

BROCHURE '20

MASK.MODULE

AUTOMATIC MECHATRONIC EQUIPMENT FOR SURGICAL MASK PRODUCTION

**United
Against**
COVID-19



BE INDEPENDENT
the production of masks **MUST BE DONE** in **YOUR** country!

LOCAL production is the **KEY**, we are giving you the tools to make it happen.

Local Production of masks is the door to overcome the #Covid19 spreading, we are giving you the key to enter it. Sip-Italy provides you the right tools for Local mask Production according to your country standards.

Let's produce "LOCALLY"!

Be the **ONE** who makes the difference: produce masks "**LOCALLY**", bring back the production.

The #Covid19 pandemic pushes us to **think out of the box**. The whole world must react and find solutions for our communities.

Our Company is glad to announce that **we have launched** onto the market a **new range** of automatic patented units for the **profitable** production of washable or disposable surgical masks.

In all countries, we **absolutely** need surgical masks in **large** quantities and **on time**. Someone has to make it happen **as soon as possible!**

Every single nation must have its own supply chain for the production of surgical masks, **not dependent** on the import of products from foreign manufacturers, without any guarantee of availability and delivery, production quality and **unstable purchase costs**, (eg. as Chinese ones).

Now we can help You!

Sip-Italy Team
#staytogether



MODEL

MASK.MODULE



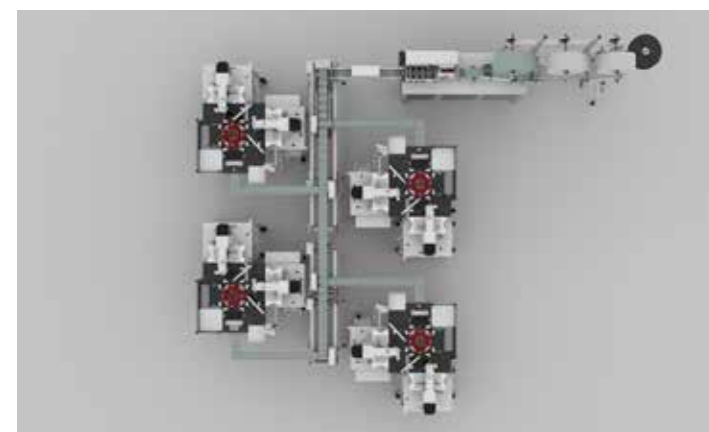
AUTOMATIC MECHATRONIC EQUIPMENT FOR SURGICAL MASK PRODUCTION

The production line is designed to produce **washable or disposable Surgical Masks**. Our Company has launched a **new range of amazing automatic patented units, a modular technology** for the entire Surgical Mask Production process, starting from the rolls of fabric/non-woven material, obtaining the surgical mask in a fully automatic way without direct workers. We have different units and modules configurations for a productivity up to 3.000 surgical masks/hour, specific for Surgical Mask only. But we didn't stop there... we did more: **the investment in our equipment can be mostly reconverted later for garment production! This is an absolutely unique technical proposal and we have completely changed the paradigm of the investment.**

We are a mechatronic company tech provider, with not only a **proven high-end standard of engineering and manufacture** for all our products, we have also been constantly exporting machinery and turn-key projects to around **30 countries around the world for many years. Our business reputation in all our divisions is built on first-class supply chain, management, distribution channel, back-up service.** Our Surgical Mask Production Module can be also equipped with our sewBI business intelligence 4.0 technology for full remote IoT data control and cloud analyses.



