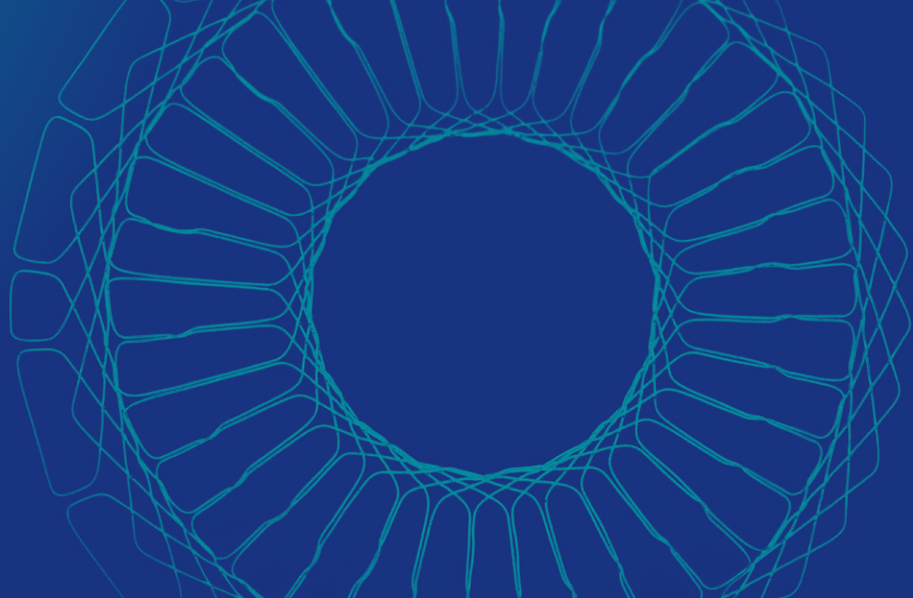


Process & Technology



From classic assembly processes to modern control systems and image processing programs to unique and patented process solutions for various processes, you are in professional and competent hands with MackSmaTec.



Ultrasonic Wire Embedding



Control Systems



Dispensing



Testing



Sheet Cutting/
Punching



Pick & Place



Bonding/
Soldering



Sorting/Feeding



Vision Systems



Labeling/Marking



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Wire Embedding Technologies

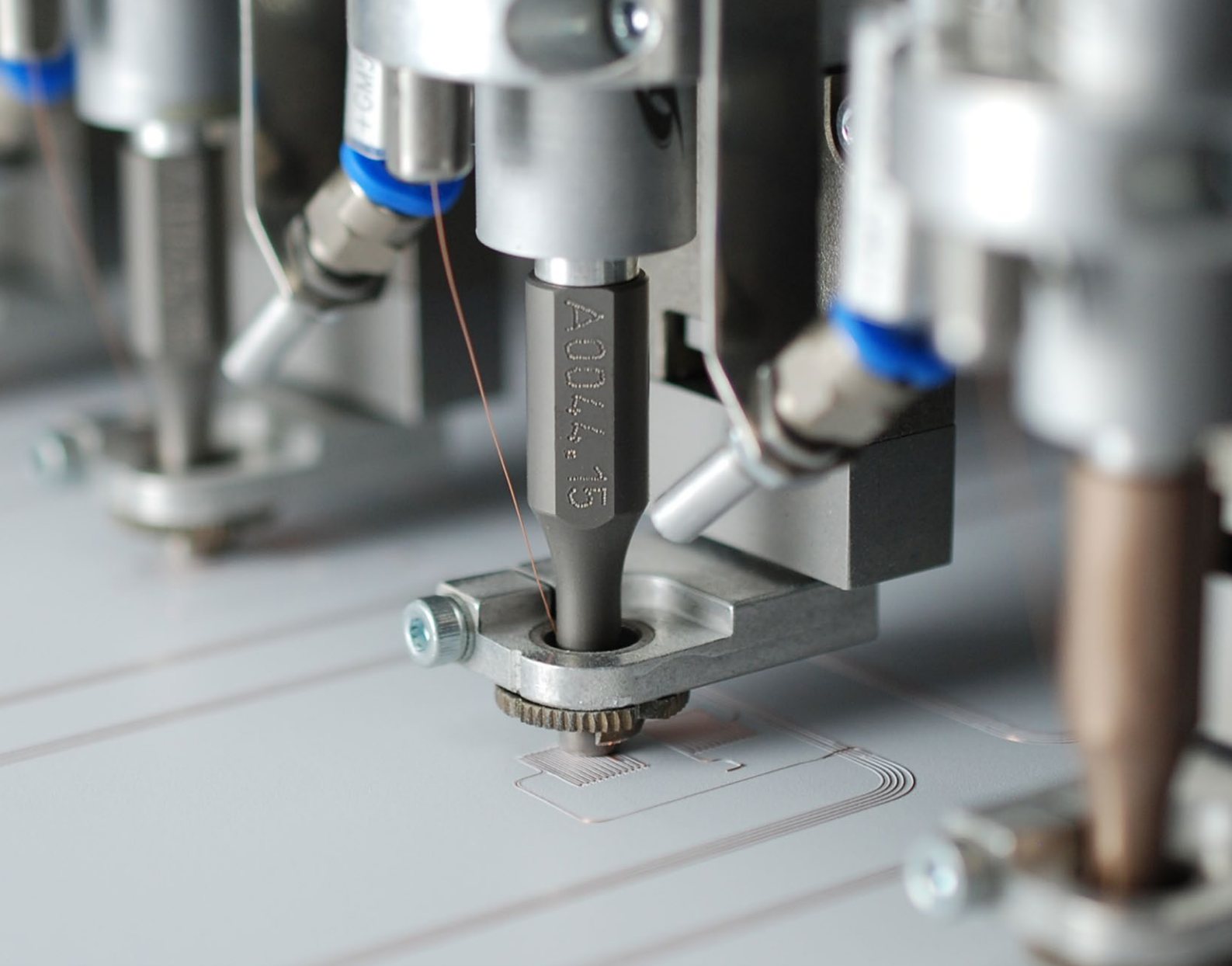
for 2D and 3D Applications

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Management System
ISO 9001:2015
ISO 14001:2015
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WCE150

