



Pin Pullers

Easy-to-use and highly-resettable release actuators that are perfect for shear-load applications.

APPLICATIONS

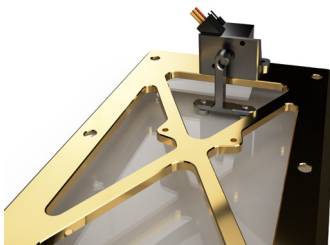
Dcubed Pin Pullers are a family of Shape Memory Alloy (SMA) based release actuators designed to secure sensitive equipment during launch and safely release it on orbit. Pin Pullers effectively constrain shear loads and represent one of the smallest, most powerful Hold Down and Release Mechanism (HDRM) solutions available. Easily resettable, they support repeatable use across numerous test campaigns, ensuring reliable actuation when it matters most.

CONSTRUCTION

Dcubed Pin Pullers come readily available in two form factors: Nano Pin Puller (nD3PP) with a 6.2mm stroke and Micro Pin Puller (uD3PP) with a 12mm stroke. Pin Pullers are made of Aluminum 7075-T7351 with Stainless Steel pins.

KEY FEATURES

- TRL 9
- Over 100 reset cycles
- Redundant wiring/SMA
- Actuation current: 2 A DC
- Internal actuation sensor on nD3PP
- Shock pad
- Reset tool included



Dcubed Nano Pin Puller in a sample HDRM application under shear preload.

DCUBED ADVANTAGES

Space-proven products	Resettable, 100x, within seconds
Easy to use	Patented technology
Available off-the-shelf	Fast and global delivery
No export control	Resilient supply chain

"LASP and Dcubed's collaboration has transformed our approach to spacecraft development. By integrating their resettable actuators, we've optimized our processes – resulting in 23% faster development cycles due to being able to test and reset the actuators hundreds of times."

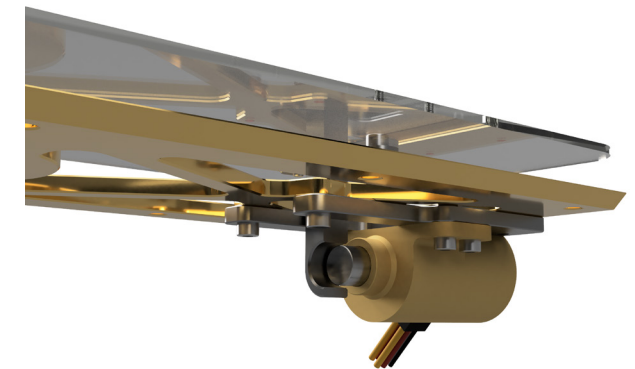
Dr. Amal Chandran, USA
SmallSat Program Manager



Dcubed Pin Puller Family

DCUBED PIN PULLERS TECHNICAL SPECIFICATIONS

Product	Nano Pin Puller nD3PP	Micro Pin Puller uD3PP
Body Size (LxWxH)	17x17x17 mm	Ø 28x51.5 mm
Mass	12 grams	85 grams
Pin Dimensions	Ø 4 x 6.4 mm	Ø 8 x 12 mm
Operating Temp	-65° C to +75° C	-35° C to +75° C
Max Sideload (Shear)	50 N	490 N
Pin Retraction Force	25 N	70 N



Dcubed Micro Pin Puller holding a door in locked position.