

## ANPx50

linear, horizontal stepper positioner for 1" setups

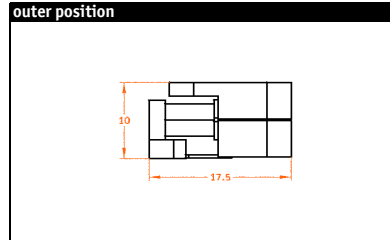
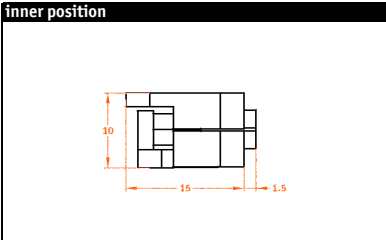
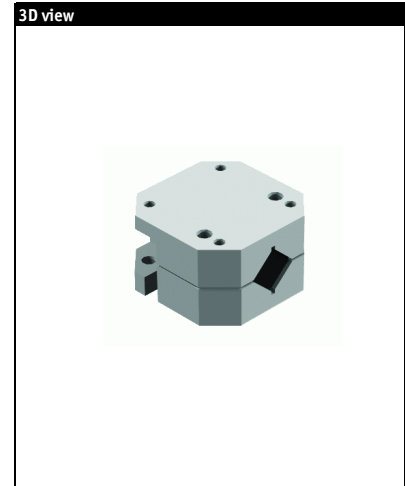
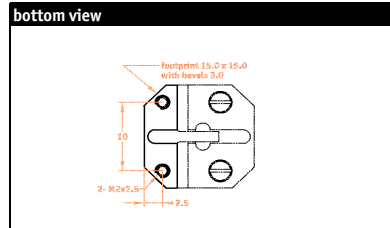
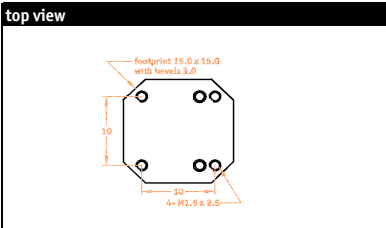
Technology	
travel mechanism	inertial piezo drive

Size and Travel	
footprint; height; diagonal	15 x 15; 10; 17.5 mm
linear travel (discrete steps)	4 mm
maximum size (including travel)	17.5 x 15 x 10 mm
typical step size (min .. max)	0.025 .. 2 µm @ 300 K, 10 .. 500 nm @ 4 K
repeatability of step sizes	typically 5 % over full range
forward / backward step asymmetry	typically 5 %
maximum speed (@ 300 K, no load)	approx. 1 mm/s
fine positioning range	0 .. 4.3 µm @ 300 K, 0 .. 0.6 µm @ 4 K

Materials (non-magnetic)	
materials	Titanium*, CuBe, ZrO2
actuator	PZT ceramics, Ag metal layers
connecting wires	insulated twisted pair, Cu, 0.2 mm <sup>2</sup>
weight	6.6 g

Load	
maximum vertical load	25 g
maximum static forces along the axis	1.5 N
maximum dynamic force along the axis	1 N
maximum torque on the axis	3 Ncm

Operating Conditions	
preferred orientation	axis horizontal
magnetic field range	0 .. 28 T



Model dep. Specifications	/RT Version	/HV Version	/UHV Version	/LT Version	/LT/HV Version	/LT/UHV Version
article number	1000025	1000047	1000012	1000007	1000404	1000016
connectors	2-pole pin plug, ø 0.5 mm, d = 2 mm	two female conn., for pin ø 1 mm	two female conn., for pin ø 1 mm	2-pole pin plug, ø 0.5 mm, d = 2 mm	two female conn., for pin ø 1 mm	two female conn., for pin ø 1 mm
input voltage	0 .. +60 V	0 .. +60 V	0 .. +60 V	0 .. +60 V	0 .. +60 V	0 .. +60 V
polarity	red pole is +	longer cable is +	longer cable is +	red pole is +	longer cable is +	longer cable is +
typical step size (min .. max)	0.025 .. 2 µm @ 300 K	0.025 .. 2 µm @ 300 K	0.025 .. 2 µm @ 300 K	0.025 .. 2 µm @ 300 K 10 .. 500 nm @ 4 K	0.025 .. 2 µm @ 300 K 10 .. 500 nm @ 4 K	0.025 .. 2 µm @ 300 K 10 .. 500 nm @ 4 K
fine positioning range	0 .. 4.3 µm @ 300 K	0 .. 4.3 µm @ 300 K	0 .. 4.3 µm @ 300 K	0 .. 4.3 µm @ 300 K 0 .. 0.6 µm @ 4 K	0 .. 4.3 µm @ 300 K 0 .. 0.6 µm @ 4 K	0 .. 4.3 µm @ 300 K 0 .. 0.6 µm @ 4 K
operating temperature range	0 .. 100 °C	0 .. 100 °C	0 .. 100 °C	10 mK .. 300 K, Test @ 4 K	10 mK .. 300 K, Test @ 4 K	10 mK .. 300 K, Test @ 4 K
operating pressure range	1E-4 mbar .. 1 bar	1E-8 mbar .. 1 bar	5E-11 mbar .. 1 bar	1E-4 mbar .. 1 bar	1E-8 mbar .. 1 bar	5E-11 mbar .. 1 bar
preferred atmosphere condition	clean, dry atmosphere	---	---	clean, dry He exchange gas	---	---
maximum bake out temperature	---	---	150 °C	---	---	150 °C
actuator capacitance @ 300 K	typically 2500 nF	typically 2500 nF	typically 2500 nF	typically 2500 nF	typically 2500 nF	typically 2500 nF
actuator capacitance @ 77 K	---	---	---	typically 700 nF	typically 700 nF	typically 700 nF
actuator capacitance @ 4 K	---	---	---	typically 340 nF	typically 340 nF	typically 340 nF

Compatible Electronic Control Unit						
ANC150 piezo step controller	yes	yes	yes	yes	yes	yes
ANC106 piezo step controller	yes	no	no	no	no	no
ANC200 piezo scan controller	yes	yes	yes	yes	yes	yes

Other Options						
electrical feedthrough solution	---	COS230/HV	COS230/UHV	COS230/LT	COS230/HV	COS230/UHV