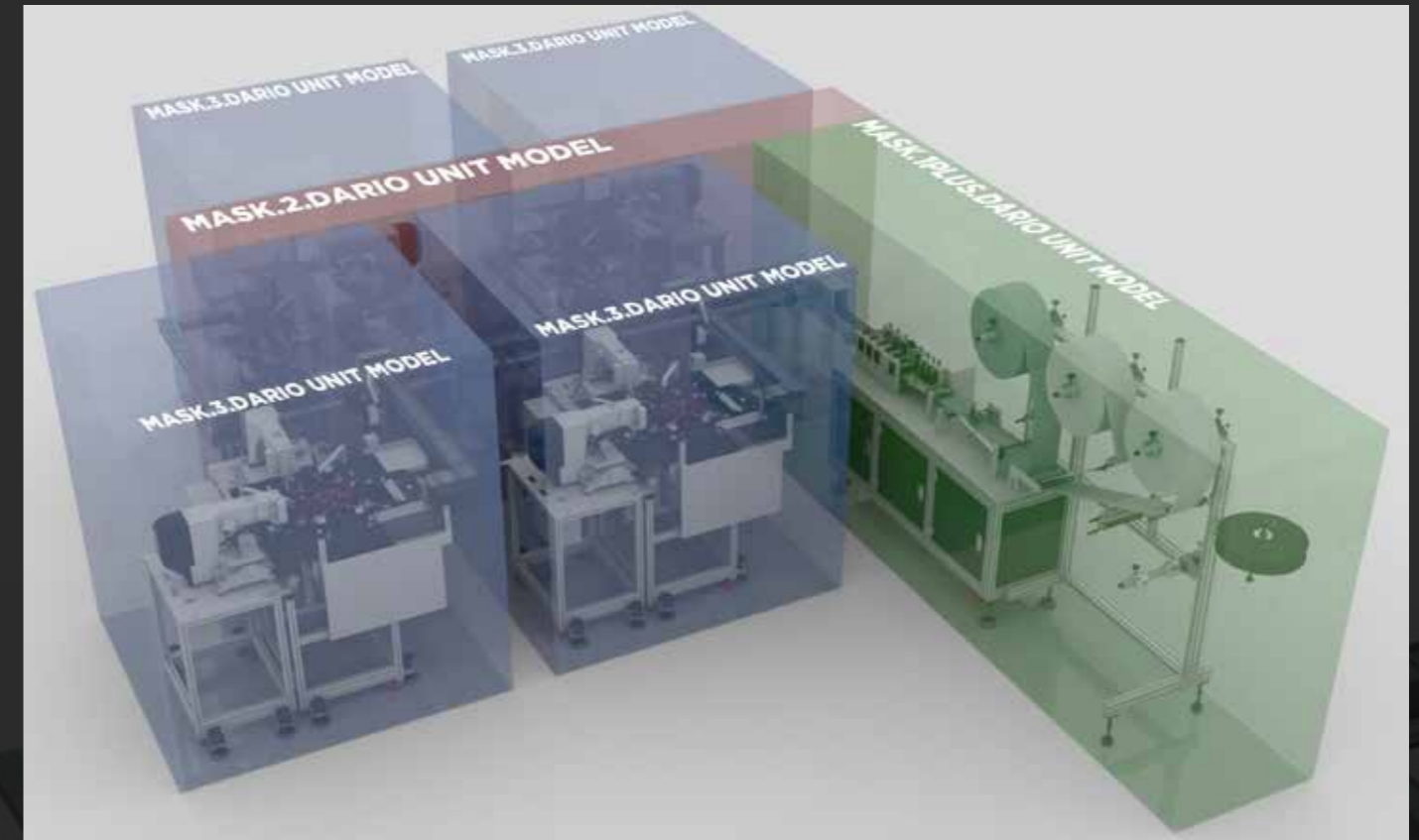
MASK.MODULE Surgical Mask Equipment



MASK.MODULE Surgical Mask Equipment Top View



Monorail Conveyor Belt View



MASK.1PLUS.DARIO UNIT MODEL

This is the 1st step of the mask production. It's a complete workstation with a process dedicated to obtain the mask fabric preparation for the automatic sewing machines. It's a lean concept: this unit works pulled by the units at the end of the line. This unit works independently. Only one operator is required for the loading of material rolls and nose wire. For a small production scale, the unit can be sold as a stand-alone and, in this case, final stitching operations will be done with standard sewing machines.

MASK.2.DARIO UNIT MODEL

Automatic Monorail Conveyor belt. Its function is to link the first unit with the two or four automatic sewing machines. No operator is required.

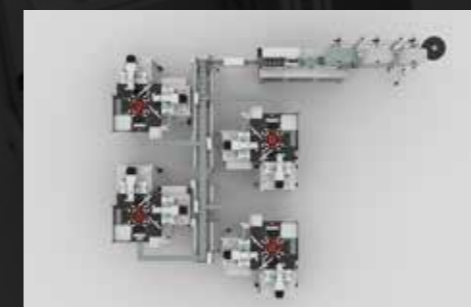
MASK.3.DARIO UNIT MODEL

Each workstation is equipped with a patented carousel system and two programmable sewing heads. Each single sewing head has been completed with a device for the preparation, cutting, folding and loading of the elastic ear loop. The carousel system allows processing two masks at the same time under each sewing station. This unit works independently. The operator is only required to change the sewing thread bobbin and rolls of the elastic ear loop.

