

# CARFIT Products and News

## Carl Zeiss Fixture Systems GmbH



Alexander Leinenbach  
Marc Kreuter

11. November 2021



# Agenda



---

**01** CARFIT eMOBEE

---

**02** CARFIT Lite

---

**03** OmniFix Kits

---

**04** OmniFix Air

---

**05** Summary

---

---

**01** CARFIT eMOBEE

---

**02** CARFIT Lite

---

**03** OmniFix Kits

---

**04** OmniFix Air

---

**05** Summary

---

# CARFIT eMOBEE

## Mobile Honeycomb Plate with eDrive



The remote controlled self-propelled CARFIT eMOBEE honeycomb plate efficiently transports components from A to B and provides sustainable support for loading processes in the measuring lab.

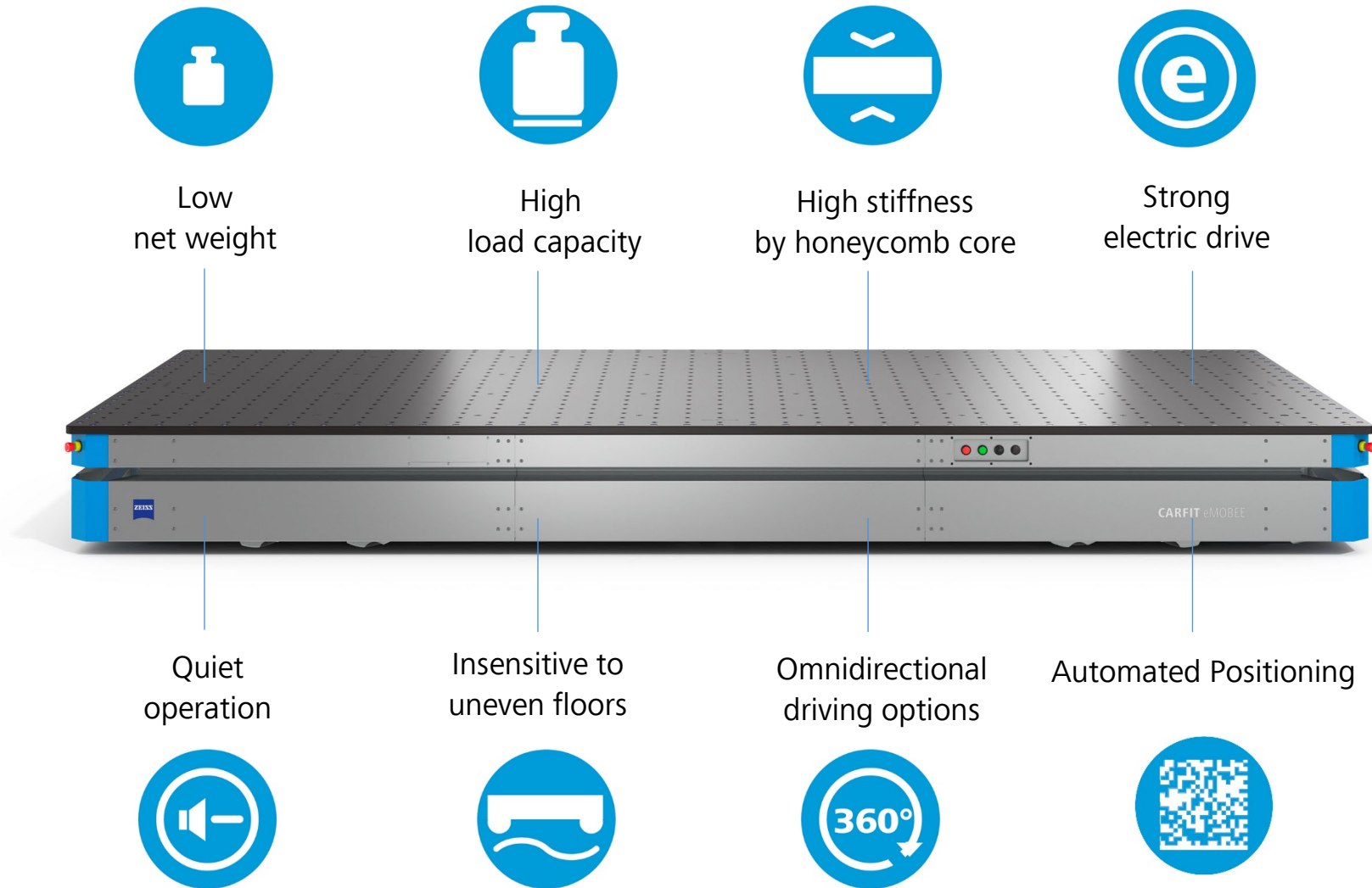
**The new measuring fixture solution combines several advantages in one product:**

It is lightweight thanks to its honeycomb core, and at the same time particularly strong and stiff. In addition, thanks to the four-wheel suspension and powerful drive, the plate can be steered omnidirectionally on almost any surface. ZEISS CARFIT eMOBEE thus significantly accelerates the measuring process and helps to save resources and space capacities.



# CARFIT eMOBEE

## Key Characteristics



# CARFIT eMOBEE

## Driving characteristics



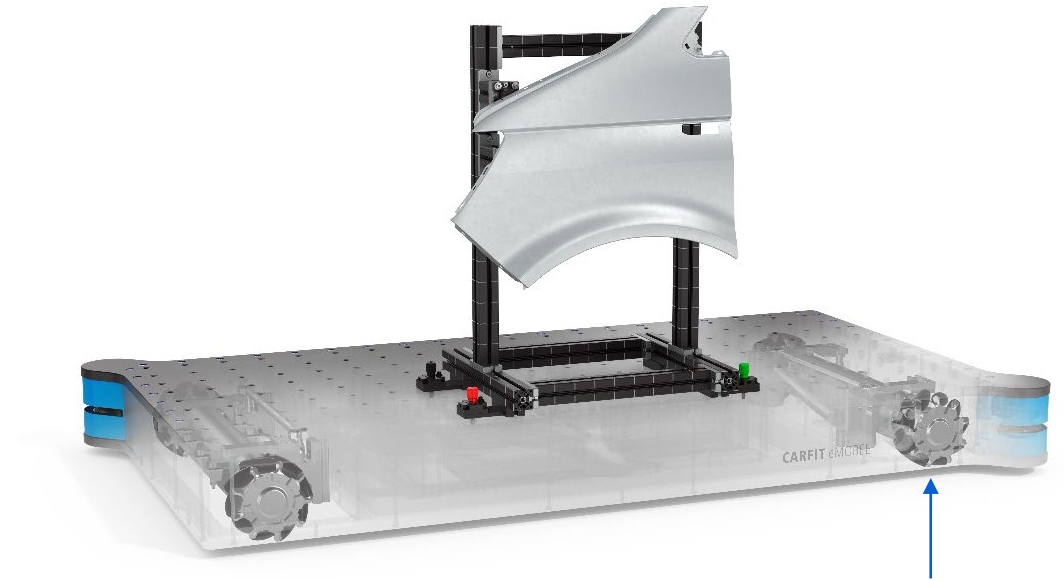
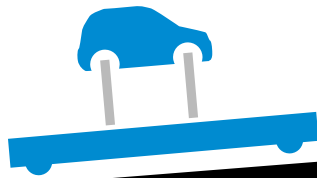
### E-Drive and Mecanum wheels

Together with the powerful drive, the special Mecanum wheels are insensitive to uneven ground.

20 mm (edge)



20 % (loaded) – 40 % (empty) gradient\*



Mecanum  
wheels



# CARFIT eMOBEE

Intuitive navigation & reduced space requirements



*Linear travel forwards / backwards*



*Diagonal travel*



*Ergonomic and intuitively arranged control unit*



*360-degree rotation around center*



*Cross travel*

# CARFIT eMOBEE

## Easy Implementation



### Manual and semi-automatic operation

The system is regularly navigated by remote control

It finds the final position in the measuring cell semi automatically using a positioning system. The electronic markings are applied and coded onsite accordingly by ZEISS so that they can be read by the integrated camera.

