nanoX 240 SG

High speed inspection of cylinders and cavities

Image: nanoX 240 SG 45° (part.–no.: S–632–01D)

Concept:

The one–axis linear positioning stage *nanoX 240 SG* is a development within the ultra–fast nanoX®–line. Due to FEA–optimization the stage achieves the highest dynamical performance and excellent guiding accuracy even under high loads.

The sophisticated monolithic guidance design of the solid flexure hinges means the trajectory is free from mechanical play and friction, a feature of all psj–stages. Also, the nanoX and nanoSX systems are temperature compensated, while changing the environmental temperature the stage keeps its position.

Specials:

The highest positioning accuracy, stability, linearity and reproducibility are achieved in closed loop operation.

The digital amplifier/controller from *piezosystem jena* allows additional feature in–situ and dynamical set up of PID–parameters, slew rate and notch filter band width. The mechanical resonance can be found using the built in wobble generator. The notch filter set up eliminates undesired frequencies from the output voltage, such as the stage's resonant frequency.

So you can easily adapt the set up depending on the current load scenario and optimize the performance of the system.

The nanoX comes in different sizes and with different deflection angles.

Product highlights:

- 240 µm range of motion
- integrated position encoder
- excellent guidance accuracy
- high level of dynamics
- 0.4 nm resolution
- beam deflection in different angles
- temperature–compensated
- adjustable thread sizes for camera objectives

Application:

- cylinder head inspection
- inspection of cavities

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nanoX 240 SG

Technical data

nanoX 240 SG	unit	
S–630–0x (D–E), S–631–0x (D–E), S–632–0x (D–E), S–633–0x (D–E), S–634–0x (D–E)		
axes	–	X
motion open(±10%)*/closed loop	µm	240/ 200
capacitance (±20%)**	µF	2x2.6
resolution open/closed loop***	nm	0.4/4
feed back sensor	–	strain gage
typ. repeatability	nm	10
typ. non–linearity	%	0.2
typ. resonant frequency unloaded	Hz	380
with 100 g load	Hz	200
stiffness	N/µm	0.3
voltage range	V	-20...130
operating temperature	°C	-20 ... +80 (-4°F ... +176°F)
material	–	aluminum/stainless steel
max. push/pull forces open loop	N	100/100
max. push/pull forces closed loop	N	100/100

* typical value measured with 30DV50 amplifier

** typical value for small electrical field strength

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

nanoX 240 SG	unit	S-630-0x (D/E)	S-631-0x (D/E)	S-632-0x (D/E)	S-633-0x (D/E)	S-634-0x (D/E)
angle of deflection	°	48	48	45	48,5	45
minimum- Ø cylinder	mm	66				74
height	mm	64		52	50,5	52
depth	mm	52				