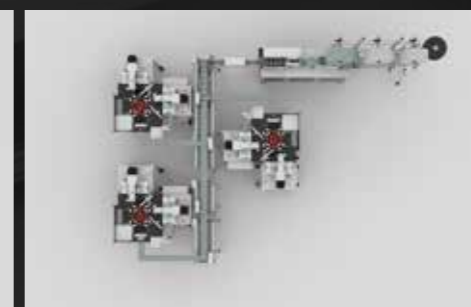
SUBCLASS MODEL
MASK.MODULE.4PLUS (Approx. 50 sqmt/538 sqft)

SUBCLASS MODEL
MASK.MODULE.3PLUS (Approx. 45 sqmt/484 sqft)

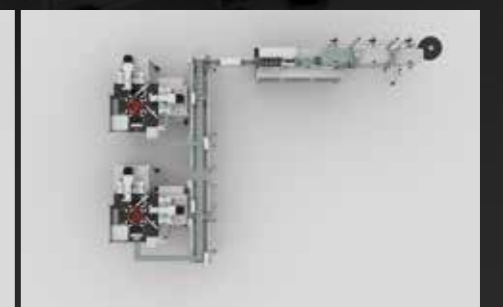
SUBCLASS MODEL
MASK.MODULE.2PLUS (Approx. 45 sqmt/484 sqft)



- 1x MASK.1PLUS.DARIO
- 1x MASK.2.DARIO
- 4x MASK.3.DARIO
- Productivity: 3.000 masks/hour
- Personnel required: 3 plus 1 = 4 operators



- 1x MASK.1PLUS.DARIO
- 1x MASK.2.DARIO
- 3x MASK.3.DARIO
- Productivity: 2.000 masks/hour
- Personnel required: 3 plus 1 = 4 operators



- 1x MASK.1PLUS.DARIO
- 1x MASK.2.DARIO
- 2x MASK.3.DARIO
- Productivity: 1.000 masks/hour
- Personnel required: 2 plus 1 = 3 operators

MODEL

MASK.1PLUS.DARIO



THE COMPLETE WORKSTATION WITH A PROCESS DEDICATED TO OBTAIN THE MASK FABRIC PREPARATION FOR THE AUTOMATIC AND MANUAL SEWING MACHINES

This unit works independently, no operator required. For a small production scale, the unit can be sold as a stand-alone and in this case, final stitching operations will be done with standard sewing machines.



MASK.1PLUS.DARIO Unit

MANUAL vs AUTOMATIC



Brother S7300A with electronic feeding system DIGIFLEX

- 10 Standard Single needle Sewing Machines
- 10 Operators with experience
- 2 Helpers to feed the sewing stations due to social distance
- Productivity per Single Operator: **Average 300 pcs/hour**
- 12 x Operators to achieve **3.000 masks/hour**

- **Productivity: 3.000 masks/hour**
- **Personnel required: 3 plus 1 = 4 operators**

HOW THE UNIT WORKS

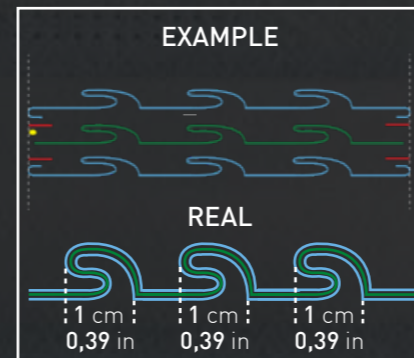


The operator loads the rolls of fabric and non-woven material; the unit starts working autonomously by coupling the materials. The number of rolls depends on the mask type chosen by the customer. It is the customer's choice to set a different number of rolls and fabric/non-woven material details.



1st SUBSTATION

The Unit makes the pleats at a fixed distance on all layers of the fabric by means of mechanical rollers; the pleating operation is necessary in order to be able to open the mask when wearing it.



