

Cup-shaped Mask Production Line

I. Hot Pressing Forming Machine



Specification:

- b **Electric Source:** 220VAC 30A 1P;
- c **Compressed Air:** 7Kg/c m²;
- d **Preheating Time:** 23minute/130℃;
- e **Heating Temperature:** 130℃ for nonwoven fabric; 80℃ for needle-punched nonwoven fabric;
- f **Production Spending Time:** 7.5second for welding, 6.5second for cutting (the two acts happen the same time).
- g **Dimension of main machine:**
L1400*W930*H1800(mm)
- h **Dimension of material frame:**
L2000*W650*H1300(mm)
- i **Weight:** about 900KG
- j **Capacity:** 40~55pieces/minute, 6pieces/stroke

Application:

Machine is applied to form cup-like shape for mask from needle-punched fabric.

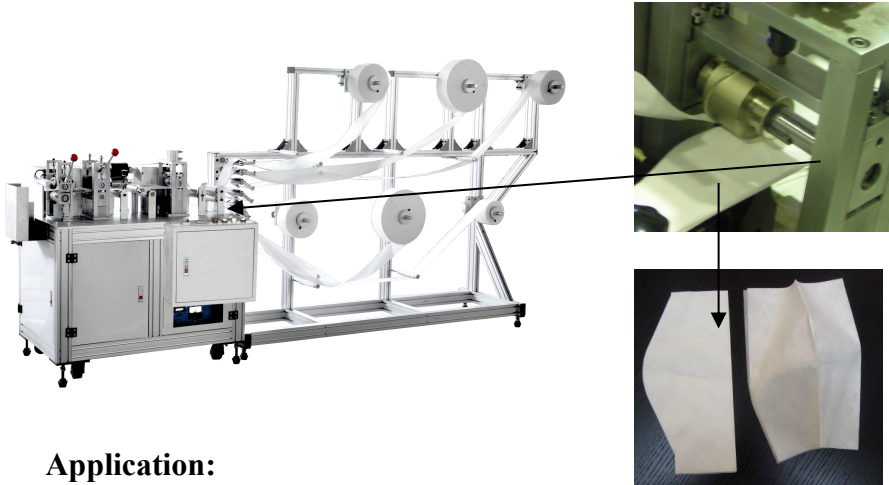
Features:

- a) Machine is controlled by PLC, operation is easy;
- b) Machine is set on HIM;
- c) Each tool is with a separated material ring, escaping uneven forming due to pulling during hot pressing;
- d) Products are cut off automatically with electronic scissor, no smoke generated, thus machine is environment-friendly;
- e) Products gathering system is controlled by optical sensor, and products is overlaid one by one be the machine as the gathering plate move down little by little as the indication from sensor, saving labors and protecting product shape from damage due to pressure.

Main Part Brand:

Item	Description	Brand	Item	Description	Brand
1	PLC	Siemens	10	SSR	TEND
2	PLC Extended Module	Siemens	11	Electronic Scissors	TS
3	HMI	Delta	12	Motors	DL
4	Power Supplier Switch	Schneider	13	Gears	DL
5	Air Break Switch	Schneider	14	Speeder	DL
6	AC Contactor	Schneider	15	Relays	IDEC
7	Buttons	Schneider	16	Sensors	Autonics, etc
8	TEMP Controller	XinLing	17	The Others	OMRON or the same class
9	Time Relay	Xinling	8	Pneumatic Parts	Airtac

II. Filter & PP layer Ultrasonic Forming Machine



Application:

This machine is used to shape-cut the filter & PP layer of cup mask. Processed Material is nonwoven fabric and melt-blown fabric with the width of 120mm±2mm.

Specification:

- a **Electric Source:** Single Phase AC 220V, 50HZ;
- b **Ultrasonic System:** 1 set, 20K, 1400W;
- c **Total Power:** 2500W;
- d **Dimension of Machine:** L1305mm*W700mm*H1500(mm);
- e **Dimension of Material Frame:** L2100mm*W500mm*H1720(mm);
- f **Capacity:** about 100pcs/min.
- g **Weight:** About 300KG

Features:

- 1) Machine works stably;
- 2) Easy operation;
- 3) Machine seals and cut off outlayer and separates at the same time automatically, only one operator is required;
- 4) High capacity at least 100pcs/min.

Main Part Brand:

Item	Description	Brand	Item	Description	Brand
1	Motors	TL	10	Tachometer	BEW
2	Gears	TL	11	Electronic Scissors	TS
3	Speeder	TL	12	Fuser	Mitsubishi
4	Switch Power Supplier	Jili	13	Limit Switch	Autonics
5	Air Break Switch	Schneider	14	Relays	IDEC
6	AC Contactor	Schneider	15	The Others	OMRON or the same class
7	Buttons	Benli	16	Pneumatic Parts	Airtac
8	Counter	Dahua	17	Ultrasonic System	MP Sonic
9	Inverter	Delta			

III. Rotary Table Welding & Cutting Machine



Application: This machine is designed to press the outer layers (melt-blown filter fabric and nonwoven) together by cold cup-like mould, seal the layers together by ultrasonic and cut off the extra material at edge for cup-like mask, after which the main body of cup like mask is produced.

