Rotor 10

Rotary piezo stage

Concept:

The **ROTOR 10** is one axis high precision rotary stage. It provides a long steering and scanning range of up to **11 mrad**. The well defined axis of rotation is located centrically. A central aperture allows axial beam applications as well.
Due to FEA-optimization of these stages you can meet the highest dynamical performance and high planar guiding accuracy. This is accomplished even with high mass loads in a compact design. Our optimization also incorporates excellent temperature compensation properties for the stage.
The sophisticated monolithic guidance design of the solid flexure hinges means the trajectory is free of mechanical play and friction - a feature provided by all ***piezosystem jena***-stages. The **ROTOR 10** is also available with strain gauge measurement system.

Specials:

Vacuum and cryogenic versions are available on demand as well as body material variations of invar, super invar, aluminum or titanium.

Mounting:

The compact design with the raster pin and drill holes for mounting allows an easy integration of the **ROTOR 10** in your existing system.

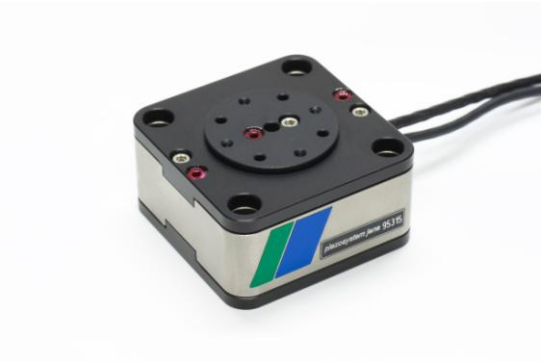

Image: ROTOR 10 SG

Product highlights:

- rotary travel 11/9 mrad open/closed loop
- 0.2/0.02 µrad resolution open/closed loop
- high planar behavior
- well defined central axis of rotation
- central aperture ⌀3 mm
- temperature compensated

Application examples:

- fiber alignment
- material sciences
- crystallography
- beam alignment

Options:

- vacuum version
- cryogenic version
- special materials

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piezosystemjena
incredibly precise

ROTOR 10

Technical data

		Unit	ROTOR 10	ROTOR 10 SG
Part no.		-	K-810-00	K-810-01
axis		-	ΘZ	
motion open loop (±10)*		mrad	11	
motion closed loop (±0.2)*		mrad	-	9
capacitance**		µF	2.8	
feedback sensor		-	-	strain gauge
resolution	open loop***	µrad	0.02	
	closed loop***	µrad	-	0.5
typ. repeatability		µrad	-	20
typ. non-linearity		%	-	0.5
resonant frequency		Hz	500	
additional load 50 g		Hz	250	
additional load 100 g		Hz	200	
additional load 300 g		Hz	100	
stiffness		Nm/µrad	0.06	
max. load		N	<50	
rotational error ΘX/ ΘY		µrad	35/35	
dimensions l x h x d		mm	42 x 23 x 42	
central aperture		mm	3	
voltage range		V	-20 ... +130	
connector	voltage	-	ODU 3 pin	
	sensor	-	-	LEMO 0S.304
material		-	stainless steel/anodized aluminum	

* typical value measured with 30V300 nanoX amplifier
** typical value for small electrical field strength
*** The resolution is only limited by the noise of the amplifier and metrology.

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Drawing **ROTOR 10 SG**