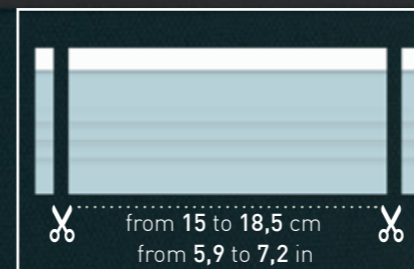
2nd SUBSTATION

- to fold the external and internal layers of the mask material, each layer will be folded with a "clean-finished style", quite well-known edge style in our apparel world for high-quality apparel garment.
- to set the third middle layer exactly between the external and internal layers, if necessary folding it too. The layer in between is usually the certified filtering product. This fabric is sometimes delivered already coupled with the external or internal layer.
- the unit is automatically feeded from the roll form, it automatically cuts and inserts the wire. The measure of the wire is set according to UNI EU norms. The mask can be fitted with a nosepiece or underwire fixed to the centre of the upper edge of the mask itself; material: metal with plastic coating; typical dimension: 100 mm long, 3 mm wide.
- the insertion of an interlining ecotex tape of 10mm along the edge of both horizontal sides of the mask. This is a tape usually utilized in trouser production. This tape will be melted in the next pressing and ironing substation, thus becoming a glue to seal both horizontal sides of the mask.



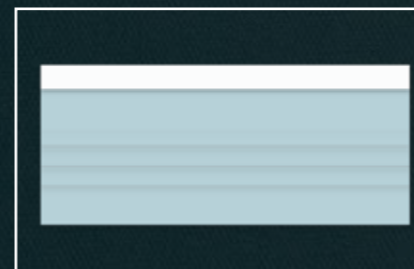
3rd SUBSTATION

Mechanical Pressure and High-temperature heating station for the fabric that stays 6 seconds under the one-meter long ironing station (3,2 ft); the high temperature will melt the interlining tape, sealing the two long horizontal sides, giving flatness and rigidity for the cutting section.



4th SUBSTATION

Adjustable Automatic Cutting of the strip in a rectangular shape; it's adjustable from 15 to 18,5 cm (from 5,9 to 7,2 in) for kids and adults masks according to the international norms; the cut is made with scissors.



FINAL RESULT

It starts looking like a mask, without the elastic and still open on both vertical sides. This unit has a productivity of **3.000 pcs/hours**.

Now, depending on the customer's production target, the unit can be part of a fully automatic module as described before or it can have a manual process.

