

ANR51/RES

compact, closed loop, rotary stepper positioner with vertical rotation axis and resistive encoder

Technical Specifications

Technology		Compatibility with Electronics	
travel mechanism	inertial piezo drive	ANC350 piezo positioning controller	ANC350/RES
Size and Dimensions		Working Conditions	
footprint; height	15 x 15 (Ø 20); 9.5 mm	mounting orientation	axis vertical
weight	10 g	magnetic field range	0 .. 31 T
through hole in the middle of the axis	Ø 1.5 mm	temperature range (/LT, /LT/HV, /LT/UHV)	10 mK .. 373 K
Coarse Positioning Mode		max. bake out temperature (/UHV, /LT/UHV)	150 °C
	@ 300 K	@ 4 K	
input voltage range	0 .. 60 V	0 .. 60 V	minimum pressure (/RT, /LT)
typical actuator capacitance	1.9 µF	0.4 µF	1E-4 mbar
travel range (step mode)	360° endless, both directions		minimum pressure (/HV, /LT/HV)
typical minimum step size	1 m°	0.5 m°	1E-8 mbar
maximum drive velocity	≈ 10 °/s		minimum pressure (/UHV, /LT/UHV)
			5E-11 mbar
Fine Positioning Mode		Accuracy of Movement	
	@ 300 K	@ 4 K	wobble
input voltage range	0 .. 60 V	0 .. 150 V	± 1 mrad
fine positioning range	0 .. 40 m°	0 .. 6 m°	
fine positioning resolution	µ°	µ°	
Materials (non-magnetic)		Position Encoder	
positioner body	titanium (upgrade option: beryllium copper)		readout mechanism
actuator	PZT ceramics		resistive sensor
connecting wires	insulated twisted pair, copper		sensor power (when measuring)
			1 µW .. 1 mW
			encoded travel range
			315°
			sensor resolution
			≈ 6 m°
			repeatability
			≈ 50 m°
			linearity (over full travel)
			< 1%
			absolute accuracy
			typically < 1 % of travel range
Load (@ ambient conditions)		Connectors and Feedthroughs	
	mounting orientation: axis vertical		/RT, /LT Versions
maximum load	0.3 N (30 g)		all /HV, /UHV Versions
maximum dynamic torque around axis	0.2 Ncm		connector type
			2-pole pin plug, Ø 0.5 mm, d = 2 mm, 30 cm cable with connector
			encoder connector
			additional 3-pole plug
			electrical feedthrough solution
			VFT/LT
			30 cm cable with connector additional 3-pole plug (PEEK) VFT/HV, VFT/UHV
Mounting			
from the bottom	2 threads M2 x 2.3 mm		
load on top	2 threads M1.6 x 1 mm		
Article Numbers			
/RT Version	1003291		
/HV Version	1003293		
/UHV Version	1003294		
/LT Version	1003292		
/LT/HV Version	1003295		
/LT/UHV Version	1003296		

Technical Drawings

