JORAN hexapod

High resolution ultra heavy payload large size

KEY FEATURES
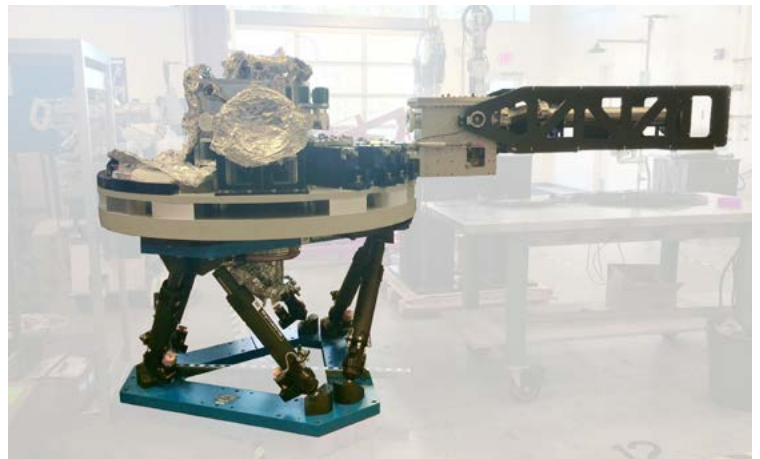
- High stability
- Resolution 0.5 µrad
- Large payload capacity 1500 kg (more upon request)
- Absolute linear encoders

APPLICATIONS

- Synchrotrons: mirror or chamber supports
- Optics
- Astronomy

JORAN hexapod size has been adapted to the beam height of the Australian Synchrotron.

JORAN actuators at LBL are longer to enable a ± 12.5° rotation around Z. This JORAN hexapod has also been customized to support a 3.2 tons payload.

Customized JORAN hexapods with extra Rz rotations calibrate the segments of the primary mirror of ESO ELT telescope at Safran REOSC.


JORAN hexapod has been developed in collaboration with ESRF synchrotron to position mirrors with very high resolution.

	JORAN BJ	JORAN UJ
	Ball Joints	Universal Joints
Motion and positioning		
Travel range Tx, Ty (mm)	± 75	± 170
Travel range Tz (mm)	± 50	± 100
Travel range Rx, Ry (deg)	± 5	± 10
Travel range Rz (deg)	± 8	± 18
Resolution Tx, Ty, Tz (µm)	0.1	0.1
Resolution Rx, Ry, Rz (µrad)	0.5	0.5
Repeatability Tx, Ty, Tz (µm)	± 0.25	± 0.25
Repeatability Rx, Ry, Rz (µrad)	± 1	± 1
Speed Tx, Ty (mm/sec)	0.6	0.6
Speed Tz (mm/sec)	0.4	0.4
Speed Rx, Ry (deg/sec)	0.045	0.045
Speed Rz (deg/sec)	0.07	0.07
Mechanical properties		
Payload capacity (kg) (vertical orientation)	1500	1500
Motor type	Stepper motor	Stepper motor
Encoder type	Absolute linear encoders	Absolute linear encoders
Miscellaneous		
Operating temperature range (°C)	0 to + 50	0 to + 50
Material	Aluminum, steel, stainless steel, ceramic	Aluminum, steel, stainless steel
Size mobile platform (mm)	Ø 1300	Ø 1300
Height in middle position (mm)	750	750
Mass (kg)	272	272
Cable length (m)	5	5
Options	Clean room compatibility Vacuum compatibility Higher speed with brushless or DC motor Heavier payload Hand-held control unit	
Controller		
Controller type	ALPHA+	
Interface	Ethernet	
Power supply	110-240 VAC / 50-60 Hz	

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.
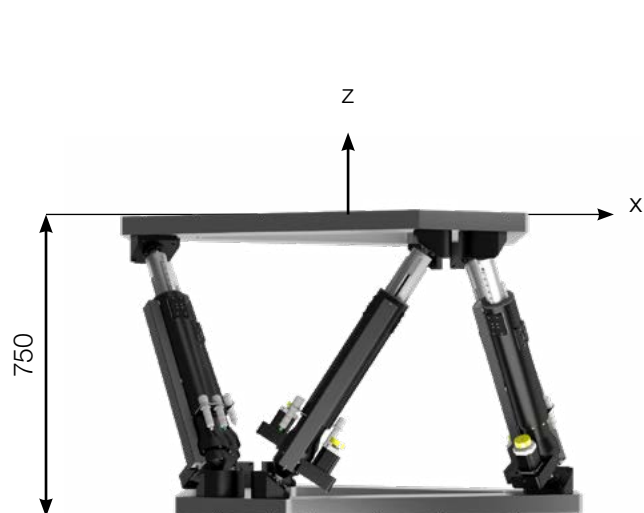
Hexapod in middle position

Ø 1300

III Symétrie