

ANSxy50

compact open loop xy-scanner for 1" scanning probe applications

Technical Specifications

Technology

travel mechanism piezo driven lever arm mechanism

Size and Dimensions

footprint; height 15 x 15; 7 mm
weight 7 g

Fine Positioning Mode

	@ 300 K	@ 4 K
fine positioning range	30 x 30 μm^2	15 x 15 μm^2
input voltage range	0 .. 60 V	0 .. 150 V
typical actuator capacitance	1.1 μF	0.2 μF
fine positioning resolution	sub-nm	

Materials (non-magnetic)

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

Load (@ ambient conditions)

mounting orientation: axis vertical
maximum torque on the axis 10 Ncm
maximum load 0.5 N (50 g)

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 mm

Article Numbers

/RT Version	1001091
/HV Version	1001090
/UHV Version	1000543
/LT Version	1001026
/LT/HV Version	1001093
/LT/UHV Version	1001089

Compatibility with Electronics

ANC300 piezo positioning controller	ANM200, ANM300
ANC350 piezo positioning controller	ANC350 scan and readout controller
Analog voltage amplifier	ANC250

Accuracy of Movement

repeatability of step sizes	no coarse positioning capability
scan repeatability	typically 0.1 %
forward / backward step asymmetry	no coarse positioning capability
creep	typically 0.5 - 0.8 % per decade of time
linearity	typically 5 - 10 %

Working Conditions

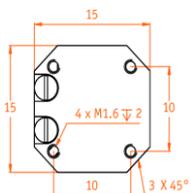
mounting orientation	scanner moving horizontally
magnetic field range	0 .. 31 T
temperature range (/RT, /HV, /UHV)	0 .. 100 °C
temperature range (/LT, /LT/HV, /LT/UHV)	10 mK .. 373 K
max. bake out temperature (/UHV, /LT/UHV)	150 °C
minimum pressure (/RT, /LT)	1E-4 mbar
minimum pressure (/HV, /LT/HV)	1E-8 mbar
minimum pressure (/UHV, /LT/UHV)	5E-11 mbar

Connectors and Feedthroughs

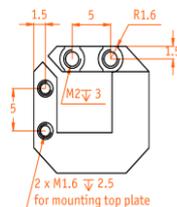
	/RT, /LT Versions	all /HV, /UHV Versions
connector type	two 2-pole pin plugs, \varnothing 0.5 mm, d = 2 mm, 30 cm cable with connector	two 2-pole pin plugs (PEEK), \varnothing 0.5 mm, d = 2 mm, 30 cm cable with connector
electrical feedthrough solution	VFT/LT	VFT/HV, VFT/UHV

Technical Drawings

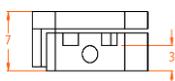
top view



bottom view



side view



3D view

