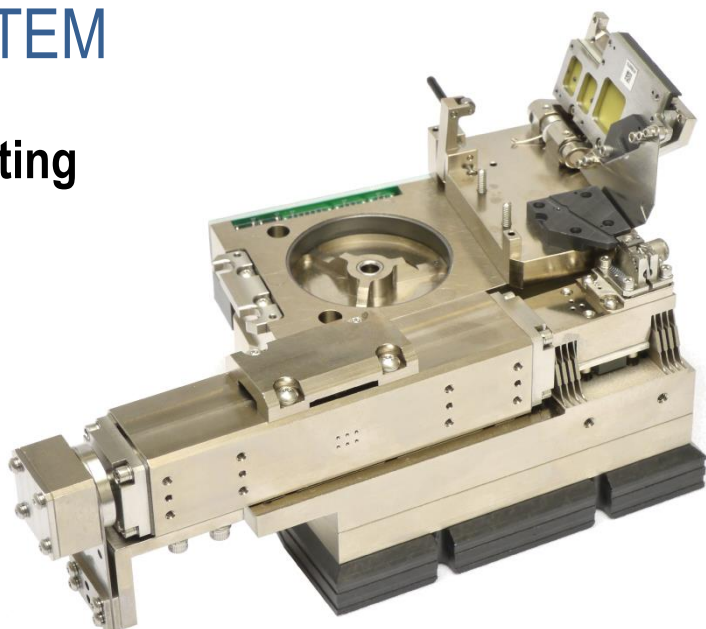


PIEZO-SCALE CARTRIDGE (PSC) AND NEW SERVO-8 SYSTEM

for High-TPI Media and HGA Testing with V2002 Spinstand

New PSC cartridge¹ addresses the limitations of V2002 Spinstand in high-TPI Head Gimbal Assembly (HGA) and media testing. The low bandwidth of V2002 glass scale based closed loop positioning system restricts the uniformity of servo writing, making it almost impossible to write servo with high TPI heads.

New PSC cartridge incorporates precision glass scale encoder and piezo actuator located close to the HGA mounting block. This design delivers up to 2.7 kHz closed loop bandwidth, critical for accurate servo writing. It improves the servo uniformity at least an order of magnitude and allows high TPI testing. PSC cartridge increases the system testing throughput at least two times due to much faster radial positioning.



- At least **2x** times increase in Units Per Hour (UPH) media testing
- Better uniformity and accuracy of servo writing for high-TPI HGA testing
- At least **10x** times faster servo writing²
- High-bandwidth servo significantly reduces spindle warm-up time
- New servo tolerates damaged servo sectors³
- Up to **34 um** usable radial positioning range⁴
- **Automatic** closed loop adjustment software
- RRO compensation for both piezo-servo and micro-actuator loops up to the loop bandwidth
- For volume HGA testing Guzik Technical Enterprises recommends fully automated V2018 Spinstand, delivering same key performance parameters

¹ US patent **9,842,981**; patent pending

² With comparable servo quality on V2002 system with PAC cartridge

³ Can tolerate up to 10% of invalid servo sectors per revolution

⁴ Three piezo options are available: 18 mm, 40 mm, and 60 mm piezo for optimal combination of mechanical bandwidth and positioning range