It is not necessary to prepare the floor with additional tracks.



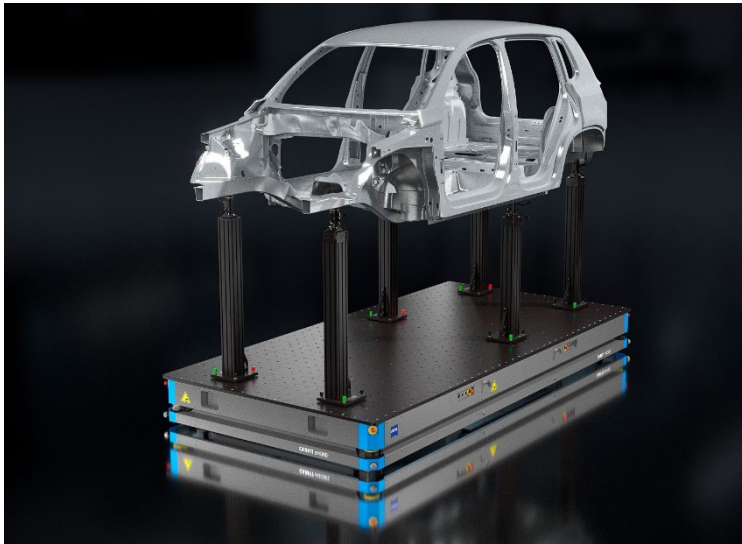
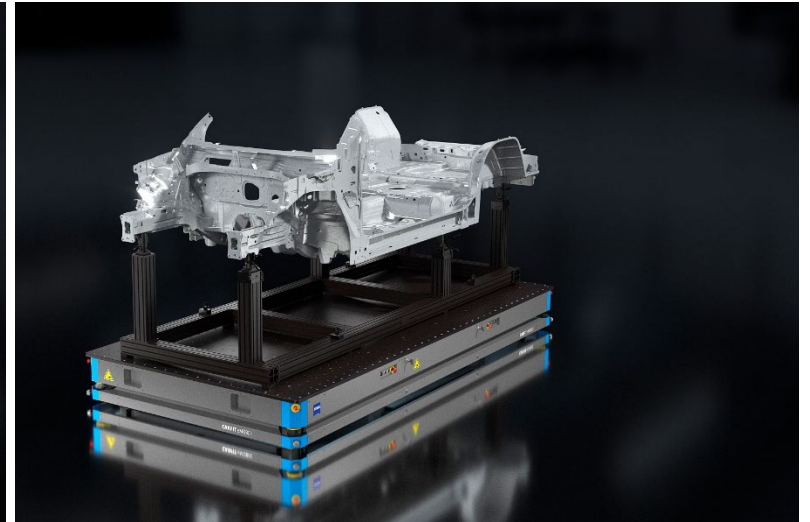
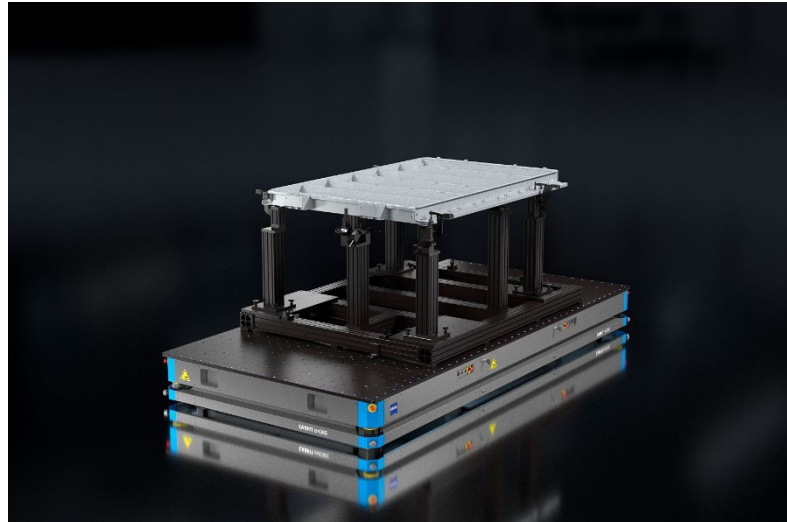
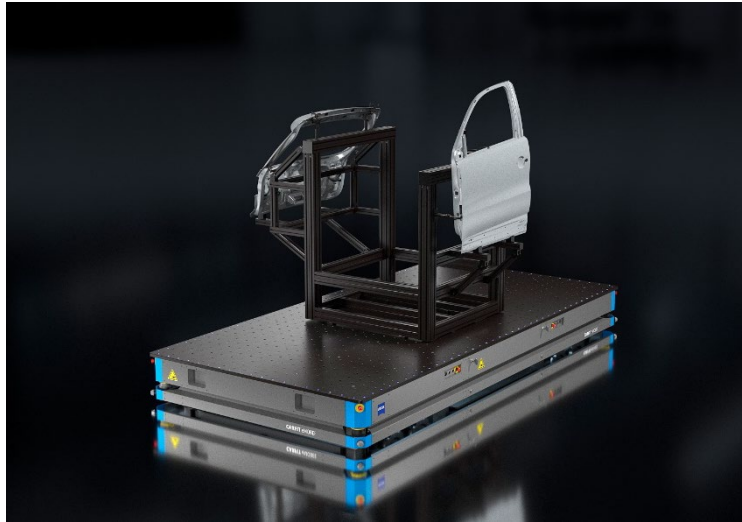
### Application:

- Sheet metal with DMC codes for screwing on the floor
- Sheet metal plates for individual length adjustment
- Positioning accuracy +/- 1 mm, 0,1°



# CARFIT eMOBEE

## Application examples



# CARFIT eMOBEE

## Technical Data



Dimensions	2000 mm x 1000 mm, 4000 mm x 2000 mm, 5000 mm x 2000 mm
Weight	from 630 kg (smallest version)
Drive	Electric motor
Travel path definition	DMC matrix; travel path defined using 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) + automated positioning
Maximum load	up to 6.000 kg
Speed	1 m / sec.
Positioning accuracy	+/- 1 mm
Movement options	Freely navigable: lateral movements and 360° rotation possible
Maximum height offset on floor	20 mm (edge)
Battery loading	Via cable
Flatness	0,4 mm (entire vehicle)

If the vehicle weight is over 6400 kg, which corresponds to a payload of approx. 4200 kg, the maximum speed of the vehicle must be reduced. In this case, the maximum speed depends on the ground conditions, load distribution, driving distance and driving direction (proportion of longitudinal or transverse driving) under load.



