Cleveland Equipment

CE -210 Heat Shrink Tunnel Machine Operation Manual

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Table of Contents

I. FOREWORD

The CE -210 Heat Shrink 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. FEATURES

1. Adjustable height suitable for varying product sizes. Energy saving design for efficient packaging of small products.

2. Conveyor system adopts beehive-style heat resistance with Teflon belt to prevent sticking or damage to product. The Teflon belts provides effective heat containment during operation and gives a more stable and smoother run than normal chain-style conveyor with no shaking.

3. Shrink tunnel adopts heat jet circulation provide a uniform shrink effect and seal.

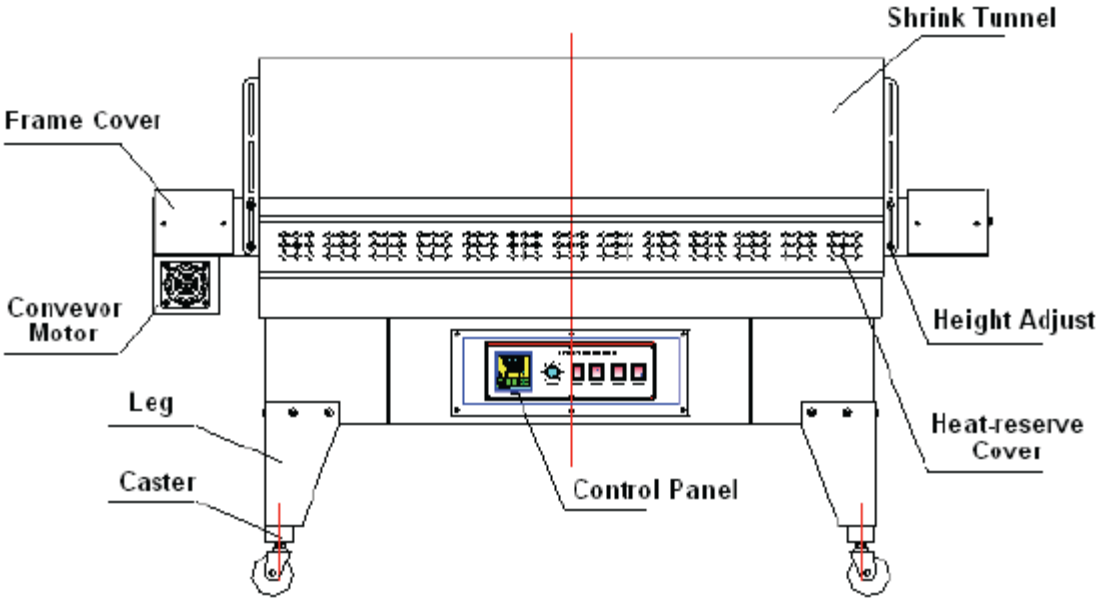
IV. SPECIFICATION

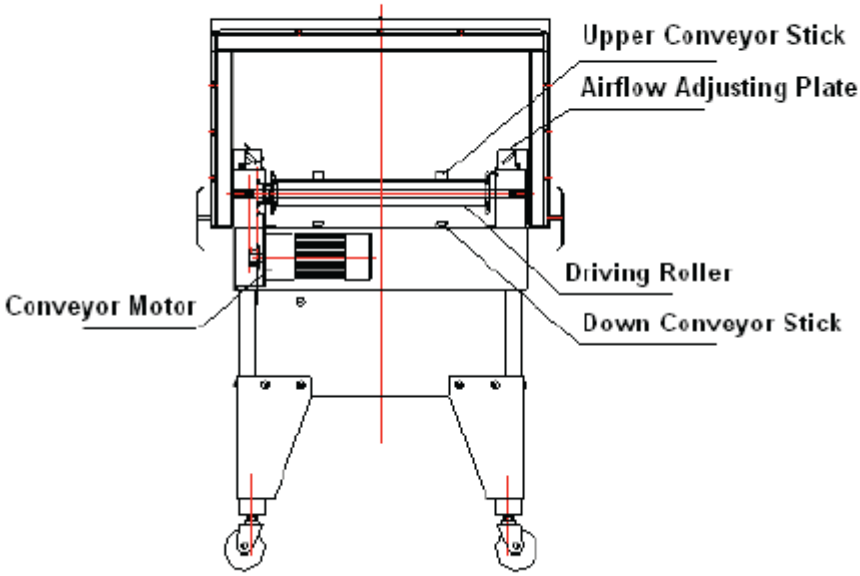
Model	CE-210
Voltage	220V 50-60HZ
Power	9.5 KW
Conveyor speed	0-10m/min
Conveyor loading	5 Kg (11 lbs.)
Conveyor Motor	AC90W / 220V / 1:30
Tunnel size (H adjustable)	1200 x 450 x 350mm 47.25 x 17.71 x 13.77 in.
Package Size (H Adjustable)	330 W x 300 H mm 12.9 W x 11.8 H in.
Film	POF / PVC / PP /POP
Machine Size	1600 L x 700 W x 1000 H mm 63 x 27.6 x 39.4 in.

