XLS-1 series

Compact and precise linear piezo stage

The Xeryon Linear Stage (XLS) is a precise linear stage driven by an ultrasonic piezo motor. With the XLS, you can combine high-speed positioning with nanometre accuracy. Xeryon's ultrasonic piezo motor ensures you a long lifetime, noiseless and vibration-free operation and low energy consumption. In addition, the self-locking piezo motor holds the position of the stage when powered off. The reduced energy consumption and heat generation lead to a very stable nano-positioning system. The XLS is for instance used in metrology applications, e.g. part alignment or for sample movement under microscopes. The XLS can be stacked to an XY motion system. The XLS-1 series is available in different lengths and with the following options:

Order code: XLS-1 – 30 – S – PB – A – …

- Material option: NM (non-magnetic) or NA (non-anodized)
- Atmosphere: A (normal) or HV (high vacuum)
- Bearing: PB (precision) standard
- Encoder: S (standard) or P (precision)
- Length: 30 – 40 – 50 – 60 – 70 – 80 – 100 – 120 mm
- Travel range: 18 – 27 – 32 – 37 – 42 – 50 – 72 – 92 mm

Mechanical properties

Weight: 40 g (XLS-1-30) – 150 g (XLS-1-120)

Load capacity: < 0.5 kg

Holding & traction force: ~1 N

Straightness & flatness: < 10 µm

Pitch error: < 200 µrad

Fast and precise positioning

	Standard encoder	Precision encoder
Min. step size	310 nm	78 nm
Max. speed	100 mm/s	
Min. speed	several µm/s	
Constant speed	+/- 1% at typical scan speed (optional)	
Lifetime	> 100 km (typical)	

Power consumption

Moving, motor only: +/- 1 W

Moving, incl. XD-C driver and AC adapter: < 2.5 W (typical)

Idle, incl. XD-C driver and power adapter: 0.8 W

Environmental compatibility

Quasi noiseless operation

High vacuum option: 10-6 mbar (HV)

Version made of non-magnetic materials (NM)

Non-anodized version (NA)

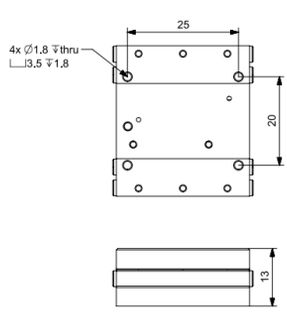
Driver

Compatible plug and play drivers: XD-U & XD-C

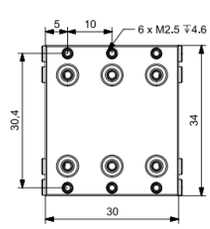
Software: Windows interface and LabVIEW driver

Mechanical interface

Bottom/side view:



Top view



Example shown:
XLS-1 - 30

All specifications are subject to change without prior notice