



**Flex Hex**  
ROBOTICS  
COMPANY

# FLEX HEX

THE FLEXIBLE HEXAPOD SYSTEM

RECONFIGURABLE WORKCELL  
FIXTURE

The Hexapod system from Flex Hex Company can be utilized in any industry where fixed fixtures are used in production. If you want to improve the production quality, optimize reconfiguration and calibration between production batches, improve working environment and keep changeover costs at an all-time low without changing the existing environment, then this is the cheap but accurate solution for you.

The Hexapod System is beneficial to the industries when processes are a big part of production, like semiconductor, automotive, railways, airplane industries will benefit from using the Hexapod system. Also, the system is ideal for System Developers and Integrators who seek to offer clients an innovative way of improving their production flexibility.

The Hexapods are fully integratable with other robot activities in production lines. The merging of these two technologies lead to an economically feasible, flexible and high quality fixture that ensures higher stiffness and accuracy in fixating workpieces in e.g. an assembly line.

Calculate your cost savings



## Flex Hex Company

Flex Hex Company produces and markets the robotic Hexapod system as a mean to enable fast and cost-effective changeover in production. The system integrates the transformation to Industry 4.0, especially in the purpose of smart factory principles where each production cell needs to be flexible and self-learning.

Increasing competition and pricing pressures in the manufacturing industry have intensified the demand for higher productivity and shorter time-to-market strategies. Combined with increasing model variety and shorter life cycle time the industry requires more flexible production plants.

By adding fixture change-on-the-fly geometry and positioning, a changeover time reduction of 25-50% to new productions, a reduced storage capacity by 70% for dedicated fixture and an added safety in the production process, can be obtained. A typical take will around 1.5-2 years depending on the amount of dedicated fixtures to be changed to reconfigurable fixtures, the number of changeovers and operating hours.



## Advantages

Since Hexapod is a passive reconfigurable fixture, it requires no motors, no cables and no wires. This is possible due to a hydraulic system with a pressure intensifier, controlled by a single pneumatic valve which releases or activates effectively the hydraulic clamping system around the segment securing an accurate position.



Accurate



Reconfigurable



Easy-to-use

## Area of use

The Hexapod system from Flex Hex can be utilized in any industry where fixed fixtures are used in production. If you want to improve the production quality, save time expenditure on changeover reconfiguration and calibration between production batches, improve working environment and keep costs down without changing the existing environment, then this is the cheap but accurate solution for you.

The Hexapod System is ideal for industries where assembly processes are a big part of production, like semiconductor, plastic, rubber, metal, automotive, railways, airplane industries. Also System Developers and Integrators who seek to offer clients an innovative method of improving the flexibility of their production.

