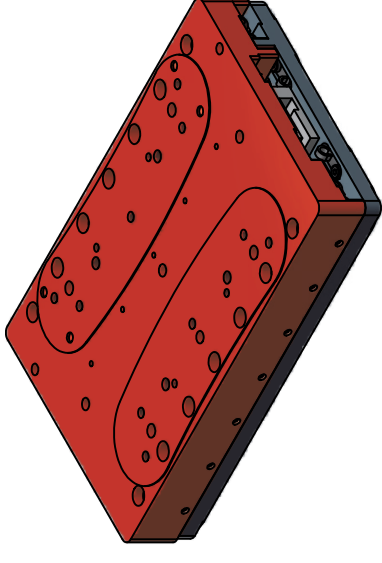




ALIO STAGE AND MOTOR SPECIFICATIONS



MODEL	UNITS	AI-CM-2500	AI-CM-6000	AI-CM-10000	AI-CM-15000	AI-CM-20000
XY TRAVEL	mm	25	60	100	150	200
PERFORMANCE SPECIFICATIONS [1]		(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO	(STD) ULTRA NANO
LINEAR DISPLACEMENT ACCURACY	um	+/- 0.5	+/- 0.7	+/- 1.0	+/- 1.0	+/- 1.0
BIDIRECTIONAL LINEAR REPEATABILITY	nanometers	+/- 0.2	+/- 0.3	+/- 0.3	+/- 0.4	+/- 0.4
RESOLUTION	nanometers	+/- 30	+/- 30	+/- 30	+/- 30	+/- 30
STRAIGHTNESS	um	+/- 0.5	+/- 0.7	+/- 1.0	+/- 1.0	+/- 1.0
FLATNESS [2]	um	+/- 2.0	+/- 2.5	+/- 3.0	+/- 4.0	+/- 5.0
PITCH	arc-sec	12	12	12	15	15
YAW	arc-sec	12	12	12	15	15
ROLL	arc-sec	12	12	12	15	15
MOTION PROFILE SPECIFICATIONS		5 nm (standard) (options available)				
MAX VELOCITY [3]	m/s	0.2	0.3	0.5	0.5	0.5
MAX ACCELERATION [3]	G	0.5	0.5	0.5	0.5	0.5
MAX PAYLOAD CAPABILITY	kg	8	10	12	12	12
ASSEMBLY MASS	kg	1.1	1.4	2.2	2.5	3.2
MOVING MASS	kg	0.7	0.8	1.3	1.5	1.9
MOTOR INFORMATION						
MOTOR TYPE	--	LINEAR BRUSHLESS SERVO MOTOR				
MOTOR MODEL	--	C12-1	C12-1	C12-1	C12-1	C12-2
MAGNETIC PITCH (N-N)	mm	30.48	30.48	30.48	30.48	30.48
MAX VOLTAGE (LINE TO LINE) [4]	V	500	500	500	500	500
ELECTRICAL TIME CONSTANT	msec	0.20	0.20	0.20	0.20	0.20
MAX MOTOR TEMP	°C	130	130	130	130	130
MOTOR CONNECTION	--	DELTA	DELTA	DELTA	DELTA	DELTA
FORCE CONSTANT	N/Apk	3.5	3.5	3.5	3.5	7.1
PHASE RESISTANCE (@25° C) [5]	Ohm	2.9	2.9	2.9	2.9	5.8
PHASE RESISTANCE (@130° C) [5]	Ohm	4.2	4.2	4.2	4.2	8.3
INDUCTANCE	mH	0.6	0.6	0.6	0.6	1.2
CONTINUOUS FORCE [6]	N	10.0	10.0	10.0	10.0	19.8
CONTINUOUS CURRENT [6]	Apk	2.8	2.8	2.8	2.8	2.8
PEAK FORCE [7]	N	21	21	21	21	42
PEAK CURRENT [7]	Apk	6.0	6.0	6.0	6.0	6.0
BACKEMF CONSTANT	V/m/s	3.5	3.5	3.5	3.5	7.1

Notes:

- Specifications measured on stage centerline, 50mm above mounting surface. ALIO provides NIST traceable proof for all options/specs per quote.
- Flatness specifications dependent on system base. Contact ALIO for more information.
- Stage limitation at no load. Does not account for drive or resolution limitations.
- Back EMF plus IR drop must not exceed maximum line to line bus voltage.
- Resistance values do not include cable resistance. Cable resistance adds 0.146 ohm/m for Delta connection and 0.44 ohm/m for Wye Connection.
- Continuous operating limits are based on continuous operation at maximum temperature with aluminum heat sink (300mm x 12.5mm x motor length).
- Maximum on time at peak operating limits is 10 seconds.
- All electrical specifications may vary by 12% from listed values.
- Additional motor and travel options are available for optimized performance as necessary per customer requirements.

DRAWN
NBROWN
CHECKED

5/12/2012

TITLE

AI-CM-(TRAVEL)00

SIZE

B

DWG NO

0010-08003

SCALE

SEE NOTES

FINISH

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3

4

1

OF

1

SHEET

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