

## ANPz101/NUM(+)

closed loop, linear, vertical stepper positioner with optoelectronic encoder

footprint; height	Technology		Compatibility with Electronics		
flootprint; height 24 x 28; 20 mm maximum size 24 x 28; 25 mm 24 x 28; 25 mm 24 x 28; 25 mm 25 x 28; g 3 25 mm 25 x 25; g 3 x 25;	travel mechanism	inertial piezo drive	ANC350 piezo positioning controll	ler ANC350/NUM	1
maximum size weight         24 x 28, 25 mm         anggretic field range (PT, /W, /UHV) (DHV) (DH	Size and Dimensions		Working Conditions		
weight 52.8 g temperature range (RT, /HV, /UHV) 0100 °C max. bake out temperature (/UHV) 150 °C max. bake out temperature (/UHV) 150 °C max. bake out temperature (/UHV) 150 °C minimum pressure (/UHV) 150 °C minimum	footprint; height	24 x 28; 20 mm	mounting orientation	axis vertical	
Carse Positioning Mode	maximum size	24 x 28; 25 mm	magnetic field range	07T	
Coarse Positioning Mode  @ 300 K  input voltage range typical actuator capacitance travel range (step mode) typical minimum pressure (JHV)  input voltage range typical minimum step size maximum drive velocity maximum drove veloci	weight	52.8 g	temperature range (/RT, /HV, /UH	√V) 0100 °C	
input voltage range	-	-	max. bake out temperature (/UHV	150 °C	
typical actuator capacitance travel range (step mode) 5 mm    ### Position Encoder  ### readout mechanism optoelectronic sensor: /NUM & /NUM & sensor power (when measuring) 300 mW    ### Positioning Mode	Coarse Positioning Mode	@ 300 K	minimum pressure (/RT)	1E-4 mbar	
travel range (step mode) typical minimum step size 50 mm  typical minimum step size 50 mm  saximum drive velocity  Fine Positioning Mode input voltage range 0 100 V  sensor power (when measuring) one sensor power (when measuring) one sensor power (when measuring) one moded travel range one coded travel range one cod	input voltage range	0 60 V	minimum pressure (/HV)	1E-8 mbar	
typical minimum step size maximum drive velocity = 30 mm/s	typical actuator capacitance	1.11µF	minimum pressure (/UHV)	5E-11 mbar	
maximum drive velocity = 3 mm/s  Fine Positioning Mode	travel range (step mode)	5 mm			
Fine Positioning Mode       @ 300 K       sensor power (when measuring)       300 mW         fine positioning range       0100 V       awavelength of illumination       870 nm         fine positioning resolution       sub-nm       sensor resolution       10 nm         Materials (non-magnetic)       repeatability       150 nm         positioner body actuator       tittanium (upgrade option: copper beryllium) actuator       2T ceramics       <0.01 % of travel range	typical minimum step size	50 nm	Position Encoder		
Fine Positioning Mode       @ 300 K       sensor power (when measuring)       300 mW         fine positioning range       0100 V       awavelength of illumination       870 nm         fine positioning resolution       sub-nm       sensor resolution       10 nm         Materials (non-magnetic)       repeatability       150 nm         positioner body actuator       tittanium (upgrade option: copper beryllium) actuator       2T ceramics       <0.01 % of travel range	maximum drive velocity	≈ 3 mm/s	readout mechanism	optoelectron	ic sensor: /NUM & /NUM+/(l
input voltage range 0 100 V fine positioning range 0 5 µm fine positioning resolution sub-nm  Materials (non-magnetic) positioner body titanium (upgrade option: copper beryllium) actuator PZT ceramics connecting wires insulated twisted pair, copper  Load (@ ambient conditions) mounting orientation: axis vertical maximum dynamic force along the axis 5 N  Mounting  from the top from the bottom 10 nm  150 nm  110 nm  150 nm  160 nm  160 ver full travel) 150 nm  160 nm  160 nm  170 nm  1870 nm  160 nm  170 nm  1870 nm	·	•	sensor power (when measuring)		, , , , ,
fine positiong range fine positioning resolution sub-nm sub-nm sub-nm repeatability 150 nm linearity (over full travel) 40.01 % of travel range solution absolute accuracy 40.1% of travel range solution actuator PZT ceramics connecting wires insulated twisted pair, copper leading actuation actuator maximum load 2 N (200 g) samminum load maximum dynamic force along the axis 5 N      Mounting   Mounting   Mounting orientation: axis vertical tead through solution   10 nm repeatability   150 nm linearity (over full travel) absolute accuracy 40.1% of travel range   14-pole connector   15-pin D-Sub connector type electrical feedthrough solution   VFT/HV, VFT/UHV	Fine Positioning Mode	@ 300 K	encoded travel range	full travel	