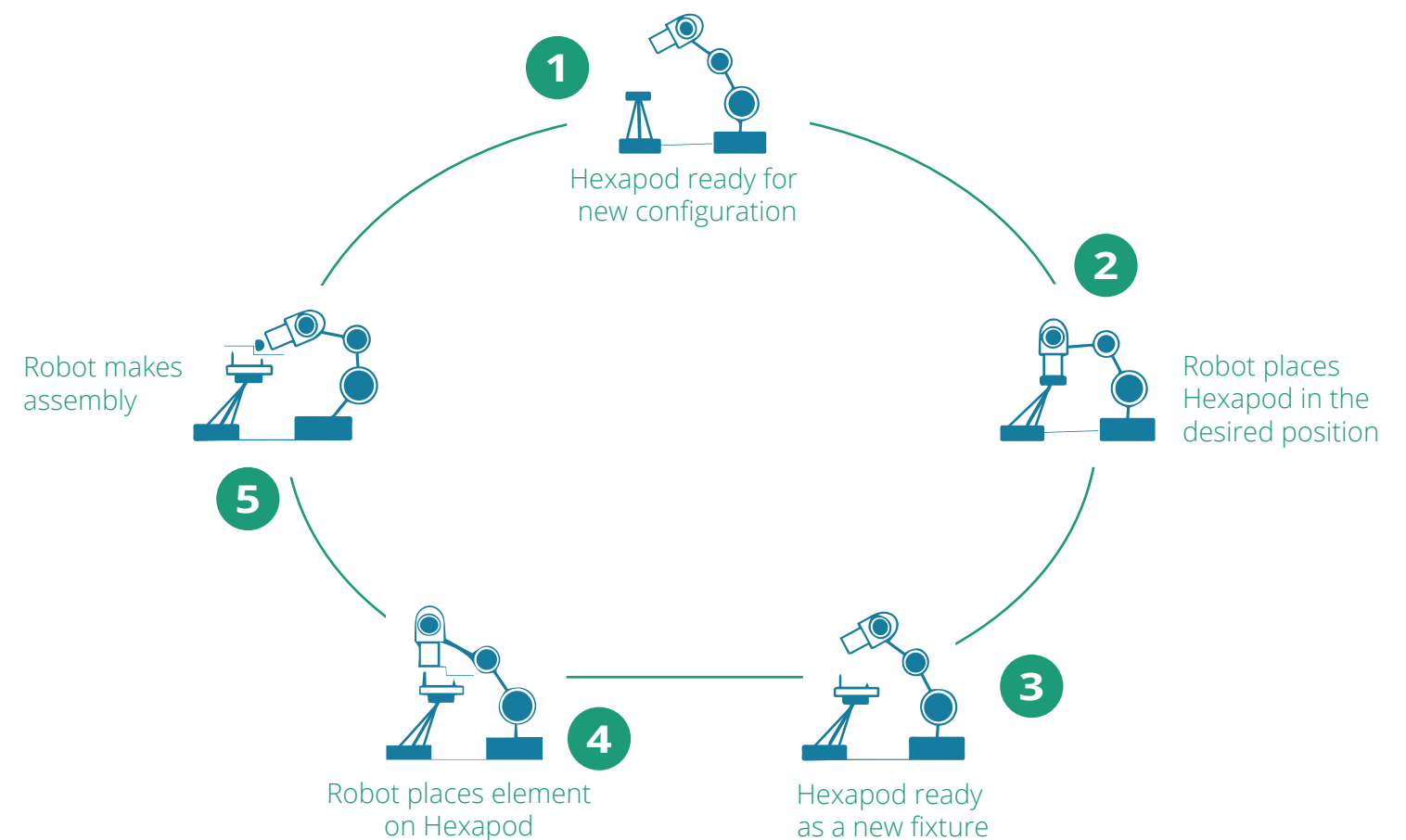
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## Uniqueness of the system

Due to the patented joint system, the Hexapod system after positioning keeps a very accurate position with no noticeable deformations compared to a fixed fixture, even in extreme position.

The Hexapod system consists of several Hexapods, the number will depend on the fixture configuration of the site of manufacturing, the required production setup and weight requirements. A Hexapod is a robot fixture which can be featured with passive reconfigurable and adaptive tooling on the base plate. It can be reconfigured either automatically by a robot or manually.