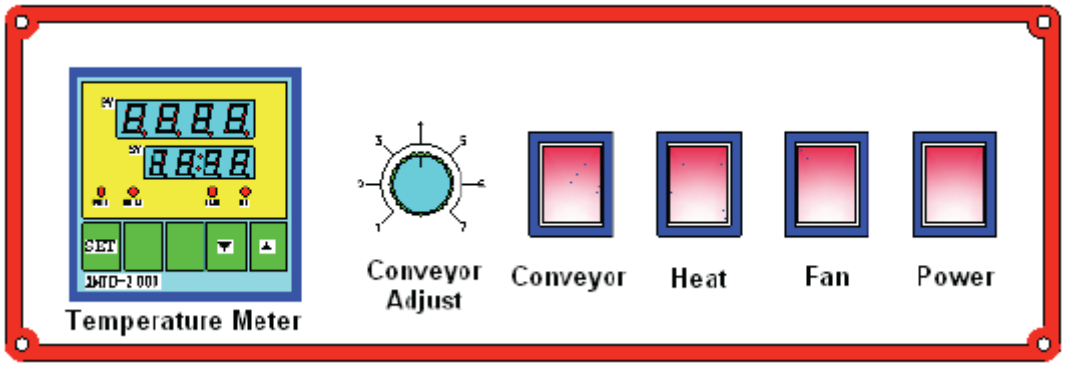
VII. REFERENCE OF SHRINK TEMPERATURE AND TIME

SHRINK MEMBRANE	THICKNESS (MM)	SHRINKING TIME (S)	TEMPERATURE (℃)
POF	0.02-0.10	8-16	130-170
PP	0.02-0.04	6-12	130-170
PVC	0.02-0.06	5-10	110-130
POP	0.02-0.10	8-16	130-170

V. STRUCTURAL DIAGRAM / CONTROL PANEL







VI. OPERATIONAL PROCESS

1. Place the machine on the level ground and unpack it; make sure to complete the ground connection for the safety of operator. (Notice: Grounding plate is displayed in the picture on the right; it can be found on one of 3 power wires if it is single phase; it can be found on the body of machine if it is 3 phase with 4 power wires)

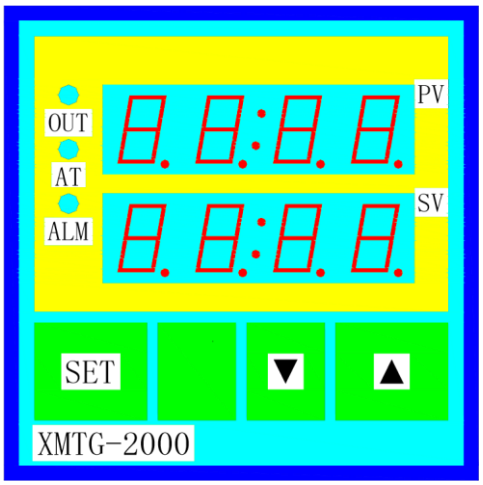
2. Confirm the power supply requirement of machine, and plug in the machine with right power source as noted on the index tag.

3. According to the height of the packing products, adjust the height of the shrink tunnel. First loosen nuts on the four corners of the machine. Djust the height of the shrink tunnel to be about 5cm above packing products. Tighten nuts keeping all 4 corners level with the adjusted height.

4. Adjust the angle of airflow adjusting plate in the shrink tunnel, in order to let hot airflow blow packing products properly. Normally approximately 45°C.

5. Turn on the Power switch. The switch will light up indicating the machine is on. (Notice the switch powers its own light.)

