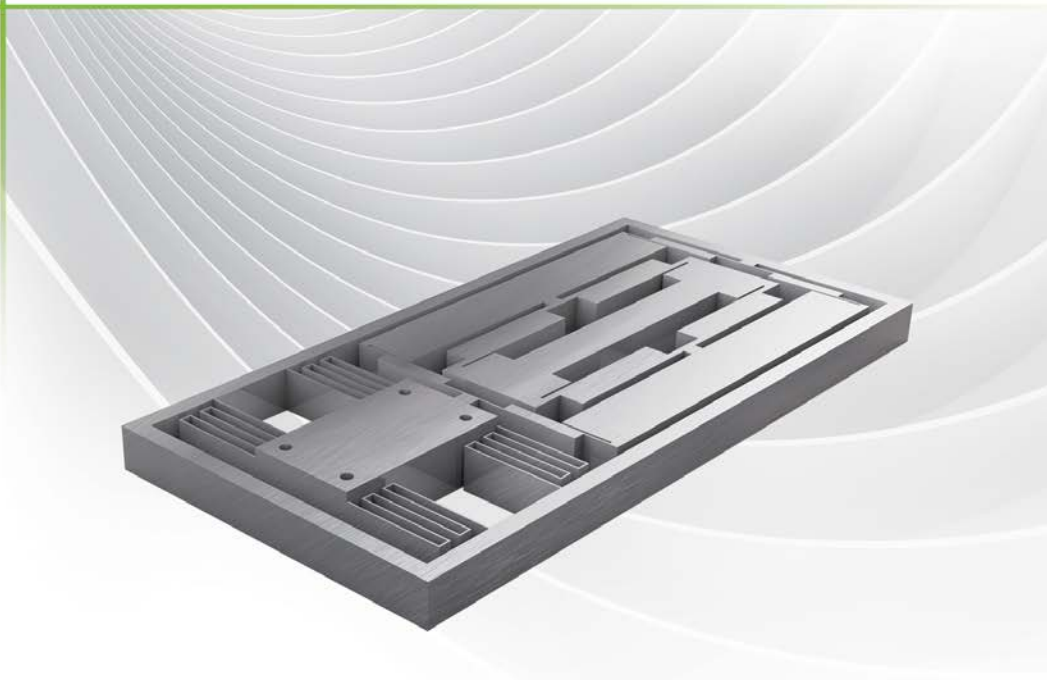
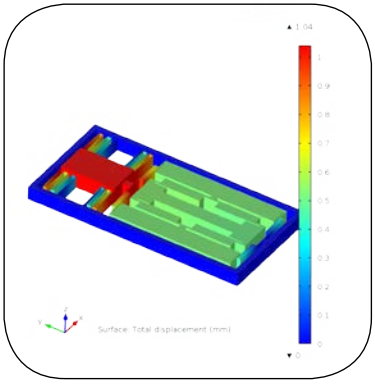
Piezo-based Flexure Scanners

For High Dynamic Positioning Applications



attocube is capable of developing almost any piezo-based flexure scanner. This is based on our state of the art Finite Element Method (FEM) software, and Electrical-Discharge Machining (EDM) capabilities combined with the deep and extensive knowledge of our engineering team.



Customers can choose:

- one, two, or three degrees of freedom
- linear or goniometric actuation
- physical dimension
- stroke, payload, sensors
- dynamic properties and control electronics

Applications:

- high dynamic image interpolation, typically in near to mid IR spectrum
- image stabilization, widely applied from VIS to IR spectral range

Specifications

Piezo-based Flexure Scanners

Typical Specifications Piezo-based Flexure Scanners Mechanical				
total scan range	A_{max}	each axis	35	µm
resonance frequency	f_0		>2,6	kHz
typ. oversampling parameters	f_{hdr}		up to 100	Hz
	A_{hdr}		up to 20	µm
typ. optical stabilization parameters	f_{os}		10-1000	Hz
	f_{os}		up to 5	µm
Electrical				
total power consumption	P		typ. 18	W
electrical supply voltage	U		12-24	V
position input		SPI interface or analog	digital or analog	
position output		SPI interface or analog	digital or analog	
electronic board dimension			60x60x30	mm^3
Strain Gages				
bandwidth		@-3dB	>3	kHz
linearity		@50Hz	<0,2	%
repeatability			1	µm
noise		@10kHz	<50	nm
Overall Specifications				
operating temperature	T	MIL-810F	(-40) – (+ 75)	°C
MTBF			10000	h