



# SURES hexapod

High resolution high rigidity hexapod for astronomy



## KEY FEATURES

- Payload capacity up to 500 kg
- Resolution 0.1  $\mu\text{m}$
- Low cross coupling motions
- Operational in all orientation



## APPLICATIONS

- Positioning of mirror of telescope
- Radio testing
- High accuracy positioning
- Antenna qualification
- Optical adjustment



*SURES hexapod positions the 450 kg secondary mirror of OAJ T250 telescope in Spain with 0.35  $\mu\text{m}$  linear and 0.5 arcsec angular resolutions. The SURES hexapod for OAJ has a 920 mm diameter.*



*ARIES telescope is installed in Nainital in India. With a primary mirror of 3.6 m diameter, it is the largest optical centre in the country. Cross-coupling of SURES hexapod is less than 0.7 arcsec in tip-tilt during centering or focus.*

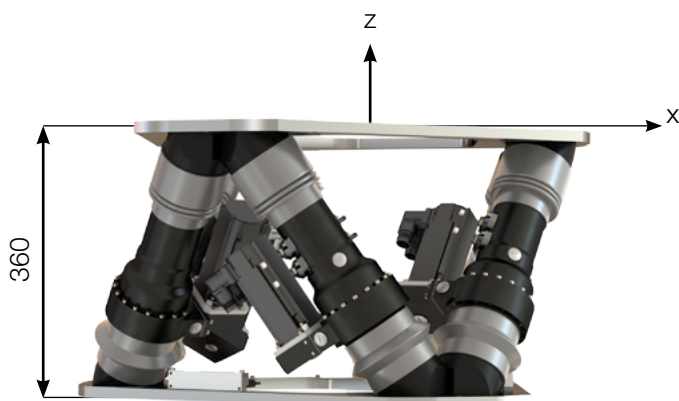


*The hexapod is installed on Pan-STARRS-2 telescope at an altitude of 4267 m on Maui, Hawaii. A smaller version of SURES has been adapted as the secondary mirror is 600 mm diameter and weighs less than 110 kg.*

| SURES  |   |
|--|---|
| Motion and positioning                                     |   |
| Travel range Tx, Ty, Tz (mm)                               | ± 12  |
| Travel range Rx, Ry, Rz (°)                                | ± 1.5   |
| Resolution Tx, Ty, Tz (µm)                                 | 0.1   |
| Resolution Rx, Ry, Rz (µrad)                               | 1.5   |
| Repeatability Tx, Ty (µm)                                  | ± 0.5   |
| Repeatability Tz (µm)                                      | ± 0.25  |
| Repeatability Rx, Ry, Rz (µrad)                            | ± 1   |
| Mechanical properties                                      |   |
| Payload capacity (kg)<br>(with orientation from 0° to 90°) | up to 500   |
| Motor type   | Brushless motor with absolute encoder                   |
| Miscellaneous  |   |
| Operating temperature range (°C)                           | -20 to + 40   |
| Humidity level (%)   | up to 100   |
| Materials  | Aluminum, steel, stainless steel                        |
| Size mobile platform (mm)                                  | Ø 690   |
| Height in middle position (mm)                             | 360   |
| Mass (kg)  | ~ 90  |
| Cable length (m)   | 10 (longer on request)                                  |
| Options  | Customized platform design<br>Modular external diameter |
| Controller   |   |
| Controller type  | ALPHA custom  |
| Interface  | Ethernet, USB   |
| Power supply   | 120-240 VAC / 50-60 Hz                                  |

Datasheet subject to change without notice. All data are superseded by any new release. R160608

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

