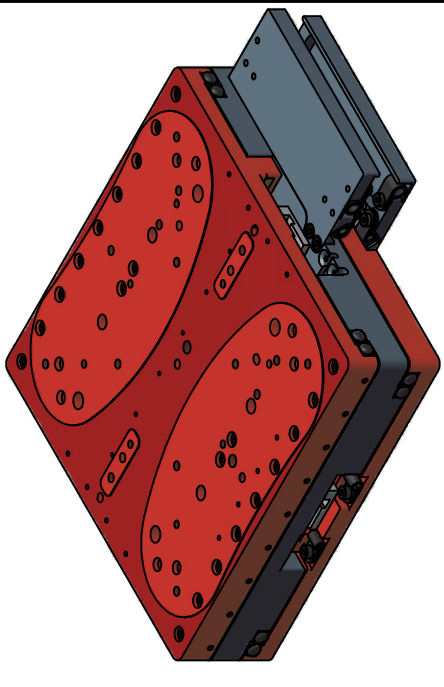




ALIO STAGE AND MOTOR SPECIFICATIONS

MODEL	UNITS	AI-CM-3000-XY	AI-CM-6000-XY	AI-CM-10000-XY	AI-CM-15000-XY	AI-CM-20000-XY	AI-CM-25000-XY	AI-CM-30000-XY
XY TRAVEL	mm	30	60	100	150	200	250	300
PERFORMANCE SPECIFICATIONS [1]		(STD)ULTRANANO	(STD)ULTRANANO	(STD)ULTRANANO	(STD)ULTRANANO	(STD)ULTRANANO	(STD)ULTRANANO	(STD)ULTRANANO
LINEAR DISPLACEMENT ACCURACY	um	+/-3 +/-0.5 +/-0.2 +/-30	+/-3 +/-0.7 +/-0.3 +/-30	+/-3 +/-1.0 +/-0.3 +/-30	+/-3 +/-1.0 +/-0.4 +/-30	+/-4 +/-1.0 +/-0.4 +/-30	+/-5 +/-1.0 +/-0.5 +/-30	+/-6 +/-1.0 +/-0.6 +/-30
BIDIRECTIONAL LINEAR REPEATABILITY	nanometers	+/-30	+/-30	+/-30	+/-30	+/-30	+/-30	+/-30
RESOLUTION	nanometers	5 nm (standard) (options available)						
STRAIGHTNESS	um	+/-1 +/-0.5 +/-0.2 +/-2.0	+/-2 +/-0.7 +/-0.3 +/-2.5	+/-2 +/-1.0 +/-0.3 +/-3.0	+/-3 +/-1.0 +/-0.4 +/-4.0	+/-4 +/-1.0 +/-0.4 +/-3.0	+/-6 +/-2.0 +/-1.0 +/-4.0	+/-10 +/-2.0 +/-1.0 +/-8
FLATNESS [2]	um	+/-1.0	+/-2.5	+/-1.5	+/-4.0	+/-4.0	+/-6	+/-5.0
PITCH	arc-sec	12	12	12	15	15	18	18
YAW	arc-sec	12	12	12	15	15	18	18
ROLL	arc-sec	12	12	12	15	15	10	10
ORTHOGONALITY	arc-sec	20 5 1 1 20 5 1 20 5 1 20 5 1 20 5 1 20 5 1 20 5 1						
MOTION PROFILE SPECIFICATIONS								
MAX VELOCITY [3]	m/s	0.2	0.3	0.4	0.4	0.5	0.4	0.3
MAX ACCELERATION [3]	G	0.3	0.3	0.3	0.2	0.2	0.2	0.2
MAX PAYLOAD CAPABILITY	kg	8	10	12	12	15	25	35
ASSEMBLY MASS	kg	1.6	2.9	5.8	8.5	12	48	69
X MOVING MASS	kg	1.3	2.1	4.4	6.5	8.8	33	48
Y MOVING MASS	kg	0.6	0.9	2.1	2.7	3.7	15	23
MOTOR INFORMATION								
MOTOR TYPE -- LINEAR BRUSHLESS SERVOMOTOR								
MOTOR MODEL	--	C12-1	C12-1	C12-1	C12-1	C12-2	C16-3	C16-3
MAGNETIC PITCH (N-N)	mm	30.48	30.48	30.48	30.48	30.48	30.48	30.48
MAX VOLTAGE (LINE TO LINE) [4]	V	500	500	500	500	500	500	500
ELECTRICAL TIME CONSTANT	msec	0.20	0.20	0.20	0.20	0.20	0.20	0.20
MAX MOTOR TEMP	°C	130	130	130	130	130	130	130
MOTOR CONNECTION	--	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA
FORCE CONSTANT	N/Apk	3.5	3.5	3.5	3.5	7.1	17.8	17.8
PHASE RESISTANCE (@25° C) [5]	Ohm	2.9	2.9	2.9	2.9	5.8	8.3	8.3
PHASE RESISTANCE (@130° C) [5]	Ohm	4.2	4.2	4.2	4.2	8.3	11.9	11.9
INDUCTANCE	mH	0.6	0.6	0.6	0.6	1.2	1.0	1.0
CONTINUOUS FORCE [6]	N	10.0	10.0	10.0	10.0	19.8	53.0	53.0
CONTINUOUS CURRENT [6]	Apk	2.8	2.8	2.8	2.8	2.8	3.0	3.0
PEAK FORCE [7]	N	21	21	21	21	42	107	107
PEAK CURRENT [7]	Apk	6.0	6.0	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	17.8	17.8



ALIO INDUSTRIES PROPRIETARY INFORMATION
(Tel) 303.339.7500 - SALES@ALIOINDUSTRIES.COM - WWW.ALIOINDUSTRIES.COM

DRAWN	5/12/2012
NBROWN	
CHECKED	
Tolerances: Surface Roughness: x.x ± .05 in [1.3 mm] x.xx ± .01 in [0.25 mm] x.xxx ± .005 in [0.13 mm] Angles ± 0.5°	
RMS MAX. ✓	
MATERIAL	
FINISH	SEE NOTES
SIZE	DWG NO
B	0010-08013
SCALE	ALIO STD TEMPLATE - REV 006
1	1
OF	1
REV	003

TITLE	AI-CM-(TRAVEL)00-XY
DATE	5/12/2012
BY	NBROWN
CHECKED	
Tolerances: Surface Roughness: x.x ± .05 in [1.3 mm] x.xx ± .01 in [0.25 mm] x.xxx ± .005 in [0.13 mm] Angles ± 0.5°	
RMS MAX. ✓	
MATERIAL	
FINISH	SEE NOTES
SIZE	DWG NO
B	0010-08013
SCALE	ALIO STD TEMPLATE - REV 006
1	1
OF	1
REV	003

- 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.