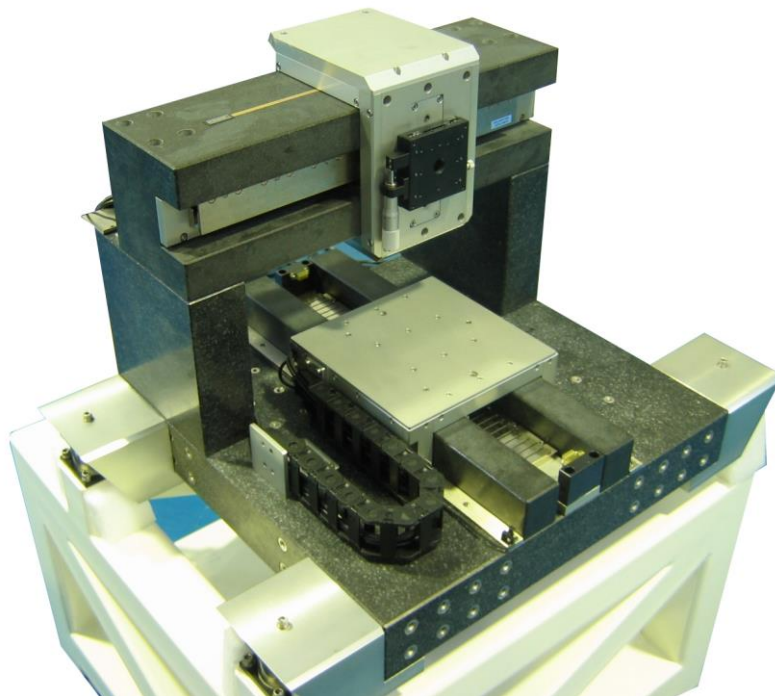


GAG Series

XY Air Bearing Stage



- Driven by direct drive high performance linear motor
- Superior flatness and straightness from non-contact air-bearing guidance system for smooth, no noise and low particle generation operation

Motor Parameter

Top Axis		
Specifications		AUM2-S2
Performance Parameters	Unit	Series
Continuous Force, coil @100°C	N	17.6
Peak Force	N	88
Motor Constant	N/SqRt(W)	4.31
Continuous Power	W	16.6
Peak Power	W	416
Electrical Cycle	mm	30
Max Bus Voltage	V	330
Max Coil Temperature	°C	125
Thermal Dissipation Constant	W/°C	0.22
Continuous current	Arms	1.6
Peak current	Arms	8
Force Constant	N/Arms	11
Back EMF Constant	Vpeak/(m/s)	9
Inductance	mH	1.5
Terminal Resistance @25°C	Ohms	6.5
Electrical Time Constant	ms	0.23
Mechanical Parameters		
Coil Mass	Kg	0.118
Coil Length	mm	61
Track Mass (per 120 mm)	Kg	0.468
Magnetic Attraction	N (lb)	0