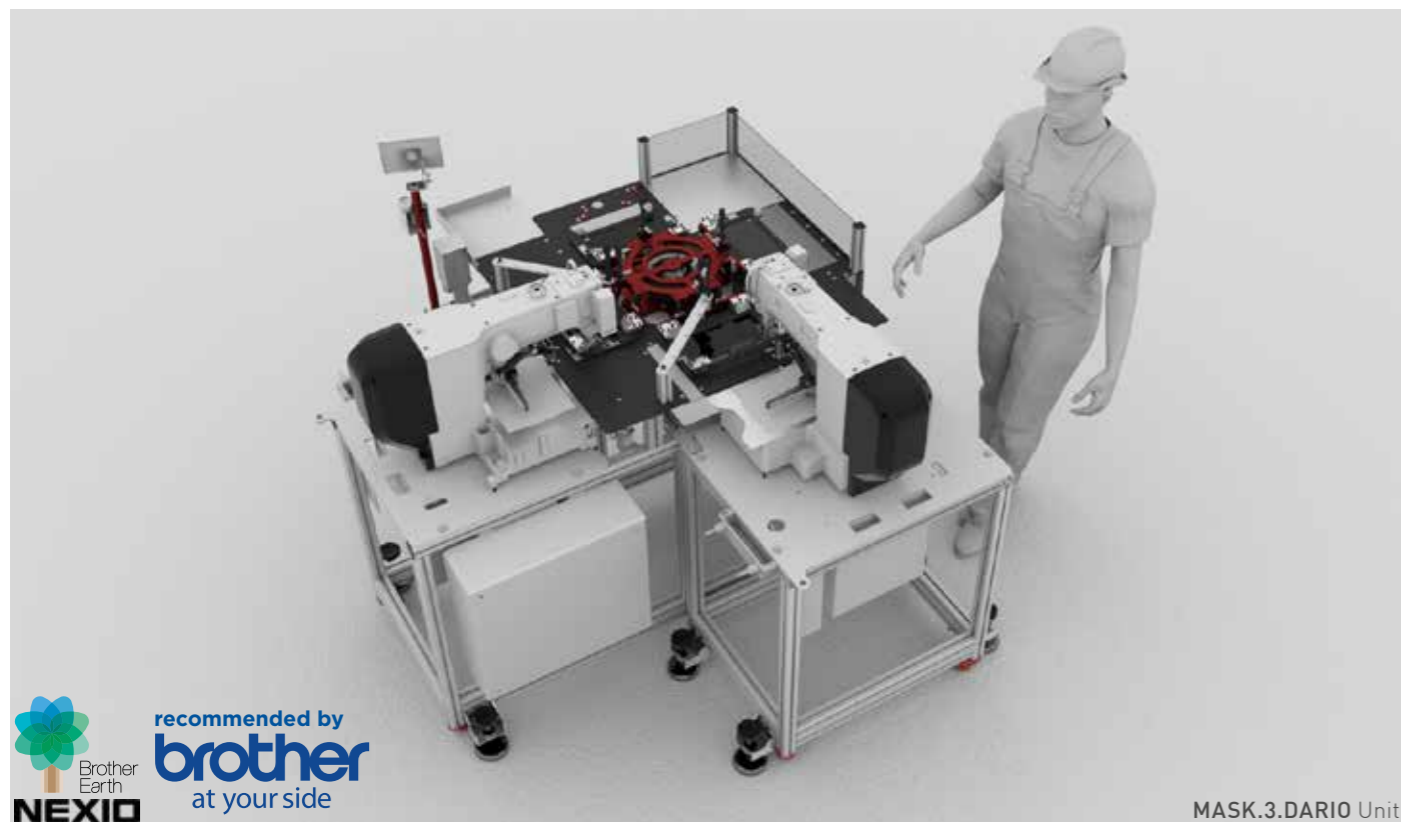
MODEL

MASK.3.DARIO

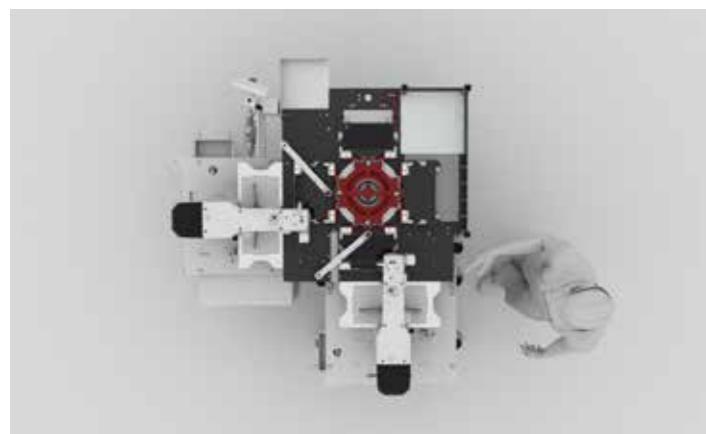


THE PROGRAMMABLE AUTOMATIC SEWING MACHINE EQUIPPED WITH A PATENTED CAROUSEL DEVICE, EACH UNIT EQUIPPED WITH TWO SEWING HEADS

It's a unit with four sectors working simultaneously and automatically having an auto loading area, sewing area no. 1, sewing area no. 2 and an unloading & stacker area. It means that we have four masks hold down by four jigs shifting from one area to the next one, all moving at the same time. **The unit is a modification of our PD326H-SIP standard model, back pocket design unit for jeans, successfully sold for the past two years in the whole world. 80% of the workstation is exactly the same, we have updated every single head with a device for the auto loading of the two elastic ear loops;** the elastic is in the form of a roll, the device cuts, folds and places it automatically.



MASK.3.DARIO Unit

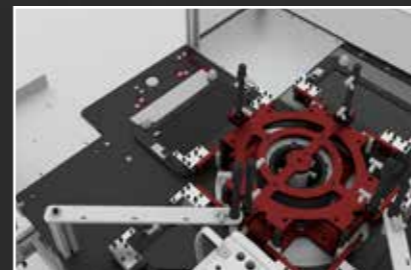


MASK.3.DARIO Top View



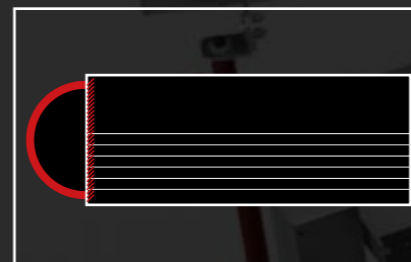
MASK.3.DARIO Side View

HOW THE UNIT WORKS



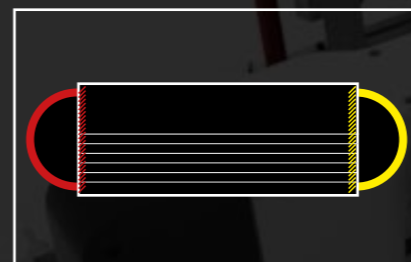
1st SUBSTATION

The conveyor brings the rectangular part close to the workstation; when the loading area of the unit is free, a complete picking & positioning system sets the rectangular part on the loading area.



