



The SPXYZ400/600 series of stages are high performance, fast piezo stages for use with a wide range of sample types. The super slim <20 mm height provides better access for illumination of the sample area. Accessory insert plates are available for well plates, microtitre plates, slides and petri dishes.

Key Features

- Capacitive positioning sensors giving market leading resolution.
- Step settle times of <15ms.
- Loads of up to 500g (higher loads on request).
- Connectors with built in stage calibration provide plug and play electronics which can be interchanged, minimizing system down times.
- User configurable settings optimized for different loads (use with an incubator) and performance needs. The user simply selects the best setting for their application.
- Tested to function for greater than 10 million full range cycles.

Axis	X	Y	Z
Closed Loop Range μm	400/600	400/600	400/600
Resonant frequency Hz	157Hz typical	105Hz typical	103Hz typical
Resonant frequency 200g (sample holder)	113Hz typical	~87Hz typical	90Hz typical
Resonant frequency 500g (sample holder)	89Hz typical	74Hz typical	82Hz typical
Step Settle 1-2 μm 200g load	~15ms (typical)	~15ms (typical)	~15ms (typical)
Step Settle 1-2 μm 500g load	<20ms (typical)	<20ms (typical)	<20ms (typical)
Position Noise / resolution (estimates based on 600 μm)	1nm (typical)	1nm (typical)	1nm (typical)
Repeatability Typical	3nm	3nm	5nm
Linearity error	0.05%	0.05%	0.1%
Hysteresis	0 to 0.2%	0 to 0.2%	0 to 2%
Scaling error	0 to 0.2%	0 to 0.2%	0 to 2%
Max load	0.6Kg (Std)	1.0Kg on request	
Height	19.5mm		
Aperture	179 x 110mm (SP holder)		
Overall Dimensions	326.5mm x 194mm		

NPC-D-6330 Controller:

- The powerful NPC-D-6330 digital controller drives the positioner at fastest speeds possible
- Acceleration/deceleration algorithms reduce settle time, give unparalleled constant velocity and reduce overshoot. The stage can operate robustly and reliably at high speeds.
- Market-leading 20 μsec update rate
- Fastest recovery time between Z stacks providing enhanced time resolution
- Selectable tuning presets which optimise for step settle, objective mass and resolution



Interfacing:

- Analog command input and position output (0-10V) for compatibility with existing systems.
- Digital commands over USB for maximum accuracy with a DLL interface for customer software.

In-position digital outputs can be used to control camera imaging providing rapid Z stacking.

- Digital quadrature or step-and-direction commands allowing high-speed control with a standard 2-wire motion controller interface, without the need for expensive high-precision ADCs/DACs.
- Playback of custom-programmed waveforms such as constant-velocity profiles. Separate digital trigger outputs can be activated at custom-defined points to control external equipment such as camera imaging.
- Compatible with Queensgate Nanobench, Micro-Manager or customer software using DLL interface provided.

Can be connected to Prior ProScan™III for integrated fine-Z control.

Sample accessories

Product Number	Description
QGSP301XR	Extra recessed microtitre plate holder
QGSP302XR	Extra recessed universal specimen holder
QGSP303XR	Extra recessed slide holder