

# FR-900 Multi-purpose Membrane Sealing Machine

## Operational Manual

Before operation, please read this operational manual carefully

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#### 1. PURPOSE OF THE PRODUCT

The machine is suitable for sealing and bag-making of various plastic and compound films it is a best sealing equipment to be widely used in such sectors such as food, pharmaceutical, chemical industry, daily cosmetics, native and special local products, vegetable seeds, electronic components etc.,

#### 2. PERFORMANCE AND CHARACTERISTICS

With the electronic thermostatical control and the auto-transportation device, the machine can make various shapes of plastic film bags and be used for setting of various packing lines without limiting the sealing length; having the characteristics of high efficiency of continuous sealing, reliable quality, reasonable construction, convenient operation etc.

In the series machines, there are horizontal type and vertical type, the horizontal type is for packing and sealing of drying goods; the vertical one is used for liquid goods.

#### 3. CONSTRUCTION AND WORKING PRINCIPLE

The machine consists of frame, speed regulator, sealing length regulator, temperature control, drive and transportation devices.

When it turns on, the electro-thermal component produces quantity of heat to make the temperature of both upper and lower heaters promptly raise and be adjusted the temperature and necessary speed

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for the sealing material by the temperature control meter and the speed regulator, The plastic packing bag is transmitted by the conveyor belt with its sealing part senting into the two running sealing braids, and then is subjected to the extrusion of the two heaters in heating area to make the plastic film conglutinate after being heated, then the bag is cooled in cooling area, its sealing part, rolled by the pattern roller or the inker wheel, is made out with stripes or netted veins or the necessary words.

The drive parts consisting of sealing braids, lead belt and conveyor belt all are driven by a motor in synchronistical running.

#### 4. MAIN SPECIFICATIONS

Power supply:	220±10V, 50 HZ
Power	: 500W
Sealing speed:	0----- 12M/min (adjustable)
Sealing width:	6----- 12min (adjustable)
Temp. range:	0----- 300 c (adjustable)
Sealing length:	Unlimited
No. of printing words:	13
Exterior dimensions:	Horizontal type: 850X420X320(mm)
	Vertical type: 850X320X550(mm)
	Console type: 850X420X1000(mm)

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#### 5. ELECTRICAL SCHEMATIC DRAWING AND TABLE

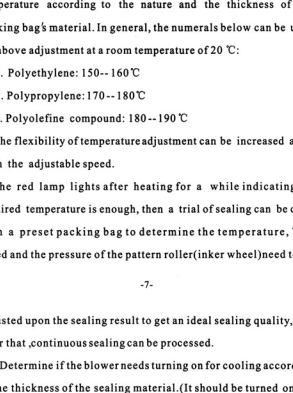


Fig.1

#### DETAIL TABLE

Symbol	Name	Model or oridation	Quantity
K	Power supply switch	mK321 B/N	1
BX	Insurance tube	5 X 20/3A	1
W	Potentiometer	WH118/100K	1
SW	Speed regulating plate	HL—W	1
D1	Motor	Z 50/20—200	1
D2	Blower	75FZJ2	1
K1	Blower switch	MK321 B/N	1
K2	Electro-thermal switch	MK321 B/N	1
R	Electro-thermal tube	220V 220W	2
TDA	Temperature control meter	TDA8001 or TE2001	1
E	Electro-thermal couple	EA—2	1

