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TRITOR 400

3D Nanopositioning Systems

- *Combination of 3 linear axes up to 20 kg load*
- *Motion range up to 400 µm*
- *highly compact design*
- *high resolution in nm and sub-nm range*

The TRITOR 400 has a parallel XYZ motion range of 400 µm per axis. The unique cube design of the flexure guiding system allows for excellent usability with zero friction. With a combination of high stiffness and excellent straightness of motion, the three-axis piezo positioner TRITOR 400 is an ideal solution for high precision positioning in the nanometer range for fiber alignment, laser-use, and many other micro-positioning tasks.

Dynamic scan applications are a typical utilization for the TRITOR 400. The simultaneous motion available in X,Y and Z directions, offers large degrees of freedom during use. All piezo stages can be made with special materials for specialized applications such as vacuum or cryogenic applications.

Variants:

- Standard
- With strain gauge (SG)
- With capacitive sensor (CAP)

Recommended Controller:

NV40/3*

E-101-20

*) Suitable for open-loop system. NV 40/3 CLE recommended for closed-loop.

Applications

- Optics
- Laser Tuning
- Fiber positioning
- Micro manipulation
- Biology
- Scanning systems
- Vacuum applications
- Cryogenic applications

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Technical Data

		Unit	TRITOR 400	TRITOR 400 SG	TRITOR 400 CAP
Part. #		-	T-406-00	T-406-01	T-406-06
Axes		-	X, Y, Z		
Motion in (± 10%) open-loop*		µm	400		
Motion in (± 0.2%) closed-loop*		µm	-	320	
Electrical capacitance ±20%**		µF	14/14/14		6/6/14
Integrated measurement system		-	-	strain gauge	capacitive
Resolution***	open-loop	nm	0.8	0.8	0.8
	closed-loop	nm	-	35	1
Typ. repeatability		nm	-	10/8/9	13/10/10
Resonant Frequency	unloaded	Hz	180/280/140		
	additional load of 20 g		178/236/193		
	50 g		162/218/167		
	100 g		143/153/142		
	300 g		105/115/135		
Stiffness		N/µm	0.3/0.3/0.25		
Max. push force x/y/z		N	120/120/100		
Max. pull force x/y/z		-	12/12/10		
Max. load		N	100		40
Voltage range		V	-20... +130		
Connector****	power (x/y)	-	LEMO 0S.302		ODU 3pin
	power (z)	-	LEMO 0S.302		
	sensor	-	-	LEMO 0S.304	LEMO 0S.650
Cable length		m	1.0	1.2	1.6
Body material		-	stainless steel/ anodized aluminum		
Dimensions (l x w x h)		mm	116x106x40	116.5x106.5x40	116x106x40
Aperture outside center		mm	Ø12.5		
Weight		g	1050		1100

* Typical value measured with NV 40/3 controller (closed loop NV 40/3 CLE)
** Typical value for small electrical field strength
*** The resolution is only limited by the noise of the controller and metrology.
**** For further product variations and recommended configurations, please contact our sales representatives.

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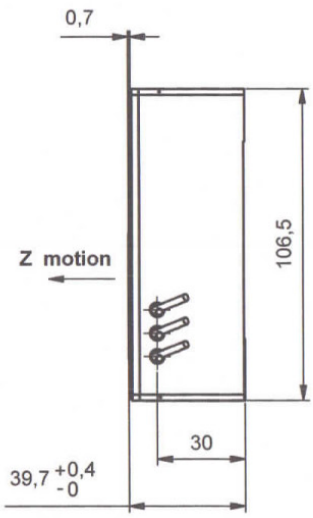
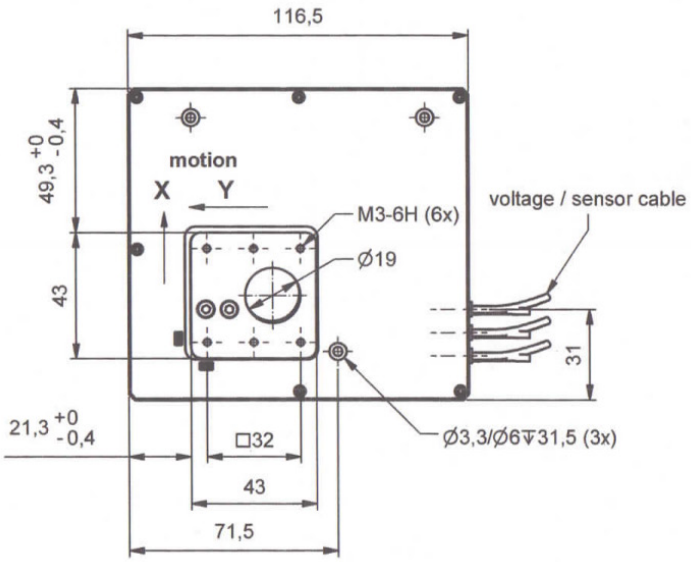
TRITOR 400 SG

