



# BORA hexapod

High resolution hexapod small size



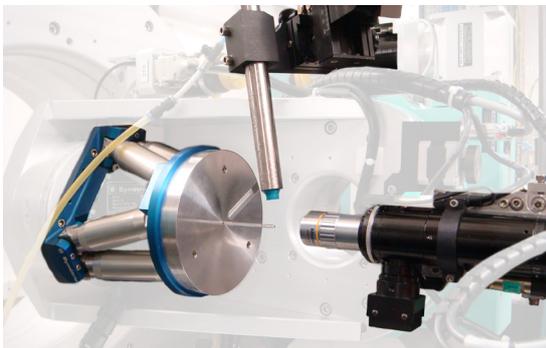
## KEY FEATURES

- Payload capacity up to 10 kg
- Linear travel range  $\pm 20$  mm
- Angular travel range  $\pm 15^\circ$
- Height in middle position 145 mm

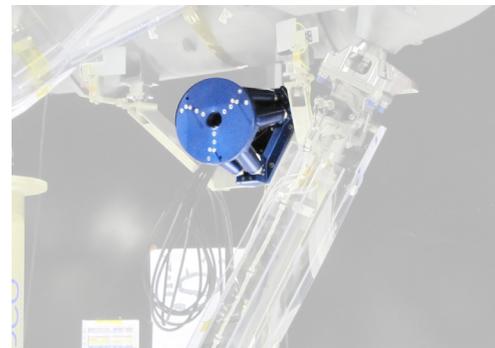


## APPLICATIONS

- Instrumentation
- Optics
- Testing laboratories
- Synchrotrons
- Aeronautics and spatial
- Metrology
- Semiconductors



*This hexapod places a sample at the centre of two large rotation stages. With this installation, hexapod mounting orientation varies between  $0^\circ$  and  $90^\circ$ . Advantages of the hexapod are: high stability, stiffness and repeatability of the sample position with respect to the rotation stages independently of their orientations.*



*Alignment of a mirror with high precision on a space telescope. When the hexapod has correctly positioned the mirror, the user fixes the mirror and takes the hexapod off the structure.*



*Two BORA hexapods position Kirkpatrick-Baez (KB) mirrors with high stability and resolution to improve the beam quality on a synchrotron beamline.*

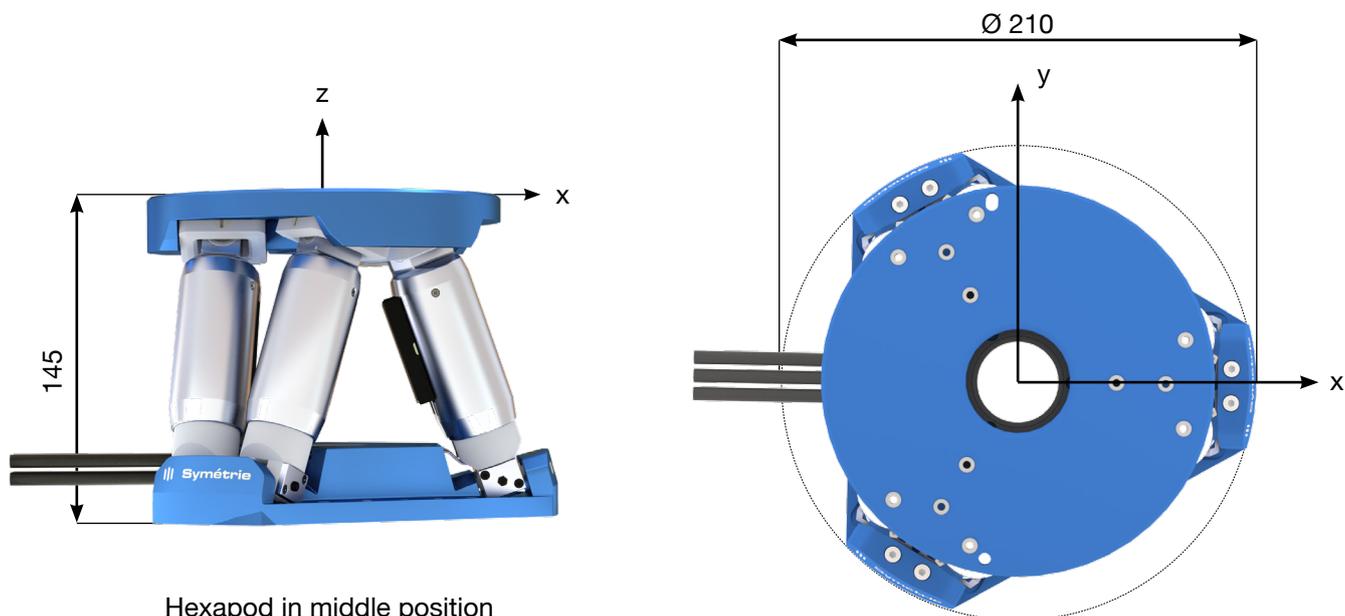


*$10^{-6}$  mbar vacuum version to align a mirror on a satellite in a vacuum chamber during mounting and testing phases.*

BORA	
<b>Motion and positioning</b>	
Travel range Tx, Ty (mm)	± 20
Travel range Tz (mm)	± 10
Travel range Rx, Ry (deg)	± 10
Travel range Rz (deg)	± 15
Resolution Tx, Ty, Tz (nm)	50
Resolution Rx, Ry, Rz (μrad)	1
Repeatability Tx, Ty, Tz (μm)	± 0.15 μm
Repeatability Rx, Ry, Rz (μrad)	± 2 μrad
Speed Tx, Ty (mm/s)	2
Speed Tz (mm/s)	1
Speed (deg/s)	2
<b>Mechanical properties</b>	
Stiffness X, Y (N/μm)	1
Stiffness Z (N/μm)	10
Payload capacity (kg) (vertical orientation / horizontal orientation)	10 / 5
Motor type	DC motor, gearhead
<b>Miscellaneous</b>	
Operating temperature range (°C)	0 to + 50
Materials	Aluminum, steel, stainless steel
Size mobile platform (mm)	Ø 160
Central aperture (mm)	Ø 43 for mobile platform ; Ø 36 for fixed platform
Height in middle position (mm)	145
Mass (kg)	4.3
Cable length (m)	3
Options	Clean room compatibility Low temperature compatibility down to -40°C Vacuum compatibility
<b>Controller</b>	
Controller type	NAOS
Interface	Ethernet
Power supply	110-240 VAC / 50-60 Hz

Datasheet subject to change without notice. All data are superseded by any new release. R190517

The performances are specified for single axis motions, with all other axes at midrange and for a rotation center in the middle of the mobile platform.



Hexapod in middle position