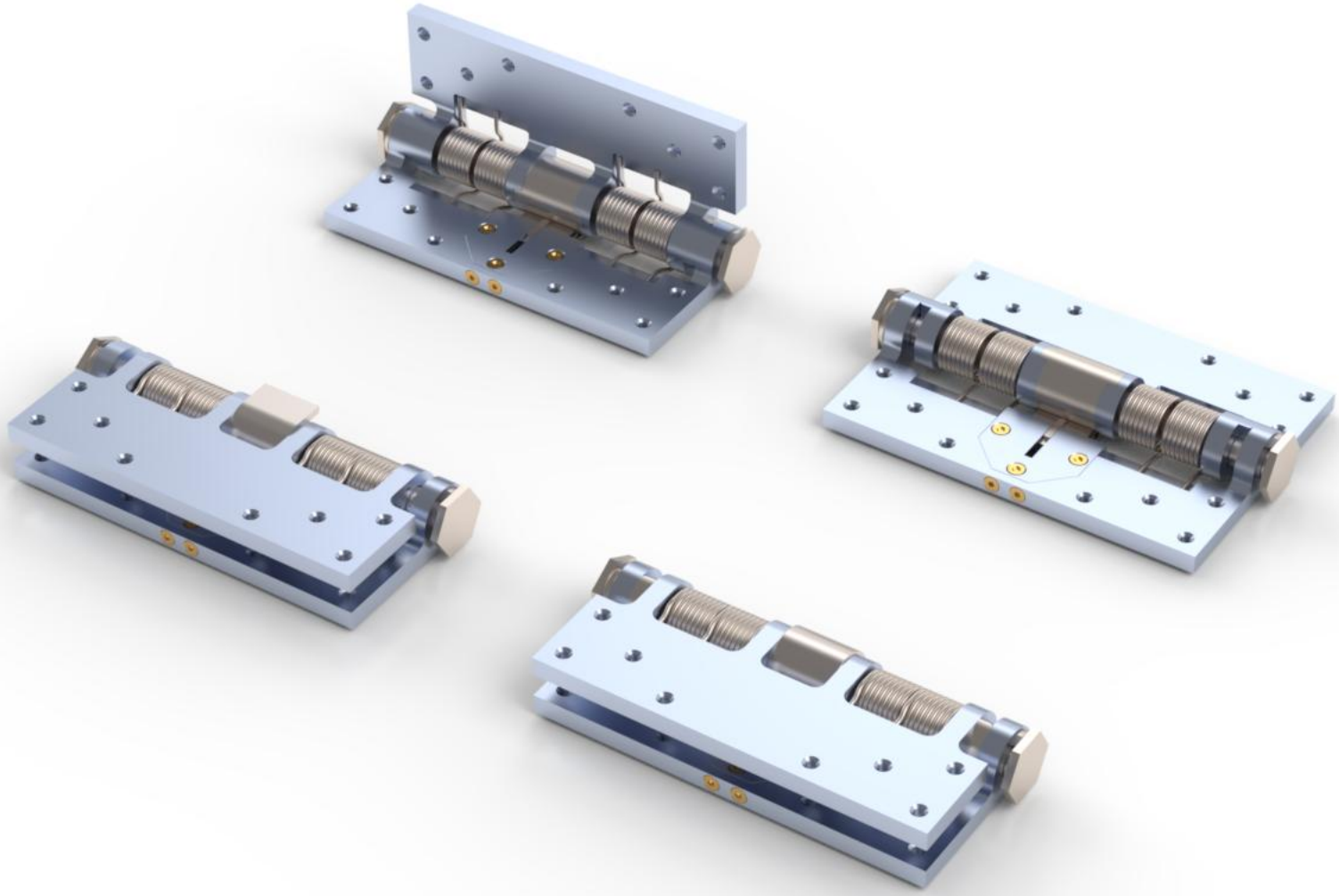


Hinges Micro L:

MICROSAT SIZED HINGES WITH INTEGRATED LOCKING MECHANISM FOR RELIABLE DEPLOY OPERATIONS

SUMMARY

The Micro Hinges L are mechanically simple, minimalistic and very solid, CNC machined, sturdy and thick with very few failure points. They are mechanically actuated by loaded torsion springs calibrated to each individual array, attached with screws to the panel, lubricated with solid (powdered) graphene and coated in corona dope for any non-conductive surface. The mechanical movement range is also hard-in-design, specific to the particular hinge by stops incorporated into the geometry of the assembly. This extra powerful hinge also has an incorporated locking mechanism actuated by loaded compression springs that push a locking tab in place, denying movement to the hinge unless manually pulled. Using only tweezers or pins, the locking mechanism can be reset an unlimited number of times by pulling the locking tab. Each individual hinge can also, optionally, be configured as conductive to carry current from panel to panel.

FEATURES

- Hard-stop custom deploy angle specified before manufacturing
- Angular locking mechanism to maintain position
- Manually resettable as many times as needed
- All components are CNC machined with micron-precision
- Corona dope coating for electrical isolation if required
- Powered graphene lubrication for internal mechanisms
- Optional cable-less single-channel electrical conductivity per hinge
- Torque adjustment and tuning system for a case-by-case basis
- Mechanically minimalistic, single spring operated
- Sturdy, thick and over-engineered design
- Custom configurable choice of mechanical mating and screws
- Designed for MicroSat applications, missions and requirements.
- Manufactured according to NASA and ESA space standards and materials.
- Repetitive functional and performance tests provided with documentation.

