ANPz51/NUM+

compact, closed loop, linear, vertical stepper positioner with optoelectronic encoder

Technical Specifications

Technology	
travel mechanism	inertial piezo drive

Size and Dimensions	
footprint; height	15 x 19; 13.5 mm
maximum size	15 x 19; 16 mm
weight	13.9 g

Coarse Positioning Mode	@ 300 K
input voltage range	0 .. 60 V
typical actuator capacitance	1.11µF
travel range (step mode)	2.5 mm
typical minimum step size	50 nm
maximum drive velocity	≈ 1 mm/s

Fine Positioning Mode	@ 300 K
input voltage range	0 .. 100 V
fine positiong range	0 .. 5 µm
fine positioning resolution	sub-nm

Materials (non-magnetic)	
positioner body	titanium (upgrade option: copper beryllium)
actuator	PZT ceramics
connecting wires	insulated twisted pair, copper

Load (@ ambient conditions)	mounting orientation: axis vertical
maximum load	0.5 N (50 g)
maximum dynamic force along the axis	1 N

Mounting	
from the bottom	2 threads M2 x 5 mm
load on top	4 threads M1.6 x 2 mm

Article Numbers	
/RT version	1005053
/HV version	1005054
/UHV version	1005055

Compatibility with Electronics	
ANC350 piezo positioning controller	ANC350/NUM

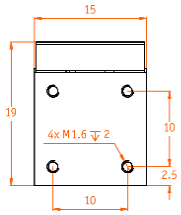
Working Conditions	
mounting orientation	axis horizontal
magnetic field range	0 .. 7 T
temperature range (/RT, /HV, /UHV)	0 ..100 °C
max. bake out temperature (/UHV)	150 °C
minimum pressure (/RT)	1E-4 mbar
minimum pressure (/HV)	1E-8 mbar
minimum pressure (/UHV)	5E-11 mbar

Position Encoder	
readout mechanism	optoelectronic sensor
sensor power (when measuring)	50 mW
encoded travel range	full travel
wavelength of illumination	870 nm
sensor resolution	10 nm
repeatability	150 nm
linearity (over full travel)	< 0.01 %
absolute accuracy	< 0.1 % of travel range

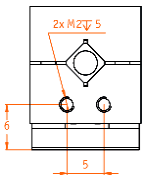
Connectors and Feedthroughs	/RT Versions	all /HV, /UHV Versions
connector type	14-pole connector	15-pin D-Sub connector
electrical feedthrough solution	---	VFT/HV, VFT/UHV

Technical Drawings

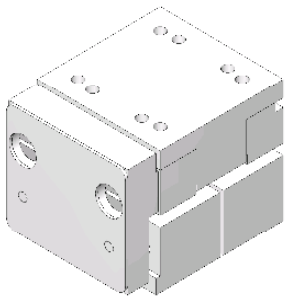
top view



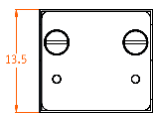
bottom view



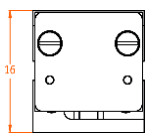
3D view



inner position



outer position



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