

# NUCLEUS

J o i n t h e f u t u r e



# Historie

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**1976**

Foundation of Nucleus GmbH by Dr. Florian Tschech in Aachen.

Focus: Development and construction of fully automatic production machines for the manufacture of personal protective equipment ("PPE")



**1978**

Relocation to the new production facility in Düsseldorf



**1994**

Establishment of a further production facility in Poland (Lublin) for the manufacture of protective workwear using conventional sewing technology and advanced welding technology with approx. 60 employees



**2019**

Move to new production facility at Tichauer Weg in Düsseldorf

# New production (with development & administration) based in Düsseldorf

## Basic data

- Investment (total): 4,5 Mio. €
- Lot size: 4.300 m<sup>2</sup>
- Focus: Production of high-tech ultrasonic machines and ultrasonic components
- Central functions such as development, finance, IT, Sales & Service and Production



**NU** Med  
N U C L E U S   m e d i c a l   m a c h i n e s



Tie mask:



Mask size :

- 18 × 9.5 cm | 6,9 x 3,7 in (adult)
- 15 × 9 cm | 5,9 x 3,5 in (children)

**Mask types:**

- 2-layer non woven mask
- 3-layer non woven mask
- 4-layer non woven mask

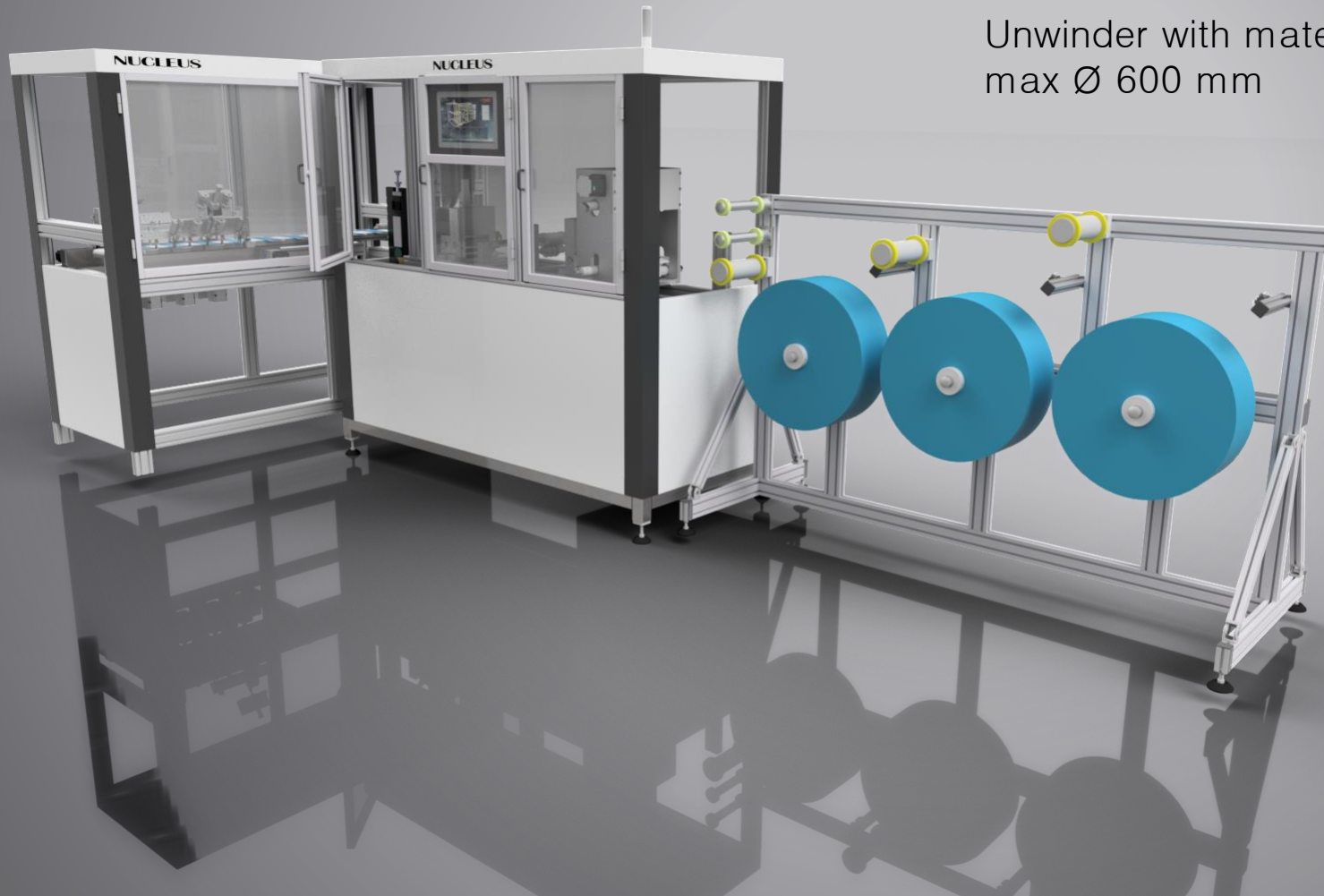
Ear loop mask (inner or outer loop)