---

**01** CARFIT eMOBEE

---

**02** CARFIT Lite

---

**03** OmniFix Kits

---

**04** OmniFix Air

---

**05** Summary

---

# CARFIT Lite

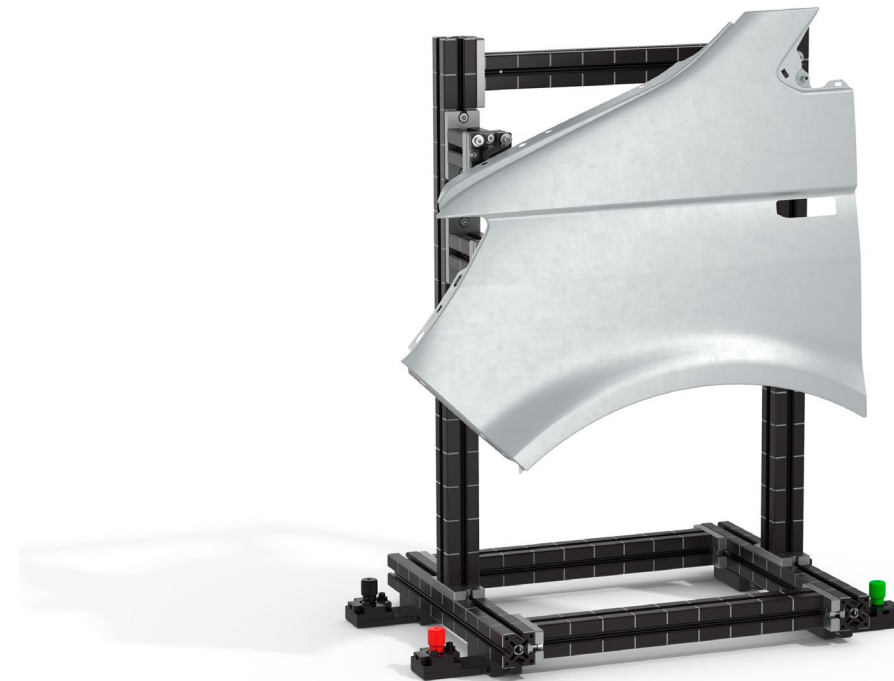
## The simple clamping system for holding fixtures



Positioning and clamping of parts for optical measurement where rough 3-2-1 positioning is good enough. A reproducible reassembly or change of existing CARFIT lite fixtures by the customer is not foreseen, as well as for CARFIT classic.

With use of 3D-Element in the system a positioning tolerance of  $\pm 0,05\text{mm}$  is reproducible.

To add and detach locator points in a reproducible way CARFIT quick change units need to be used.



# CARFIT Lite

## Profile sizes



Available sizes:

- 50 x 50
- 50 x 100
- 100 x 100



# CARFIT Lite

## Profile lengths



Available lengths (for all size gradations see catalog):

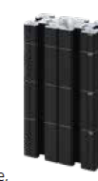
- 50 x 50 → L = 25 - 2000 mm
- 50 x 100 → L = 25 - 4000 mm
- 100 x 100 → L = 25 - 4000 mm

All with laser marked lines in 50mm grid



Extruded profile,  
50 x 50 mm,  
L = 25 - 2000 mm

Length (mm)	ZEISS no.:
25	600062-0210-496
50	600062-0210-472
75	600062-0210-473
100	600062-0210-425
125	600062-0210-426
150	600062-0210-427
175	600062-0210-428
200	600062-0210-429
225	600062-0210-430
250	600062-0210-431
275	600062-0210-432
300	600062-0210-433
325	600062-0210-434
350	600062-0210-435
375	600062-0210-436
400	600062-0210-437
425	600062-0210-438
450	600062-0210-439
475	600062-0210-440
500	600062-0210-441
550	600062-0210-442
600	600062-0210-443
650	600062-0210-444
700	600062-0210-445
750	600062-0210-446
800	600062-0210-447
850	600062-0210-448
900	600062-0210-449
950	600062-0210-450
1000	600062-0210-451
1050	600062-0210-452
1100	600062-0210-453



Extruded profile,  
50 x 100 mm,  
L = 25 - 4000 mm

Length (mm)	ZEISS no.:
25	600062-0200-118
50	600062-0200-002
75	600062-0200-003
100	600062-0200-004
125	600062-0200-005
150	600062-0200-006
175	600062-0200-007
200	600062-0200-008
225	600062-0200-009
250	600062-0200-010
275	600062-0200-011
300	600062-0200-012
325	600062-0200-013
350	600062-0200-014
375	600062-0200-015
400	600062-0200-016
425	600062-0200-017
450	600062-0200-018
475	600062-0200-019
500	600062-0200-020
550	600062-0200-021
600	600062-0200-022
650	600062-0200-023
700	600062-0200-024
750	600062-0200-025
800	600062-0200-026
850	600062-0200-027
900	600062-0200-028
950	600062-0200-029
1000	600062-0200-030
1050	600062-0200-031
1100	600062-0200-032



Extruded profile,  
100 x 100 mm,  
L = 25 - 4000 mm

Length (mm)	ZEISS no.:
25	600062-0200-060
50	600062-0200-061
75	600062-0200-062
100	600062-0200-063
125	600062-0200-064
150	600062-0200-065
175	600062-0200-066
200	600062-0200-067
225	600062-0200-068
250	600062-0200-069
275	600062-0200-070
300	600062-0200-071
325	600062-0200-072
350	600062-0200-073
375	600062-0200-074
400	600062-0200-075
425	600062-0200-076
450	600062-0200-077
475	600062-0200-078
500	600062-0200-079
550	600062-0200-080
600	600062-0200-081
650	600062-0200-082
700	600062-0200-083
750	600062-0200-084
800	600062-0200-085
850	600062-0200-086
900	600062-0200-087
950	600062-0200-088
1000	600062-0200-089
1050	600062-0200-090
1100	600062-0200-091



- A lot of different reinforcement struts and gusset plates are available for use in different sized frames
- For big reinforcements we also provide a hinge element which can be combined with different profile lengths for different angled support structures



Profile support,  
L100 mm, 45°

ZEISS no.: 600062-0210-409



Profile support,  
L150 mm, 45°

ZEISS no.: 600062-0210-408



Profile support,  
L200 mm, 45°

ZEISS no.: 600062-0210-410



Profile support,  
L100 mm, 60°

ZEISS no.: 600062-0210-412



Profile support,  
L150 mm, 60°

ZEISS no.: 600062-0210-411



Profile support,  
L200 mm, 60°

ZEISS no.: 600062-0210-413



Gusset plate,  
L100 mm, 45°

ZEISS no.: 600062-0210-415



Gusset plate,  
L150 mm, 45°

ZEISS no.: 600062-0210-414



Hinge,  
CARFIT lite

ZEISS no.: 600062-0210-563



Gusset plate,  
L200 mm, 45°

ZEISS no.: 600062-0210-416



Gusset plate,  
L100 mm, 60°

ZEISS no.: 600062-0210-418



Gusset plate,  
L150 mm, 60°

ZEISS no.: 600062-0210-417



Gusset plate,  
L200 mm, 60°

ZEISS no.: 600062-0210-419

*\*for all elements see catalog*

# CARFIT Lite

## Adapter plates and accessories



- A wide variety of adapter plates are available for different connection types:
  - T-profile connection for all profile sizes
  - Cross profile connection for all profile sizes
  - Head plates for 3D-elements and other milling parts
  - Adapter for 60mm CARFIT classic system comp.
- Also available:
  - Foot plates
  - Measuring spheres
  - Clamp flange plates
  - Transport plate with ring bolt

