

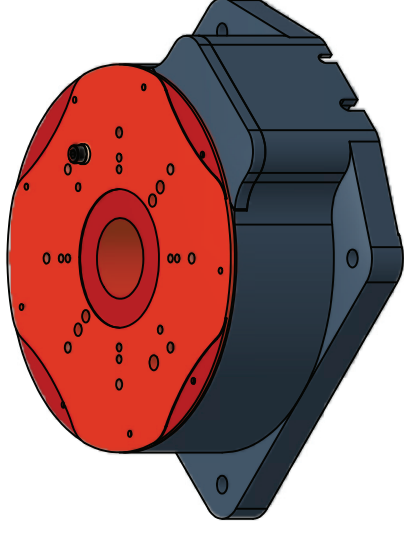


ALIO STAGE AND MOTOR SPECIFICATIONS

MODEL	AI-TM-80RA-50	AI-TM-104RA-80	AI-TM-154RA-58	AI-TM-208RA-110	AI-TM-240RA-44	AI-TM-312RA-80
TRAVEL	360 degrees continuous					
DIAMETER	80	104	154	208	240	312
HEIGHT	50	80	65	110	44	80
AVAILABILITY [6]	Standard					
MAX VELOCITY [7]	1440	1440	1440	1440	1440	1440
ASSEMBLY MASS	0.9	2.7	4.2	11	10	24
MOVING MASS	0.35	0.9	1.5	3.6	2.9	6
MASS MOMENT OF INERTIA	250	900	4500	16000	14000	40000
RESOLUTION (STANDARD) [8]	0.027	0.02	0.013	0.01	0.009	0.007
(OPTIONAL - 5um) [9]	27	21	14	10	9	7
(OPTIONAL - 1um) [9]	5.5	4.1	2.7	2.1	1.8	1.4
(OPTIONAL - 0.5um) [9]	2.7	2.1	1.4	1	0.9	0.7
(OPTIONAL - 0.2um) [9]	1.1	0.8	0.5	0.4	0.4	0.3
(OPTIONAL - 0.1um) [9]	0.55	0.41	0.27	0.21	0.18	0.14
(OPTIONAL - 50nm) [9]	0.27	0.21	0.14	0.1	0.09	0.07
(OPTIONAL - 20nm) [9]	0.11	0.08	0.05	0.04	0.04	0.03
(OPTIONAL - 10nm) [9]	0.055	0.041	0.027	0.021	0.018	0.014
(OPTIONAL - 5nm) [9]	0.027	0.021	0.014	0.01	0.009	0.007
AXIAL RUNOUT (STANDARD)	10	12.5	15	15	25	30
(OPTIONAL)	7.5 or 5	10, 7.5, or 5	12.5, 10, or 5	12.5, 10, or 5	15 or 10	20, 15, or 10
RADIAL RUNOUT (STANDARD)	10	15	15	15	25	30
(OPTIONAL)	5 or 4	10, 5, or 4	12.5, 10, or 5	12.5, 7.5, or 5	12.5 or 10	20, 12.5, or 10
MOTOR INFORMATION						
MOTOR TYPE	FRAMELESS TORQUE MOTOR					
MOTOR MODEL	044050-EY	089100-9Y	089100-9Y	178100-EY	165A18B	178100-EY
MAGNETIC PITCH (N-N)	120	60	60	40	20	40
MAX VOLTAGE (LINE TO LINE) [1]	340	340	340	340	285	340
MAX MOTOR TEMP	155	155	155	155	100	155
TORQUE CONSTANT	0.091	0.68	0.68	2.50	0.54	2.50
PHASE RESISTANCE (@25°C) [2]	4.5	3.9	3.9	3.1	2.4	3.1
INDUCTANCE	3.2	8.9	8.9	19.1	6.0	19.1
CONTINUOUS TORQUE [3]	0.21	2.6	2.6	15.0	3.1	15.0
CONTINUOUS CURRENT [3]	2.3	3.8	3.8	6.0	5.7	6.0
PEAK TORQUE	0.66	8.2	8.2	48.0	9.5	48.0
PEAK CURRENT	7.3	12.0	12.0	19.1	17.6	19.1
BACKEMF CONSTANT	5.5	41	41	152	57	152

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 0.3 ohm/m.
3. Continuous operating limits are based on continuous operation at maximum temperature with aluminum heat sink (300mm x 300mm x 25mm).
4. All specifications may vary by 12% from listed values.
5. Additional motor winding options are available for each stage for optimized performance as necessary per customer requirements.
6. "Standard" models (green cells) are readily available while "Optional" models may have longer lead times.
7. Maximum velocity capability is dependent on payload, acceleration, encoder resolution, amplifier, and bus voltage. Greater rotational speeds than specified are available.
8. Default resolution is an analog 1Vp-p sin/cos encoder output signal with 4096 interpolation in the controller.
9. Optional resolutions are digital quadrature output to the controller with angular resolutions corresponding to 5um - 0.005um linear resolution.



A

DRAWN
NBROWN
CHECKED



TITLE

AI-TM-(DIAMETER)RA

SIZE

B

DWG NO

0010-08015

REV

E4

SCALE

SEE NOTES

1 OF 1

SHEET 1

ALIO STD TEMPLATE - REV 006

4

3

2

1

B

B

4

3

2

1