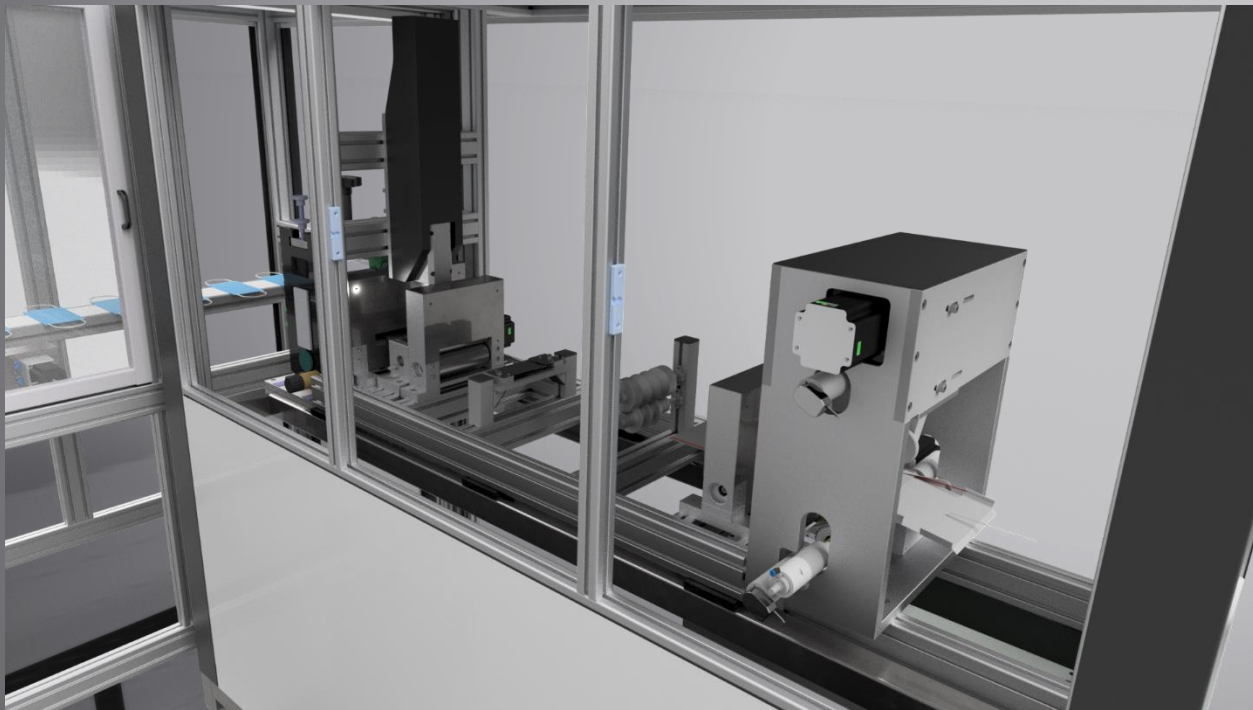
Unit 2

Unit 1

Unwinder with material, – end detection  
max Ø 600 mm

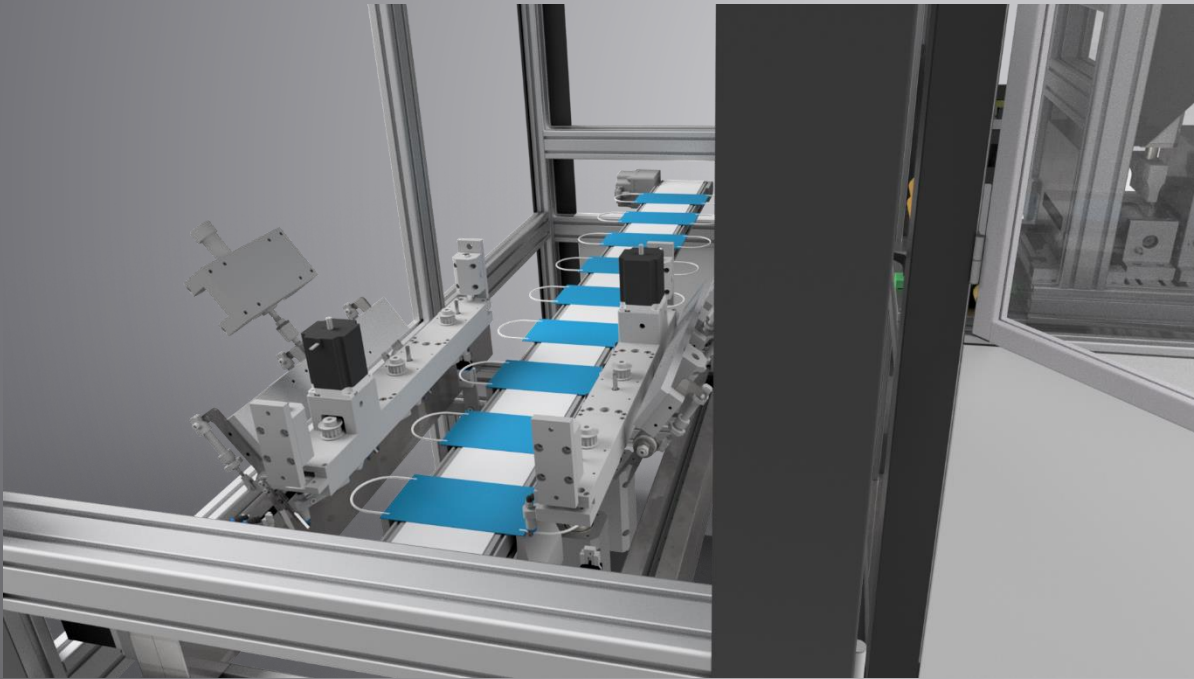


## Unit 1

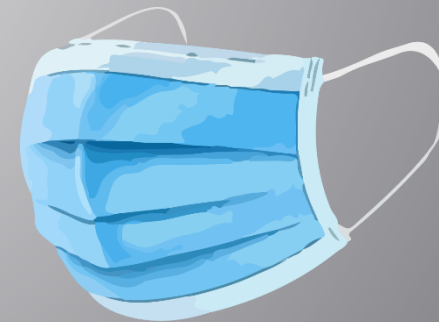


- Folding all layers of material
- Welding the folds
- Welding in the nospiece
- Crop in final mask size