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#### 6. WAY TO USE

##### (1). Legend and description of the machine:

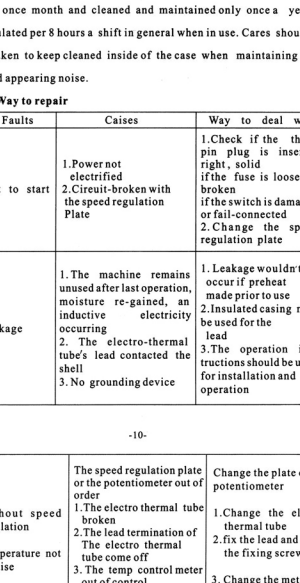
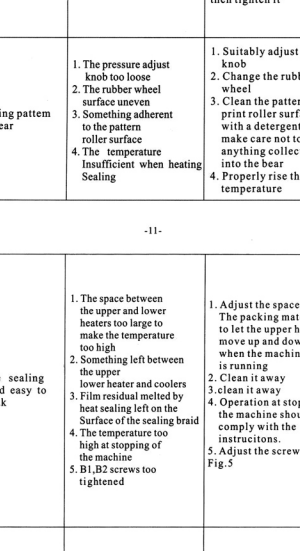
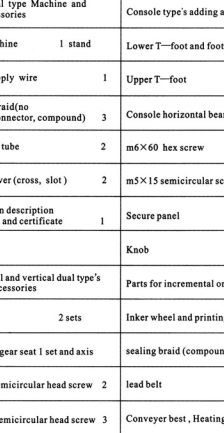


Fig. 3 Assembly drawing of the horizontal and vertical dual type machine in vertical



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##### (2). Names of the control box:



##### (3). Preparation prior to start the machine:

1. The machine is equipped with a shell-grounded triplex socket, which should be well grounded to make sure of safe production.
2. The Electro-thermal component should be preheated with low temperature for a few of minutes before normal operation because it may be wet in initial use or after long interval unused.
3. Adjust the height and the front-and-back position of the conveyor station to fit the necessary level of the sealing bag's exterior size.
4. Adjust the position of the guide place of sealing width regulation according to its requirement.

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##### (4). Operation:

1. Turn on the power, the indicator lights then all wheels begin their synchronistical running.
2. Adjust the knob of pattern roller to have it (or inker wheel) rotated and regulated to suitable pressure.
3. Turn on the heating switch, the green lamp of the electronic temperature control meter lights, adjust the meter to necessary temperature according to the nature and the thickness of the packing bag's material. In general, the numerals below can be used for above adjustment at a room temperature of 20 °C:

- a). Polyethylene: 150--160 °C
- b). Polypropylene: 170--180 °C
- c). Polyolefine compound: 180--190 °C

The flexibility of temperature adjustment can be increased along With the adjustable speed.

The red lamp lights after heating for a while indicating the required temperature is enough, then a trial of sealing can be done with a preset packing bag to determine the temperature, The speed and the pressure of the pattern roller (inker wheel) need to be

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adjusted upon the sealing result to get an ideal sealing quality, and after that, continuous sealing can be processed.

4. Determine if the blower needs turning on for cooling according to the thickness of the sealing material. (It should be turned on for common polyethylene etc. single layer plastic films).
5. The sealing part of the bag should be aligned flatly laid. Push the regulation place for the sealing sides in and at the moment, when the part is gripped by the sealing braids and self-moving forwards, neither pushing or stopping nor putting-in or pulling-out wit force can be done; otherwise uneven sealing or faults may result.

#### 7. WAY TO CHANGE THE HORIZONTAL TYPE INTO THE VERTICAL ONE

- (1). Install two tripods and two horizontal beams with M4 screws, the concave of the tripod faces inward while that of the beam faces downward.
- (2). Loose the regulation knob of conveyor station's in-out and pull the station out, then take out the knob and the square fixing screws to take out the station.
- (3). Mount the station onto the vertical tripod and tighten the fixing knob.
- (4). Take out the horizontal short axis and install the horizontal long axis and the umbrella gear seat.
- (5). Put the long axis into the axial hole on the machine and the

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horizontal support into the vertical support, install and tighten the height regulation knob.

- (6). Vertically place the sealing machine for vertical sealing.

#### 8. WAY TO MAINTAIN AND REPAIR

##### (1). Way to maintain

- a). Push the driven wheel toward B and take out the sealing braid.
- b). Change with a new braid and install the upper and lower lead belt.
- c). Place the driven wheel and the heater and the cooler in their original positions.
- d). Turn on the power to make the pulley rotated and the braid driven to move, then start a trial. The edge-deviation, if any, on the sealing braid can be adjusted through the screw on the driven wheel.
- e). Install the safety guard, then continuous operation can be done after heating.
- g). In order to prolong the duration of the sealing braid, prior to stop the machine, return the rotating disk of temperature adjustment to zero place and turn on the blower, at the moment, the temperature pointer begins slow falling down but sealing braid is still running. It cannot be done to turn off the blower, the master power switch

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etc. until the temperature becomes under 100C in minutes.

