

APL110 Automatic Mask Production Line (Auto Packing)

Ver.20201104

One Hour Webinar Showing You Real Performance

- 110+ Pcs/min
- Proven Stable
- Small Size



Click to see the intro video

By Testex Instrument Ltd
November, 2020

Contents

- APL110 Mask Production Line Module 3/19 ~ 6/19
- Production Line Layout 7/19
- APL110 In Real Production Scenario 8/19
- APL110 Features Comparasion 9/19 ~ 10/19
- Behind the Stability: Accessories & System Testing 11/19 ~ 15/19
- Mask Raw Material Specifications & Consumption 16/19
- Why Choose Us? 17/19 ~ 19/19

APL110 Mask Production Line Module

Machine	Qty	Capacity	Total Output
Automatic Mask Body Making Machine	1 Set	120+ pcs/min	110+ pcs/min ^①
Automatic Ultrasonic Earloop Welding Machine	1 Set	110+ pcs/min	110+ pcs/min
Conveyor / Auto packing machine ^②	1 Set	-	-

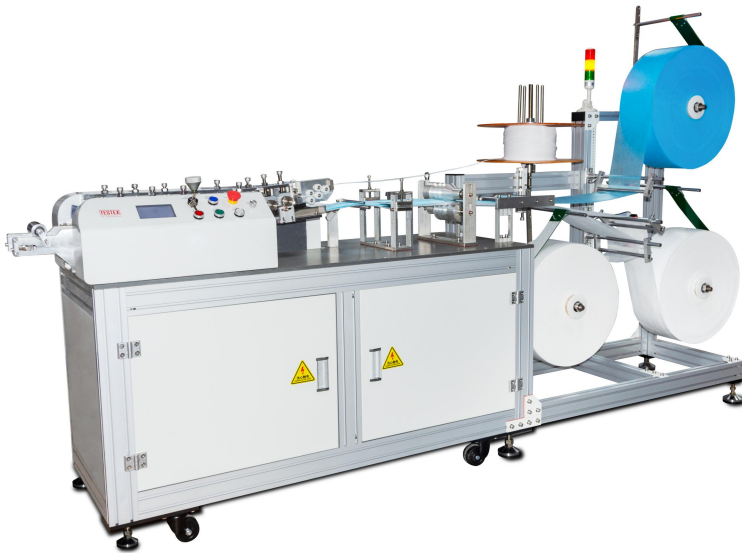
^① Need to be adjusted to match the capacity of the automatic earloop welding machine

^② When Auto packing machine is ordered, the conveyor is no need

Mask Bodies Making Machine

Machine Introduction:

Automatic system to form 3 ply flat mask bodies, combine raw fabrics, three layers of pp non-woven, then form the creases, inserting nose clips and being weld together by ultrasonic welding device, finally cut into mask body pieces for next earloops welding procedure.



Specifications

- Capacity: 120+ pcs/min
- Power: 220 V 50 Hz 1 Kw
- Machine size: 2810 * 640 * 1410 mm (L x W x H)
- Machine weight: 351 Kg



Packaging info.

- Package size: 2950 * 760 * 1560 mm (L x W X H)
- Package weight: 469 Kg

Machine Appearance might change accordingly, please confirm with our sales in advance.

Automatic Ultrasonic Earloop Welding Machine



Specifications

- Capacity: 110+ pcs/min
- Power: 220 V 50 Hz 1.5 Kw
- Drive type: servo motors
- Air source: 0.4 ~ 0.7 MPa
- Machine size: 1950 * 1050 * 1630 mm (L x W x H)
- Machine weight: 311 Kg

Packaging info. (with 1 set of conveyor included)

- Package size: 1980 * 1150 * 1490 mm (L x W X H)
- Package weight: 427 Kg

Fully integrated with mask bodies making machine, will sense the mask body delivered from the mask body forming machine, then fetch and weld the one set of earloop on each mask body, after the earloop being fold inwards, the mask pcs will be distributed to the auto packing machine (if ordered).

Total process needs no manual operation, fully automatic production.