Small Production System
for 2D Processes



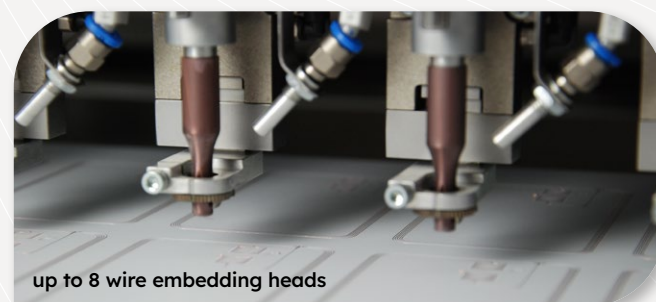
WCE150 is designed for wire embedding for 2D applications. Based on a single-station concept with manual load and unload, it is a convenient solution for small production volumes with a working area of approx. 600 mm x 600 mm.

+ Benefits and Features:

- » Affordable system for prototyping and small production batches
- » Very precise and accurate wire embedding on various substrates and with different kinds of wires
- » Automated intermetallic bonding process
- » Inlay sheet fixing on vacuum table
- » Ultrasonic wire embedding with up to 8 wire embedding heads
- » Possibility of integration in a fully automated machine according to customer request



precise and accurate
wire embedding



up to 8 wire embedding heads



wire embedding on
various substrates

WCEvario3D

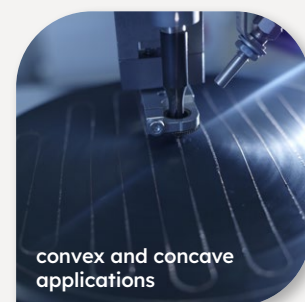
Single Robot Cell System
for 3D Applications



WCEvario3D is designed for 3D wire embedding applications and is a beyond state-of-the-art single robot cell system. Starting as a single robot cell for small production or prototype construction up to the heart of a fully automated production line.

+ Benefits and Features:

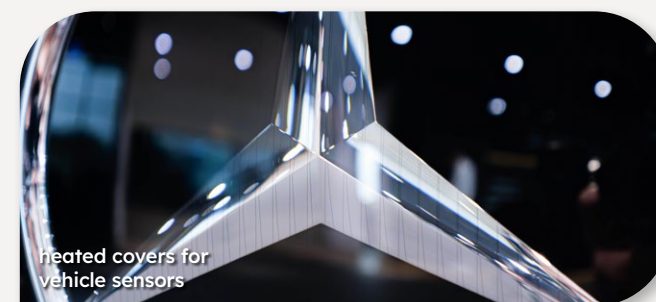
- » Highly precise and reliable wire embedding onto different substrates and a wide range of wire diameters can be handled
- » Force-control interface for a highly accurate customization of the given shape
- » Ideal for small batches, process development and prototype production
- » Costly and time-consuming intermediate steps can be eliminated (such as deep drawing), Processing size of workpieces: 300 mm x 300 mm x 200 mm
- » Customizable working area and easy integration in full automated production lines



convex and concave
applications



accurate force-control
interface



heated covers for
vehicle sensors

WCE Large Format

Production System for 2D Applications
and Large Product Sizes



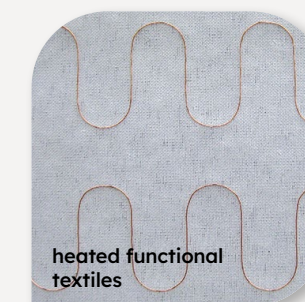
WCE Large Format is a wire embedding system for 2D applications and product sizes up to 1,500 mm x 2,000 mm (others on request). By integrating different tools and technologies, the production of complete electrical units is possible. A typical application for the WCE Large Format in the automotive sector is the wiring of antennas for manufacturing of car windscreens.

+ Benefits and Features:

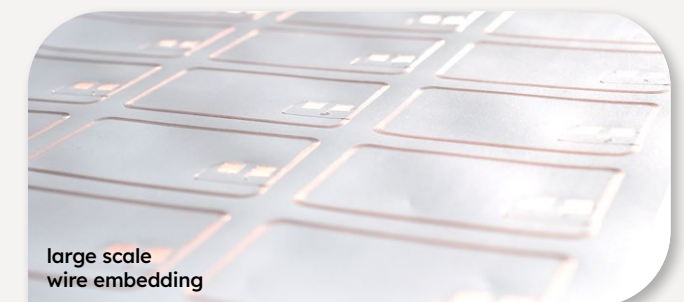
- » Up to 5 tools and 3 ultrasonic wire embedding heads possible
- » Ultrasonic wire embedding for conduction paths, inductor coils, antennas
- » Cutting
- » Pick & Place (place/combine components)
- » Dispensing (conductive glue, encapsulation)
- » Plotting (drawing, marking)
- » Hot stamping
- » Possibility of integration in fully automated machines according to customer request



wire embedding of
all geometries



heated functional
textiles



large scale
wire embedding