6. Turn on the heat switch. The temperature meter will show practical value and set value; set required temperature according to the dimension of packing products and thickness of film, air temp, etc., normally approximately 160℃. The method of adjusting intelligent temperature meter is below:



a) The upper line of number in red shows the practical value (PV), and the down line of number in green shows the set value (SV).

b) Press the SET button, the green light flashes.

c) Press ▲ to increase or press▼ to decrease the temperature.

d) After setting the temperature, press down the SET button again. It starts to work when the green light stops flashing.

Notice: When setting temperature, use a soft touch as the intelligent meter is sensitive.

7. Turn on the Fan switch. The two fans will start running. Turn on the conveyor switch. General the speed of the conveyor is in the middle position first and then adjust it while testing.

8. When it reaches set value (SV), we can start testing or working.

9. During the process of shrinking, adjust the temperature and conveyor speed according to practical case. If there are some wrinkle, which means too low temperature or too fast speed, we can increase its temperature or lower the speed. In the contrary, it means too high temperature or too low speed if the film is broken. Adjust these two factors—temperature and conveyor speed, until shrink effect is satisfactory.

10. The shrink effect can also be influenced by the direction of hot airflow that is determined by the airflow adjusting plate. Adjust the airflow plate according to the height of the product to achieve optimal shrink result.

11. After finish packing, turn off the heat switch and let conveyor and fan run for a while in order to cool down the shrink tunnel to prolong the life of machine.

VIII. CAUTION

1. The electrical input power rate must be higher than the Rated power of the machine to ensure proper function. The power source must be the same as noted on the tag to avoid any circuitry or electrical shock or fire hazard.

2. The electrical wiring must be connected properly to prevent any damage to machine or safety risk to the operator.

3. The machine must have the ground connection installed and secured properly. It is easy to get electric shock for operator without earth connection.

4. Do not set temperature above 200℃, higher temperatures can damage the heating pipe or shorten its life.

5. The machine should be installed in a level position to extend the life of the electric thermal pipe.

6. Every three months, check the wire and heating pipe in the tunnel wear due to aging and heat from shrink tunnel; replace if necessary.

7. The Teflon conveyor belt is easily cut by sharp items. Take care not to damage the belt. Also, the Teflon belt cannot exceed its load weight or damage to the conveyor motor and belt can occur.

8. In order to prolong the life of heating pipes, follow the operation guide according to following steps:

   a) When starting machine, turn on the heating device and hot fan together at the same time.
   b) When stopping machine, cut off the heating device first and let fan run for a while to cool down.

9. Do not touch conveyor or stretch hands into shrink tunnel to avoid burning, while the machine is working.

IX. COMMON MALFUNCTION

Case	Cause	Method
No heat in the tunnel	Heating switch broken	Replace
	Heating pipe or circuitry broken	Replace or repair
	AC contactor, Solid-booster or temperature meter broken	Replace
	Heat adjustment is in the lowest position	Adjust
The temperature of the tunnel is too low	Some heating pipes broken	Replace
	Heat adjustment is too low	Increase
	The temperature is set too low	reset
	One of the 3 fire wires loose	Re-connect
Conveyor motor stop running	Switch or Adjuster broken	Replace
	The motor burned	Replace
	Carry adjustment is in the lowest position	Adjust
	Block on the driving unit	Adjust or mend
The fan motor does not work	The switch of the fan broken	Replace
	The motor of the fan broken	Replace
	Circuitry broken	Mend
Stop suddenly	Power loose or fuse pipe broken	Replace

X. MAINTAINANCE

1. Switch off power while doing maintenance service. Professional technician is required, or ask us for assistance.

2. During guarantee period of one year, when the case happens because of quality problem, our company will offer broken parts for free, excluding short-life parts. If it is because of improper operating method or by natural accident, we will charge for spare parts and service.

3. Our company provides parts with charge if self-repair is made.

XI. SPARE PARTS LIST

NO.	ITEMS	QTY.	NO.	ITEMS	QTY.
1.	Inner-hexagon spanner 4,6 mm	1 Each	**2.**	Spanner 8*10,12*14,17*19mm	1 Each
3.	Test pen	1 Pc	**4.**	Cross-head screwdriver	1 Pc
5.	Carbon Brush	1 Pc			

XII. CIRCUIT DIAGRAM