fine positioning resolution  Materials (non-magnetic)  Materials (non-magnetic)  Titanium (upgrade option: copper beryllium) actuator  connecting wires  Insulated twisted pair, copper  Insul	input voltage range	0 100 V	wavelength of illumination	870 nm	
Materials (non-magnetic)  positioner body actuator PZT ceramics insulated twisted pair, copper beryllium actuator insulated twisted pair, copper maximum load of the bottom partner bottom load on top 2 threads M2 x 3.3 mm  Article Numbers  /RT version 1002657  /HV version 1 1002657  /**Itanium (upgrade option: copper beryllium) absolute accuracy	fine positiong range	0 5 μm	sensor resolution	10 nm	
Materials (non-magnetic)absolute accuracy< 0.1% of travel rangepositioner body actuatortitanium (upgrade option: copper beryllium) actuatorConnectors and Feedthroughs/RT Versionsall /HV, /UHV Versionconnecting wiresinsulated twisted pair, copperconnector type electrical feedthrough solution14-pole connector15-pin D-Sub connector type electrical feedthrough solutionLoad (@ ambient conditions)mounting orientation: axis verticalmaximum load2 N (200 g)maximum dynamic force along the axis5 NMountingfrom the top2 through holes dia 2.2 mm, cntrbr. f. M2from the bottom2 threads M2.5 x 3.4 mmload on top10 threads M2 x 3.3 mmArticle Numbers/RT version1002657/HV version#	fine positioning resolution	sub-nm	repeatability	150 nm	
positioner body actuator PZT ceramics Connecting wires insulated twisted pair, copper seryllium)  Load (@ ambient conditions) mounting orientation: axis vertical maximum dynamic force along the axis 5 N  Mounting  from the top from the bottom load on top 10 threads M2 x 3.3 mm  Article Numbers  /RT version 1002657  /HV version #			linearity (over full travel)	< 0.01 %	
actuator PZT ceramics Connectors and Feedthroughs /RT Versions all /HV, /UHV Version connecting wires insulated twisted pair, copper connector type 14-pole connector 15-pin D-Sub connector type electrical feedthrough solution VFT/HV, VFT/UHV  Load (@ ambient conditions) mounting orientation: axis vertical electrical feedthrough solution VFT/HV, VFT/UHV  Mounting  from the top	Materials (non-magnetic)			< 0.1 % of tra	avel range
connecting wires insulated twisted pair, copper connector type electrical feedthrough solution VFT/HV, VFT/UHV  Load (@ ambient conditions) mounting orientation: axis vertical  maximum load 2 N (200 g) maximum dynamic force along the axis 5 N  Mounting  from the top 2 through holes dia 2.2 mm, cntrbr. f. M2 from the bottom 2 threads M2.5 x 3.4 mm load on top 10 threads M2 x 3.3 mm  Article Numbers  /RT version 1002657 /HV version #	positioner body	titanium (upgrade option: copper beryllium)			
electrical feedthrough solution VFT/HV, VFT/UHV  Load (@ ambient conditions) mounting orientation: axis vertical maximum load 2 N (200 g) maximum dynamic force along the axis 5 N  Mounting  from the top 2 through holes dia 2.2 mm, cntrbr. f. M2 from the bottom 2 threads M2.5 x 3.4 mm load on top 10 threads M2 x 3.3 mm  Article Numbers  /RT version 1002657 /HV version #	actuator	PZT ceramics	Connectors and Feedthroughs	/RT Versions	all /HV, /UHV Versions
Load (@ ambient conditions) mounting orientation: axis vertical maximum load 2 N (200 g) maximum dynamic force along the axis 5 N  Mounting  from the top 2 through holes dia 2.2 mm, cntrbr. f. M2 from the bottom 2 threads M2.5 x 3.4 mm load on top 10 threads M2 x 3.3 mm  Article Numbers  /RT version 1002657 /HV version #	connecting wires	insulated twisted pair, copper	connector type	14-pole connector	15-pin D-Sub connector
maximum load 2 N (200 g) maximum dynamic force along the axis 5 N  Mounting  from the top 2 through holes dia 2.2 mm, cntrbr. f. M2 from the bottom 2 threads M2.5 x 3.4 mm load on top 10 threads M2 x 3.3 mm  Article Numbers  /RT version 1002657 /HV version #			electrical feedthrough solution		VFT/HV, VFT/UHV
Mounting from the top 2 through holes dia 2.2 mm, cntrbr. f. M2 from the bottom 2 threads M2.5 x 3.4 mm load on top 10 threads M2 x 3.3 mm  Article Numbers /RT version 1002657 /HV version #	Load (@ ambient conditions)	mounting orientation: axis vertical			
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load on top 10 threads M2 x 3.3 mm  Article Numbers  /RT version 1002657 /HV version #	•				
/RT version 1002657 /HV version #					
/HV version #	Article Numbers				
	/RT version	1002657			
/UHV version #	/HV version	#			
	/UHV version	#			



