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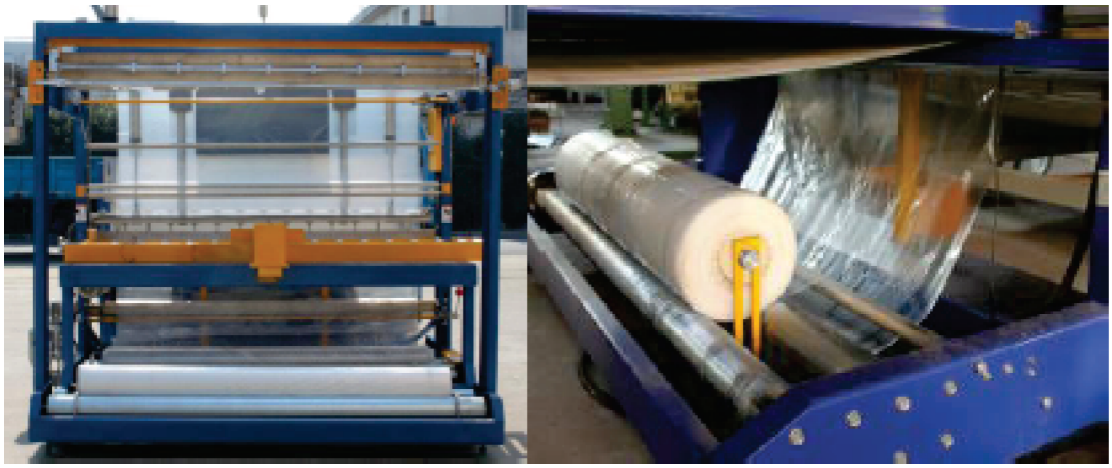
Door Panel Sealing and Shrinking Machine

Introduction:

The Panel one-side sealing and shrinking machine is able to do one side sealed packaged. After shrinking, both sides of package are welded by press device. The package is nice, tidy and with good protection.

Automatic sealing machine Features:

1. One sealer and two press device for full sides nice sealed packaging.
2. It can be combined with an automatic production line for automatic shrink wrapping, which including feeding the packing material, sealing, material recover.
3. Two feed-in modes, auto/manual can be chosen.
4. The height of sealing is adjustable for different products.
5. Automatic sealing error cutting protection.
6. Package is with smooth and nice surface.



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FERDEPLEX, A-16, Swarn Park
Extension, Mundka Colony,
New Delhi - 110041
Ph: +91-11-45518758
9810747205 / 9999218758

7. Adopts photoelectricity for inducing the products for fixing the position.
8. Speed of conveyor adjustment by convertors.
9. According to different collocations for the machine and different products.
10. Adopts PE film on rolls.
11. Constant temperature heat sealing and cutting system is suitable for PE, industrial standard shrink films.
12. Smokeless sealing and packing material residual free.
13. The conveying system speed is adjustable, which makes whole machine highly automatic, it runs automatically without unmanned operation.
14. Sealing system: permanently heated seal bar with easy-exchangeable sealing blade without odorous, temperature controlled and detected by PLC.
15. Automatic film feeding system.
16. Protect guardrail for safety operation.
17. Remaining material recycling.

Shrinking Machine Features:

- Unmanned operation connected to sealing parts shrinking automatically sealed thin door after shrinking.
- High temperature in the shrink tunnel will shrink and stick full sides of PE film automatically on a thin object.
- Precise temperature control by temperature compensation.
- Adjustable temperature.
- Heavy-duty, high quality components rugged construction provides continuous operation with minimal maintenance.
- Speed of conveying is adjustable.
- Recirculation heating system consumes less electrical energy by minimizing heat loss.
- Temperature controller with precise temperature can show temperature status when sealing.
- Cooling devices can cool the product rapidly after hot shrinking.
- Hi-speed hot air circulating shrink tunnel.
- Full sides sealed by pressing device (rollers) for sticking film tightly and nicely.

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Transitional Conveyor belt:

- Structure: conveyor belt to protect your product surface
- Conveyor height and width is as per design.
- Conveyor is driven by motor with gear box.
- Conveyor speed is adjustable to match with sealing and shrinking machine.
- It will be controlled by PLC system.

