

TRITOR 100

3D Nanopositioning System



Combination of 3 linear axes



Motion range up to 100 μm



Compact design with integrated feedback sensor option



Highest positioning resolution



The TRITOR 100 has a parallel X, Y and Z motion range of 100 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-axes piezo positioner TRITOR 100 is an ideal solution for high precision positioning in the nanometer range for fiber alignment, laser-uses, and many other micro positioning tasks.

Dynamic scan applications are a typical utilization for the TRITOR 100. 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.

Through-holes are used for attaching the positioning system which is important for all dynamic 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

- AFM & SFM microscopy
- Beam steering / optical technology
- Semiconductor Technology
- Fiber alignment

TRITOR 100

Technical Data

		Unit	TRITOR 100	TRITOR 100 SG	TRITOR 100 CAP
Part #		-	T-403-00	T-403-21	T-403-06
Axes		-	X, Y, Z	X, Y, Z	X, Y, Z
Motion ($\pm 10\%$) open-loop*		μm	100	100	100
Motion ($\pm 0.2\%$) closed-loop*		μm	-	80	80
Capacitance (per axis) $\pm 20\%$ **		μF	1.8	1.8	1.8
Integrated measurement system		-	-	strain gauge	capacitive
Resolution***		nm	0.2	2	1
Typ. repeatability	Θ x, y, z	nm	-	5/5/5	3/3/3
Max. non-linearity	Θ x, y, z	$\mu\text{rad}/\%$	-	0.1/0.1/0.1	0.02/0.02/0.02
Resonant frequency x/y/z	unloaded		500/550/480	500/550/480	500/550/480
	additional load: 50 g		410/430/400	410/430/400	410/430/400
	additional load: 100g	Hz	350/370/345	350/370/345	350/370/345
	additional load: 200g		290/300/285	290/300/285	290/300/285
	additional load: 300g		250/260/245	250/260/245	250/260/245
Stiffness		N/ μm	1/1/1	1/1/1	1/1/1
Max. force generation x/y/z	pull		10/10/10	10/10/10	10/10/10
	push	N	100/100/100	100/100/100	100/100/100
Voltage		V	-20...+130	-20...+130	-20...+130
Connector***	Voltage	-		LEMO 0S.302	
	Sensor	-	-	LEMO 0S.304	LEMO 0S.650
Cable length		m	1.2	1.2	1.6
Material		-	stainless steel / aluminium	stainless steel / aluminium	stainless steel / alu- minium
Dimension (l/w/h)		mm	40 x 40 x 34	40 x 40 x 34	60 x 60 x 41
Weight		g	165	160	550

* Typical value measured with NV 40/3 amplifier (closed loop: NV 40/3 CLE amplifier)

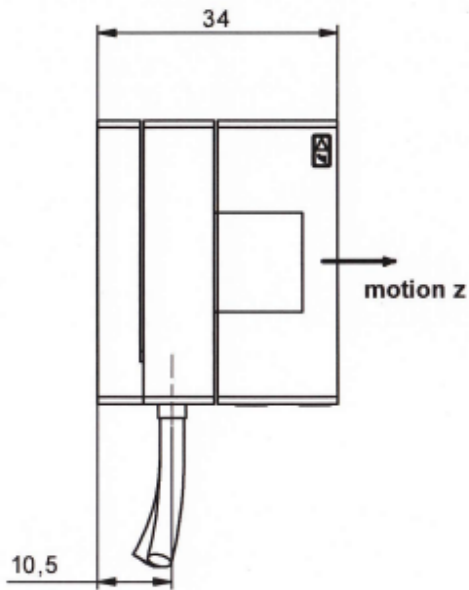
** Typical value for small electrical field strength