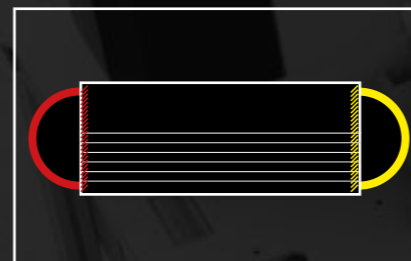
2nd SUBSTATION

Sewing of the side seam; cutting and loading the elastic ear loop. The unit starts to sew one vertical side in an automatic way with the elastic ear loop already placed by the device; we use fully programmable pattern sewer sewing heads, it means, for example, that we can use a high density of zigzag close to the mask edge. The customer can set a sewing programme with vertical and horizontal sewings and some extra logos or anything else.



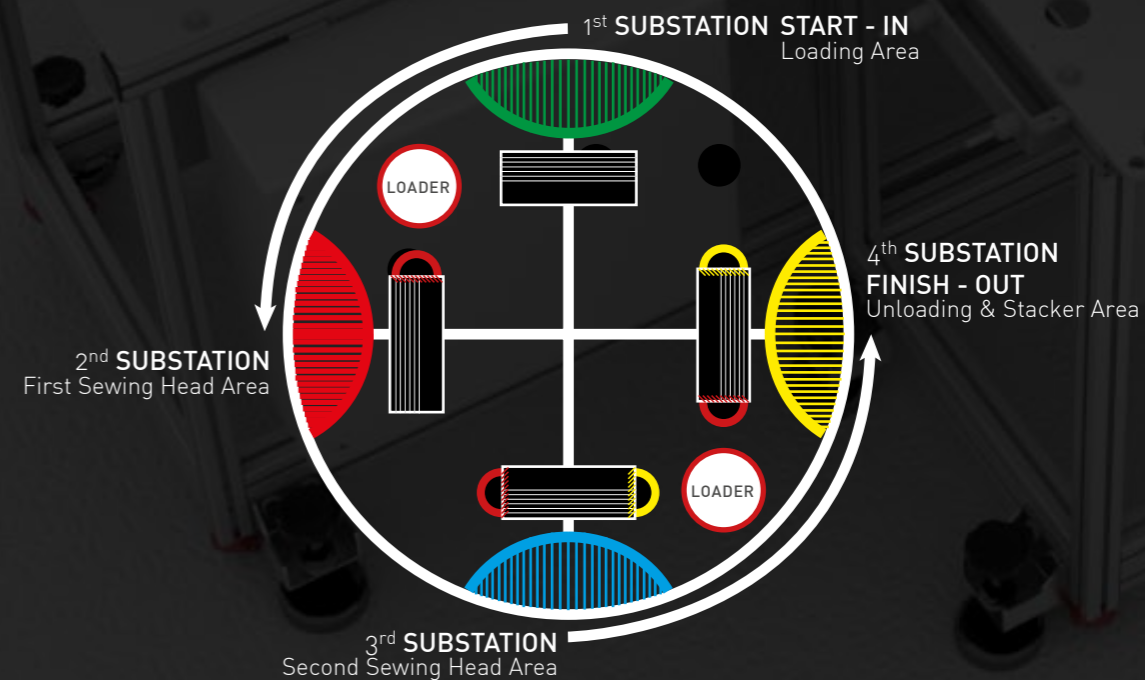
3rd SUBSTATION

Same as in the previous area, the sewing of the mask is now completed.



4th SUBSTATION

This is the unloading & stacker area; when the mask gets here moved by the carousel system, it means that it is completed.



