



# Masks Making Machine

## Motion Control System Total Solution

### Summary

- ▶ Masks are worn by people during outdoor activities in order to avoid contact with bacteria shed in the form of liquid droplets and aerosols from the mouth and nose or infectious blood and body fluids. Masks are used as a protective barrier to prevent cross-contamination among crowds. They are made mostly from non-woven fabric and are available in the two-layer or three-layer form.
- ▶ The usage of masks has increased among the general public owing to the rise in outbreaks of airborne diseases in recent times. The inevitable use of facemasks are expected to propel the global facemasks market during the forecast period.
- ▶ The layers are ultrasonically welded for efficient bacterial filtration. Bacterial filtration efficiency(BFE) is the effectiveness of the surgical mask material to filter bacteria of a specified particle size. Particle filtration efficiency(PFE) is the effectiveness of a material to filter aerosol particles. Both BFE and PFE are expressed as a percentage of a quantity that does not pass through the material of the masks.

### Type of Masks



**Surgical Mask**



**Folded Mask**



**Cup Mask**

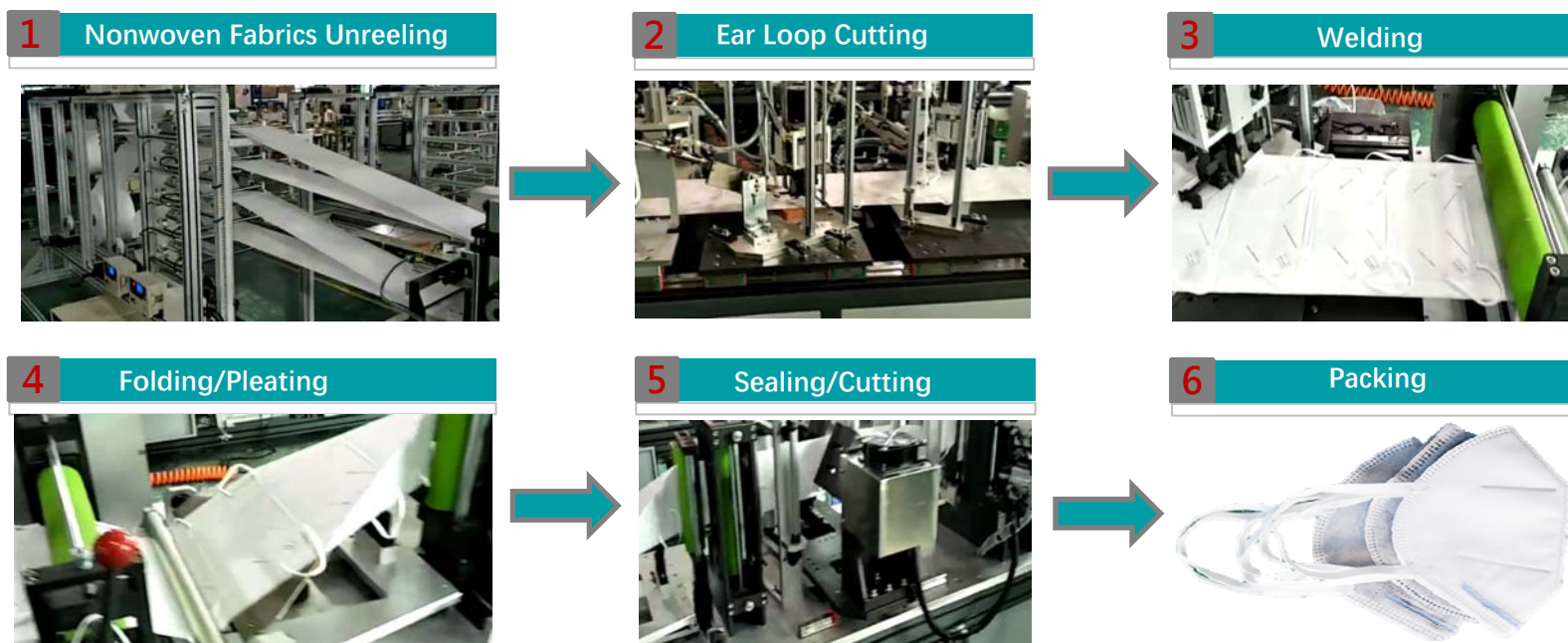


**Duckbill Mask**

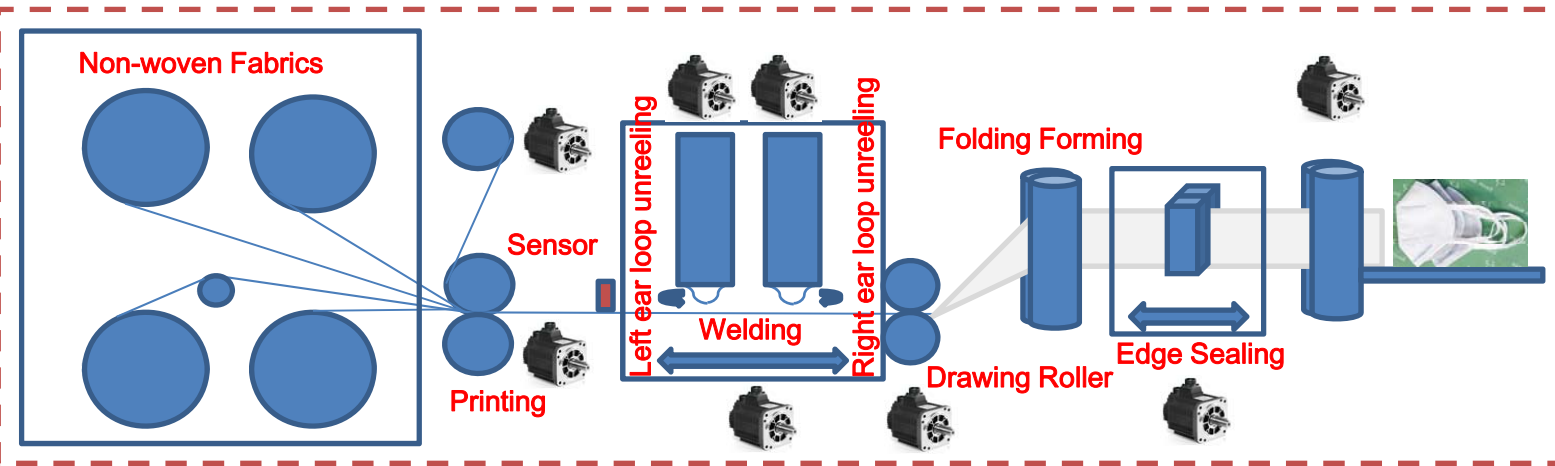
## Common Mask Forms

- Surgical Mask: Surgical masks are used in public places in order to prevent cross-contamination and transmits the virus to others.
- Folded Mask: Folded masks are more specialized mask, known as an N95 respirator, can protect against the new coronavirus, also called 2019-nCoV. The regular respirator is thicker than a surgical mask.

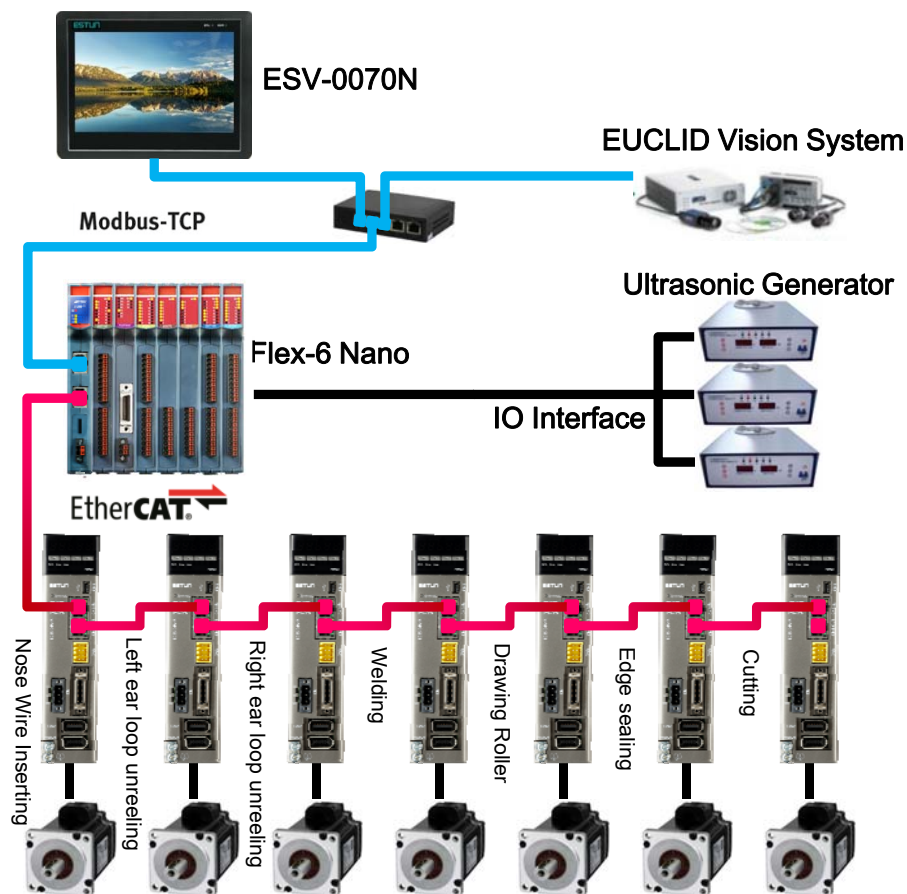
## Machine Basic Process



## Technical Flow Chart



## System Architecture





- Machine capacity: 65pcs/min
- Edge banding accuracy:  $\pm 0.5\text{mm}$
- Ear loop welding accuracy:  $\pm 1\text{mm}$
- Machine implemented by using EtherCAT fieldbus, can realize the high-precision positioning, comparing to conventional PLC products, new Trio solution optimizes the CAM curve, make it easier to use and more efficient in an existing process.
- The solution takes new generation Summa series servo drives, combined with EM3A high responsive servo motor, satisfy high-end requirements.

## Application

