

# ANSxy50

compact xy-scanner

Technology			
travel mechanism	piezo driven lever arm mechanism		
Size and Dimensions			
footprint; height	15 x 15; 7 mm		
Fine Positioning Mode			
scan range	25 x 25 $\mu\text{m}^2$ @ 300 K, 12 x 12 $\mu\text{m}^2$ @ 4 K		
scan resolution	sub-nm resolution		
Coarse Positioning Mode			
travel (step mode)	no coarse positioning capability		
Materials (non-magnetic)			
positioner body	Titanium (other materials on request)		
actuator	PZT ceramics		
connecting wires	2 twisted pairs, Cu wires		
weight	7 g		
Load			
maximum vertical load	50 g		
maximum torque on the axis	10 Ncm		
maximum bandwidth	100 Hz		
Mounting			
frontside mounting	two through holes for M1.6		
backside mounting	---		
load mounting	four threads M1.6		
Article Numbers			
/RT Version	1001091	/LT Version	1001026
/HV Version	1001090	/LT/HV Version	1001093
/UHV Version	1000543	/LT/UHV Version	1001089
Compatibility with Electronics			
ANC200 piezo scan controller	all versions		
ANC300 piezo positioning controller	all versions		
ANC350 piezo controller	all versions		

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)	1 K .. 300 K, Test @ 4.2 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,	four female conn., for pin $\varnothing$ 1 mm,
connector type	30 cm cable with connector	
electrical feedthrough solution	COC230/LT	COC230/HV, COC230/UHV
Temperature Dependent Data		
	@ 300K	@ 4K (only /LT versions)
input voltage range	0 .. +60 V	0 .. +150 V
typical actuator capacitance	1400, 1400 nF	200, 200 nF
typical step size (min .. max)	---	---
fine positioning range	20 x 20 $\mu\text{m}^2$	12 x 12 $\mu\text{m}^2$
Accuracy of Movement		
repeatability	typically 0.1 %	
resonance frequency (typically higher than)	0	
creep	typically 0.5 - 0.8 % per decade of time	
linearity	typically 5 - 10 %	