Features:

- ✧ Ultrasonic module is fixed by boards, machines is stable, preventing power loss.
- ✧ Straight line guide is applied; ultrasound pressing is accurately, stably in balanced manner.
- ✧ Cut edge with hydraulic, the edge is neat and beautiful, and no need to change cutter frequently.
- ✧ Edge cutting module is equipped with spring structure; horizontal balance adjustment is automatic;
- ✧ The rotary table is supported by stainless steel column, machine is durable running stably, avoid the uneven force due to wear after long-time work.

Specification:

- a **Overall Dimension:** L 1620*W1420*H1950(mm)
- b **Ultrasonic:** power 3200W; frequency 15KHZ
- c **Power of Motor System:** 2000W
- d **Electric Source:** Input 380V AC; output 220V AC
- e **Compressed Air:** 6-8kg/cm2
- f **Capacity:** 12~16Pieces/minute
- g **Weight:** About 600KG

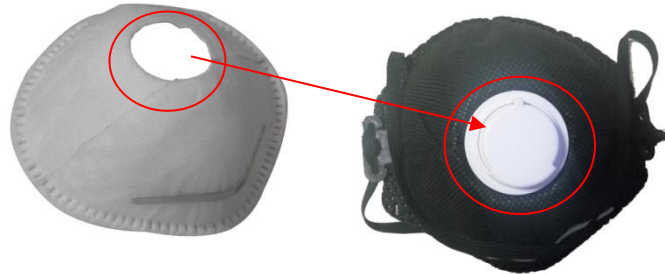
Main Part Brand:

Item	Description	Brand	Item	Description	Brand
1	PLC	Siemens	10	Splitter	Kendex
2	Converter	Siemens	11	Clutch	Qiandai
3	HMI	Delta	12	Motors	Qiandai
4	Switch Power Supplier	Jili	13	Gears	Qiandai
5	Air Break Switch	Schneider	14	Speeder	DL
6	AC Contactor	Schneider	15	Ultrasonic System	MP Sonic
7	Buttons	Schneider	16	Sensors	Autonics, Sick, etc
8	MPT	Jiurong	17	The Others	the same class as above
9	Torque Limiter	Xiehe	8	Pneumatic Parts	Airtac

IV. Punching Machine

Application:

punches for Exhalation Valve of cup mask



Specification:

- a Overall dimension: L520mm*W420mm*H710mm
- b Electric Source: 220/380V, AC
- c Punching Motor Power: 0.45KW
- d Nominal Capacity: 20KN
- e Strokes Per Minute: max to 220 Stroke/Minute
- f Weight: About 130 KG

V. Ultrasonic Welder for Exhalation Valve:

For mask production application, this machine applies 20KHz ultrasonic system to weld exhalation valves onto mask main bodies. The ultrasonic mould design base on exhalation valve design.

Specification:

- a Power Source: 220V 10A 1P
- b Pneumatic Source: 0.4~0.6KG
- c Frequency: 20K Hz;
- d Power Output: 1400W;
- e Welding Capacity: ϕ 150mm;
- f Dimension (mm): 425*630*920
- g Weight: 90Kg



VI. Nose Clip Welder

Application

Hot Stick Nose Clip to 3D mask by heating. The nose clip is a required to be aluminum material with solid glue at the attaching surface.

Specification:

- a **Overall dimension:** L550mmXW550mmXH1100mm
- b **Electric Source:** 220V AC, 50Hz
- c **Power:** 600W
- d **Max Worker Time:** More Than 300℃
- e **Compressed Air:** 0.3~0.6Mpa (3~6Kg/cm2)
- f **Weight:** About 35KG



VII. Pad Printing Machine for Logo

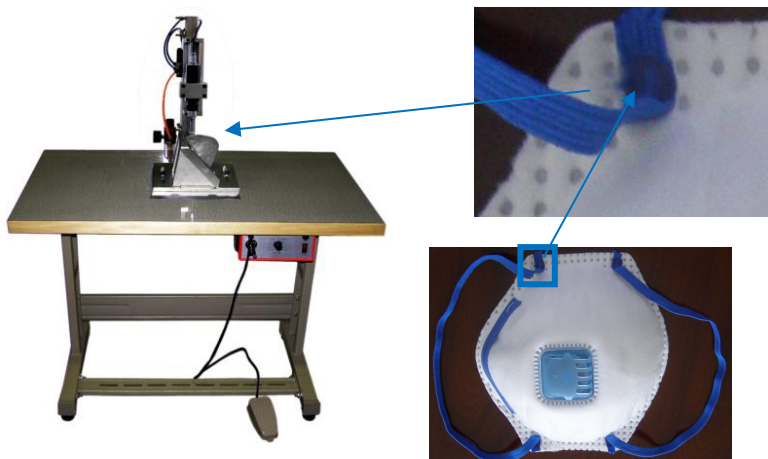
Application:

It prints Logo, company information, respirator specification, etc by pad printer.