HIGHLIGHTS

- **Reconversion of the investment:** when the Corona Virus emergency is over, we can **reconvert the utilization** of the programmable automatic sewing machines into apparel, automotive and leather industries, keeping a **second hand value in the used market**
- **Machinery Manufacturing Company** management Vision and structure: **1st class hardware, Italy EU standards for production and assembly**, Multinational supply chain partners as **Brother Japan, worldwide service network**
- **Return on investment** thanks to the reason mentioned in the previous point: since we are sure that we can guarantee the operation and service to the user, the productivity and quality of the product, we can ensure the feasibility of the operation and full confidence **to achieve the goal within a few months**
- The **Lowest production cost** thanks to fewer fresh operators, energy-saving technology and space utilized
- Possibility to feed different kinds of materials and non-woven fabric rolls
- **Washable Surgical Mask** can be sewn utilizing **100% natural fiber fabric** for the external layer. This is the big advantage of our technical solution when the mask manufacturer wants to target massive private and corporate consumer products. The ultrasonic technology only works with **100% synthetic material** with high-energy consumption. This is the **business differentiation plus** to sew the mask instead of using the ultrasonic technology
- User-friendly and super competitive mask production cost
- Original Brother **BAS326H NEXIO sewing head, standard X-Y technology, hardware & software** by Brother Japan
- **Customization of the mask** with embroidery thanks to the use of **Brother Bas H Nexio Technology programmable sewing machine**
- Multicolor touch screen **5.6"** programmed for multi-languages with step-by-step function to detect any possible electro-pneumatic errors
- All standard pneumatic valves and cylinders by SMC
- **Ready for sewBI:** our business intelligence revolutionary platform by Sip-Italy. **sewBI** is business intelligence applied into sewing dept., the unique technology able to combine and collect all production details by machinery and operator efficiency together with work in progress status of the production lot
- **Remote service control:** the unit can be controlled in remote by our after-sales service staff to diagnostic and update the software
- **Back up support in terms of spare parts and hotline service** available from our headquarter in Italy and in the rest of the world with a reliable network having experience of our technology. The update of our standard products for jeans line into mask production is the proof of our sentence

TECHNICAL DATA

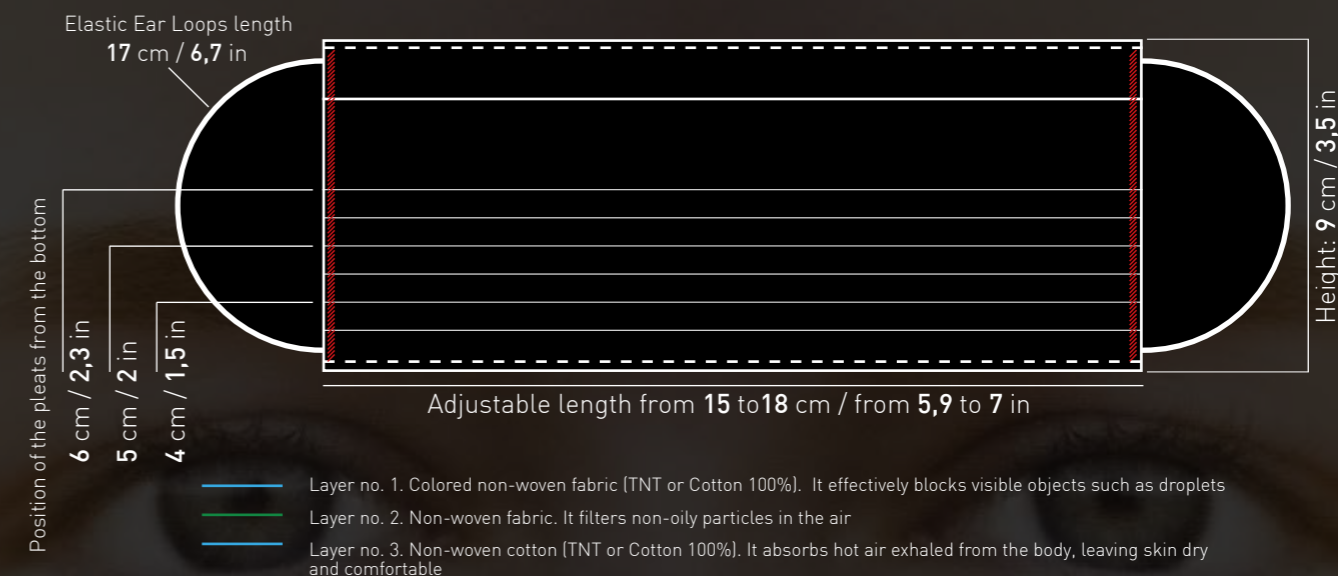
- **Manufacturing site:** engineered, designed and manufactured in Verona - Italy
 - **Personnel required:** from three to four workers/working shifts depending on the configuration
 - **Sewing Head model:** Programmable Brother **BAS-326 H NEXIO** Technology by Brother Japan
 - **Mask material details:** At customer's choice
 - **Power Supply:** 220 Volt Mono-phase **50/60 Hz 18 kWh**
 - **Air Pressure:** 5,5 bar
 - **Size of masks:**
 - 18 cm ($\pm 0,5$) x 9 cm, Adult / 7 inch ($\pm 0,21$) x 3,54 inch, Adults
 - 15 cm ($\pm 0,5$) x 9 cm, Kids / 5,9 inch ($\pm 0,21$) x 3,54 inch, Kids
 - **Roll size:**
 - Max diameter: 60 cm/23,6 inch
 - Width cut roll size: 18 cm/7 inch
 - **Packing details:**
 - one 40 ft container to fit all the units of the **4-Modules & 3-Modules configuration**
 - one 20 ft container to fit the units of the **2-Modules configuration**
- MASK.1.DARIO** Unit dimensions: 5 x 1,5 x 1,5 m

