

SGL Series

Single Guide Linear Motor Stage

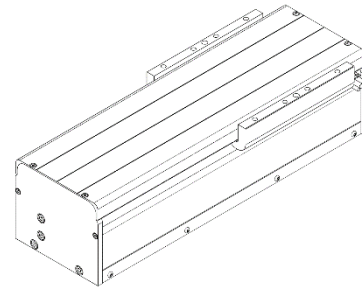


- Direct drive
- Ironless linear motor actuator
- High speed and high acceleration
- Fast response and quick settling time
- Smooth motion at low speed (low velocity)
- High Precision

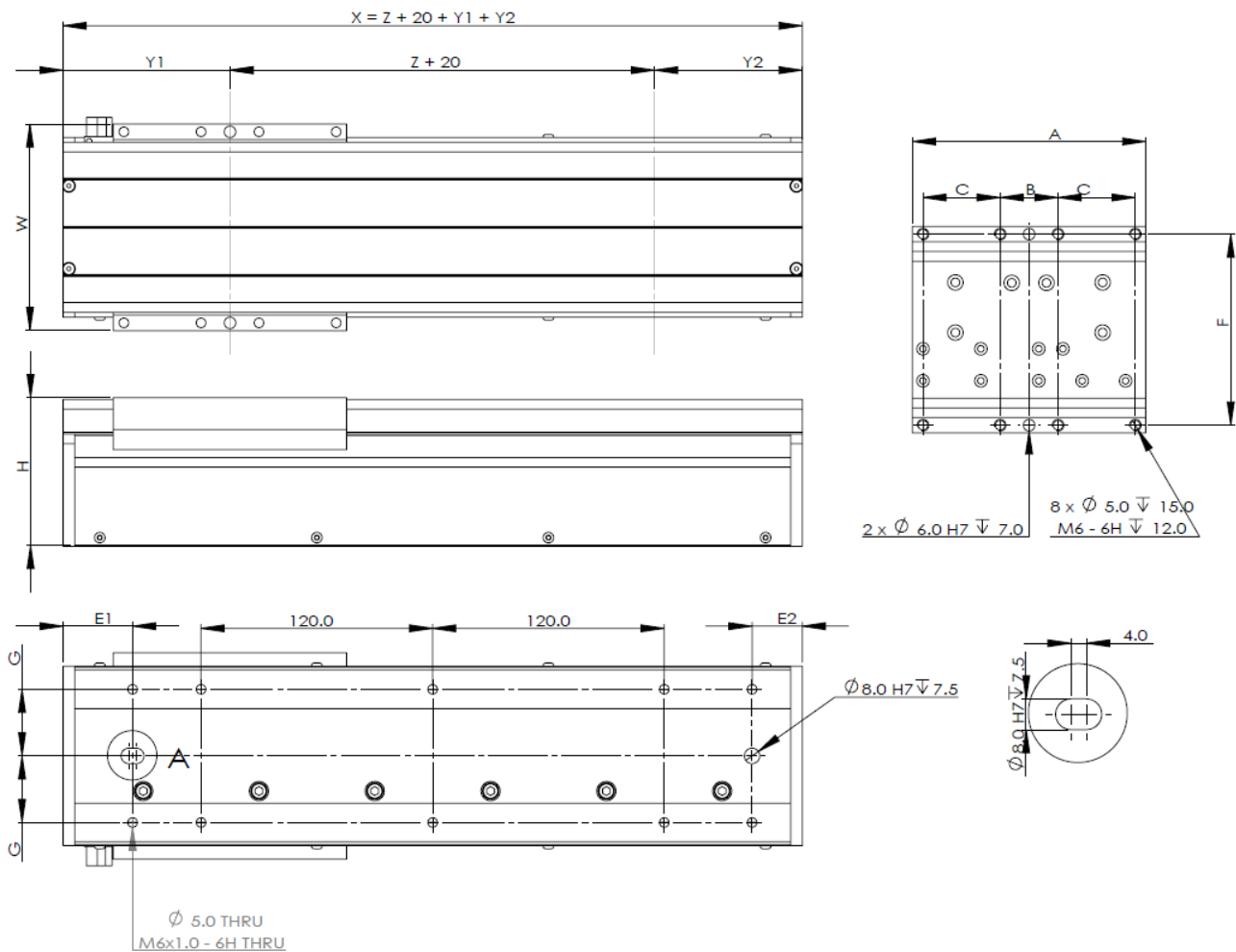
SGL Series

Features

- Direct drive, zero cogging, zero backlash ironless linear motor
- Linear encoder options of 5µm, 1µm, and 0.1µm
- Single size 15 linear guidance rails
- High accelerations (up to 10) and speeds (up to 5m/s)
- Smooth motion at low speeds (low velocity ripple)