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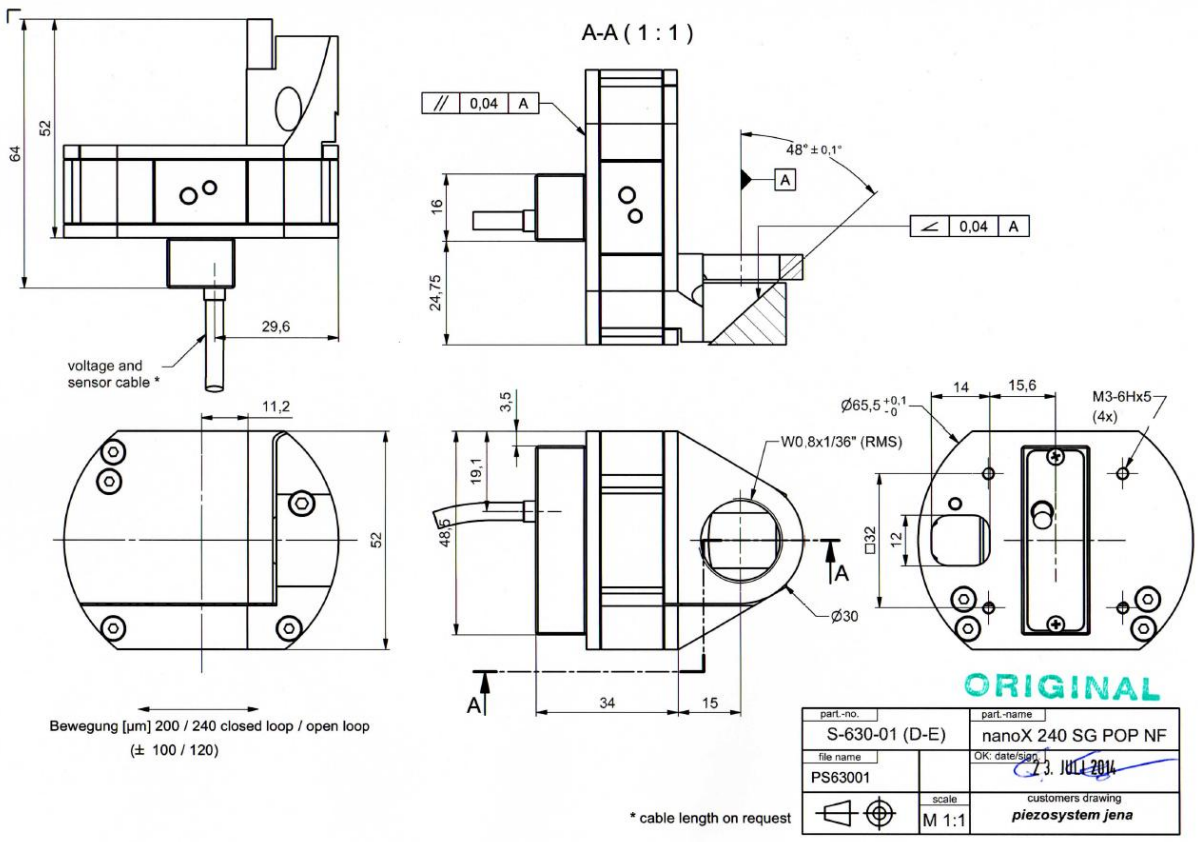

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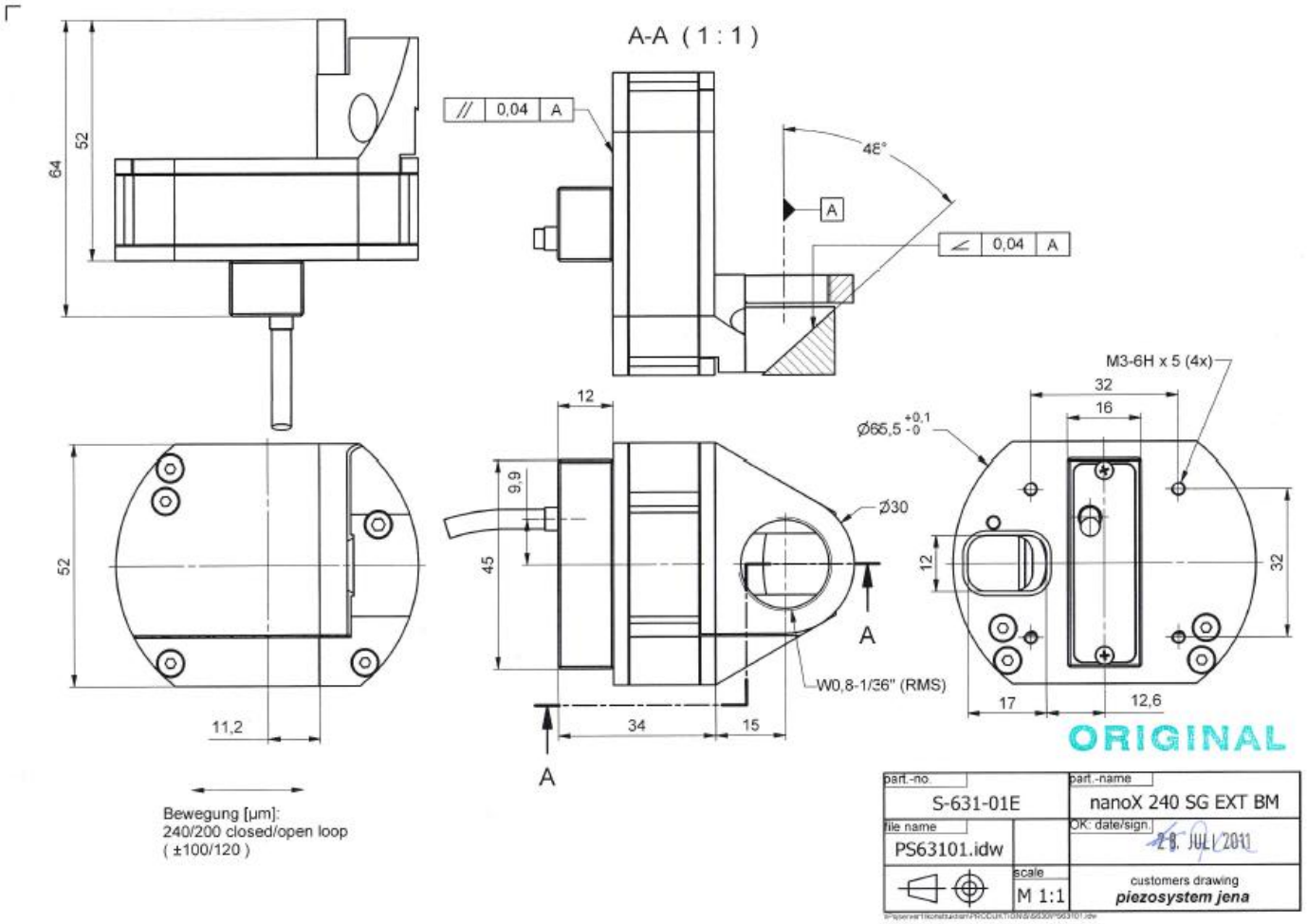
nanoX 240 SG EXT Breitmeier