Machine Appearance might change accordingly, please confirm with our sales in advance.

Automatic Mask Packing Machine



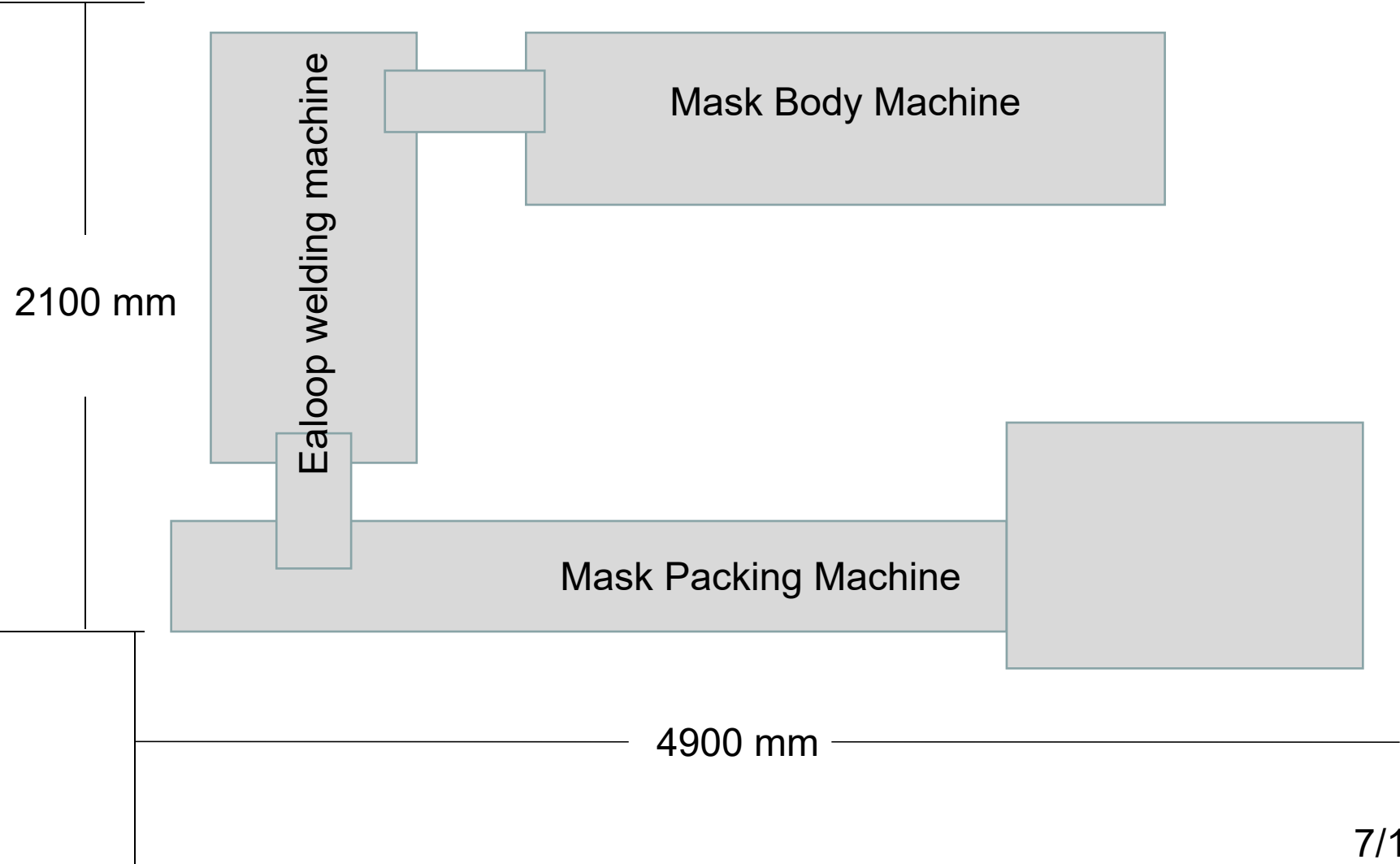
Specifications:

