

# UNIKA

## HDRM PRELOAD DEVICE

Get faster in the new space race.



The UNIKA tensioning device is designed for applications up to 50 kN. Typical use is for preload of **Hold Down and Release Mechanisms** on spacecraft solar array or other deployables. Preload is achieved electronically by controlled heating of the Shape Memory Alloy.

The device is corrosion resistive, clean, without use of any fluid. It can be safely operated in **clean room environment**. The device is light and **mobile** and designed to be operated in **small and difficult to access locations**. Final tightening of the nut is achieved through the device itself – **no side access to the nut is required**.

Except cleanrooms, UNIKA can be operated hand held out-door in severe environmental conditions of other industries.

### UNIKA features

<b>Mechanical interface</b>	User customized mating head
<b>Release bolt thread</b>	User customized up to M10
<b>Generated preload</b>	Up to 50 kN @ max 3 mm travel
<b>Mass</b>	2 kg (without harness and power source)
<b>Preload control</b>	Handheld display (regulation by build-in load cell)
<b>Reset</b>	By supplied docking station after 10 preloads TBC
<b>Life of the SMA element</b>	> 100 guaranteed preloads
<b>Preload time</b>	5-10 minutes (initial temperature dependent)
<b>Preload accuracy</b>	Better than 0.25% of target load
<b>Power at max. preload</b>	Max 150 W peak
<b>Power supply</b>	120 Wh battery in rugged mobile enclosure (2 kg)
<b>Safety features</b>	Enclosed body, energy dissipation foam, safety I/F, automatic prevention of overload and overheat
<b>Expected qualification</b>	Q1 2026

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