



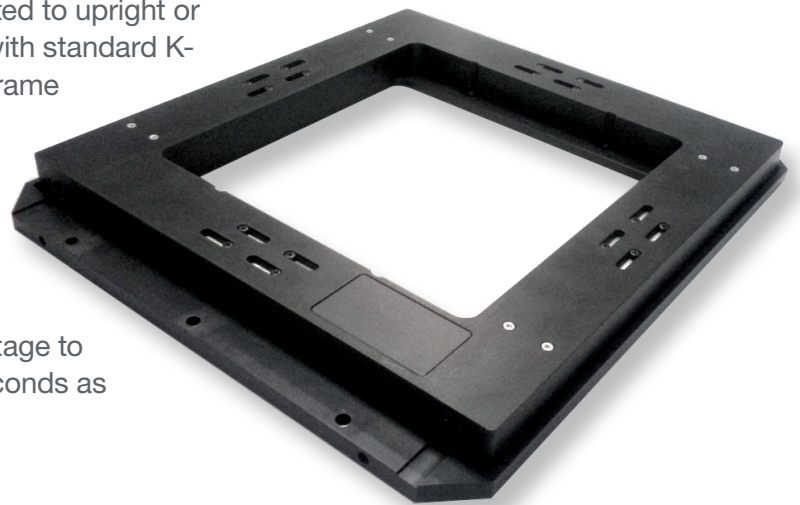
Nanopositioning Stages

SSM-Z-550A Z-Axis K-Frame Scanning Stage

Piezo driven microscopy stage with a closed-loop travel range of 550µm. Provides exceptional accuracy and very low rotational error around the direction of motion. Designed to be fitted to upright or inverted microscopes, the system is compatible with standard K-Frame mounting accessories. It also accepts QI-Frame 160x150mm mountings to be used. The stage is compatible with many of the most common OEM X-Y Motorized and manual stages in the market.

Dual Sensor Technology enabled

The stage is fitted with Queensgate's dual sensor technology, a unique technology that allows the stage to achieve extremely short settling time of 15 milliseconds as well as high load stability.



Key features

- Super slim design, less than 21 mm high
- 550µm closed loop travel range with sub-nanometer positioning resolution.
- Direct metrology with capacitive positioning sensor, positioning resolution of 0.5nm
- Friction-free, high stiffness flexure guided precision system, with very small rotational errors.
- High Bandwidths (Maximum stable driving frequencies).
- High loaded resonant frequencies.
- Splash resistant design.
- Queensgate's Dual Sensor Technology.
- High Stiffness.
- Large aperture.

Applications

- Microscopy
- Nanopositioning
- Interferometry
- Biotechnology
- Quality assurance testing
- Semiconductor technology

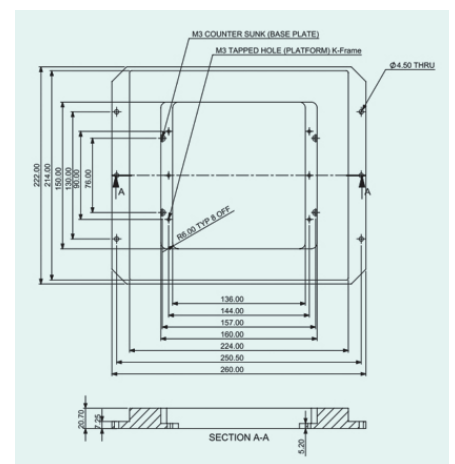
Suggested controller

- NPC-D-5110DS (DST enabled Queensgate controller required to take advantage of DST performance improvements)

Accessories

- Multiwell plate holder
- Petri dish holders various sizes
- Slide holders
- Other Customised holders

Dimensions





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Technical Specification

Parameter	Value	Unit	Tolerance	Note
Material	Black anodised aluminium aAlloy	-	-	
Dimensions external L,W,H	260 x 222 x 20.7	mm	±0.2	
Dimensions internal L, W	160/130 x 150	mm	±0.2	
Internal interface compatibility	Std K-Frame 160 x 110, QI-Frame 160 x 150	mm	±0.2	Please contact for sample holders.
Mass	1000	g	±5%	
Closed loop range	550	µm	Min	For calibrated load
Open loop range	660	µm	Typical	
Resolution	0.5	Nm	Typical	With NPC-D-5110DS controller
Closed loop linearity	0.1	%	Typical	
Rotational error around X,Y, Z axis	0.1	µrad	Typical	
Stiffness	0.24	N·µm ⁻¹	±20%	
Resonant frequency unloaded	120	Hz	Typical ±10%	
Resonant frequency 100g	110	Hz	Typical ±10%	
Resonant frequency 300g	95	Hz	Typical ±10%	Standard calibrated load
Resonant frequency 500g	82	Hz	Typical ±10%	
Max load	2000	g	Max	When factory calibrated to customer load.
Max static external loads X,Y,Z	±100, ±100, ±50	N	Max	Loads applied to mounting interface
Bandwidth	30	Hz	Typical	Force sensor off
Amall signal 5% settling time	15	ms	Typical	Force sensor off
Cable length	1.8	m	±0.2m	