*** The resolution is only limited by the noise of the controller and metrology

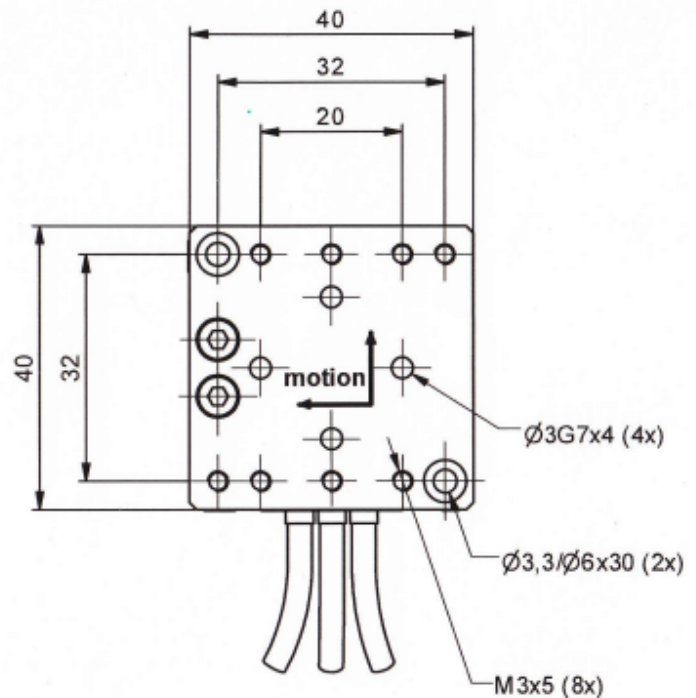
**** For further product variations and recommended configurations, please contact our sales representatives.

TRITOR 100

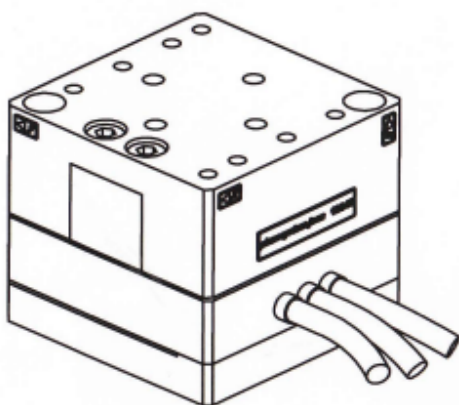
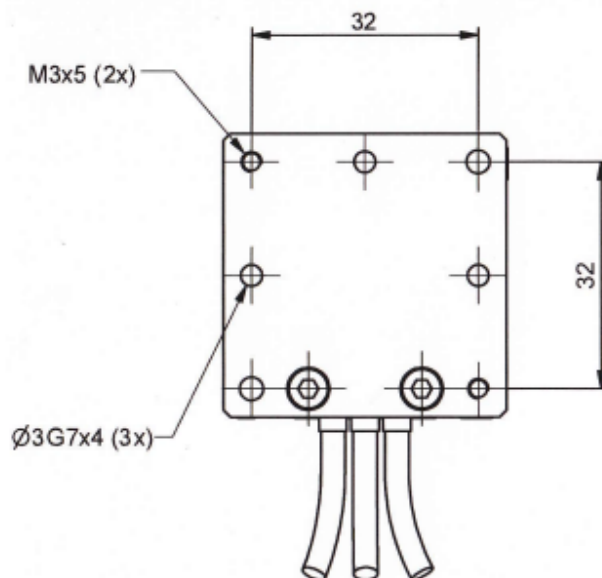
Part Drawing



top



bottom



Dimensions given in mm.

Rights reserved to change specifications as progress occurs without notice.