##### (2). Turbo case:

As an overall sealed turbo and worm unit, the turbo case has the features of low noise, large power etc., oiled with 50g 20#oil only once month and cleaned and maintained only once a year calculated per 8 hours a shift in general when in use. Cares should be taken to keep cleaned inside of the case when maintaining to avoid appearing noise.

##### (3). Way to repair

Faults	Causes	Way to deal with
Not to start	1. Power not electrified 2. Circuit-broken with the speed regulation Plate	1. Check if the three-pin plug is inserted right, solid if the fuse is loosed or broken if the switch is damaged or fail-connected 2. Change the speed regulation plate
Leakage	1. The machine remains unused after last operation, moisture re-gained, an inductive electricity occurring 2. The electro-thermal tube's lead contacted the shell 3. No grounding device	1. Leakage wouldn't occur if preheat made prior to use 2. Insulated casing must be used for the lead 3. The operation instructions should be used for installation and operation

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Without speed regulation	The speed regulation plate or the potentiometer out of order	Change the plate or the potentiometer
Temperature not to raise	1. The electro thermal tube broken 2. The lead termination of The electro thermal tube come off 3. The temp control meter out of control 4. The electro thermal Couple out of control	1. Change the electro thermal tube 2. fix the tube and secure the fixing screw 3. Change the meter 4. Change the couple
The lead belt.	The uppen & lower lead belts' space too short or loosed	Open the left-side panel to loosen MS nut on the axis of the lead belt's wheel to do upper and lower adjustment or pull the nut to left then tighten it
Sealing patten unclear	1. The pressure adjust knob too loose 2. The rubber wheel surface uneven 3. Something adherent to the pattern roller surface 4. The temperature Insufficient when heating Sealing	1. Suitably adjust the knob 2. Change the rubber wheel 3. Clean the pattern-print roller surface with a detergent, make care not to let anything collected into the bear 4. Properly rise the temperature

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The sealing braid easy to break	1. The space between the upper and lower heaters too large to make the temperature too high 2. Something left between the upper lower heater and coolers 3. Film residual melted by heat sealing left on the Surface of the sealing braid 4. The temperature too high at stopping of the machine 5. B1, B2 screws too tightened	1. Adjust the space per The packing material to let the upper heater move up and down when the machine is running 2. Clean it away 3. clean it away 4. Operation at stopping the machine should comply with the instrcutions. 5. Adjust the screws per Fig.5
The sealing braid being slippery	1. The upper and lower braids too loose 2. The pressure on the sealing braids by the upper and lower heaters and coolers too large The elasticity adjust screw of the conveyor belt unproperly left-right adjusted or too loose	1. Slightly adjust B1, B2 Per Fig.5 2. Properly reduce the pressure Adjust it according to Fig.2-16 of the operation instructions

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9. BILL OF PACKAGE OF FR-900 SEALING MACHINE			
Horizontal type Machine and its accessories		Console type's adding accessories	
Main machine	1 stand	Lower T—foot and foot—wheel	2 sets
power supply wire	1	Upper T—foot	2
Sealing braid (no connector, compound)	3	Console horizontal beam	2
Insurance tube	2	m6×60 hex screw	8
Screw-triver (cross, slot)	2	m5×15 semicircular screw	4
Production description and certificate	1	Secure panel	2
		Knob	4
Horizontal and vertical dual type's adding accessories		Parts for incremental order	
Support	2 sets	Inker wheel and printing words	
Umbrella gear seat 1 set and axis		sealing braid (compound)	
m8×15 semicircular head screw	2	lead belt	
m4×25. semicircular head screw	3	Conveyer best, Heating pipe	

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