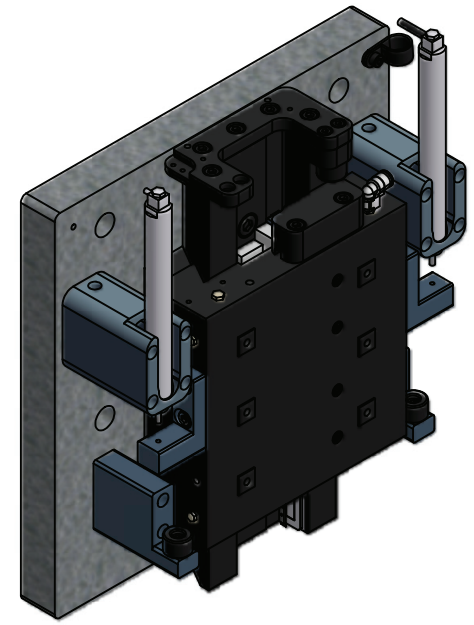
ALIO STAGE AND MOTOR SPECIFICATIONS



MODEL	UNITS	AI-LM-5000-AB-Z-CB	AI-LM-10000-AB-Z-CB	AI-LM-xx000-AB-Z-CB
TRAVEL	mm	50	100	VARIOUS
MAX VELOCITY [7]	m/s	0.25		
MAX ACCELERATION [7]	G	0.5		
ASSEMBLY MASS	kg	CONSULT ALIO TECHNICAL SALES		
X MOVING MASS	kg	1.6		
AIR SUPPLY REQUIRED [7]	psi	60-100		
AIR CONSUMPTION	NLPM	11		
MAX PAYLOAD [7,8]	kg	5.0	5.0	TBD
COUNTERBALANCE PRESSURE [9]	psi	65	65	TBD

MOTOR INFORMATION		DEFAULT MOTOR
MOTOR TYPE	--	LINEAR BRUSHLESS
MOTOR MODEL [6]	--	P12-1
MAGNETIC PITCH (N-N)	mm	30.48
MAX VOLTAGE (LINE TO LINE) [1]	V	500
ELECTRICAL TIME CONSTANT	msec	0.19
MAX MOTOR TEMP	°C	130
DELTA CONNECTION		
FORCE CONSTANT	N/Apk	8.1
PHASE RESISTANCE (@25° C) [2]	Ohm	5.8
PHASE RESISTANCE (@130° C) [2]	Ohm	8.2
INDUCTANCE	mH	1.1
CONTINUOUS FORCE [3]	N	23
CONTINUOUS CURRENT [3]	Apk	2.9
PEAK FORCE [4]	N	75
PEAK CURRENT [4]	Apk	9.2
BACK EMF CONSTANT	V/m/s	8.1
WYE CONNECTION		
FORCE CONSTANT	N/Apk	14.1
PHASE RESISTANCE (@25° C) [2]	Ohm	17.4
PHASE RESISTANCE (@130° C) [2]	Ohm	24.6
INDUCTANCE	mH	3.2
CONTINUOUS FORCE [3]	N	23
CONTINUOUS CURRENT [3]	Apk	1.7
PEAK FORCE [4]	N	75
PEAK CURRENT [4]	Apk	5.4
BACK EMF CONSTANT	V/m/s	14.1

Notes:

1. Back EMF plus IR drop must not exceed maximum line to line voltage.
2. Resistance values do not include cable resistance. Cable resistance adds 0.146 ohm/m for Delta connection and 0.44 ohm/m
3. Continuous operating limits are based on continuous operation at maximum temperature with aluminum heat sink (300mm x 12.5
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 each stage 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.

AIR QUALITY REQUIREMENTS

AIR SUPPLY MUST BE FREE OF CONTAMINANTS AND MOISTURE (<85% RELATIVE HUMIDITY). FILTERED AIR SUPPLY TO ISO 8573.1 QUALITY CLASS 3 OR BETTER

CLASS: 3 (MINIMUM)
DIRT: 5 MICRON PARTICAL SIZE OR SMALLER
WATER: -4 F, PRESSURE DEWPOINT
(128 ppm. vol.) AT 100 psig
OIL: 1.0 mg/m**3 (INCLUDING VAPOR)

CLASS: 2 (RECOMMENDED)
DIRT: 1 MICRON PARTICAL SIZE OR SMALLER
WATER: -40 F, PRESSURE DEWPOINT
(16 ppm. vol.) AT 100 psig
OIL: 1 mg/m**3 (INCLUDING VAPOR)

ALIO INDUSTRIES PROPRIETARY INFORMATION

(Tel) 303.339.7500 - SALES@ALIOINDUSTRIES.COM - WWW.ALIOINDUSTRIES.COM

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

ALIO 6-D

TITLE

AI-LM-(TRAVEL)00-AB-Z-CB

SIZE	DWG NO	REV
B	0010-08019	001

SCALE | ALIO STD TEMPLATE - REV 006 | SHEET 1 OF 1