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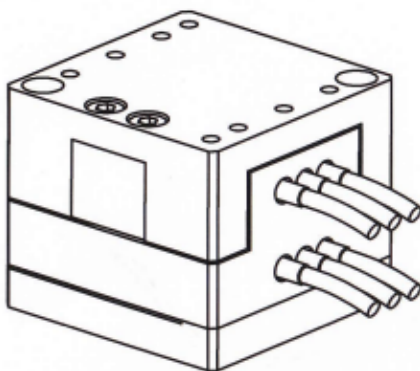
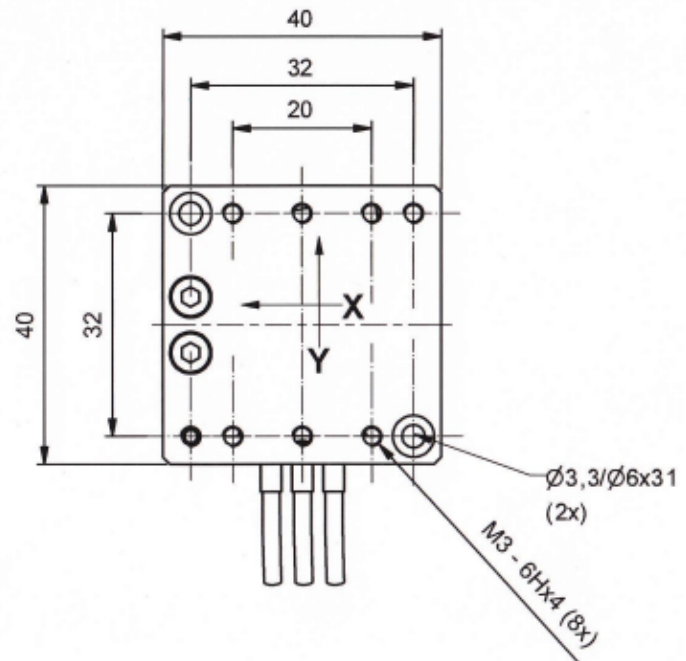
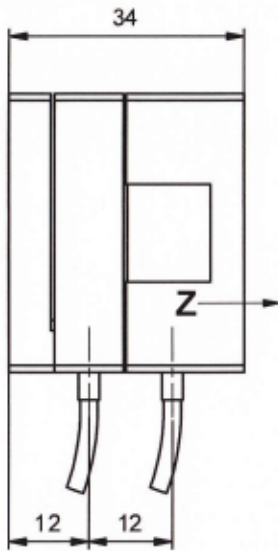
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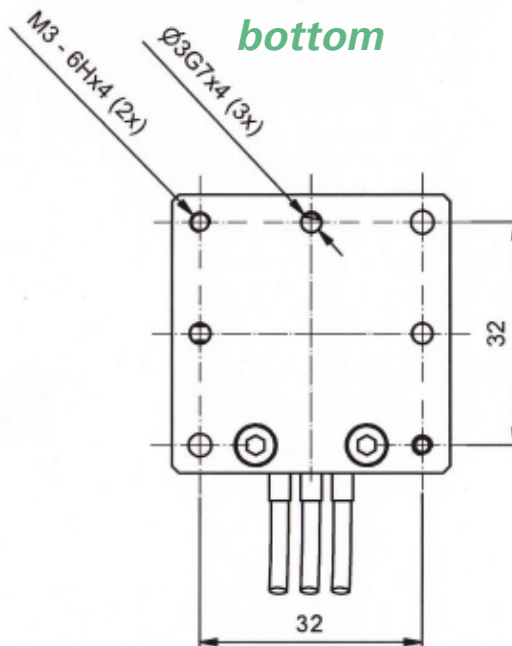
TRITOR 100 SG

