

ANR30

the smallest rotary stepper positioner with vertical rotation axis

Technology	
travel mechanism	inertial piezo drive

Size and Dimensions	
footprint; height	8 x 8 (Ø 10); 9 mm
through hole in the middle of the axis	Ø 0.6 mm

Coarse Positioning Mode	
travel (step mode)	360° endless, both directions
typical minimum step size	1 m° @ 300 K, 0.5 m° @ 4 K
maximum speed (@ 300 K, no load)	approx. 3 °/s

Fine Positioning Mode	
scan range	60 m° @ 300 K, 13 m° @ 4 K
scan resolution	µ° resolution

Materials (non-magnetic)	
positioner body	Titanium, CuBe
actuator	PZT ceramics
connecting wires	insulated twisted pair, Cu
weight	2.5 g

Load	
maximum vertical load	5 g
maximum static torque around axis	0.05 Ncm
maximum dynamic torque around axis	0.03 Ncm
maximum torque perpendicular to axis	1 Ncm

Mounting	
frontside mounting	---
backside mounting	two threads M1.6 x 2 mm
load mounting	two threads M1.6 x 2 mm

Article Numbers			
/RT Version	1001110	/LT Version	1001133
/HV Version	1001132	/LT/HV Version	1001134
/UHV Version	1001111	/LT/UHV Version	1001112

Compatibility with Electronics	
ANC106 piezo step controller	/RT version only
ANC150 piezo step controller	all versions
ANC200 piezo scan controller	all versions
ANC300 piezo positioning controller	all versions

Working Conditions	
mounting orientation	axis vertical
magnetic field range	0 .. 31 T
temperature range (/RT, /HV, /UHV)	0 .. 100 °C
temperature range (/LT, /LT/HV, /LT/UHV)	10 mK .. 300 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	2-pole pin plug, Ø 0.5 mm, d = 2 mm,	two female conn., for pin Ø 1 mm,
connector type	30 cm cable with connector	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 .. +100 V	0 .. +100 V
typical actuator capacitance	70 nF	14 nF
typical step size (min .. max)	1 .. 10 m°	0.5 .. 5 m°
fine positioning range	60 m°	13 m°

Accuracy of Movement	
repeatability of step sizes	typically 5 % over full range
forward / backward step asymmetry	typically 5 %

Position Encoder	
encoder options	---