- ✧ **Overall Dimension:** L 450*W750*H1480(mm)
- ✧ **Electric Source:** 110/220V, 1P,
- ✧ **Air Source:** 0.3~0.6Mpa
- ✧ **Printing Type:** Oil Cup Pad Printing;
- ✧ **Printing Color Quantity:** Single
- ✧ **Printing Square:** Max to 70*150 (mm)
- ✧ **Capacity:** 17~37PCs/Min (fixed by operator skill)
- ✧ **Weight:** 75Kg

VIII. Ear-loop Welder (the model is additional)

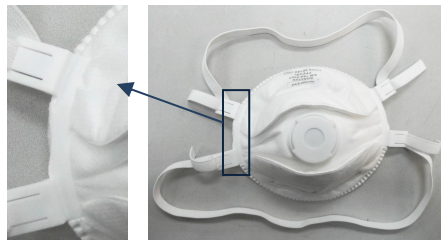


Application:

It is specially used to weld ear-loop of masks; it also can be applied on the spot welding of non-woven products or plastic products.

Specification:

- a **Ultrasonic:** Power: 300W; Frequency: 28KHZ
- b **Electrical Source:** 220V AC
- c **Capacity:** Depends on the skill of operators
- d **Compressed Air:** 3~4kg/cm2
- e **Weight:** About 40KG

IX. Ear-loop Welder (the model is additional)**Application:**

For mask production application, this machine applies 15KHz ultrasonic system to weld elastic buckles onto mask main bodies. The ultrasonic mould design base on exhalation valve design.

Specification:

Power Source: 220V 10A 1P
Air Source: 0.4~0.7Mpa
Frequency: 15KHz
Power Output: Max.4200W
Welding Capacity: ϕ 250mm
Diameter: L750*W850*H1750
Weight: 150KG

X. Elastic Band Stapling Machine**Specification:**

- h **Overall Dimension:** L 1150*W600*H1350(mm)
- i **Electric Source:** 220V, 1P
- j **Motor Power:** 180W
- k **Printing Type:** Oil Cup Pad Printing;
- l **Printing Color Quantity:** Single
- m **Printing Square:** Max to 70*150 (mm)
- n **Capacity:** 17~37PCs/Min (fixed by operator skill)
- o **Weight:** 40Kg



XI. Pillow Type Packing Machine



Features:

- ✧ Dual frequency converter control, bag length is adjustable, no need to adjust idle running distance, adjustment can be make in one step, save time and film.
- ✧ Text type human-machine interface, parameter setting is convenient and quick.
- ✧ Problem self diagnose function, any trouble is clear at a glance.
- ✧ Highly sensible photoelectric eye for color mark tracking, which makes sealing and cutting position more accurate.
- ✧ Independent temperature PID control, more suitable for packing films of all kinds of materials.
- ✧ Position fixs stop function, free from cutter sticking and film waste.
- ✧ Simple driving system, work is more reliable, and maintenance is more convenient.
- ✧ All controls are carried out with software, it is convenient for function adjustment and upgrade, and it will never drop behind.

Application:

Packing mask finished by plastic bag. Machine seal bag at center and terminals by heating and cut off by cold cutter. Marking device is available.

Specification:

1. **Overall Dimension:** L3370*W720*H1450Electric
Source: 220V, 1P, 2.6KW
2. **Film Width:** max.350mm
3. **Bag Width:** 50~60mm;
4. **Bag Length:** 65~190mm or 120~280mm
5. **Product Height:** Max.40mm
6. **Film Roller Diameter:** Max to 320mm
7. **Packing Speed:** 40~320Bag/Min
8. **Capacity:** 17~37PCs/Min (fixed by operator skill)
9. **Weight:** 650Kg

Main Parts Brand:

Item	Description	Brand	Item	Description	Brand
1	PLC	Panasonic	7	SSR	Schneider
2	Converter	Panasonic	8	Optical Sensor	Baideli
3	HMI	Xunjie	9	Motors	Jiangcheng
4	Power Supplier Board	Mingwei	10	Gears	Weite
5	TEMP Controller	Yatai	11	The Others	OMRON or the same class
6	Middle Relay	Omron	12		

XII. Box Sealing Machine

Application:

Machine is applied to seal carton packing box by type automatically.



Specifciation:

- ✧ Conveying Speed: 0~20mm/Min
- ✧ Max Packing Size: L ∞ *W500*H500(mm)
- ✧ Min Packing Size: L150*W150*H120(mm)
- ✧ Electric Source:220V/380V
- ✧ Power consumption: 240W
- ✧ Motor: TVT
- ✧ Type Specification: W48/60/75(mm, chose one)
- ✧ Dimension: L1020*W850*H1350
- ✧ Weight: 130Kg.