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AUTEFA Solutions offers fully automated production line for protective FFP2/ N95 mask production



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AUTEFA Solutions, leading manufacturer of nonwoven machines and automation solutions, has developed HiPerMask, a fully automated production line for the production of protective/ face masks. HiPerMask produces protective masks in accordance with the EU FFP2 and FFP3 standards as well as the US N95 and N98 standards. The first machines were put into operation in Germany and Switzerland in May 2020. The first customers were Univent in Germany and Flawa in Switzerland, the market leaders in mask production in their respective countries. Both companies were also among the first to be able to handle the corresponding federal orders in Switzerland and Germany. AUTEFA Solutions has already sold a double-digit number of the machines. All the machines stand out due to their high process reliability and high level of productivity.

The mechanical and electrical design, production and assembly, software programming and in-house tests take place in Friedberg, Bavaria and Frauenfeld, Switzerland. All parts and components used in the machines are from well-known German and European manufacturers. This means that all production processes are subject to the ISO 9001-2015 certified quality standards of the machine manufacturer. AUTEFA Solutions Germany will be the supplier of the additional machines and production lines. In addition to the DACH region, the target countries for sales are all of Europe and the USA.

Christian Egger, CEO AUTEFA Solutions Germany GmbH: "The unique combination of knowledge at AUTEFA in mechanical engineering, nonwovens technology and automation has enabled us to provide customers with a complete solution that leaves nothing to be desired. We provide customers not only with mask production line, but also with access to premium material, camera-based quality control and a fully automated packaging solution for the final product. These added values offered by AUTEFA allow an economic mask production.

HiPerMask – state-of-the-art technology for FFP / N protective masks

The new fully automated HiPerMask production line offers numerous advantages for successful FFP/N protective mask production, for which AUTEFA Solutions stands as a leading machine manufacturer with the requisite expertise and know-how. Particularly noteworthy is the high process reliability with reproducible product quality and a production output of over 50,000 masks/day.

The HiPerMask production line consists of a material feed, nose clip feed and positioning, ultrasonic welding units, ear loops or headband stations, mask folding, punching, and dispensing of the masks into a collection container. Numerous state-of-the-art individual units are joined together into a unique machine solution in the HiPerMask. Among other things, an unwinder with 6 stations ensures a warp-free synchronized material

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feed. The respirator/ mask shape welding is done with EMERSON Branson ultrasonic assembly technology. Other units include a nose clip unit with precise feeding of the nose clips, a printing unit for affixing the labeling on both sides, including individual numbering and the company logo, and a mask folding unit that is equipped with automatic centering by means of a vision sensor and linear unit. As an option, the mask strip welding can be carried out as an ear loop station or as a headband station with band length adjustment. Another outstanding feature is the shaping and welding of the protective mask contour for different mask sizes and protective mask shapes. The automation continues on the HiPerMask up to the integration of the packaging machines. In this way, the masks can also be automatically packaged in individual bags. The entire process is monitored by an integrated quality control, which is controlled by cameras and carried out with the help of artificial intelligence.

Full service for ultra-fast time-to-market

The production line is topped off with comprehensive full-service packages for starting production and procuring consumables for meltblown and spunbond nonwovens as well as other accessories. AUTEFA also offers companies assistance with certification. The resulting short delivery times and the fast "time-to-market" guarantee a successful entry into manufacturing FFP2 and FFP3 masks.

One of the first development partners and now a completely satisfied customer for the fully automated HiPerMask production line is univent Medical GmbH in Villingen-Schwenningen, Germany. Managing Director Thomas Vosseler is very satisfied with the system and the collaboration: "Mask production is a new business in Europe, and we spoke to various machine manufacturers who wanted to build the machines. In the end, AUTEFA convinced me as a global acting specialist for nonwoven machines and lines. That has already created a lot of trust. In addition, everything that we had in our future plans, such as automated packaging, automated control and head loop stations, children's masks, i.e., everything we wanted having to do with producing masks, was never a problem for AUTEFA, which always said that it was doable. The message was that we can manage to do everything together, and it is working really well now. That's why I would definitely choose AUTEFA again. "

Upgrade of existing production technology for FFP / N masks possible

Thanks to the extensive know-how that AUTEFA Solutions has in the area of mask production, many FFP / N mask machines from other manufacturers that are available on the market can also be expanded and modernized. Examples of such upgrades are the upgrading around ear loop and head band welding stations, mask shape stamping (for different mask shapes) and mask folding (here the centering is sensor-controlled), and of course quality control of the processes and the entire production. André Imhof, CEO AUTEFA Solutions Switzerland has this to say: "The production of FFP /N protective masks is about quality, efficiency and output. At AUTEFA Solutions, we are happy to help wherever possible to improve production quickly and sustainably with our know-how and flexible solutions in order to be able to produce more masks faster and better."