*\*for all elements see catalog*



Adapter plate head,  
50 on 50 mm

ZEISS no.: 600062-0210-401



Adapter plate head,  
50 on 60 mm

ZEISS no.: 600062-0210-399



Adapter plate head,  
50 on 80 mm

ZEISS no.: 600062-0210-400



Adapter plate cross,  
50 on 50 mm

ZEISS no.: 600062-0210-402



Adapter plate head,  
60 on 50 mm

ZEISS no.: 600062-0210-403



Adapter plate cross,  
50 on 60 mm

ZEISS no.: 600062-0210-404



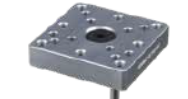
Adapter plate head,  
80 on 50 mm

ZEISS no.: 600062-0210-405



Adapter plate cross,  
50 on 80 mm

ZEISS no.: 600062-0210-406

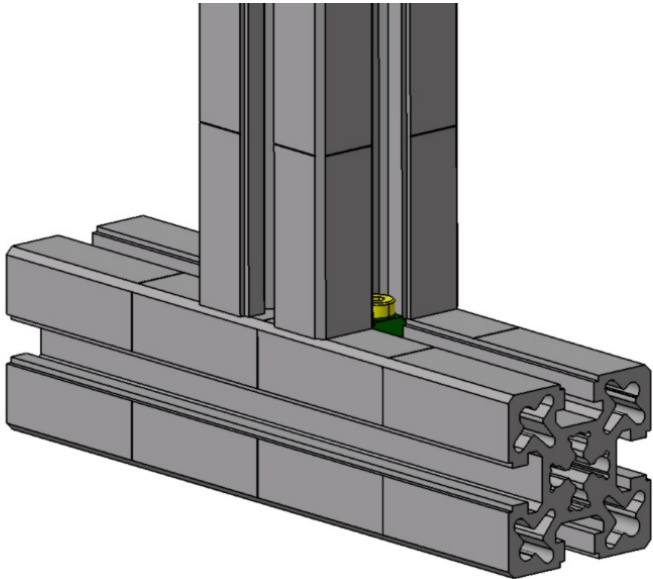


Adapter plate head,  
for 2D- and 3D element,  
60 mm

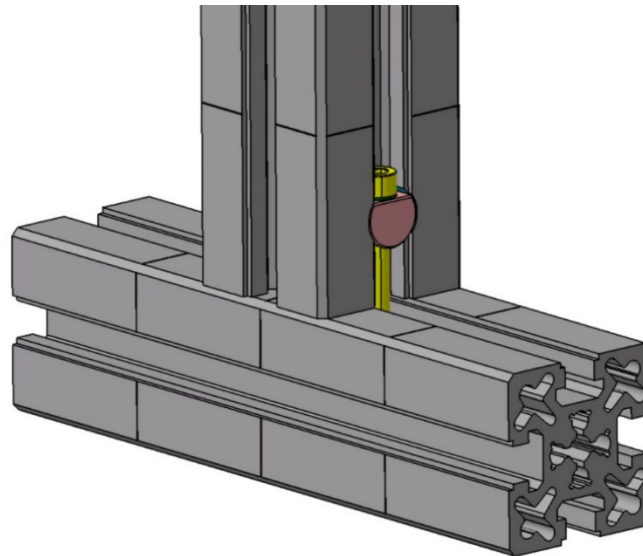
ZEISS no.: 600062-0210-407

For CARFIT lite three different connections can be use:

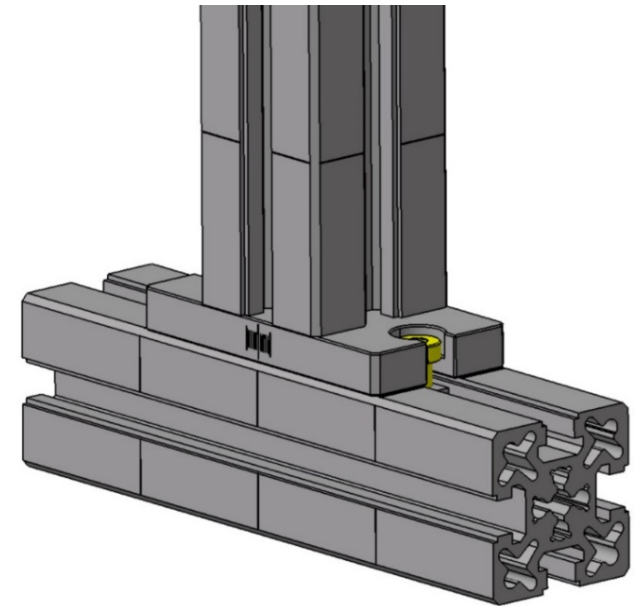
### 1. T-Nut-Stones



### 2. Bolts

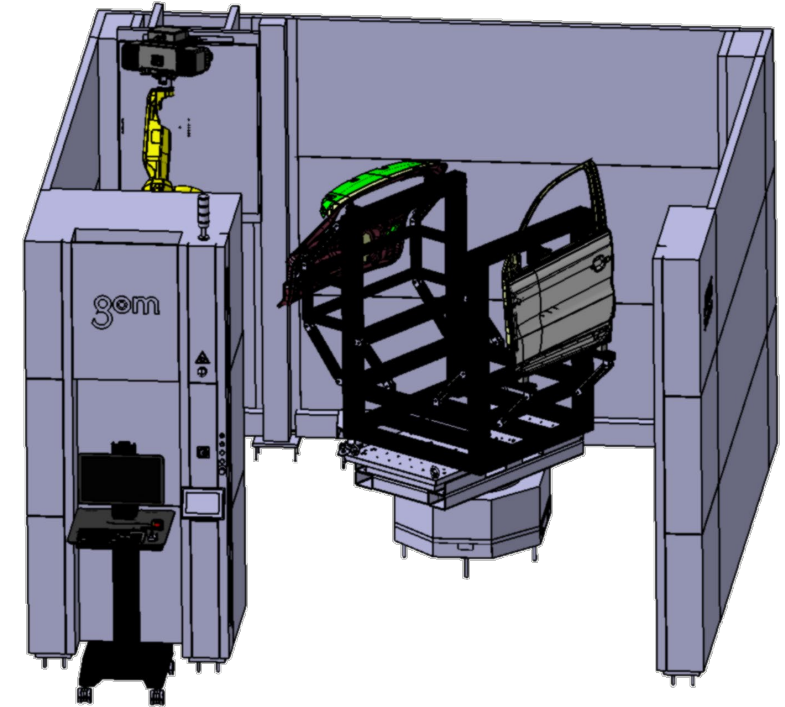
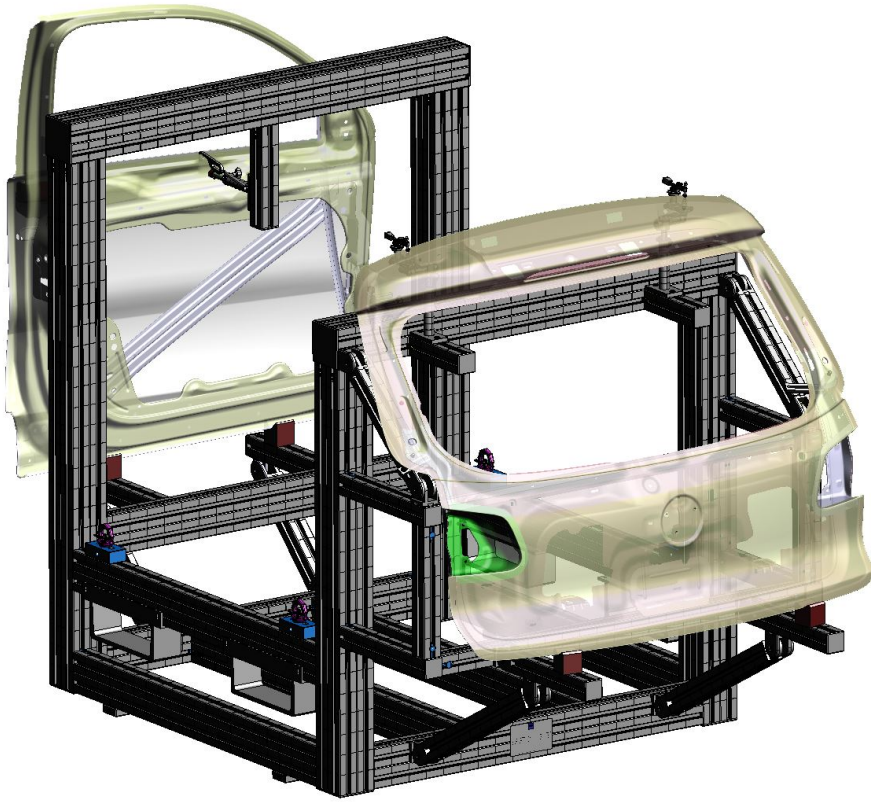