OPTIONS

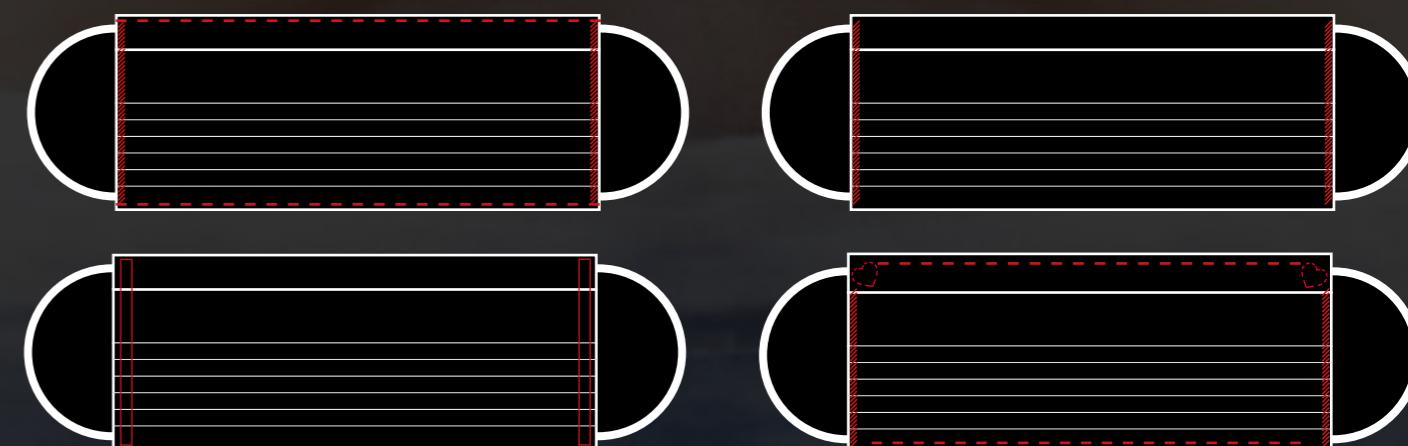
- **IoT Software** for **FACTORY 4.0** network connectivity
- **sewBI software** for monitoring the production cycle
- **PS-300B** Sewing data programming software for creating and saving sewing data. Do not stop the unit for programming! Save production time!
- **Census Software** for machinery maintenance management. Incredible tool for machinery running cost
- **Item code: SB 8722101** - Bobbin winder device. Quite useful for the preparation of the sewing bobbin to speed up the change operation by the operator
- **Item code: N40000011** - Auto Bobbin Changer complete of **16 Bobbin Cases (Item code: S59221301)** and **16 Bobbins (Item code: S44633001)**

EXAMPLES OF WASHABLE OR DISPOSABLE SURGICAL MASKS WITH DIFFERENT SEWING AND EMBROIDERY

MASK DETAILS



SAME MASK, DIFFERENT SEWINGS, MAKE YOUR CHOICE



THIS IS
SIP
ITALY
SEWING CLEVER

...AND IT'S JUST THE
BEGINNING



recommended by

brother
at your side

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