

Nanomotion's family of LS Series motors are available in configurations with 2, 4 and 8 elements. The LS series provides unmatched resolution for repetitive step and settle applications with zero servo dither when in position. The LS series is capable of reaching step sizes in the few nanometers range with maximum speeds of up to 20mm/sec.



Features

- Unlimited travel
- Step resolution better than 20nm
- No intrinsic magnetic field
- No external magnetic field sensitivity
- Vacuum versions available



Motor Performance Specifications

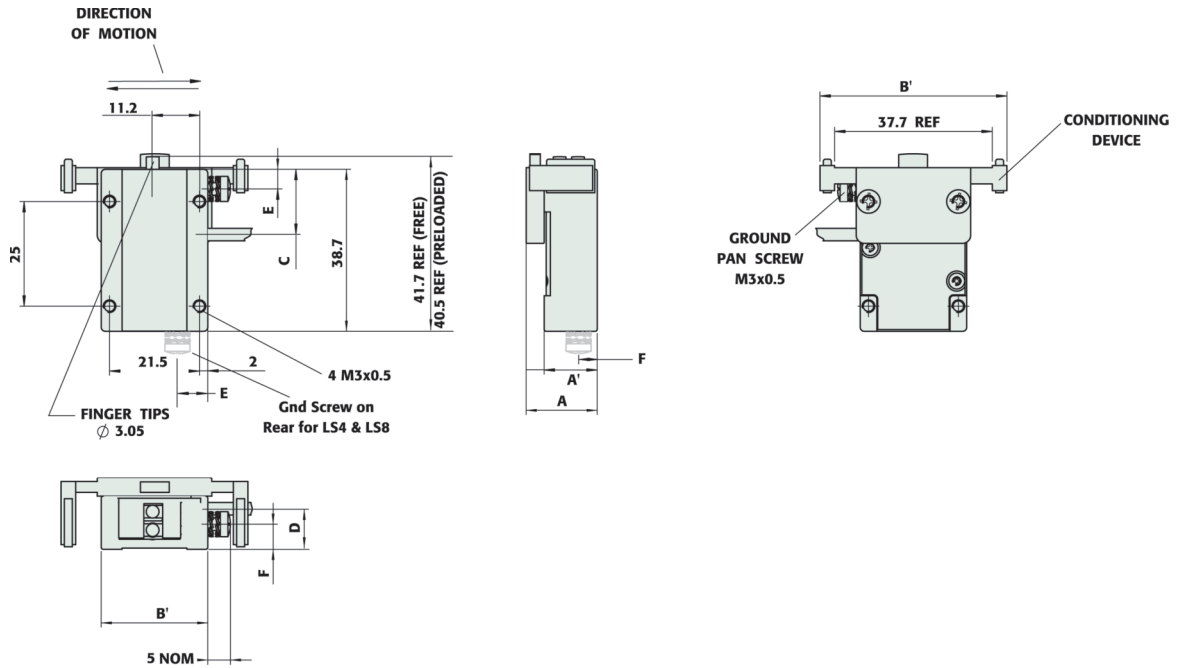
	max velocity (mm/sec)	dynamic stall force (N)	static hold force (N)	static stiffness (N/μ)	preload on stage (N)	Kf force constant (N/volt commanded)
LS2	50	2	2	1.6	18	.1
LS4	50	4	4	2.5	36	1.5
LS8	50	8	8	3.5	72	4

Note: All motor performance data is based on using Nanomotion ceramic, with motors and amplifiers

Environmental

Operating Temperature:	0 to 50°C
Storage:	-20°C to +70°C
Humidity:	0 to 80%, non condensing
-V Vacuum Motors:	to 10-7 Torr after bake out
Max Bake Out Temperature	120°C for -V motors

Dimensions (European View)



	A motor height	A' height w/o conditioning	B motor width	B' width w/o conditioning	C cable exit	D cable exit	E gnd screw	F gnd screw	Motor weight (grams)
LS2-1-S	17	12.7	44.7	25.7	15.6	9.7	4.7	6	65
LS4-1-S	18.9	14.4	60	46.6	Bottom Back		9.3	7.2	89
LS8-1-S	27.8	23.3	60	46.6	Bottom Back		9.3	11.8	175

Note: All dimensions in mm
 -S motors are Standard
 -V motors are Vacuum Rated to 10⁻⁷ Torr (use VN for Vacuum & Non-Magnetic)

Envelope of Performance

curve	25°C		50°C	
	duty cycle	max. continuous operation time	duty cycle	max. continuous operation time
a	100%	—	100%	—
b	100%	—	100%	—
c	100%	—	92%	137
d	100%	—	62%	93
e	78%	67 seconds	47%	70
f	56%	62 seconds	33%	50
g	50%	56 seconds	30%	45