### 3. Adapter Plates

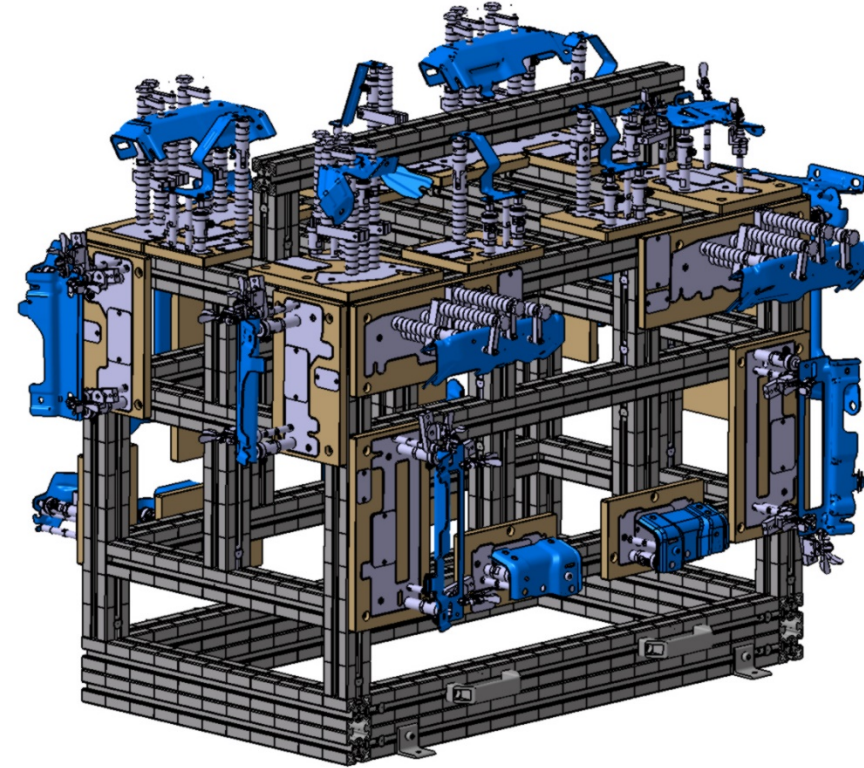
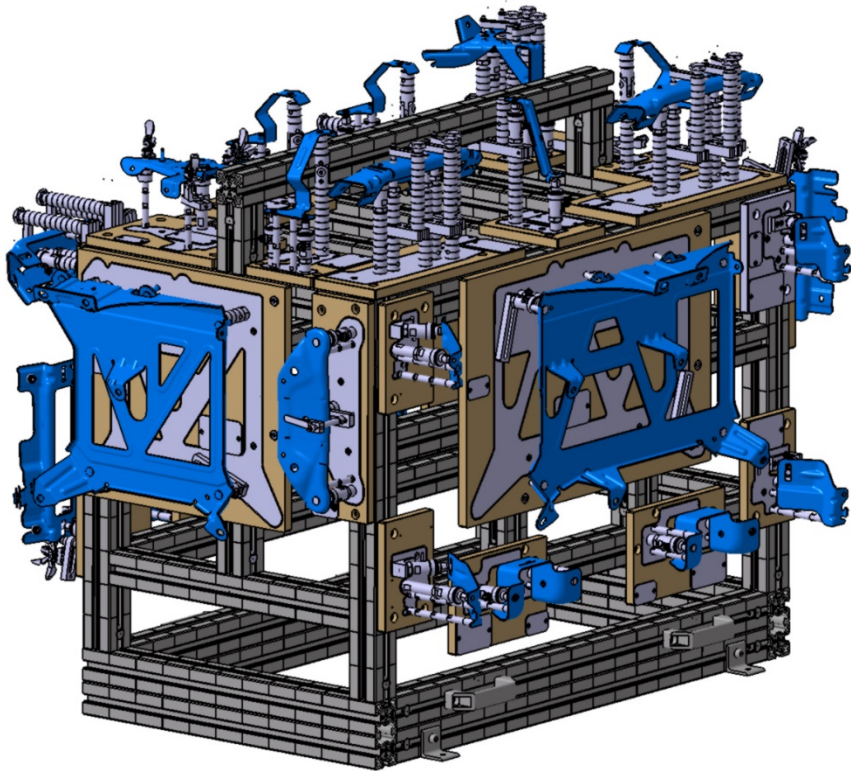