PLC control system

- PLC and program makes machine able to do automatic wrapping according your packing goal.
- Photocell sensor is adopted for setting packing position.
- Indicator alarms automatically when trouble occurs.
- Trouble can be shown automatically.
- Separate control panel makes operation & maintenance easily.
- Interface operation.
- The action time in packing is adjustable for difference packing purpose.
- Two feed-in modes, auto/manual can be chosen.

Technical Data

1. Sealing Part

Control: PLC
Sealer: 1 sets
Structure Material: Carbon steel
Shrinking Object: Door, Panel
Height: 80mm
Width: 1200mm
Length: 3000mm
Weight:10-50kg
Height of Working Table: app. 800mm
Conveyor speed: app. 0-12m/min
Packing Material: PE film
In feed conveyor belt length: 1500mm
Sealing part power consumption: app.6.5KW
Power Supply: 380V, 50/60HZ, 3phase
Compressed Air Supply: 6~8kgf/cm2
Machine weight: app. 400kg

2. Shrinking Part

Structure Material: Carbon Steel
Shrinking Tunnel: L2000 ×W 1500mm × H200mm
Heating Power Consumption: App.55Kw
Drive Part: Frequency control Motor
Conveyor speed: app. 0-8m/min
Temperature: 100°C-220°C
Packing Material: PE Film, 40-100 micron thick (30-150micron are available.)
Power Supply: 380V, 50/60HZ, 3phase
Machine weight: app. 750kg

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Scope of Supply

List of Main parts

No.	Description	Brand
1	PLC	Siemens
2	Frequency	Converters Siemens
3	Cylinder	Airtac
4	Motor	Dongli/GPG/YK
5	Sensor	Autonics
6	Switch	Schneider
7	Contactor	Schneider
8	Intermediate	Relay Omron

Spare Parts

No.	Description	Brand
1	TOOLBOX	1 set
2	MICROSWITH	1 pcs
3	RELAY	1 pcs
4	THERMOCOUPLE	1 pcs

Details Supply Information

Switching Cabinets

The electrical devices are installed on mounting plates in closed cabinets, protection degree IP20, designed in form 1 based on EN 60439-1. Each cabinet has a designation label on the door with the appropriate location indicator.

The switching cabinets are installed in a switching cabinet row.

The subdivision of the individual cabinets is made according to their respective functions:

- Feed
- Control voltage generation, auxiliary drive
- Main drive
- Control

Cooling of the Switch gear

By fans cooling

Safety Coverings

The used components are protected against accidental contact. Additional endanger components under voltage are covered with transparent covers and warning labels in all transformers, fuses, breakers and copper tracks, etc.

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Wiring

The wiring is flexible for all control circuits and lies in covered cable conduits. Attention is given that these cable conduits are filled only up to 70% with wires.

Terminal Strips

- The terminal strips are mounted approximately 250 mm from the lower edge of the switching cabinets.
- The terminal strips have labels showing their respective terminal strip number. Each individual terminal is given a terminal number corresponding to the wiring diagram.
- Cable stop bars are installed to prevent excessive tension on the outgoing cables.

Identification labels

Each device in the switching cabinet is provided with an adhesive label indicating the designation of the module in the wiring diagram.

Wire Identification

Identification of the individual wires is necessary for the internal wiring in the switching cabinets.

The identification of the incoming and outgoing cables and lines is designed in such a way that they can always be read without detaching the connections or removing the cable stop clamps. The individual wires of a cable can be identified by the terminal number of the connection point. The cable can be identified by its cable number.

Internet assistance unit

Not applicable

Motor drives

For the motors, where we use three-phase asynchronous motors, the basic specifications of the drives is :

- Wide range of adjustable speeds
- Speed to zero without reduction of the torque
- External air-cooling fans
- Durable
- Transmitter for registering the motor speed
- Terminal box for connecting of power cables

AUTOMATIZATION CONFIGURATION

Plant Control

The complete plant will be controlled trough manual input on dedicate remote/local control desk and foot switch.

Machine cabling

The machine cabling conforms to effective regulations. The cables are laid in conduits in the concrete foundation of the line.

When exposed and in hazardous positions the cables are placed in hoses in top of the concrete.

The existing termination switches, magnetic valves are connected directly to the bus modules installed in the terminal boxes/substations.

Power cables

Direct cabling is between the individual motors and the wiring cabinets. Regulated drives with frequency inverter with shielded cables.

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