Voltage             | 220V, 50~60Hz           |
|---------------------|-------------------------|
| Power               | 7.65 Kw                 |
| Speed               | 0-10 m/min              |
| Tunnel Size         | 800x400x200 mm          |
|                     | 31.5 x 15.75 x 7.9 in.  |
| Load                | 5Kg (11 lbs)            |
| Machine size (Low)  | 1060x620x815 mm         |
|                     | 41.75 x 24.5 x 32 in.   |
| Machine size (High) | 1060x620x1240 mm        |
|                     | 41.75 x 24.5 x 48.9 in. |

### IV. Panel



| 1 | Temperature Control  | Display/Adjust temperature inside<br>Shrinkage Furnace   |  |
|---|----------------------|--|--|
| 2 | Heating Adjustment   | Adjust Power of Heating Pipe                             |  |
| 3 | Conveying Adjustment | Adjust speed of conveying motor                          |  |
| 4 | Conveying Switch     | Controlling switch of conveying belt motor               |  |
| 5 | Heating Switch       | Switch for controlling heating tube in shrinkage furnace |  |
| 6 | Fan Switch           | Switch control for fan motor of shrinking furnace        |  |
| 7 | Power Indicator      | Indicates whether machine power is on                    |  |
| 8 | Power Switch         | Control power on & off of machine                        |  |



#### V. Instructions for Operation

- 1. Place the machine on a level surface and remove the outer package.
- 2. For the operator's personal safety, the machine must be grounded according to the regulations before use and ensure that the contact is good (good grounding can reduce the electric shock damage to the human body when a single-phase ground fault occurs in the electrical appliance.) Connect to the power supply according to the power supply voltage specified on the machine label.



220V

3. Close the power switch, turn on the heating switch, and set the temperature of the thermostat to about 170 °C.



4. Adjust the heating adjustment know to the appropriate position according to the shrinkage rate of the film.





5. Turn on the conveyor switch and adjust the conveyor know to adjust the conveyor speed to the appropriate gear position.



6. After the above operation is completed, let the machine run (preheat) for 5-10 minutes, then open the fan switch on the panel. The machine is now ready for operation.



- 7. During the shrinking process, the speed and temperature can be adjusted according to the actual situation. Since the temperature and speed are mutually restrained, it may be necessary to repeat the adjustment several times to meet the requirements.
- 8. After the packaging is finished, the heating switch should be turned off first, and the conveying motor and the fan motor should continue to run for about 10 minutes before turning the machine off to increase the service life of the machine.



### VI. Electrical Diagram



### VII. Component Diagram



| Number | Item                           | Qty | Material               |
|--------|--------------------------------|-----|------------------------|
| 1      | Electrical Box Cover           | 1   | 1.0/Q235               |
| 2      | Electrical Box                 | 1   | Group Weldment         |
| 3      | Tunnel                         | 1   | Group Weldment         |
| 4      | Medium Grid Combination        | 1   | Group Weldment         |
| 5      | Heat Pipe assembly             | 10  |                        |
| 6      | Curtain vertical bead          | 4   | 1.5/Q235               |
| 7      | Curtain horizontal strip       | 2   | 1.5/Q235               |
| 8      | Thermal insulation board       | 2   | Group Weldment         |
| 9      | Upper Liner                    | 1   | 1.0 / Galvanized Sheet |
| 10     | Frame                          | 1   | Group Weldment         |
| 11     | Stainless Steel hinge (4 inch) | 2   |                        |
| 12     | Conveyor Chain                 | 1   |                        |
| 13     | Permanent Magnet DC Motor      | 1   |                        |
| 14     | Motor Sprocket                 | 1   | 45                     |
| 15     | Motor Board                    | 1   | 5.0/Q235               |
| 16     | Small Roller                   | 2   | Assembly Drawing       |
| 17     | Chain Baffle                   | 2   | 1.5/Q235               |
| 18     | Chain Cover 2                  | 2   | 1.0/Q235               |
| 19     | Drive Roller                   | 1   | Assembly Drawing       |



| Number | Item                         | Qty | Material                |
|--------|------------------------------|-----|-------------------------|
| 20     | Explosion-Proof Bulb         | 1   | 1                       |
| 21     | Curtain                      | 1   | High Temperature Cloth  |
| 22     | Electrical Floor             | 1   | 1.0/Galvanized Sheet    |
| 23     | Electrical Control Assembly  | 1   |                         |
| 24     | Cover                        | 1   | Group Weldment          |
| 25     | Observation Window Partition | 1   | Group Weldment          |
| 26     | Observation Window Platform  | 1   | Group Weldment          |
| 27     | Observation Window Partition | 1   | Group Weldment          |
| 28     | Guide Assembly               | 2   |                         |
| 29     | Furnace Shield               | 1   | 1.0 / Galvanized Sheet  |
| 30     | Chain Cover 1                | 2   | 1.0/Q235                |
| 31     | Passive Roller               | 1   | Assembly Drawing        |
| 32     | Fan Motor                    | 1   | 50W                     |
| 33     | Lower Liner                  | 1   | 1.0 / Galvanized Sheet  |
| 34     | Pole                         | 1   | 45                      |
| 35     | Fan                          | 1   | Self made               |
| 36     | J103 Box Buckle Assembly     | 2   | Q235/1.2/Nickel Plating |
| 37     | Tripod                       | 2   | Group Weldment          |
| 38     | Casters                      | 4   | Ø75x30                  |



### VIII. Troubleshooting

| Case                  | Cause                              | Solution          |  |
|-----------------------|------------------------------------|-------------------|--|
| No Heat in the Tunnel | No Power                           | Turn On Power     |  |
|                       | Heating Switch Broken              | Replace           |  |
|                       | AC Contactor, Solid-               | Replace or Repair |  |
|                       | booster or                         |                   |  |
|                       | temperature meter is               |                   |  |
|                       | broken                             |                   |  |
|                       | Heat adjustment is in              | Adjust            |  |
|                       | the lowest position                |                   |  |
| Temperature of Tunnel | Some heating pipes                 | Replace           |  |
| is Low                | broken                             |                   |  |
|                       | Heat adjustment is too             | Increase          |  |
|                       |                                    |                   |  |
|                       | Temperature is set too             | Reset             |  |
|                       | low<br>One of the 3 fire wires     | Re-Connect        |  |
|                       | is loose                           | Re-Connect        |  |
| Conveyor Motor Stops  | Switch or Adjuster                 | Replace           |  |
| Running               | Broken                             | Replace           |  |
|                       | The motor burned                   | Replace           |  |
|                       | Carry Adjustments is in            | Adjust            |  |
|                       | the Lower position                 |                   |  |
|                       | Block on the driving               | Adjust / Mend     |  |
|                       | unit                               |                   |  |
| Motor of fan not      | Fan Switch Broken                  | Replace           |  |
| working               | Fan Motor Broken                   | Replace           |  |
|                       | Circuitry broken                   |                   |  |
| Stop suddenly         | Power loose or fuse<br>pipe broken | Replace           |  |
|                       | Circuitry broken                   | Mend              |  |



### IX. Shrink Film Temperature Guide

| Name    | Thickness   | Heating Time | Temperature |
|---------|-------------|--------------|-------------|
| Inallie | (mm)        | (S)          | (°C)        |
| PVC     | 0.02 - 0.06 | 5 - 10       | 110 – 130   |
| РР      | 0.02 - 0.04 | 6 - 12       | 130 – 170   |
| PE      | 0.06 - 0.20 | 10 - 60      | 150 - 180   |
| POF     | 0.03 - 0.10 | 8 - 16       | 130 - 170   |