# CARFIT Lite

## Application examples – GOM Multipart Fixture

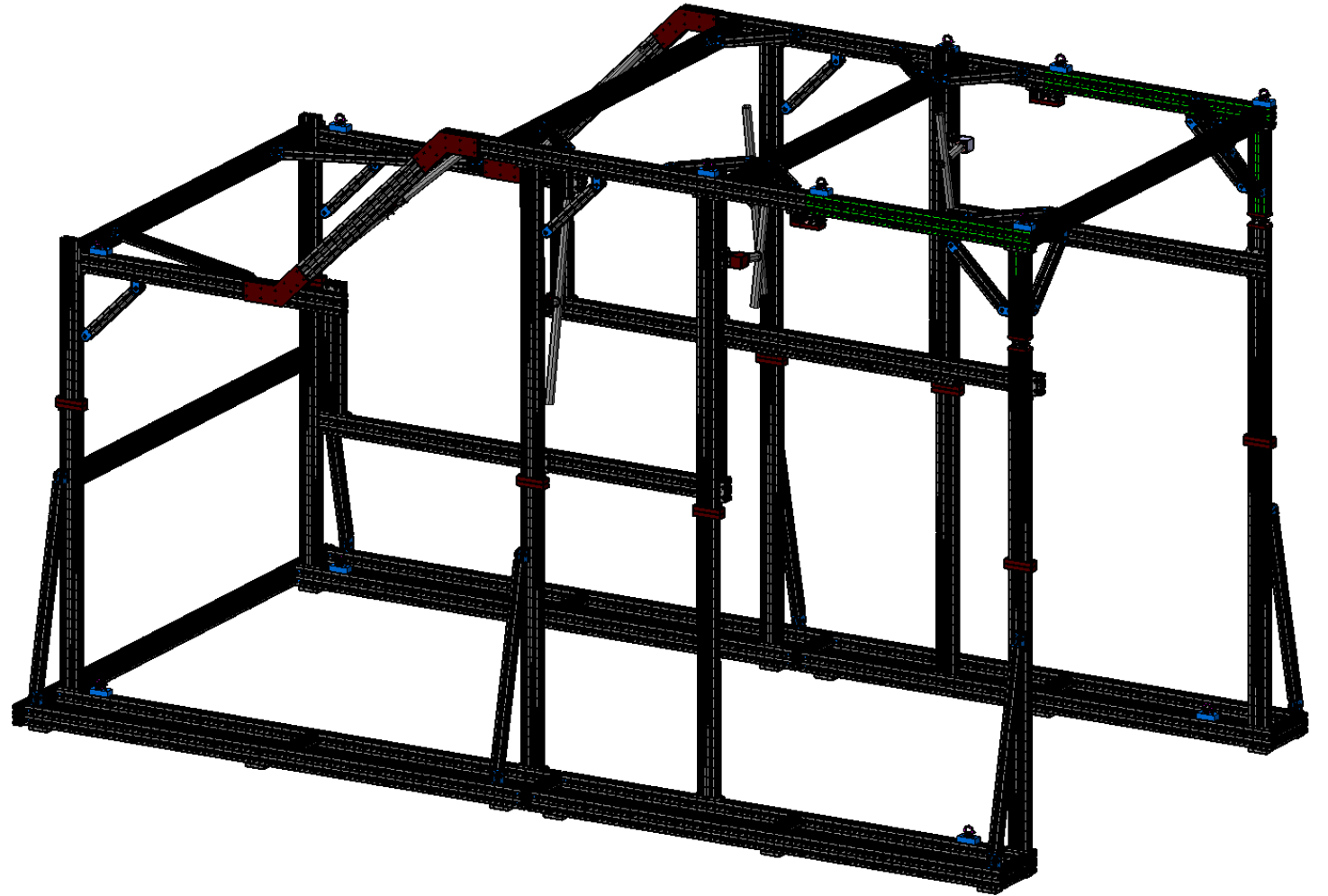






# CARFIT Lite

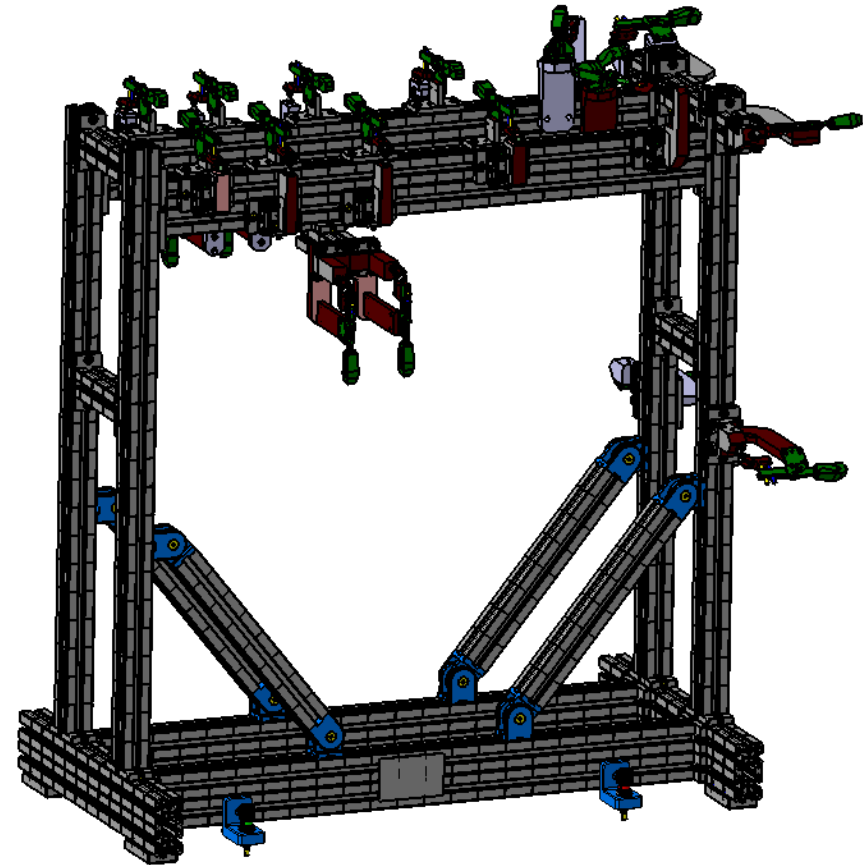
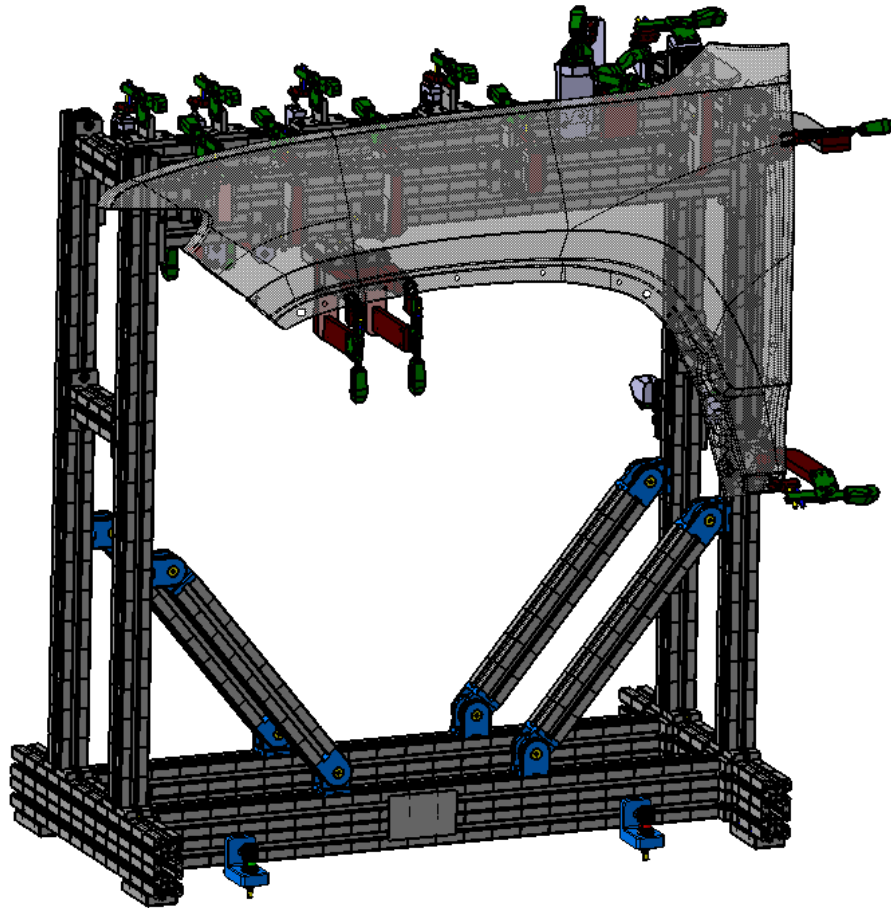
## Application examples – Rivian reference frame around full body

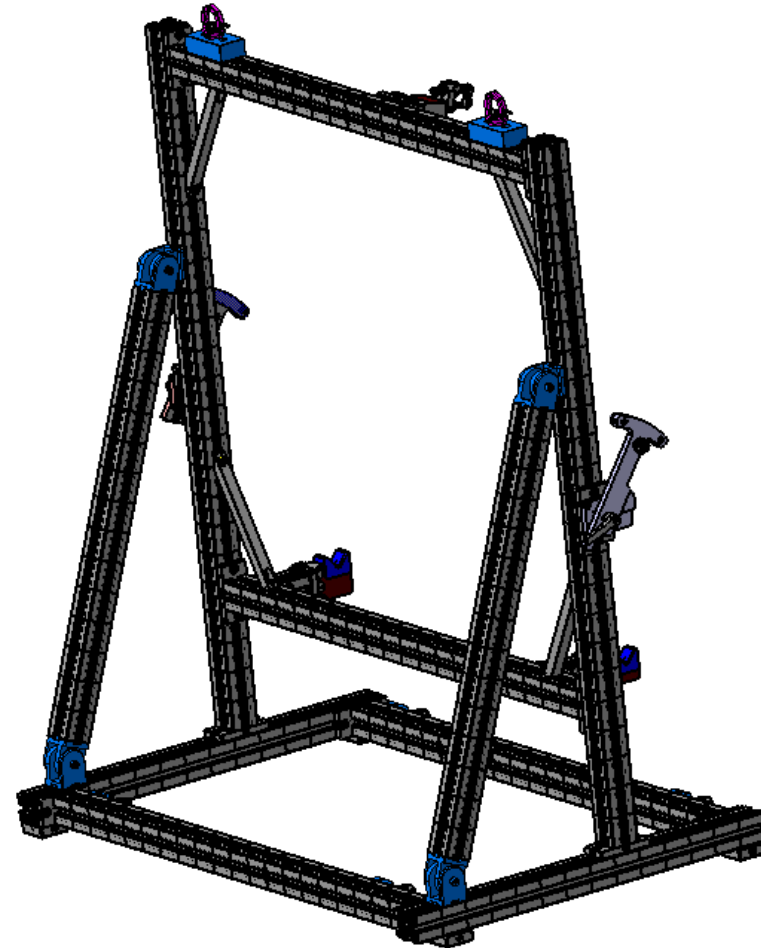
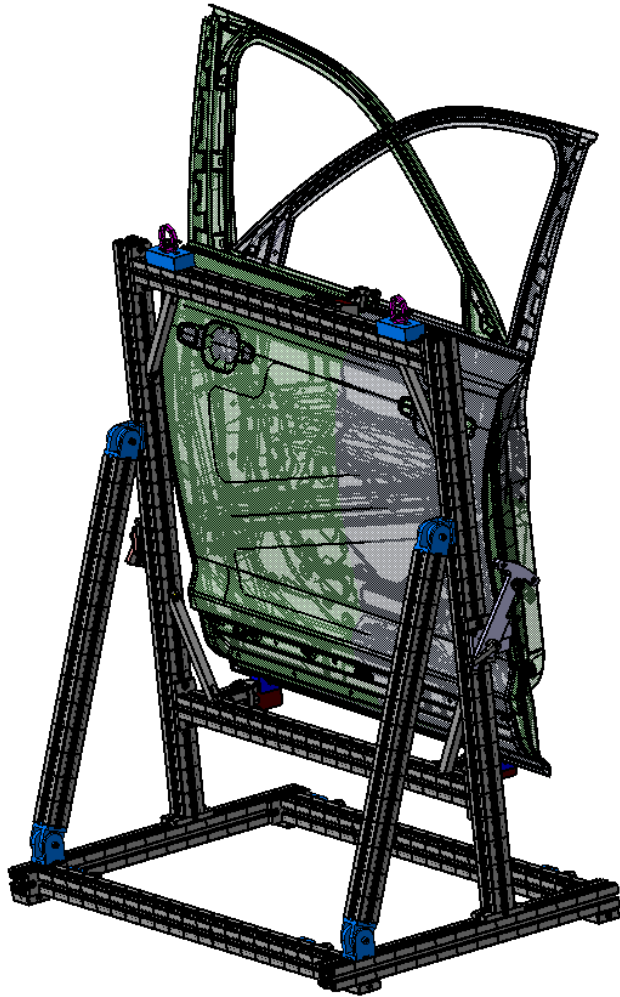