- Bag Length: 120 ~ 280 mm
- Bag Width: 30 ~ 110 mm
- Sheet roll Dia.: Max. 320 mm
- Sheet width: Max. 250 mm
- Power: 220 V, 50/60 Hz, 2.6 Kw
- Machine Size: 3920 x 670 x 1320 mm (LxWxH)
- Machine Weight: 500 Kg

Note:

With the engagement of the mask auto packing process, the APL110 needs to lower down the speed (like 100 or 90) to match the full capacity of the automatic mask packing machine


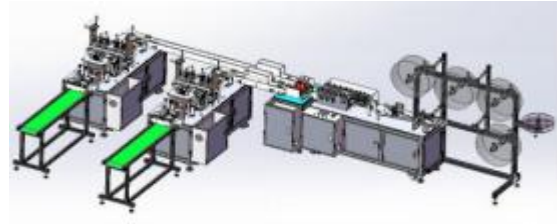
Production Line Layout



APL110 In Real Production Scenario



Why This Line?

	APL110 We offer	Automatic line in the market
Image		
Stability Provenese	<p>One-hour Webinar * of Continous Mask Production</p> <p>* TESTEX is the ONLY manufacturer who have displayed APL110 at the speed above 110 pcs/min, during the 2 days mask machine exhibition in Dongguan China</p>	<p>Only 2~3 Minutes of Edited Videos showing you the stability and full speed</p>
Capacity	<p>110+ pcs/min 110 is our minimum value we promise, the actual productivity can be 110 ~ 120 pcs (With auto packing, the speed need to lower down to match)</p>	<p>80 ~ 100 pcs/min This is just the claimed capacity by the supplier, in fact, the actual production is less than 80 (due to the frequent interruption during the production, since the machine line has more components to sync)</p>
How many earloop welding machines in one line?*	1 Set	2 Sets
Set-up	4 hours setting up time	Many days of trial and error

* **Less welding machines needed, means more benefits:**

- | | |
|---|---|
| • Less shipping volume, much less shipping cost | • Less setting up time |
| • Less machine investment | • Lower failure rate, more stable for long time running |

	APL110 We offer	Automatic line in the market
Machine quality	Brand accessories: SMC cylinders, servo motors	Most are no warranty for key components, which result in endless after-sales problems
Machine Size structure design	1+1 model design, specialized for exporting purpose, reduce the total shipping cost	1+2 design, compared to 1+1 design, add shipping volume up to 50%, which means about 50% extra cost*
Main controller interface	Customized UI for mask production, easy & intuitive to use Language available: English, Korean, Chinese , and your language	Interfaces provided by suppliers, no optimization for mask production, poor translation
Services	Detailed video guides on machine installation, material loading, and troubleshooting; Live-stream personal support by engineers with clear English communications Timely & Professional	Most after-sales services are provided by sales only

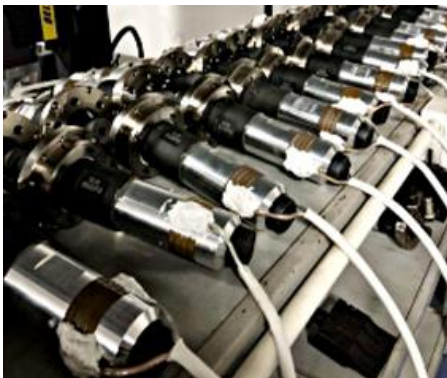
Behind the Stability: Accessories & System Testing

1. Ultrasonic System Tests: Validating Key Components' Stability

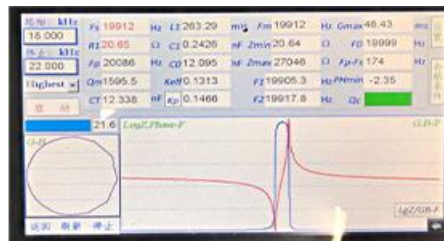
Before assembling, ultrasonic generator, transducer and steel mold are all tested by professional equipment, detailed tests are as follows:

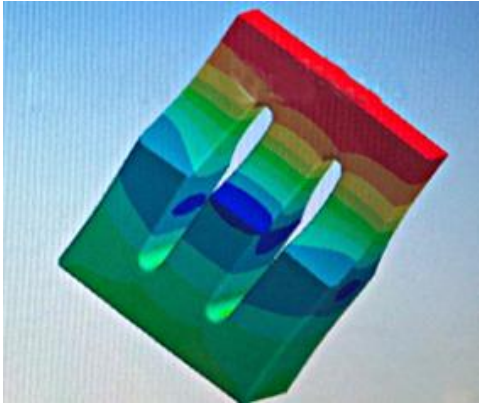


Each generator will perform repeated wave overload tests under the condition of 3 times the load of the simulated normal production parameters, so that the equipment can be started normally under any high-load work and the components will not be damaged.

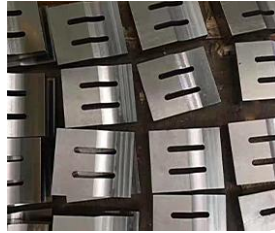


Each transducer will strictly detect core parameters such as resonance frequency, impedance and capacitance through professional instruments.





The steel mold adopts American D2 imported steel, processed by state-owned enterprises with advanced heat treatment technology, and the quality is excellent. The frequency, current and other data of the steel mold are strictly tested.



Aging test with ultrasonic combination:

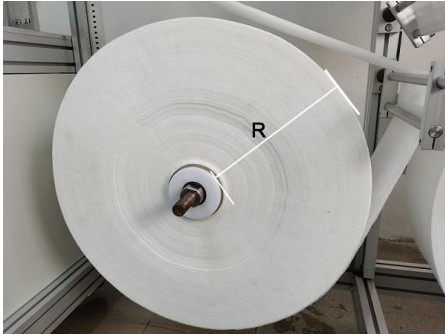
Aging test standards

- Long wave mode: test time > 12 hours, temperature < 50 °C;
- indirect wave mode: test time > 12 hours, temperature < 40 °C



2. Production Stimulating Tests: To Validate System Stability

Before packaging, each set of APL110 mask making machine will tested with true mask materials, meltblown fabric, and two layers of PP non-woven, to stimulate the real production condition of medical face masks, to test the stability at the higher producing speed.



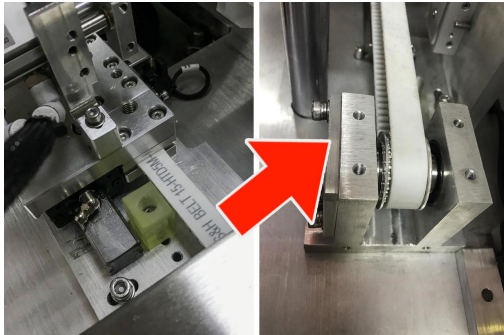
Only tested with 3 complete layers of materials, exterior 25 gsm PP non-woven, filter middle layer 25 gsm meltblown, and interior 25 gsm PP non-woven, can we tell our mask making machines are ready to perform well at our clients' facility.



Mask making machine line is a system, so it need to be tested as a whole system, and several minutes of high speed production can tell very little of the system's stability, the standard we use for APL110 is 4 days of production testing.

3. Redesign & Improvement : Matching The Higher Speed and Stability Requirements

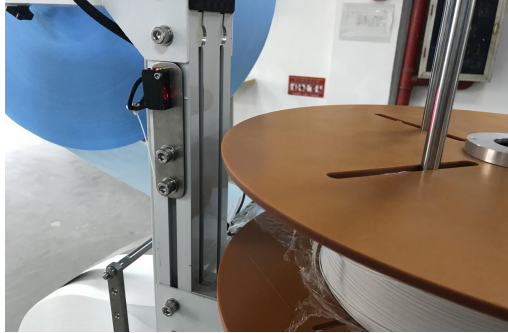
APL110 is one upgrade product based on APL80, APL80 have a solid foundation of stability at the speed of 80 pcs per minute, we have to redesign and make some structure improvements to match the higher (from 80 to 115 pcs/min) speed requirements for APL110.