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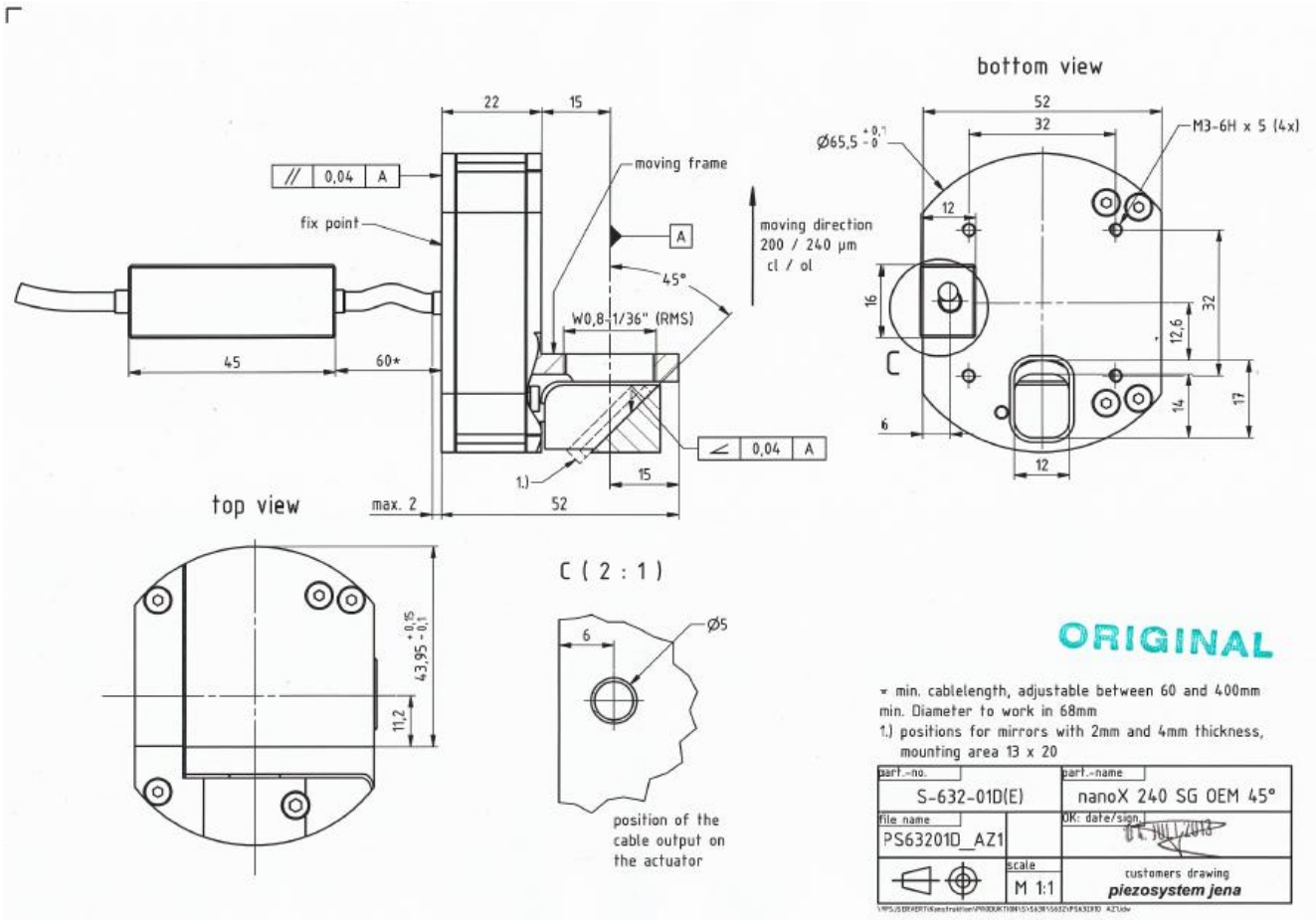
nanoX 240 SG OEM 45°



