



Specification*	ALIO Industries 6-D Stepper Hybrid Hexapod®		
Encoder Option	Linear Optical Encoders	Rotary Encoders	None
XY Travel	+/- 50 mm to +/- 300+ mm (Consult Factory for Longer Travel)		
Z Travel	+/- 10 mm to +/- 100+ mm (Consult Factory for Longer Travel)		
Θx, Θy	+/- 3 deg to +/- 35+ deg (Consult Factory for Longer Travel)		
Θz	360 deg. Continuous		
Actuator Stroke	6 mm to 100+ mm (Consult Factory for Longer Travel)		
Motor Resolution	Standard Full Step Resolution (12.7um) (Options Available from 3um to 63um)		
Screw Pitch	2.54mm Standard (Options Available from 0.6mm to 12.7mm Pitch)		
Microstep Resolution	Standard Microstep Resolution 25nm with 512 Microsteps/Full Step (Options Available from 6nm to 124nm)		
Encoder Resolution	50 nm Standard (Digital) (Analog Option 5nm, Digital Options 20nm, 50nm, 100nm, 0.2um, 0.5um, 1.0um, 5um)	7.0um Std (Options from 1.7um to 35um)	--
Minimum X, Y, Z Motion	4x Microstep Resolution		
Minimum Θx, Θy, Θz Motion	Down to +/- 0.1 arc-sec		
Repeatability in X, Y, or Z	≤ +/- 0.25 um (At Standard Resolution)	+/- 10um (Options from +/-4 to +/- 40um)	+/- 20um
Repeatability Θx, Θy, Θz	≤ +/- 0.4 arc-sec (At Standard Resolution)	+/- 16 arc-sec (Options from +/- 6 to 60 arc-sec)	+/- 30 arc-sec
Minimum Velocity	1 um /sec		
Maximum Velocity	Standard 25mm/sec at no Load (Options Available from 5mm/sec to 100mm/sec at no Load)		
Load Capacity	2 kg to 20+ kg		
Motor/Drive Train	Stepper Motor		
Backlash	None	< 2.5um	< 5.0um
Forward/Inverse Kinematics	Standard		
Custom Tool Center Point Capability	Standard		
Velocity Control	Standard		
Mathematical Path Control	Standard		
Controllers	High Precision (Delta Tau or ACS Motion Control)		
G-Code	Optional		
Software Interfaces	C++, VB, LabVIEW		

* Preliminary Specifications