

## *nanoSX 800*

### *High speed piezo translation stage*

#### **Concept:**

The **nanoSX 800** one axis translation stage offers a large travel range, a central aperture and temperature compensation in a compact design. Trajectory trueness even at higher loads and appropriate stiffness are major advantages compared to competitive systems available on the market. The **nanoSX 800** is also available with a capacitive measurement system.

#### **Specials:**

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

An optional external sensor preamplifier (version "EXTERN"/"DIGITAL", E respectively D at the end of the part number) offers independence from cable length.

#### **Mounting:**

The raster tapped and thru holes allow easy integration of the **nanoSX 800** into any application or mechanical setup.



Image: nanoSX 800

#### *Product highlights:*

- travel range of 900/800  $\mu\text{m}$  open/closed loop
- 12.5 mm central aperture
- sub-nm resolution
- excellent trajectory trueness
- high load capability

#### *Application examples:*

- nano positioning
- scanning
- microscopy
- surface analysis
- metrology
- alignment

#### *Options:*

- vacuum version
- cryogenic version
- special materials

## nanoSX 800

### Technical data

	Unit	nanoSX 800	nanoSX 800 CAP EXTERN	nanoSX 800 CAP DIGITAL
Part no.	-	T-128-00	T-125-06E	T-128-06D
axis	-	X		
motion open loop ( $\pm 10\%$ )*	$\mu\text{m}$	900		
motion closed loop ( $\pm 0.2\%$ )*	$\mu\text{m}$	-	800	
capacitance ( $\pm 20\%$ **)	$\mu\text{F}$	2x7		
feedback sensor	-	-	capacitive	
resolution***	nm	1.6	4	
typ. repeatability	nm	-	40	
typ. non-linearity	%	-	0.02	
resonant frequency X/Y/Z	Hz	330/600/800	210/500/700	210/500/700
additional load 50 g	Hz	230	145	
additional load 100 g	Hz	200	135	
additional load 300 g	Hz	135	95	
stiffness X/Y/Z	N/ $\mu\text{m}$	0.2/2.5/2.5		
max. push/pull force	N	100/100		
max. load	N	50		
rotational error	$\mu\text{rad}$	5 (about all axes)		
voltage range	V	-20 ... +130		
connector	voltage	-	ODU	ODU 3 pin
	sensor	-	-	ODU 4 pin
material	-	stainless steel/aluminum		
dimensions w x h x d	mm	60x20x60	60x30x75	
central aperture	mm	$\varnothing 12.5$		
weight	g	300	410	

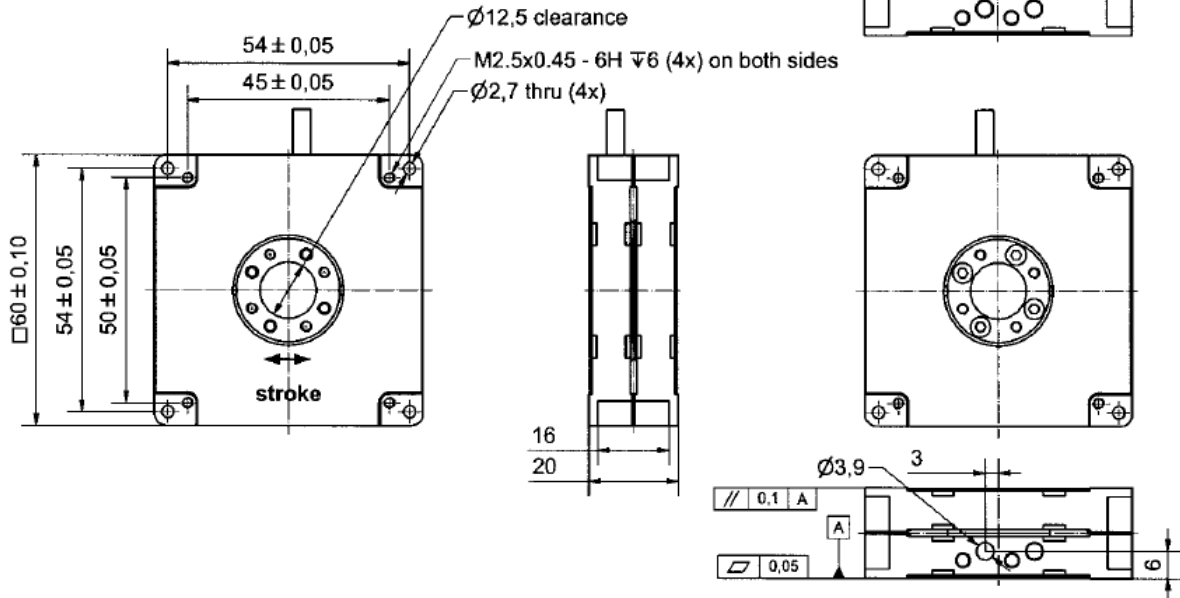
\* typical value measured with 30V300 nanoX amplifier

\*\* typical value for small signal electrical field strength

\*\*\* The resolution is only limited by the noise of the power amplifier and metrology.

# nanoSX 800

## Drawing nanoSX 800



## Drawing nanoSX 800 CAP

