ANR101/RES

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

Technical Specifications

Technology	
travel mechanism	inertial piezo drive

Size and Dimensions	
footprint; height	24 x 24 (Ø 30); 15.8 mm (17.8 mm incl. adapterplate)
weight	36 g
through hole in the middle of the axis	Ø 2 mm

Coarse Positioning Mode	@ 300 K	@ 4 K
input voltage range	0 .. 60 V	0 .. 60 V
typical actuator capacitance	1.2 µF	0.2 µF
travel range (step mode)	360° endless, both directions	
typical minimum step size	1 m°	0.5 m°
maximum drive velocity	≈ 30 °/s	

Fine Positioning Mode	@ 300 K	@ 4 K
input voltage range	0 .. 120 V	0 .. 150 V
fine positiong range	0 .. 70 m°	0 .. 14 m°
fine positioning resolution	µ°	µ°

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 vertical
maximum load	1 N (100 g)
maximum dynamic torque around axis	0.8 Ncm

Mounting	
from the top	2 through holes dia 2.4 mm, cntrbr. f. M2
from the bottom	2 threads M2.5 x 4 mm
load on top	6 threads M2 x 3 mm

Article Numbers	
/RT Version	1002233
/HV Version	1002234
/UHV Version	1002215
/LT Version	1002232
/LT/HV Version	1002235
/LT/UHV Version	1002216

Compatibility with Electronics	
ANC350 piezo positioning controller	ANC350/RES

Working Conditions	
mounting orientation	axis vertical
magnetic field range	0 .. 31 T
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

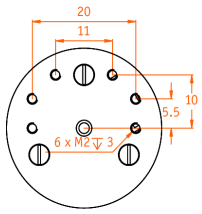
Accuracy of Movement	
wobble	± 1 mrad

Position Encoder	
readout mechanism	resistive sensor
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

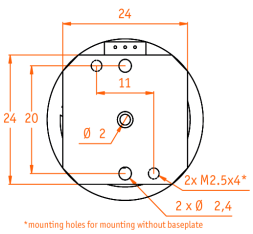
Connectors and Feedthroughs	/RT, /LT Versions	all /HV, /UHV Versions
connector type	2-pole pin plug, ø 0.5 mm, d = 2 mm, 30 cm cable with connector	2-pole pin plug (PEEK), ø 0.5 mm, d = 2 mm, 30 cm cable with connector
encoder connector	additional 3-pole plug	additional 3-pole plug (PEEK)
electrical feedthrough solution	VFT/LT	VFT/HV, VFT/UHV

Technical Drawings

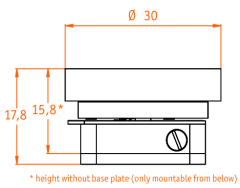
top view



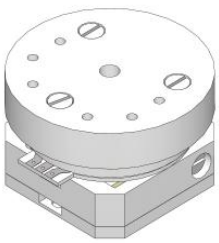
bottom view



side view



3D view



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