

## **ZEISS CARFIT eMOBEE**

The mobile honeycomb gridplate with e-drive



## ZEISS CARFIT eMOBEE

The automated, self-propelled CARFIT eMOBEE honeycomb gridplate efficiently transports components from A to B and provides sustainable support for automated processes in the measuring lab.

Automation is here to stay. Once tasks are delegated to robots and software, productivity and efficiency increase. The enormous potential for optimization and the benefits for users are evident in all areas of the value chain. With the driverless ZEISS CARFIT eMOBEE honeycomb gridplate, ZEISS is now providing a solution for sustainable automation processes in the measuring lab.

### Greater measuring machine capacity

The increase in the variety of parts available and companies' intensive efforts to inspect their components at an even faster rate means measuring areas must be properly equipped to achieve the necessary efficiency. With ZEISS CARFIT eMOBEE, the individual components fixtured on the honeycomb gridplate travel automatically from the production line to the measuring lab and even to the designated measuring machine as scheduled. If multiple grid plates are used at the same time, then machine downtime is drastically reduced.

### Self-propelled plates without tracks

The system "finds" its way without any human assistance or tracks. DMC matrix codes placed every 50 centimeters along the path lead the honeycomb gridplate to its goal – completely automatically. ZEISS affixes the electronic markings, measuring about two centimeters in size, at the customer's location and codes them accordingly. A camera integrated in ZEISS CARFIT eMOBEE reads the information on the chip.

### Sensors for safety

Sensors on the gridplate ensure a safe working environment and that all legal requirements are met. They monitor the protective zone and travel area at ground level. If obstacles are identified, the mobile honeycomb gridplate stops immediately and only continues its journey once the path is clear.

### Manual or automatic

The automated motor is not the only option available. The metrology engineer can also choose to operate the honeycomb gridplate manually. This way, measuring jobs can also be quickly reorganized without any difficulty.

*Autonomous, flexible and agile:  
the omnidirectional, self-propelled CARFIT eMOBEE honeycomb gridplate is  
revolutionizing the loading process in the measuring lab.*



### **Batteries instead of a pile of cords**

ZEISS CARFIT eMOBEE features an electric motor and is powered by built-in batteries. The battery life depends on the load, the travel path and the frequency – under normal operating conditions, a single charge is sufficient for several days of use. With the charging stations, the batteries can be recharged within three hours. Since no cable gets in the way of the honeycomb gridplate or limits its movement, ZEISS CARFIT eMOBEE can be used in various working conditions.

### **M2M communication**

Consistent data formats and standardized interfaces enable the secure, autonomous networking and communication between measuring machines and ZEISS CARFIT eMOBEE. Thus the honeycomb gridplate “knows” when and where it needs to transport a fixtured workpiece – all without any human intervention.

### **Lowerable for a secure position**

Achieving precise measurement results requires that the mobile honeycomb gridplate is securely positioned prior to starting the measuring process. Once it has entered the measuring range, ZEISS CARFIT eMOBEE is automatically lowered by approximately three centimeters onto the built-in feet.

### **Precisely fixtured components**

The high-precision hole grid enables the setup of fixtures for all workpieces that need to be measured. Since the mobile plate is extremely light, it is also possible to clamp heavy or multiple parts on the system.

### **Lightweight and stable**

Integrated honeycombs made from aluminum give the plate the necessary stability. Nature proved a source of inspiration during the design process because, much like in beehives, the weight is spread around the hexagonal walls on the ZEISS CARFIT eMOBEE rather than at individual points. Thus the structure can handle a load that is 30 percent heavier as compared to other transportation solutions.

The pallet comes in different sizes. The smallest is 2x1 meters, and the largest is 5x2 meters.

### **Four-wheel drive for easy maneuvering**

Each of the four wheels on ZEISS CARFIT eMOBEE is controlled separately. Thanks to this omnidirectional drive, the gridplate can travel in any direction at all times. This ensures reliable movement across the floor, space-saving navigation and thus makes the plate suitable for small measuring labs.



### The benefits at a glance:

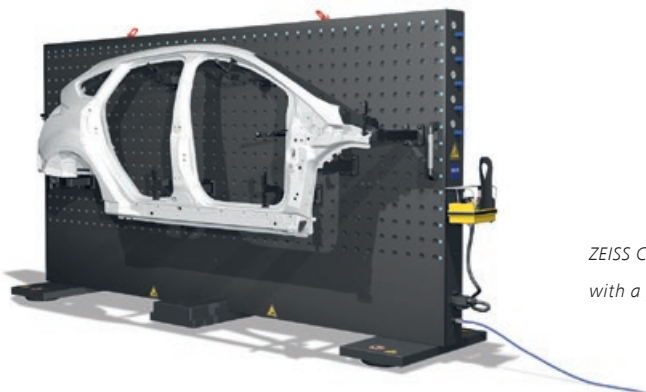
- ZEISS CARFIT eMOBEE supports automation processes in the measuring lab.
- ZEISS CARFIT eMOBEE increases the capacity of the measuring machines.
- ZEISS CARFIT eMOBEE reduces the amount of time metrology engineers need for setup and enables greater process monitoring.
- The light, stable honeycomb structure of ZEISS CARFIT eMOBEE enables multiple parts to be loaded at the same time for more efficient transport.
- Thanks to its four-wheel drive, ZEISS CARFIT eMOBEE takes up limited space and is also suitable for small measuring labs.

## ZEISS CARFIT eMOBEE - Technical data for the mobile honeycomb plate

Dimensions	Smallest version: 2000 mm x 1000 mm, largest version: 5000 mm x 2000 mm
Weight	630 kg (smallest version)
Drive	Electric motor
Travel path definition	DMC matrix. Travel path defined using adhesive markers on the floor
Hole grid versions	50 mm x 50 mm, 100 mm x 100 mm, 200 mm x 200 mm
Operation	Manual (remote with joystick, wireless) or automatic
Maximum load	1,500 kg
Speed	1 m / sec.
Positioning accuracy	+/- 1 mm
Movement options	Freely navigable: lateral movements and 360° rotation possible



### Additional products from the ZEISS CARFIT MOBEE series:



*ZEISS CARFIT MOBEE air, the mobile honeycomb gridplate with a pneumatic actuator*

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