## Workflow with the Hexapod system

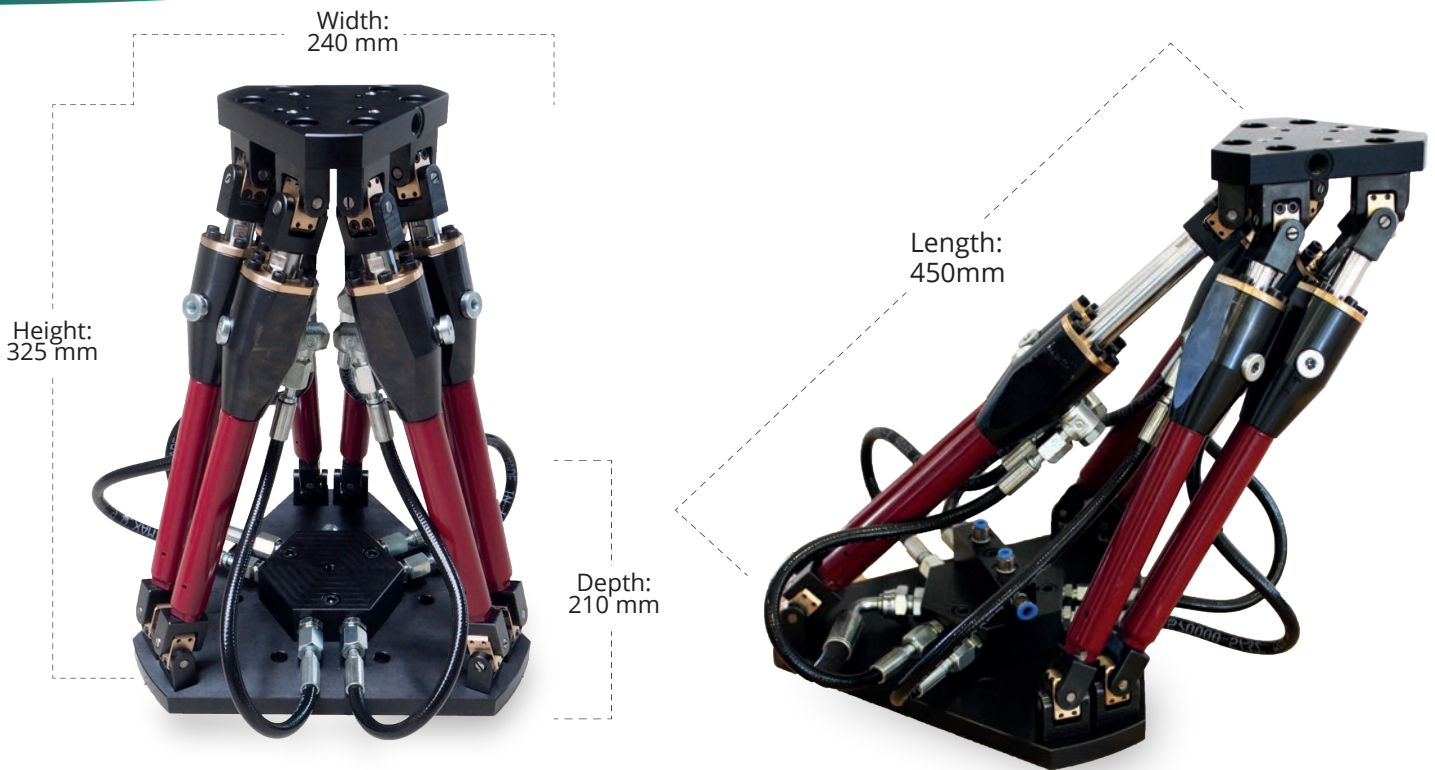


# HEXAPOD FH100™



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# HEXAPOD FH100™



## Hexapod Tech Specs

- Weight: 10kg
- Payload: 10kg
- Max payload: 130kg
- Deformation: 0.27 mm at 5000NM
- Positioning accuracy: 0.08 mm
- Type: Hydraulic
- Average stiffness: 1300 N/mm
- Clamping accuracy: <0.01mm
- Backlash: 0.05mm
- Delivered with pressure intensifier for clamping mechanism

## User Case

Elvez, the producer of headlights for automotive industry, used the Flex Hex ROI calculator in order to evaluate the use of configurable fixtures for headlight assembly in the production process. The reconfigurable workcell was built using four hexapods in the production line, to cover most of the headlight models assembled by robots.

Elvez calculated that 50% of the fixtures could be replaced with the Hexapod System in the production line, saving 75% of working hours in the production process, due to fewer changes to dedicated fixtures. The results show return on investment of 3 months for the flexible fixtures.

Return of inv. .... 3 months  
Yearly savings ..... €41,364  
Reduce work ..... 75% /hours



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See Hexapod FH100 in Action



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