

ANPx51/NUM+

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

Technical Specifications

Technology

travel mechanism inertial piezo drive

Size and Dimensions

footprint; height 15 x 19; 9.2 mm
maximum size 18 x 19; 9.2 mm
weight 8.5 g

Coarse Positioning Mode

@ 300 K

input voltage range 0 .. 60 V
typical actuator capacitance 1.11µF
travel range (step mode) 3 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 positioning 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 horizontal

maximum load 0.25 N (25 g)
maximum dynamic force along the axis 1 N

Mounting

from the top 2 through holes dia 1.7 mm, cntrbr. f. M1.6
from the bottom 2 threads M2 x 2.5 mm
load on top 4 threads M1.6 x 2.5 mm

Article Numbers

/RT version 1005027
/HV version 1005028
/UHV version 1005029

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 50 nm
linearity (over full travel) < 0.01 %
absolute accuracy < 0.01 % of travel range

Connectors and Feedthroughs

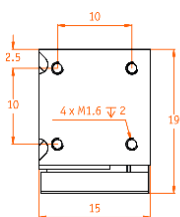
/RT Versions

all /HV, /UHV Versions

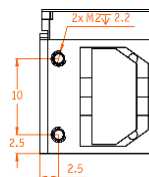
connector type 14-pole connector 15-pin D-Sub connector
electrical feedthrough solution --- VFT/HV, VFT/UHV

Technical Drawings

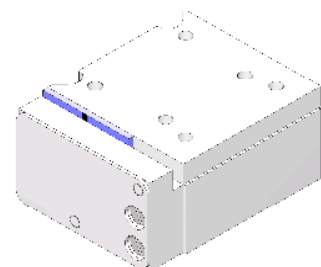
top view



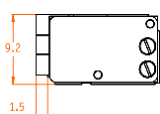
bottom view



3D view



inner position



outer position