## Unit 2



- Weld the elastic band at the edge
- alternative: welds the straps to tie





## Ultrasonic Units:

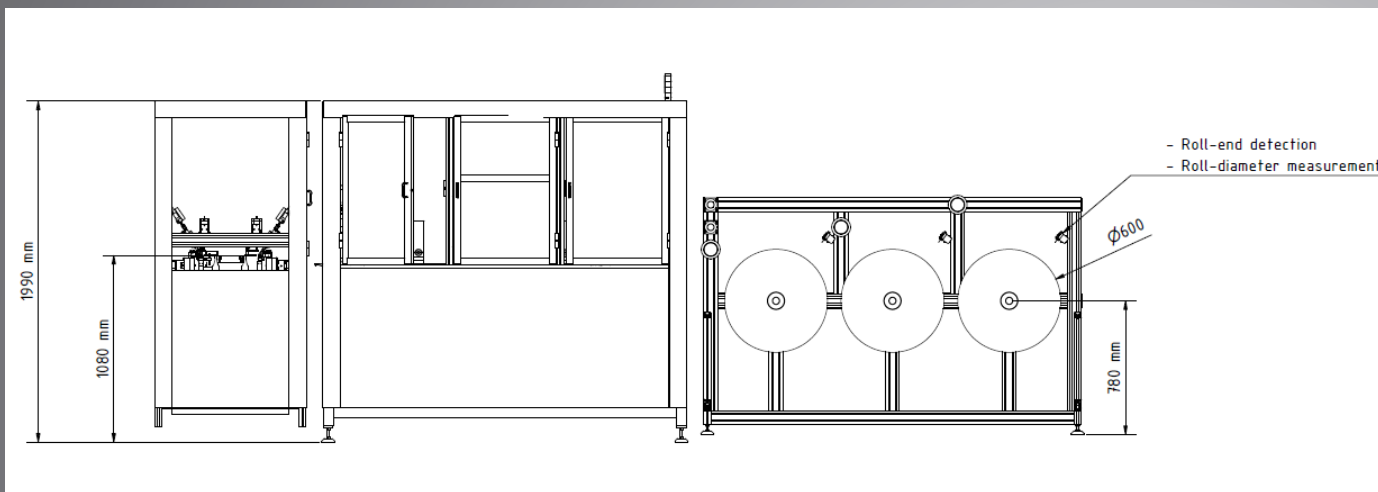
7 x 35 KHz

2 x 35 KHz rotating Sonotordes

All our welding components work in the 35 KHz range and are not audible to human hearing.

## Output:

- per minute 160 pieces
- High production efficiency, daily output up to 207.000 pieces (3 shifts)
- Max. speed of the machine: 30 m/min



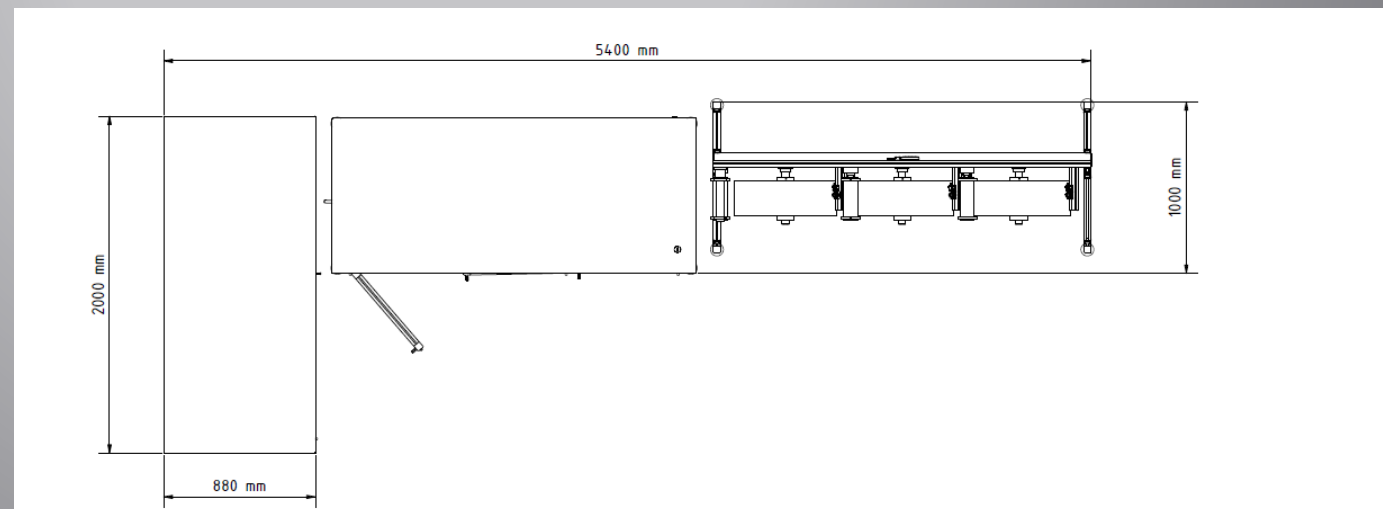
Voltage:	230V-50/60 Hz
Air Pressure:	6 bar
Power:	8KW
Weight:	1.200 Kg

## Dimension of the machine:

Width: 5,5 m

depth 2 m

height: 2 m



# Advantages – Ultrasonic components made by NUCLEUS

NUCLEUS is both an engineering company and a manufacturer of ultrasonic components. Sonotrodes, converters and generators are developed, produced and distributed by NUCLEUS. You benefit from bundled know-how and fastest possible reaction times in case of service.



35 KHz roll seam sonotrode  
made of titanium  
10mm, 12mm, 25mm width



35 KHz ultrasonic converter  
with dust-tight encapsulated  
Rotary transmitter (IP51)



Fully digital generator from the  
DG1x series specially for roll seam  
applications