

General specifications for Table-top 3-axis rotary table with controller

Sr No.	Specification / description	Specification value
1	<p>Table-top 3-axis combination rotary table with controller, with high accuracy (<5 arc-sec) and high precision are intended for testing of high accuracy sensors.</p> <p>(a) The vacuum compatible rotary table shall consist of combination of 1-axis rotary stage (360deg about azimuth) & 2-axis goniometer (+/-15deg about other two axes) along with motor, encoder system, measuring protocol for each axis . The 2-axis goniometer shall be mounted on top of 1-axis rotary stage and shall be configured for required accuracy.</p> <p>(b) 3-axis motor controller kit suitable to above, consisting of interface wiring, Ethernet interface with PC, cable-connector, software etc.</p> <p>Refer Figure-1 for axis definition</p>	Shall note and comply
2	<p>Scope of work:</p> <p>(a) supply of all systems, accessories and software etc.</p> <p>(b) installation and calibration</p> <p>(c) testing and performance demonstration of travel range, accuracies and repeatability for each axis at LEOS.</p> <p>Any instruments and tools needed for testing and demonstration shall be arranged by vendor.</p> <p>Item-wise cost break-up shall be provided</p>	Shall comply
3	Overall size (nominal)	Specify
4	Overall weight (nominal)	Specify
5	Certificate of Compliance (COC) shall be provided at the time of delivery	shall comply
6	Items will be accepted based on performance testing at LEOS	shall comply
7	Party shall provide minimum two-year warranty	shall comply

Specifications for Table-top 3-axis rotary table

Sr No.	Specification / description	Specification value
8	Table-top 3-axis combination rotary table	Required
9	Model no. for each item	Specify
10	Overall size (nominal)	300 x 300 x 250 mm Specify actual size
11	Overall weight (nominal)	50 kg Specify actual weight
12	Travel range Axis-1	+/- 15deg or better
13	Travel range Axis-2	+/- 15deg or better
14	Travel range Axis-3	360deg
15	Position Accuracy	5 arcsec or better Look-up table to be provided for difference in table reading w.r.t encoder reading within above accuracy
16	Repeatability	1 arcsec or better
17	Step Resolution	< 1 arcsec
18	Platform size for payload	>=170x170 mm
19	Distance of rotation axis of Axis-1 goniometer from top of the platform	<=200mm
20	Payload mass	> 70kg
21	Payload envelope	300 x 200 x 200 mm
22	Eccentricity	5 µm or better
23	Wobble	4 arcsec or better
24	Maximum speed (deg/s)	>= 1
25	Motor for each axis	To be included, specify details
26	Encoder system for each axis	To be included, specify details
27	Measuring protocol for each axis	To be included, specify details
28	Limit switches for each axis	To be included, specify details
29	Control System with PC interface	To be included, specify details
30	Power Input	Through controller
31	Housing Material	Aluminium or Bronze
32	Finish	Black anodized or coated
33	Mechanical Interface	Specify details
34	Operating temperature	+10 to +40 °C
35	Non-Operating temperature	Specify
36	Vacuum compatibility	10 ⁻⁶ torr
37	Feed through D-type connector and cables for each axis. Vacuum compatible cables for rotary table side and regular cable for controller side with 1.5m length (minimum for each cable)	To be included

Specifications for 3-axis motor controller

Sr No.	Specification / description	Specification value
38	3-axis motor controller with power chord, limit switch bridge connectors, interface for encoders, user manual, programming manual, software etc.	Suitable for specified Table-top 3-axis combination rotary table
39	Display on controller	Specify
40	Model number	Specify
41	Overall size	Specify
42	PC Interface	Ethernet & RS-232
43	Operating system support on PC	Latest Linux / Windows based
44	Signal interface for limit switches, braking point, reference point	Specify
45	Outputs	Suitable for specified Table-top 3-axis combination rotary table
46	Encoder input	Suitable for specified Table-top 3-axis combination rotary table
47	Power Input	230 \pm 10 V, 50 Hz
48	Weight	Specify
49	Operating temperature	Specify

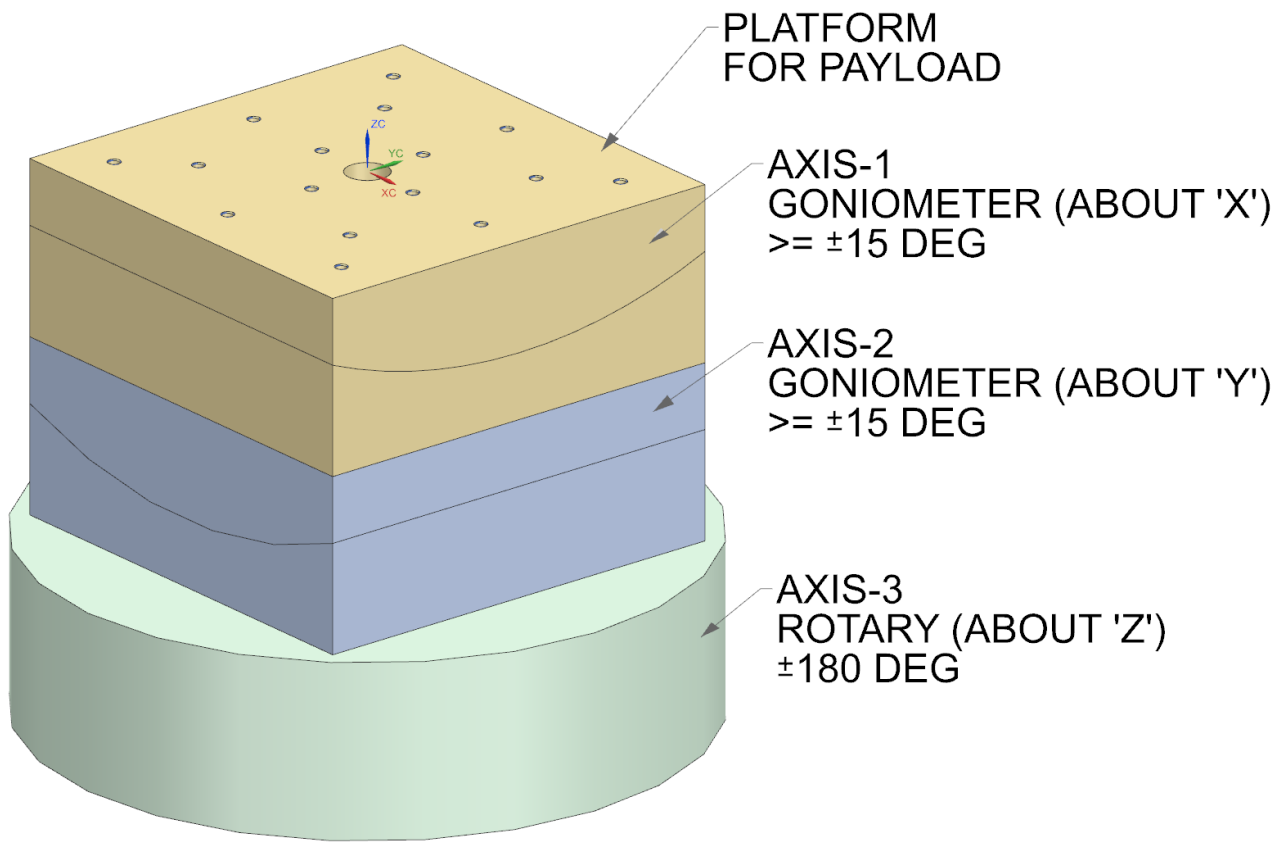


Figure-1: Axis definition for 3-Axis rotary table