APL110 redesigned the position of the earloop fetching belt transmission structure, and changed the side transmission to the middle transmission. The uniform force makes a single belt have a longer service life and reduces the frequency and time of replacement of wearing parts.

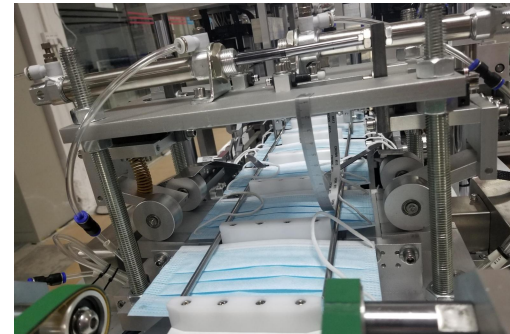
The earloop feeding structure is redesigned, and the APL110's design is closer to the ear belt raw material compared to APL80, shortening the earloop transmission distance and reducing the production interruption caused by the tension of the earloop.



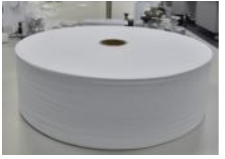




Add the nose wire shortage detection function to the alert system (previous model only have the detection on the shortage of mask fabrics), when the nose bridge is used up to avoid the production of masks with missing nose bridge.

For customers who need to fold masks inwardly, without affecting the overall speed, a new device for inward folding masks has been added (Optional function).



Mask Raw Material Specifications & Consumption

	Photo	Color	GSM	Specifications	Length/ Mask	Weight /Mask (g)	1 kg material can produce masks (pcs)	1 ton material can produce masks (pcs)	How many days 1 ton material can be used (100k pcs/day) (days)	One day material consumption (100k pcs/day) (kg)
Outer Spunbond		Blue	25 g/m ²	Width: 175 mm 7.2 kg/roll Dia. 55 cm	175 mm	0.81	1235	1,234,568	12	81
Meltblown		White	25 g/m ²	Width: 175 mm 7.2 kg/roll Dia. 55 cm	175 mm	0.81	1235	1,234,568	12	81
Inner Spunbond		White	25 g/m ²	Width: 195 mm 8 kg/roll Dia. 55 cm	175 mm	0.853	1172	1,172,333	12	85.3
Nose Clip Wire		White	Width 3.2 mm	350 m/kg	90 mm	0.26	3889	3,888,889	39	26
Elastic Earloop		White	Dia. 3 mm	770 m/kg	195 x 2 mm	0.47	1974	1,974,359	20	47.10

Why Choose TESTEX?



TESTEX (TESTEX INSTRUMENT LTD) is a **national high-tech enterprise** and **SGS ISO certified** company that develops and manufactures testing instruments for textile laboratories. 90% of the TESTEX brand instruments are sold to Europe, America, and Asia. Customers include NASA, National laboratories such as the Naval Academy and university research institutes, as well as international inspection agencies such as ITS, SGS, etc., and automotive brands (interior textiles) such as Land Rover, and apparel brands NIKE, Under Armour, Uniqlo, etc.

There are more than 100 models of testing equipment developed and manufactured by TESTEX, covering the testing of the performance of various types of textiles and their properties, as well as testing equipment for epidemic prevention materials such as masks and protective clothing.

TESTEX has rich experience in R&D, manufacturing, sales, after-sales training of equipment, and always takes the core value of “We endeavor to achieve our customers’ success, then achieve our staffs’ value, thus achieve our shareholders’ goals.”

Mask Making Machine, Developed, Tested, Used by Ourselves

Quality and Service are the bottom line of us, quality concerns has helped us to win our reputation in the textile testing instrument market since our foundation (2010).

When the epidemic is over, we may not continue to produce the mask making machine again, all customers who have chosen to buy mask machines from us, had experience to know TESTEX's high demand for product quality, and our striving for quality has never changed.



TESTEX Mask Machines Sold to 27 Countries