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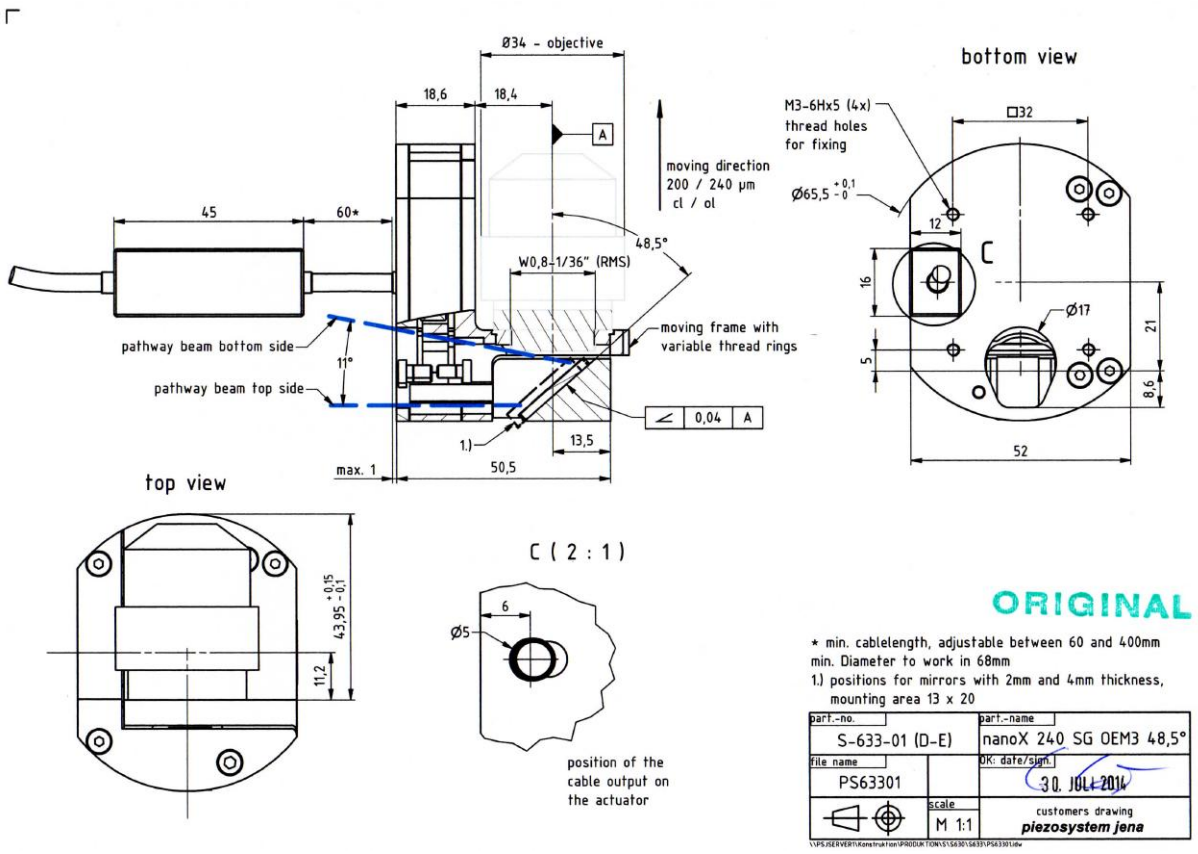
nanoX 240 SG OEM3 48,5°



