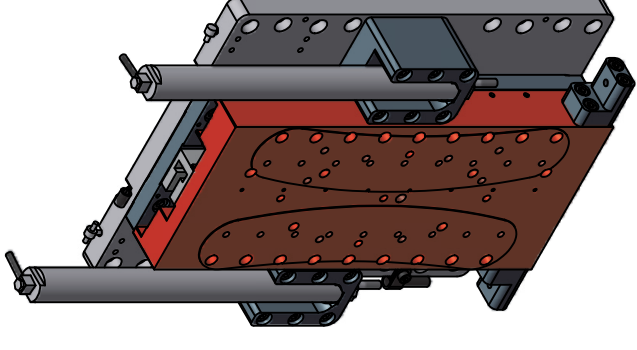




# ALIO STAGE AND MOTOR SPECIFICATIONS

MODEL	UNITS	AI-CM-2500-Z-CB-BASE	AI-LM-5000-Z-CB-BASE	AI-LM-10000-Z-CB-BASE	AI-LM-15000-Z-CB-BASE	AI-LM-20000-Z-CB-BASE
Z TRAVEL	mm	25	50	100	150	200
MAX VELOCITY [7]	m/s	0.20	0.25	0.25	0.25	0.25
MAX ACCELERATION [7]	G	0.25	0.5	0.5	0.5	0.5
ASSEMBLY MASS	kg	2.2	4.4	7.0	7.7	12
MOVING MASS	kg	0.8	1.5	2.5	2.9	4.9
MAX PAYLOAD [7,8]	kg	1.5	4.0	7.5	10.0	10.0
COUNTERBALANCE PRESSURE [9]	psi	27	65	40	50	60
<b>MOTOR INFORMATION</b>						
MOTOR TYPE	--	LINEAR BRUSHLESS				
MOTOR MODEL	--	C12-1	P12-1	P12-2	P12-2	P16-2
MAGNETIC PITCH (N-N)	mm	30.48	30.48	30.48	30.48	30.48
MAX VOLTAGE (LINE TO LINE) [1]	V	500	500	500	500	500
ELECTRICAL TIME CONSTANT	msec	0.2	0.19	0.19	0.19	0.20
MAX MOTOR TEMP	°C	130	130	130	130	130
<b>DELTA CONNECTION</b>						
FORCE CONSTANT	N/Apk	3.5	8.1	16.3	16.3	28.7
PHASE RESISTANCE (@25° C) [2]	Ohm	2.9	5.8	11.6	11.6	11.7
PHASE RESISTANCE (@130° C) [2]	Ohm	4.2	8.2	16.4	16.4	16.6
INDUCTANCE	mH	0.6	1.1	2.1	2.1	2.3
CONTINUOUS FORCE [3]	N	10	23	47	47	93
CONTINUOUS CURRENT [3]	Apk	2.8	2.9	2.9	2.9	3.2
PEAK FORCE [4]	N	21	75	151	151	295
PEAK CURRENT [4]	Apk	6.0	9.2	9.2	9.2	10.3
BACKEMF CONSTANT	V/m/s	3.5	8.1	16.3	16.3	28.7
<b>WYE CONNECTION</b>						
FORCE CONSTANT	N/Apk	7.2	14.1	28.2	28.2	49.7
PHASE RESISTANCE (@25° C) [2]	Ohm	8.7	17.4	34.7	34.7	35.2
PHASE RESISTANCE (@130° C) [2]	Ohm	12.5	24.6	49.1	49.1	49.8
INDUCTANCE	mH	1.7	3.2	6.4	6.4	7.0
CONTINUOUS FORCE [3]	N	10	23	47	47	93
CONTINUOUS CURRENT [3]	Apk	1.6	1.7	1.7	1.7	1.9
PEAK FORCE [4]	N	21	75	151	151	295
PEAK CURRENT [4]	Apk	3.5	5.4	5.4	5.4	5.9
BACKEMF CONSTANT	V/m/s	7.2	14.1	28.2	28.2	49.7



Notes:  
1. Back EMF plus IR drop must not exceed maximum line to line voltage.

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2. 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.  
3. Continuous operating limits are based on continuous operation at maximum temperature with aluminum heat sink (300mm x 12.5mm x motor length).  
4. Maximum on time at peak operating limits is 10 seconds.

5. All specifications may vary by 12% from listed values.

6. Additional motor options are available for optimized performance as necessary per customer requirements.

7. Specifications are dependent on load and center of gravity.

8. Higher payload options available upon special request.

9. Pneumatic counterbalance supply pressure listed is the estimated pressure required at the max payload.

DRAWN	5/12/2012
NBROWN	
CHECKED	
Tolerances: Surface Roughness: x.x ± .05 in [1.3 mm] x.xx ± .01 in [0.25 mm] ✓ RMS MAX. x.xxx ± .005 in [0.13 mm] Angles ± 0.5°	
MATERIAL	
FINISH	SEE NOTES

TITLE	
AI-LM-(TRAVEL)00-Z-CB-BASE	
SIZE	DWG NO
B	0010-08031
SCALE	ALIO STD TEMPLATE - REV 006
1	1
OF	1
REV	003



1

2

3

4

B

B

A

A

1

2

3

4

A