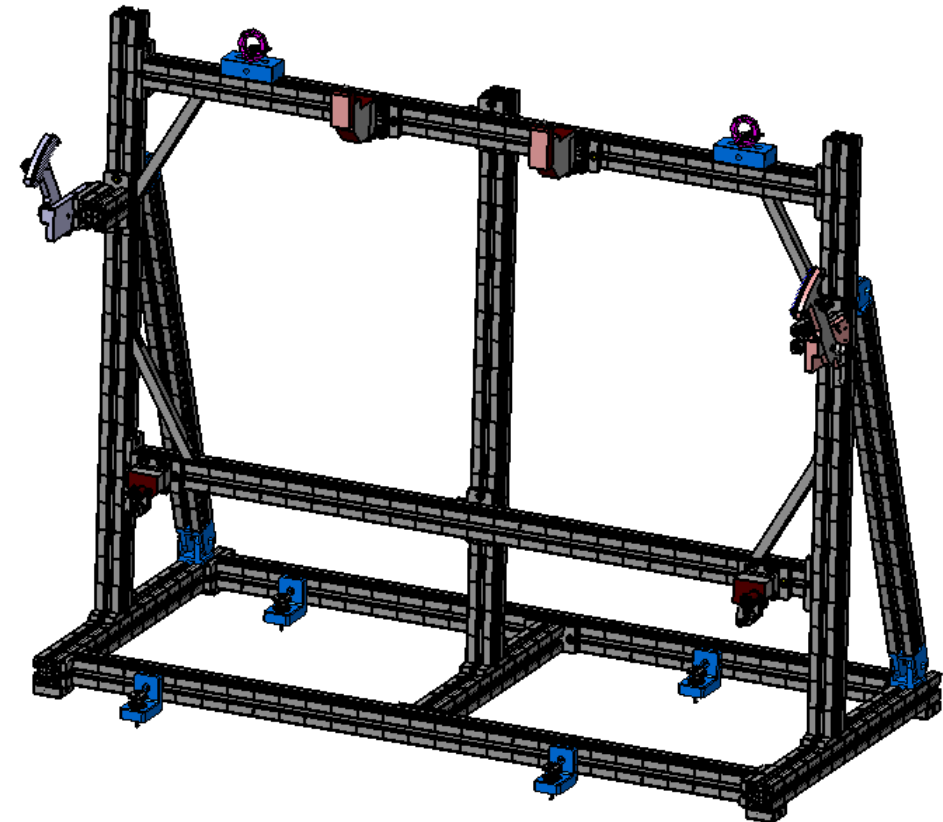
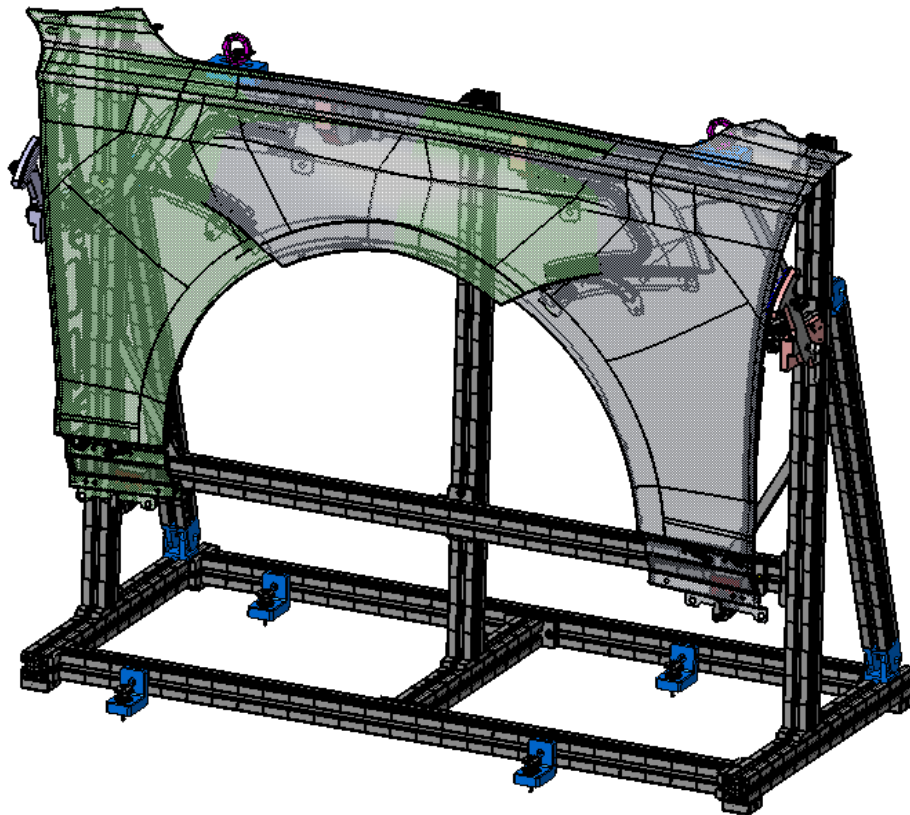