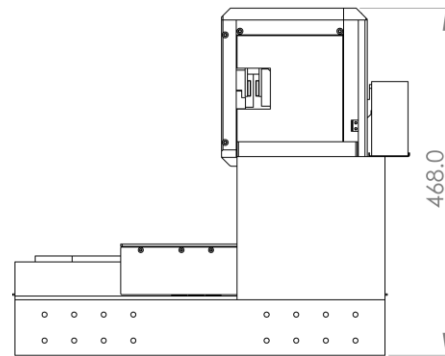
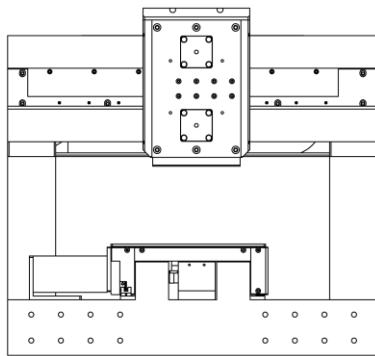
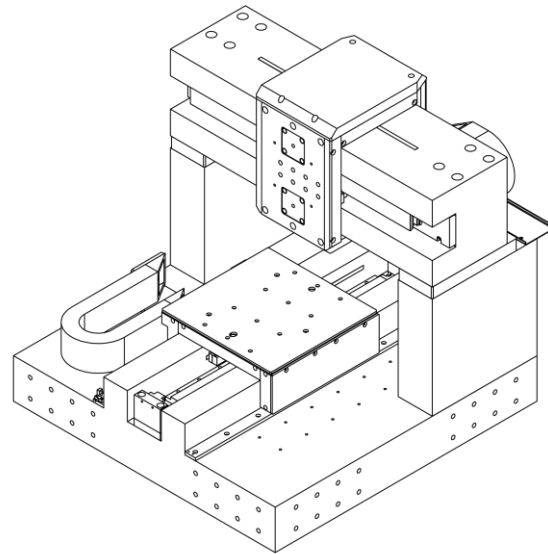
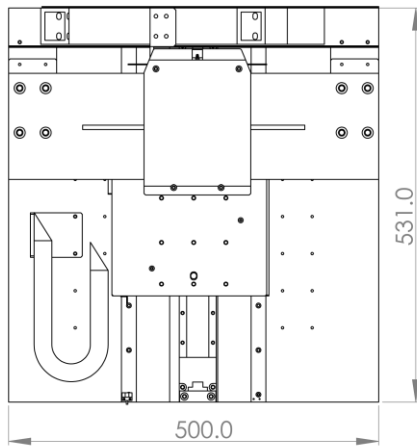
Bottom Axis		
Specifications		ACM1-S30
Performance Parameters	Unit	
Continuous Force	N	52.9
Peak Force	N	241.9
Motor Constant	N/SqRt(W)	12.93
Continuous Power	W	16.8
Peak Power	W	350.2
Magnetic period	mm	20
Max Coil Temperature	°C	130
Continuous current	Arms	2
Peak current	Arms	9.6
Force Constant	N/Arms	25.2
Back EMF Constant	Vpeak/m/s	20.6
Inductance	mH	13.5
Phase Resistance @25°C	Ohms	3.8
Magnetic Attraction	N	480
Coil Mass	Kg	0.6
Coil Length	mm	96
Track Mass (Per 80)	Kg	0.26

Specification

X-Axis (top)	
Stroke length ⁴	250mm
Recommended load	2kg
Maximum load	5kg
Flatness/Straightness ²	Full stroke $\pm 1\mu\text{m}$
Linear motor	AUM2-SS4K-3.0
Motor Continuous force ¹	44N
Motor Peak Force ¹	176N
Linearity ²	Full stroke $\pm 5\mu\text{m}$
Repeatability ³	$\pm 2.5 \mu\text{m}$
Y-Axis (Bottom)	
Stroke length ⁴	250mm
Flatness/Straightness ²	Full stroke $\pm 1\mu\text{m}$
Recommended load	2kg
Maximum load	5kg
Linear motor	ACM1-S30-J-3.0
Motor Continuous force ¹	53N
Motor Peak Force ¹	242N
Linearity ²	Full stroke $\pm 5\mu\text{m}$
Repeatability ³	$\pm 2.5 \mu\text{m}$
Orthogonal ²	± 5 arc second
Overall flatness ²	$\pm 1\mu\text{m}$

1. The continuous force and peak force can be increase with a bigger motor size
2. Measured with a 2kg load
3. Base on a 0.5micron encoder resolution. Different encoder resolution is available
4. Consults factory for different stroke length

Dimension Drawing



Part Numbering (Rapid Delivery Series)

GAG	Stroke	Top Axis Motor Model	Bottom Axis Motor Model	Sensor Type	⁵ Motor Cable (m)	Encoder Option (type)	Encoder Resolution (micron, μ)
	X250Y250	AUM2-S/P-S4	ACM1-S30	J	1.0-5.0	RE, ⁶ RH	0.1
				K			

5 Motor cable is the length of cable measured after the cable chain

6. Available for 1 μ m only.

Example: GAGX250Y250-AUM2-S-S4-ACM1-S30-J-3.0-RE-0.1