

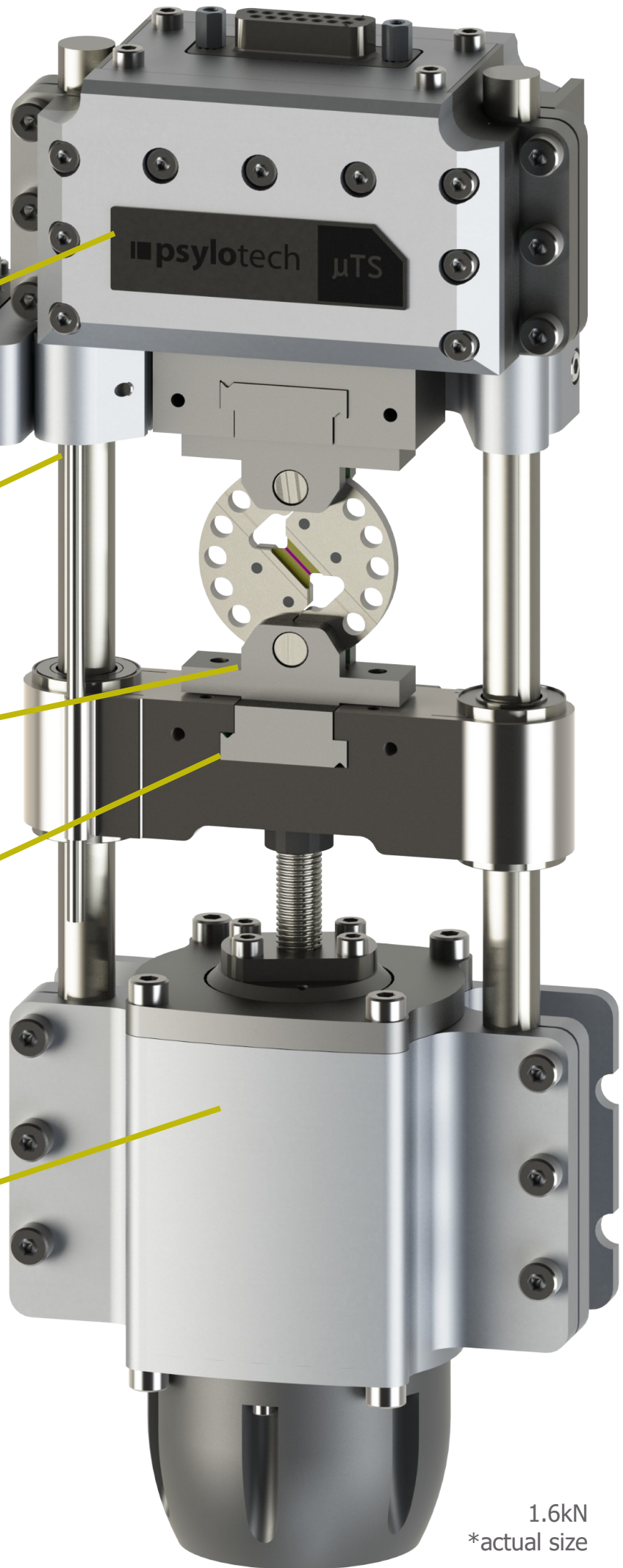
High-Res. Load Cell
100x resolution vs. strain gauge

**High-Res. Local
Displacement Sensor**
pitch & yaw compensated
center axis measurement

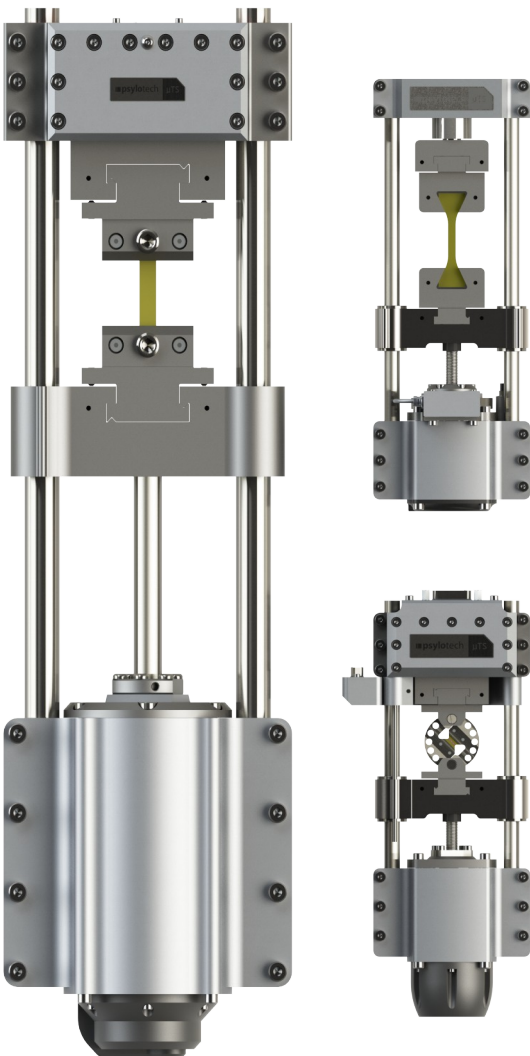
Load Plane Symmetry
maintains sample in
plane for microscopy

Notched T-Slot
enables grip variety &
enhances repeatability

**Direct Drive
Ballscrew Servo**
hydraulic-like speeds



Multi-Length
-Speed
-Force miniature universal load frames



Multi-length scale

The µTS leverages digital image correlation (DIC) and microscopy to locally measure strain on small samples. The minimized out-of-plane motion is critical, particularly under high magnification in optical microscopes. Out-of-plane motion also produces false DIC strains.

Multi-speed scale

The direct drive ball screw actuators cover 7 orders of magnitude in speed. Speed is useful for fatigue, step loaded creep or stress relaxation tests, and effective load control.

Multi-Force Scale

Psylotech's proprietary high-resolution force transducers enable a broader range of specimen sizes without the need for system re-alignment. They have high bending rigidity and excellent alignment, since they are wire EDMed from a single block of metal.

Grip Variety

Shoulder mount & clamp tension grips, compression platens, 3 & 4 point bend fixtures and Arcan grips are available, as well as a platform grip with an M3 bolt pattern. The notched T-slot facilitates repetitive grip alignment in all 6 degrees of freedom.

Centering Stage

An available X-Stage option keeps the area of interest centered under the microscope throughout a test. The effective relative cross-head motion is software programmable, so even a beam bending sample can be kept inside the field of view.

Available Options

Torque, temperature (-65 to 1,600°C), and a 4-axis high resolution load cell are available. Actuators can be tuned for fatigue. The LabVIEW control source code is available upon request.

Specifications

	100 Series			200 Series	
force capacity	100N	1.6kN	4.5kN	10kN	25kN
force resolution*	50µN	800µN	2.5mN	5mN	12.5mN
stroke (mm)**	40	40	26	70	70
max. speed (mm/s)***	145	145	36	175	70
length (mm)****	220	300	180	236	
axial encoder resolution	26-bit				
bearing runout (µm)	2.5			4	
nominal mass (kg)	1.3-2.5			20-25	

* 100 Series can accommodate 100 & 10N HiRes load cells

**minimum value, longer strokes available

***higher speeds available

****stock value, system length easily modified