

ANSxyz100SR

xyz-scanner with high resolution z-range

Technology			
travel mechanism	piezo driven lever arm mechanism		
Size and Dimensions			
footprint; height	24 x 24; 10 mm		
Fine Positioning Mode			
scan range	40x40x4.3 μm^3 @ 300 K, 30x30x2 μm^3 @ 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	3 twisted pairs, Cu wires		
weight	19 g		
Load			
maximum vertical load	100 g		
maximum torque on the axis	10 Ncm		
maximum bandwidth	100 Hz		
Mounting			
frontside mounting	two through holes for M2		
backside mounting	two threads M2.5 x 4 mm		
load mounting	four threads M2 x 3 mm		
Article Numbers			
/RT Version	1002585	/LT Version	1002588
/HV Version	1002586	/LT/HV Version	1002589
/UHV Version	1002587	/LT/UHV Version	1002590
Compatibility with Electronics			
ANC200 piezo scan controller	all versions		
ANC300 piezo positioning controller	all versions		
ANC350 piezo controller	all versions		

Working Conditions		
mounting orientation	xy horizontally, z vertically	
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	three 2-pole pin plugs, \varnothing 0.5 mm, d = 2 mm,	six 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	x, y: 0 .. 120 V; z: 0 .. +60 V	0 .. +150 V
typical actuator capacitance	5400, 5400, 2500 nF	750, 750, 340 nF
typical step size (min .. max)	---	---
fine positioning range	40 x 40 x 4.3 μm^3	30 x 30 x 2 μm^3
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 %	