PERFORMANCE AND PRODUCT PROPERTIES

- **Weight:** 150 grams
- **Max torque:** 248Nmm to 1912Nmm
- **Max angular deviation:** +/- 1 deg
- **Dimensions (LxHxW):**
  - **Deployed (90 degrees):** 100.00mm x 44.00mm x 44.00mm
  - **Deployed (180 degrees):** 100.00mm x 44.00mm x 72.00mm
  - **Stowed (0 degrees):** 100.00mm x 16.00mm x 44.00mm
  - **Interface Dimensions:** 100mm x 25mm
  - **Nominal Thickness:** 5mm
- **Axis Diameter:** 8.00mm
- **Interface Flatness:** +/- 0.01mm
- **Operating Temperature:** -100C to +150C

MATERIALS

- Only TML and CVCM < 1% materials used, NASA and ESA approved.
- Hinge Material (options):
  - Stainless Steel 304
  - BeCu CNS 17200 Y1/2
  - Aluminum 6061
  - Aluminum 7075
- Spring, Axis, Screws: Stainless Steel 304
- Lubrication: Powdered graphene coating
- Electrical Isolation (if required): Corona Dope

TESTING

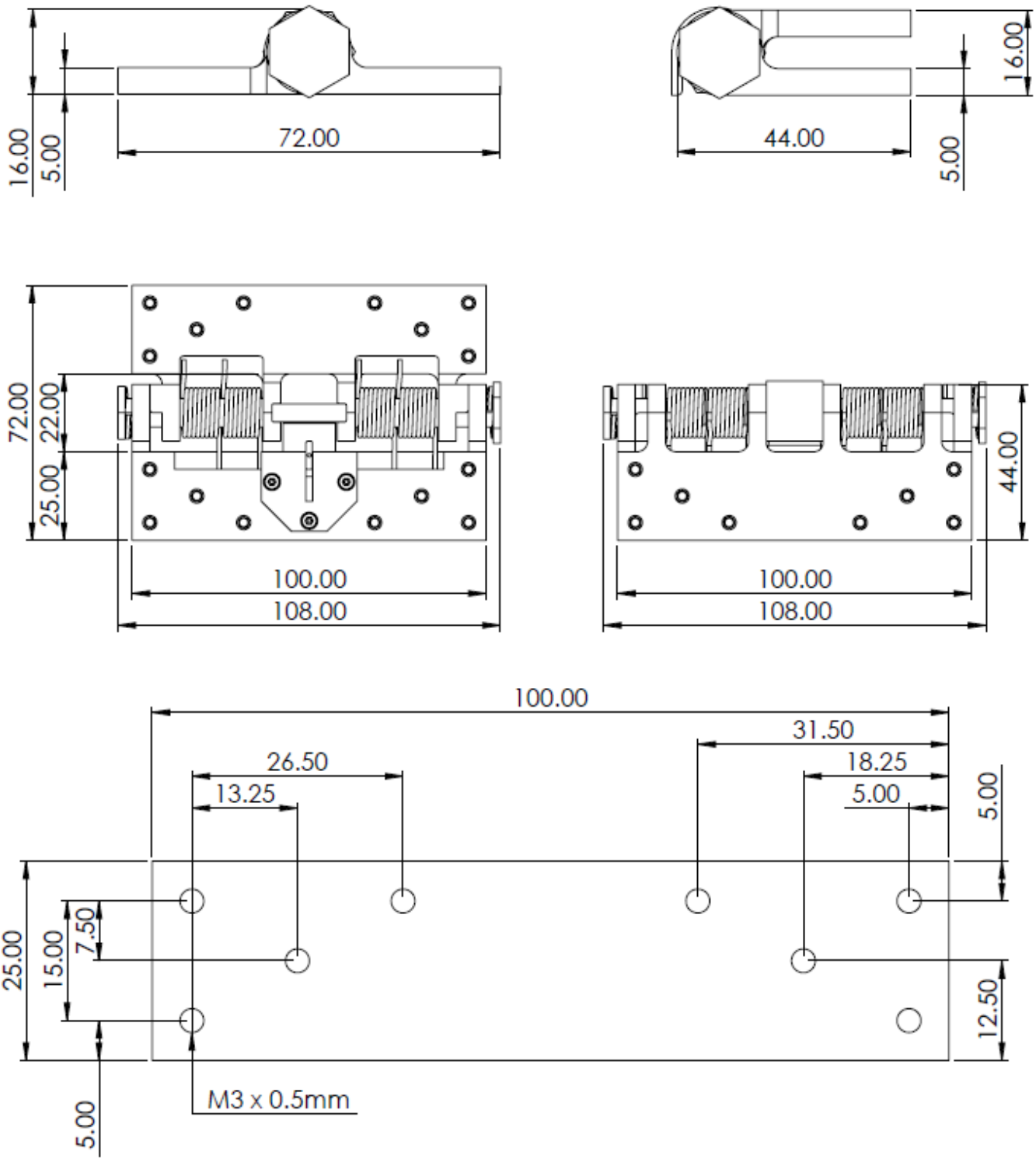
All antennas are provided with tests reports regarding:

- Thermal Bake out (10E-5 mbar @ 50C for 72 hours)
- Full vibration test for Falcon 9, Electron, Soyuz, Dnepr and Long March 2D

Test	QT	AT
Functional	✓	✓
Vibration		✓
Thermal Cycling		✓
Thermal Vacuum		✓
Repeatability (100 times)	✓	✓

AVAILABILITY AND LEAD TIME

- **6 to 8 weeks**



	NAME	SIGNATURE	DATE		TITLE: GENERAL DIMENSIONS & MEASUREMENTS	
DRAWN	JND			MATERIAL:	EXA HINGE MICRO L MECHANICAL INTERFACE	A4
CHK'D	RNB					
APPV'D	RNB					
MFG	RNB					
Q.A	RNB			WEIGHT:	SCALE 2:3 / 1:1 / 3:2	SHEET 1 OF 1

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