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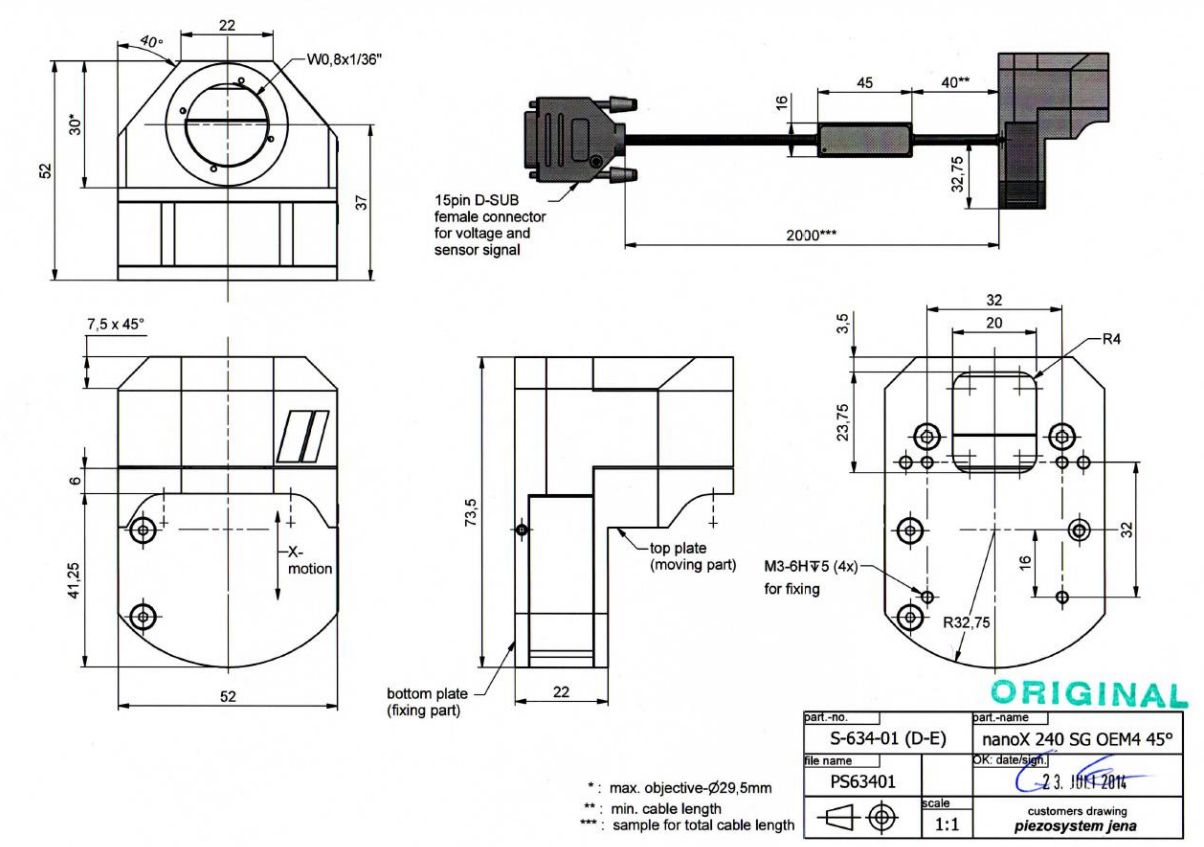
nanoX 240 SG OEM4 45°



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