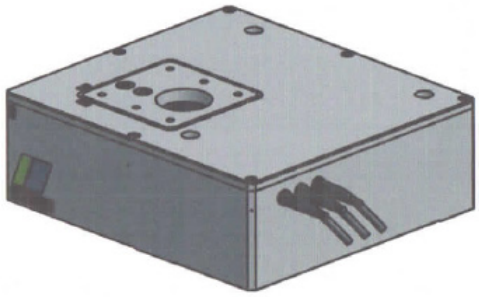
Part Drawing

side view

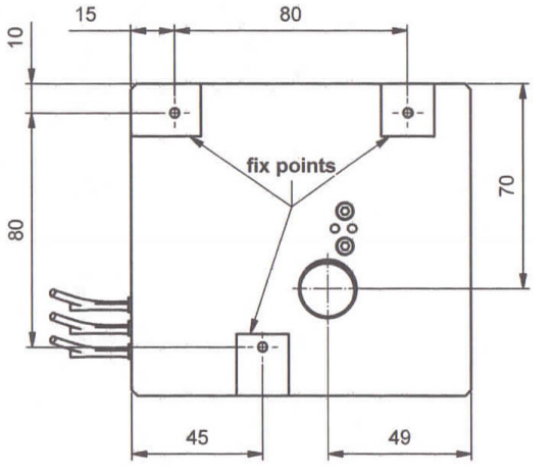


top view





bottom view



Dimensions given in mm.

Rights reserved to change specifications as progress occurs without notice.

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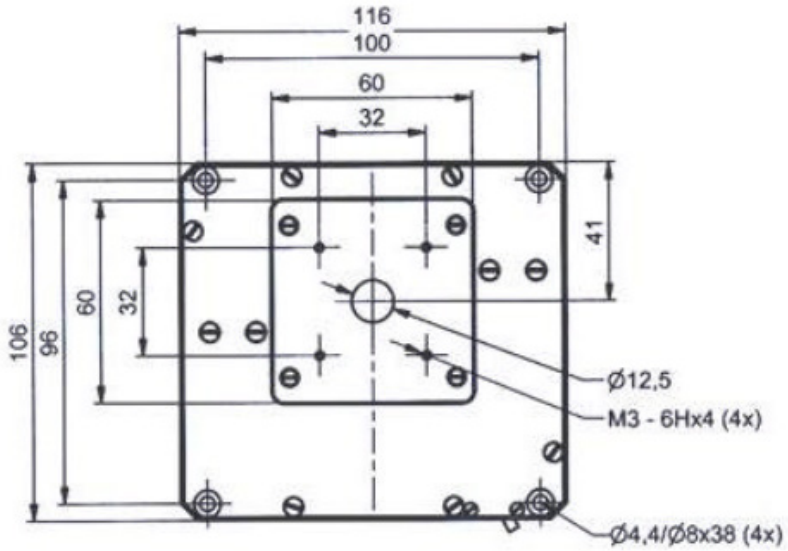
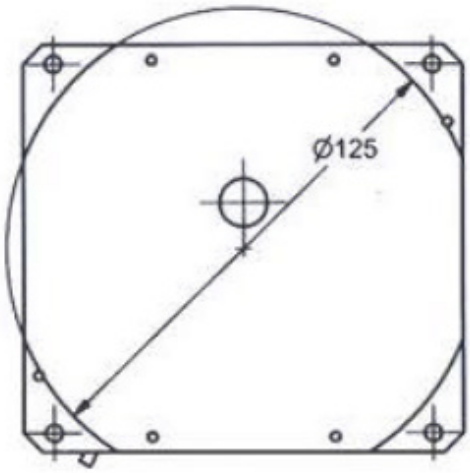
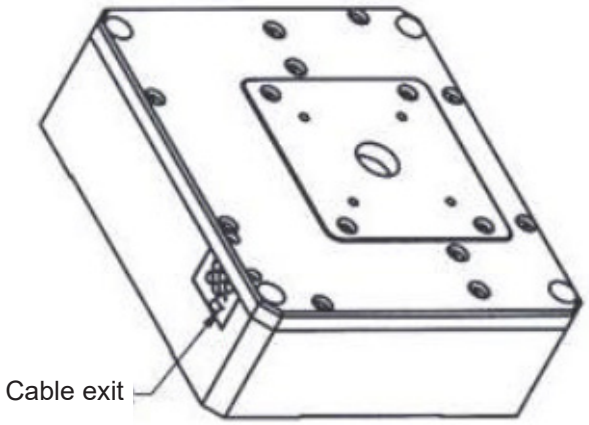
TRITOR 400 CAP

Part Drawing







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