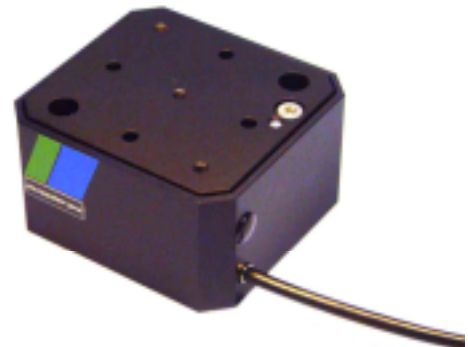


PZ 400 - Z-axis nano-positioning stage

- accurate parallel motion in z-axis
- high load capability
- motion without any mechanical play because of solid state hinges
- integrated lever transmission
- motion up to 400 µm
- easily combined with other piezoelectrical systems (especially xy and tilting systems)
- integrated feed back measurement system
- precision pin holes for accurate adjustment



applications:

- fiber positioning, laser optics
- scanning systems
- micro manipulation

The newly designed PZ 400 piezo stage realizes a motion of 400µm in the z-direction. Because of the newly-designed electronic drivers for the PZ 400, this stage is fully capable of realizing nm resolution. Because of their compact design, these stages can be easily integrated into other systems. The top and bottom plates provide different pin holes and threads which facilitate the adjustment of additional components. The integrated strain gauge sensor, offered as an option, eliminates creep and hysteresis, and also guarantees a high positioning accuracy. As an additional option, the PZ 400 piezo-stage is available on request in a vacuum and low temperature configuration.

series PZ		unit	PZ 38	PZ 38 SG	PZ 38 CAP	PZ 100	PZ 100 SG	PZ 100 CAP	PZ 400	PZ 400 SG
part no.			T-102-00	T-102-01	T-102-06	T-105-00	T-105-01	T-105-06	T-118-00	T-118-01
motion**	open loop	µm	38	38	38	100	100	100	400	400
	closed loop	µm	-	32	32	-	80	80	-	320
integrated feed back system				strain gauge	capacitive		strain gauge	capacitive		strain gauge
max. load		N	100	100	100	100	100	100	100	100
max. voltage		V	150	150	150	150	150	150	150	150
capacitance each dr. ***	(±20%)	nF	700	700	700	1800	1800	1800	5200	5200
resolution	open loop*	nm	0.04	0.07	0.07	0.18	0.18	0.18	0.8	0.8
	closed loop*	nm	-	0.7	0.7	-	1.8	0.7	-	7.5
typ. repeatability		nm	-	46	23	-	39	15	-	47
typ. non-linearity		%	-	0.08	0.03	-	0.06	0.03	-	0.06
resonant frequency		Hz	760	760	700	660	660	500	250	250
stiffness		N/µ	1	1	1	0.77	0.77	0.77	0.2	0.2
force generation (blocking force)		N	30	30	30	75	75	75	75	75
dimensions	length L	mm	25	40	32	40	40	40	52	52
	width B	mm	25	40	25	40	40	40	48	48
	height H	mm	18	25	22	20	20	32	28.5	28.5
holes for precision pins		mm	∅2G7 x 4	∅2G7 x 4	∅2G7 x 4	∅3G7 x 3	∅3G7 x 3	-	∅3G7 x 3	∅3G7 x 3
holes for pattern spacing		mm		20	20	32	32	32	32	32
thread		mm	M2 x 4	M2 x 4	M2 x 4	M3-6H x 5	M3-6H x 5	M3-6H x 4	M3-6H x 4	M3-6H x 3
connector	voltage	-	LEMO 0S.302		LEMO 0S.302	LEMO 0S.302		LEMO 0S.302	LEMO 0S.302	
	sensor	-	LEMO 0S.304		LEMO 0S.650	LEMO 0S.304		LEMO 0S.650	LEMO 0S.304	
weight		g	40	77	100	85	95	tbd	155	175

* measured with E-103-18 amplifier

** typical value measured with -10 to +150 V

*** typical value for small electrical field strength