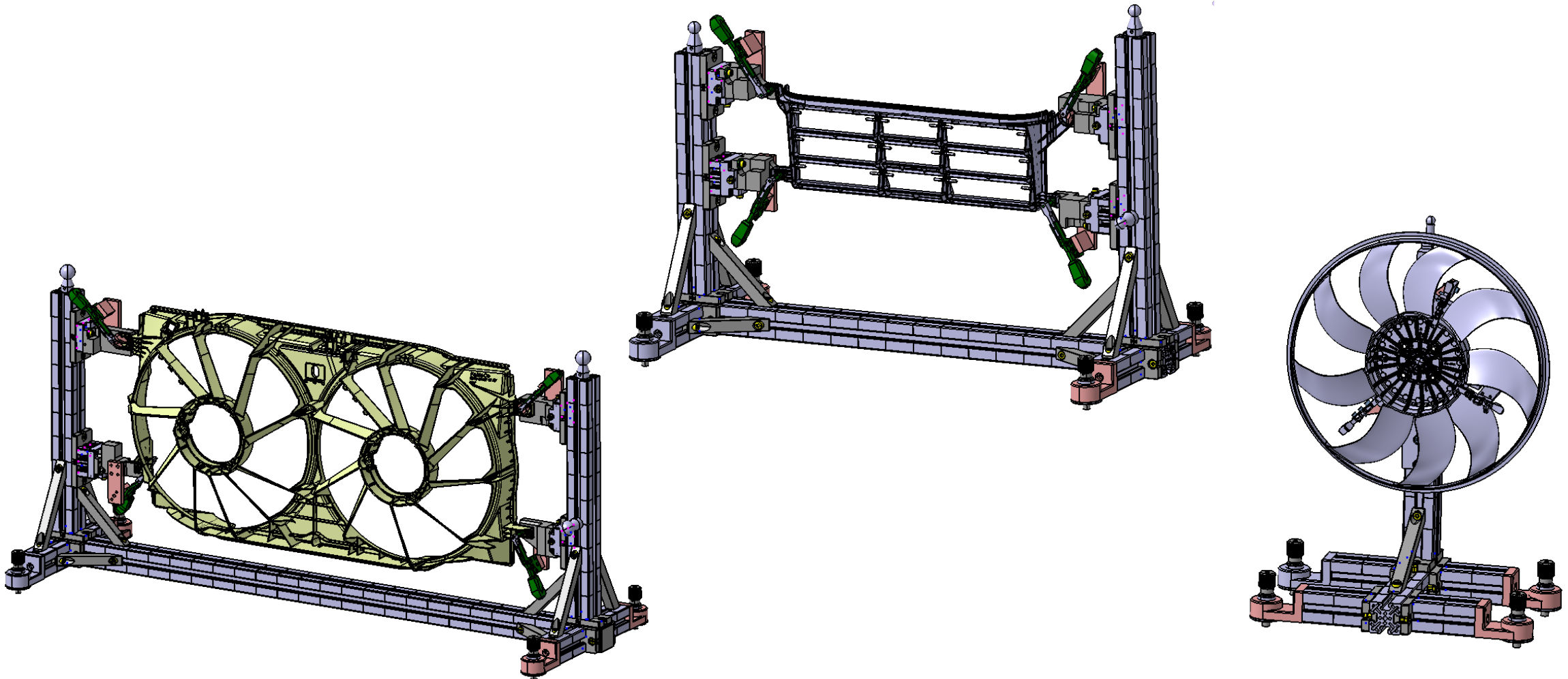
# CARFIT Lite

Application examples – Rivian fender LH + RH









---

**01** CARFIT eMOBEE

---

**02** CARFIT Lite

---

**03** OmniFix Kits

---

**04** OmniFix Air

---

**05** Summary

---

# OmniFix Kits

## Relaunched Version of the CARFIT Fixture Kits



### Launch Date:

Already available

### Marketing Material:

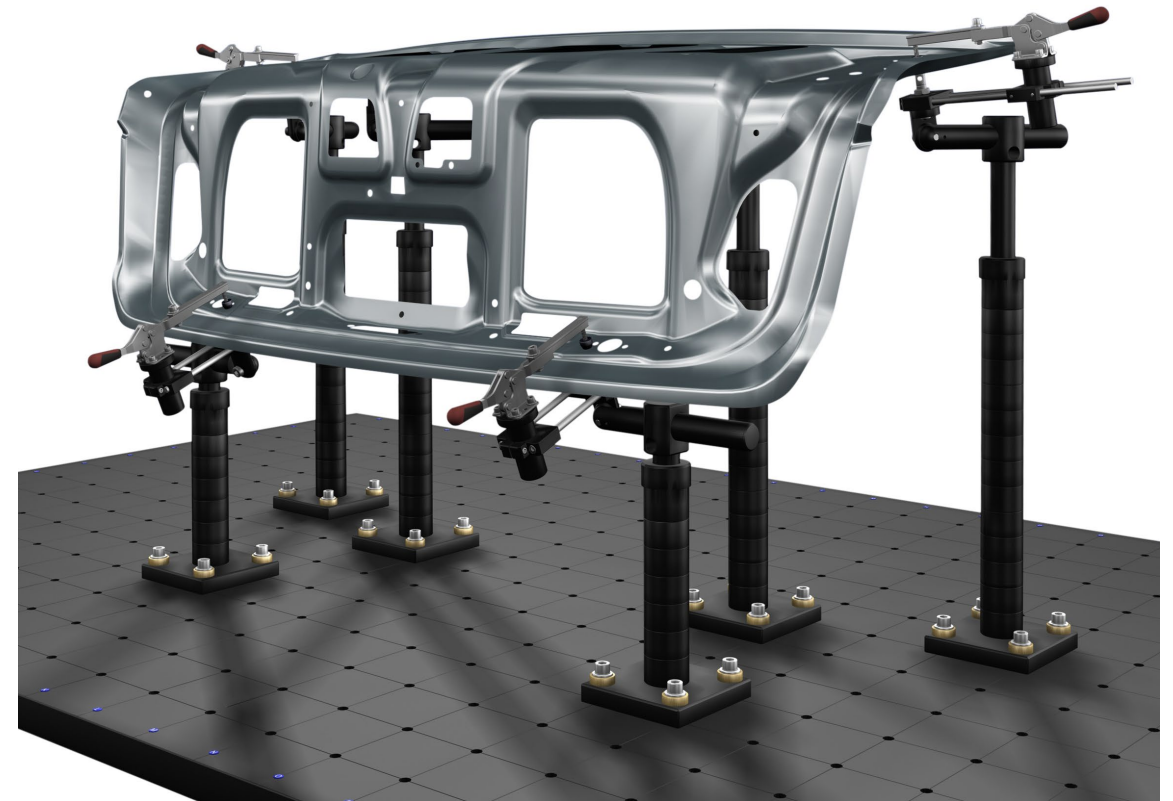
English and Spanish Catalog  
(With and without Prices)

### Details:

Fixture Kits for Small to Big  
Workpieces

Jointed Arm Kits for Small to  
Big Workpieces

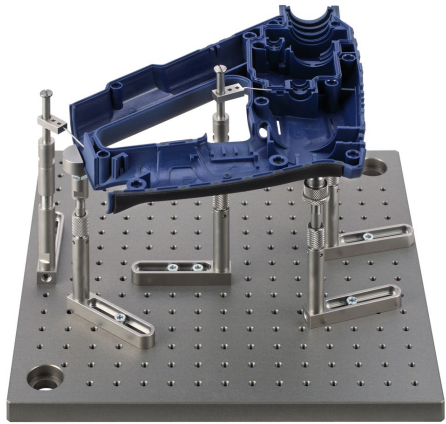
Assembly Station





# OmniFix Kits

Relaunched Version of the CARFIT Fixture Kits



---

**01** CARFIT eMOBEE

---

**02** CARFIT Lite

---

**03** OmniFix Kits

---

**04** OmniFix Air

---

**05** Summary

---

# OmniFix air

## Vacuum Clamping System



**Launch Date:** Pricelist May 2022

**Marketing Material:** English Brochure

**Details:**

- 3x Adjustable Vacuum Units
- 3x Hose Packages
- 1x Control Unit with Storage Compartment for all 3 Units



# OmniFix air

## Vacuum Clamping System



---

**01** CARFIT eMOBEE

---

**02** CARFIT Lite

---

**03** OmniFix Kits

---

**04** OmniFix Air

---

**05** Summary

---

# Summary

## CARFIT Products and News



- CARFIT eMOBEE
  - Manual and semi-automatic remote controlled mobile honeycomb grid plate
  - Special Mecanum drive for unlimited transport options with less space requirement
- CARFIT LITE
  - New CARFIT system for holding fixtures mainly used for optical measurements
  - Three different profile sizes 50, 50x100, 100 with standardized lengths up to 4000mm
  - Lots of adapter plates and accessories available for any connection possible, also to the CARFIT classic components
- OmniFix Kits
  - For tactile and optical applications
  - Each component can be ordered individually
- OmniFix Air
  - New vacuum clamping system with adjustable pins



Thank you very much!







Seeing beyond