Part Drawing

top



bottom



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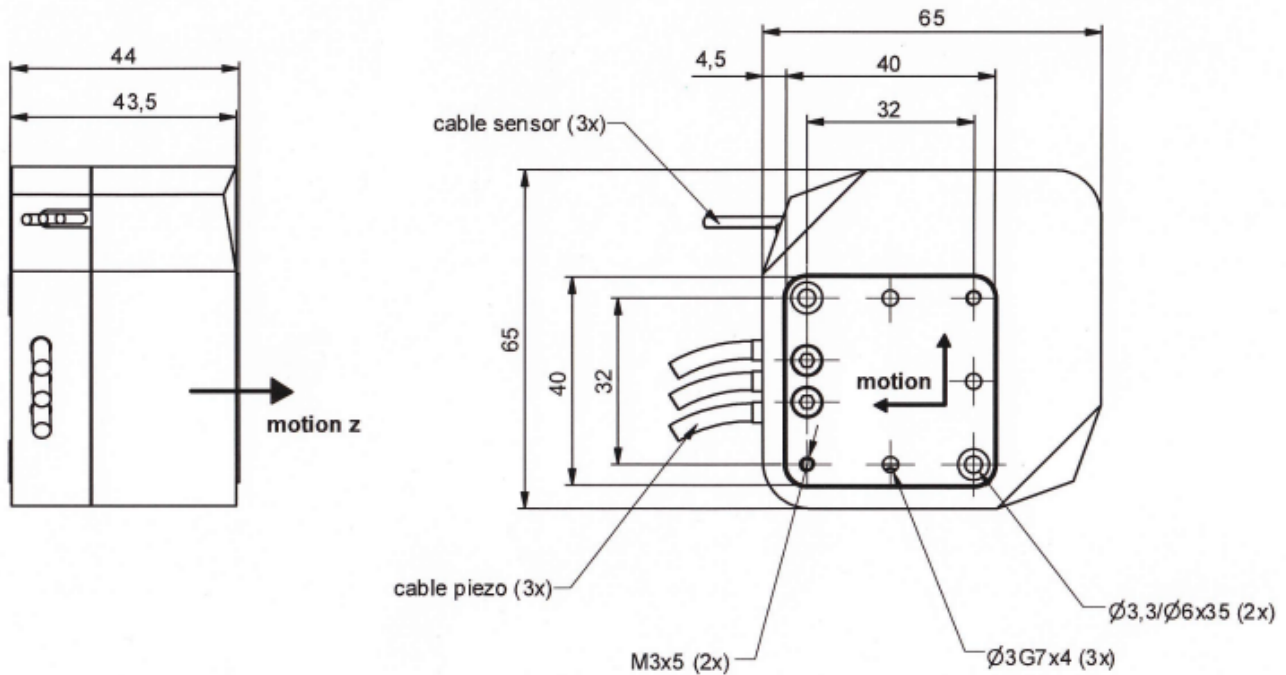
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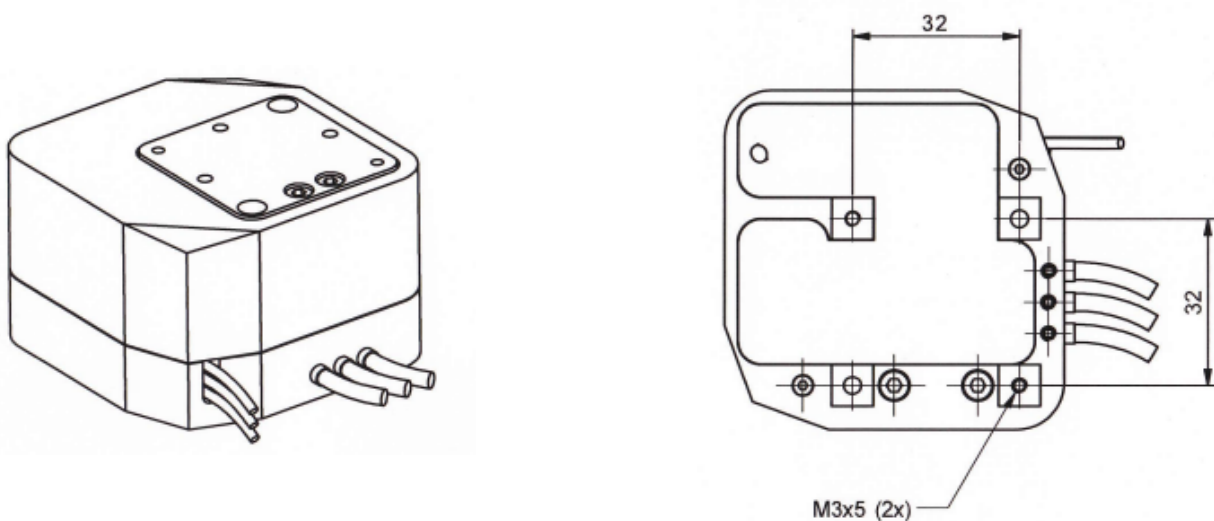
TRITOR 100 CAP

Part Drawing

top



bottom



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