

pioneers of precision

## ECS3080

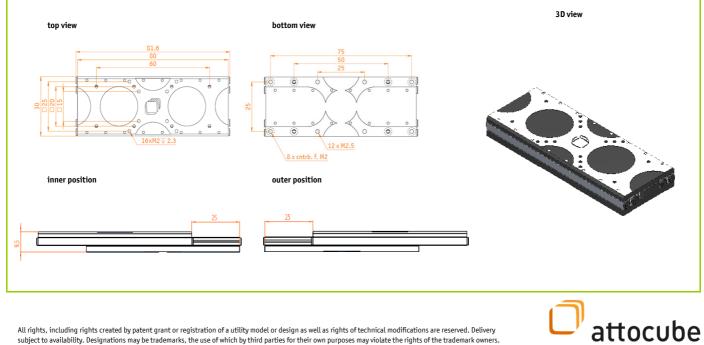
nanoprecise open loop stepper positioner for linear, horizontal motion

## **Technical Specifications**

Technology			
travel mechanism	inertial piezo drive		
Size and Dimensions			
footprint; height	30 x 80; 9.5 mm		
maximum size	30 x 131.6; 9.5 mm		
weight (aluminum/stainless steel)	78/147 g		
Coarse Positioning Mode			
input voltage range	060V		
typical actuator capacitance	1.15 μF @ 300K		
travel range (step mode)	50 mm		
typical minimum step size	0.05 μm		
maximum drive velocity (@ 45 V)	4.5 mm/s		
Fine Positioning Mode			
input voltage range	060V		
fine positiong range	0 1.6 μm		
fine positioning resolution	sub-nm		
Materials			
positioner body (/RT)	aluminum		
positioner body (/HV, /UHV)	stainless steel		
actuator	PZT ceramics		
connecting wires	insulated twisted pair, copper		
bearings	stainless steel		
Load (@ ambient conditions)	mounting orientation: axis horizontal		
maximum load	240 N (24 kg)		
maximum dynamic force along the axis	1 N		
/HL/RT - ambient conditions	5 N		
/HL/UHV - UHV conditions	3 N		
Mounting			
from the top	8 through holes dia 2.2 mm, cntrbr. F. M2		
from the bottom	12 threads M2.5 x 2.5 mm		
load on top	16 threads M2 x 2.3 mm		
load at the front	L-bracket		

ECC100 piezo positioning control	ler al	l versions	
Working Conditions			
mounting orientation	ar	bitrary	
temperature range (/RT, /HV, /U	HV) 0.	100 °C	
max. bake out temperature (/UH	/) 15	50 °C	
minimum pressure (/RT)	18	-4 mbar	
minimum pressure (/HV)	18	-8 mbar	
minimum pressure (/UHV)	58	E-11 mbar	
Accuracy of Movement			
repeatability of step sizes	ty	pically 5 % o	ver full range
forward / backward step asymme	try 10	)%	
yaw angle (over 10 mm travel)	<	0.1 mrad	
where a star ( see a do see a transition of )	<	0.1 mrad	
pitch angle (over 10 mm travel)		012 1111 44	
roll angle (over 10 mm travel)		0.1 mrad	
roll angle (over 10 mm travel)			
roll angle (over 10 mm travel) Position Encoder			
roll angle (over 10 mm travel)			
roll angle (over 10 mm travel) Position Encoder			all /HV, /UHV Versions
roll angle (over 10 mm travel) Position Encoder encoder options	-	0.1 mrad	all /HV, /UHV Versions 15-pin D-Sub connector
roll angle (over 10 mm travel) Position Encoder encoder options Connectors and Feedthroughs	< - /RT Versions	0.1 mrad	15-pin D-Sub connector
roll angle (over 10 mm travel) Position Encoder encoder options Connectors and Feedthroughs	/RT Versions 14-pole connect	0.1 mrad	15-pin D-Sub connector
roll angle (over 10 mm travel) Position Encoder encoder options Connectors and Feedthroughs connector type	/RT Versions 14-pole connect	0.1 mrad	15-pin D-Sub connector 50 cm cable with connecto
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roll angle (over 10 mm travel) Position Encoder encoder options Connectors and Feedthroughs connector type electrical feedthrough solution Article Numbers /RT version aluminum	/RT Versions 14-pole connect 50 cm cable with	0.1 mrad	15-pin D-Sub connector 50 cm cable with connecto
roll angle (over 10 mm travel) Position Encoder encoder options Connectors and Feedthroughs connector type electrical feedthrough solution Article Numbers /RT version aluminum /RT version stainless steel	< <p>/RT Versions 14-pole connect 50 cm cable with 10</p>	o.1 mrad	15-pin D-Sub connector 50 cm cable with connecto
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roll angle (over 10 mm travel) Position Encoder encoder options Connectors and Feedthroughs connector type electrical feedthrough solution Article Numbers /RT version aluminum /RT version stainless steel	< <p>/RT Versions 14-pole connect 50 cm cable with 10 10 11 10&lt;</p>	0.1 mrad or connector 005657 005670	15-pin D-Sub connector 50 cm cable with connecto
roll angle (over 10 mm travel) Position Encoder encoder options Connectors and Feedthroughs connector type electrical feedthrough solution Article Numbers /RT version aluminum /RT version stainless steel /HV version stainless steel /HV version stainless steel /HL version stainless steel /HL/RT version	< <p>/RT Versions 14-pole connect 50 cm cable with 10&lt;</p>	0.1 mrad or connector 005657 005670 005682	15-pin D-Sub connector 50 cm cable with connecto
roll angle (over 10 mm travel) Position Encoder encoder options Connectors and Feedthroughs connector type electrical feedthrough solution Article Numbers /RT version aluminum /RT version stainless steel /UHV version stainless steel /UHV version stainless steel	-     -       /RT Versions     14-pole connect       50 cm cable with          10       11	0.1 mrad or connector 005657 005670 005682 005694	15-pin D-Sub connector 50 cm cable with connecto
roll angle (over 10 mm travel) Position Encoder encoder options Connectors and Feedthroughs connector type electrical feedthrough solution Article Numbers /RT version aluminum /RT version stainless steel /HV version stainless steel /HV version stainless steel /HL version stainless steel /HL/RT version	/RT Versions   14-pole connect   50 cm cable with     10	0.1 mrad or connector 005657 005670 005682 005682 005694 0058839	15-pin D-Sub connector 50 cm cable with connecto

## **Technical Drawings**



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