

# ANSxy100std

open loop xy-scanner for 2" scanning probe applications with standard scan range

## Technical Specifications

### Technology

travel mechanism piezo driven lever arm mechanism

### Size and Dimensions

footprint; height 24 x 24; 10 mm  
weight 18 g

### Fine Positioning Mode

	@ 300 K	@ 4 K
fine positioning range	40 x 40 $\mu\text{m}^2$	9 x 9 $\mu\text{m}^2$
input voltage range	0 .. 120 V	0 .. 150 V
typical actuator capacitance	0.6 $\mu\text{F}$	0.1 $\mu\text{F}$
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 horizontal  
maximum torque on the axis 20 Ncm  
maximum load 1 N (100 g)

### Mounting

from the top 2 through holes dia 2.2 mm, cntrbr. f. M2  
from the bottom 2 threads M2.5 x 5 mm  
load on top 6 threads M2 x 3 mm

### Article Numbers

/RT Version	1005215
/HV Version	1005216
/UHV Version	1005217
/LT Version	1005218
/LT/HV Version	1005219
/LT/UHV Version	1005220

### 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

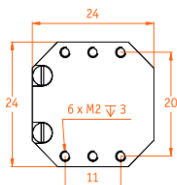
mounting orientation	scanner moving horizontally
magnetic field range	0 .. 31 T
temperature range (/RT, /HV, /UHV)	0 .. 100 °C
temperature range (/LT, /LT/HV, /LT/UHV)	10 mK .. 373 K
max. bake out temperature (/UHV, /LT/UHV)	150 °C
minimum pressure (/RT, /LT)	1E-4 mbar
minimum pressure (/HV, /LT/HV)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

### Connectors and Feedthroughs

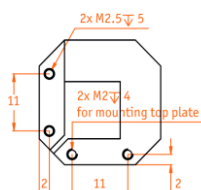
	/RT, /LT Versions	all /HV, /UHV Versions
connector type	two 2-pole pin plugs, $\varnothing$ 0.5 mm, d = 2 mm, 30 cm cable with connector	two 2-pole pin plugs (PEEK), $\varnothing$ 0.5 mm, d = 2 mm, 30 cm cable with connector
electrical feedthrough solution	VFT/LT	VFT/HV, VFT/UHV

## Technical Drawings

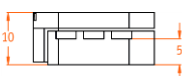
top view



bottom view



side view



3D view

