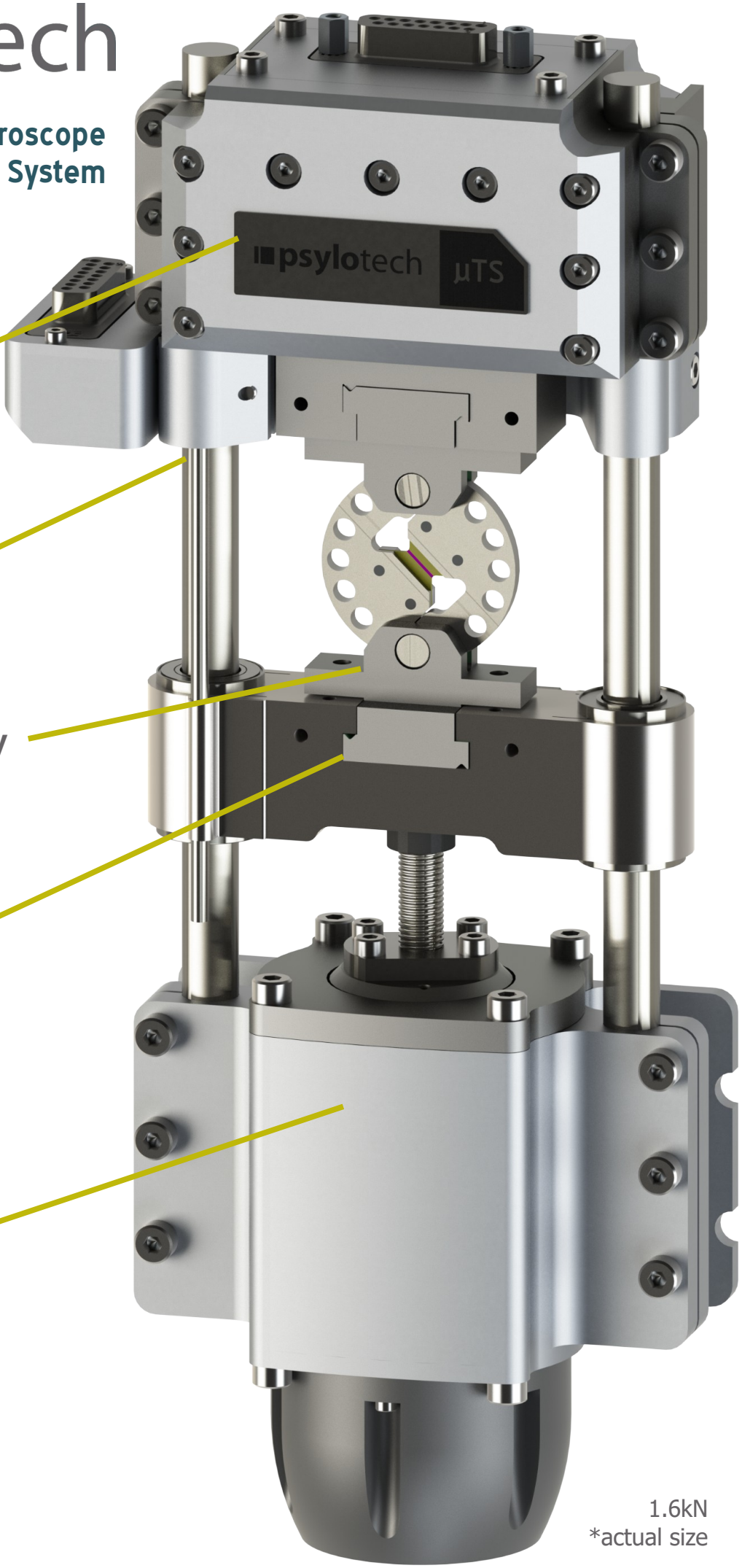
psylotech

µTS

Under Microscope Universal Test System



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

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

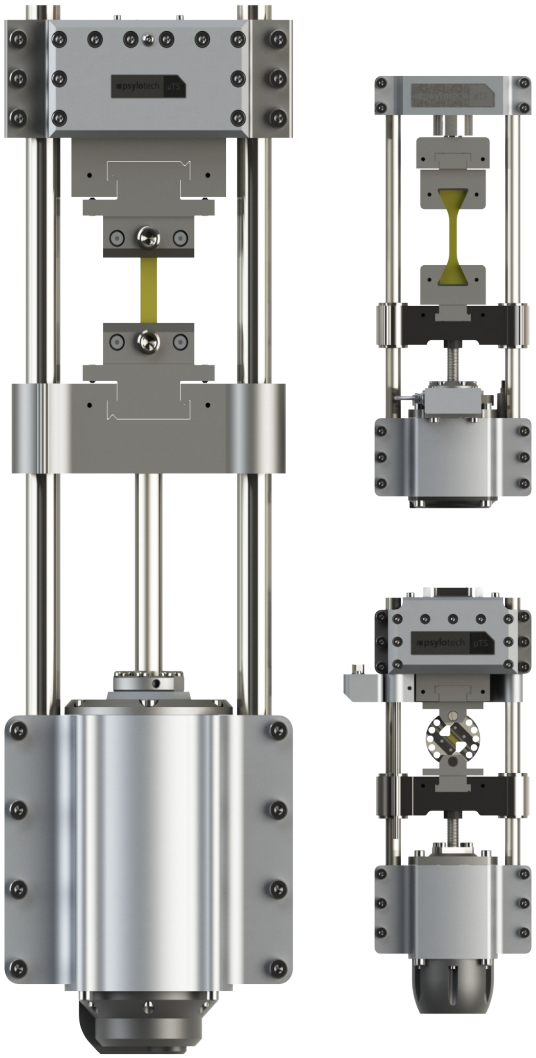
Load Plane Symmetry
maintains sample in plane for microscopy

Notched T-Slot
enables grip variety & enhances repeatability

Direct Drive Ballscrew Servo
hydraulic-like speeds

info@psylotech.com
1.847.328.7100
Evanston, IL USA

1.6kN
*actual size



psylotech

µTS

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 form 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 programable, 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	736	
axial encoder resolution	23-bit				
bearing runout (µm)	2.5			4	
nominal mass (kg)	1.3-2.5			20-25	

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

**minimum value, longer strokes available

***higher speeds available

****stock value, system length easily modified

info@psylotech.com
1.847.328.7100