

Z-STAGE

The Z-STAGE is a compact Z direct-drive nanopositioner which has high speed capabilities. It can be combined with a 2 axis nanopositioner which has a 66×66 mm aperture (LF2/LFHS2) in order to get a SPM3 or a SPM3LR. The Z stage can be offered with either 5, 10, 30 or 50µm range of motion.

This nanopositioner is part of our high-speed product line (High power controller available).



Features

- High speed, direct drive
- 5, 10, 30 or 50 µm travel range
- Closed loop control
- Silicon sensor technology
- Less than 10pm noise floor

Applications

- AFM Z scanner
- Casimir Force study
- Fast Z scanning
- Nanoindentation

Specifications

	Unit	Z-STAGE.5	Z-STAGE.10	Z-STAGE.30	Z-STAGE.50
Range of motion	(μm)	5	10	30	50
Resolution	(nm)	0,005	0,01	0,03	0,05
Typical noise floor	(nm)	0,0005	0,001	0,003	0,005
Full range repeatability	(nm)	0,01	0,02	0,06	0,1
Linearization (typical)		0,02%	0,02%	0,02%	0,02%
Resonant frequency	(Hz)	12 500	5 200	4 000	3 500
Stiffness	(N/ μm)	40,1	7,5	7,7	2,7
Maximum load* :					
- horizontal use	(kg)	0,1	0,1	0,1	0,1
- vertical use (max torque)	(N.m)	0,01	0,01	0,01	0,01
Sensor		Silicon HR sensor	Silicon HR sensor	Silicon HR sensor	Silicon HR sensor
Size \varnothing x H	(mm)	$\varnothing 30$ x 29,8	$\varnothing 30$ x 29,8	$\varnothing 30$ x 49,8	$\varnothing 30$ x 69,8
Material		Al	Al	Al	Al
Cable length	(m)	2	2	2	2
Controller		Standard or High Speed	Standard or High Speed	Standard or High Speed	Standard or High Speed

*Higher load on request

Drawing