SGL Series Dimensional Drawing



SGL Series Information

Model	Motor		Size												Moving Mass (Kg)	Module Mass (Kg)		
			Stroke (Z) (mm)	Total Length (X) (mm)	Carriage Length (A) (mm)	Module Height (H) (mm)	Module Width (W) (mm)	Hard Stop Position (Y1) (mm)	Hard Stop Position (Y2) (mm)	Carriage Mounting Holes (B) (mm)	Carriage Mounting Holes (C) (mm)	Carriage Mounting Holes (F) (mm)	Base Mounting Holes (G) (mm)	Base Mounting Holes (E1) (mm)			Base Mounting Holes (E2) (mm)	
SGL80	AUM2	S2	200	383	121	77	107	86.5	76.5	30	40	99	34.5	36	26	0.84	5	
			300	483													5.5	
			400	583													7.1	
			500	683													8.3	
			600	783													9.2	
			1000	1183													13.1	
		1200	1383	14.4														
		200	383	5														
		300	483	5.5														
		400	583	7.1														
		500	683	8.3														
		600	783	9.2														
	1000	1183	13.1															
	1200	1383	14.5															
	SGL100	AUM3	S2	200	407	145	94	132	116.5	106.5	40	50	122	43	36	26	1.5	8.4
				300	507													10.1
				400	607													11.7
				500	707													13.7
				600	807													15.6
				1000	1207													22.3
		1200	1407	26.1														
		200	443	9.6														
		300	543	10.8														
		400	643	12.9														
500		743	14.9															
600		843	16.3															
1000	1243	23.5																
1200	1443	26.5																
SGL120	AUM4	S3	200	503	181	118.5	132	118.5	108.5	40	50	122	43	38	28	2.3	11.1	
			300	603													12.5	
			400	703													14.4	
			500	803													16.4	
			600	903													17.8	
			1000	1303													24.9	
	1200	1503	28.3															
	200	507	11.3															
	300	511	14.1															
	400	611	16.1															
	500	711	18.9															
	600	811	21.7															
1000	1211	31.2																
1200	1411	36.8																
SGL120	AUM4	S4	200	447	241	118.5	132	148.5	138.5	60	70	122	43	38	28	2.7	13.2	
			300	547													14.9	
			400	647													17.9	
			500	747													20.7	
			600	847													22.7	
			1000	1247													33	
	1200	1447	37.8															
	200	507	15.1															
	300	607	17															
	400	707	19.8															
	500	807	22.6															
	600	907	24.6															
1000	1307	34.9																
1200	1507	39.7																

Bearing Parameters

Specifications	Unit	Motors								
		AUM2			AUM3			AUM4		
		S2	S3	S4	S2	S3	S4	S2	S3	S4
Maximum bearing load	N	1360								
Recommended roll moment	Nm	5.2			7.4					
Recommended pitch moment	Nm	103.8			135.4	191.6	285.2	135.4	191.6	285.2
Recommended yaw moment	Nm									

Performance Parameter

Acceleration	G	10
Velocity(1μm resolution)	m/s	5 (40μm scale pitch and 20MHz counter frequency)
Velocity(0.5μm resolution)		2.5 (20μm scale pitch and 20MHz counter frequency)
Velocity(0.1μm resolution)		1.3 (20μm scale pitch and 20MHz counter frequency)
Velocity(Analogue)		8 (40μm scale pitch and 200kHz input frequency) 4 (20μm scale pitch and 200kHz input frequency)
³ Straightness	μm	±3μm/25mm, NTE±10μm/300mm
³ Flatness		±3μm/25mm, NTE±10μm/300mm
Repeatability(1μm resolution)		±3μm (40μm scale pitch)
Repeatability(0.5μm resolution)		±1.5μm (20μm scale pitch)
Repeatability(0.1μm resolution)		±1μm(20μm scale pitch)
Repeatability(Analogue)		±5 counts

Part Numbering (Rapid Delivery Series)

	Motor (type)	Connection Type	Motor Size	Sensor Type	Hall Option	Cable Length (m)	Effective Stroke (mm)	Encoder Option (type)	Encoder Resolution (micron, μ)	Cover Option (type)	Rail (type)
SGL80	AUM2	P, S	S2, S3, S4	K	H9D	3.0	¹ 100 – 1200	R22,R41, ⁴ R10,	0.1, 1.0, 5.0		
SGL100	AUM3										
SGL120	AUM4			J,K							

1. For customized stroke length (up to 2.7m), please contact us.
2. For applications that have specific straightness and flatness requirements, precision class (P) is available, please contact us for more details.
3. All measurement taken when module is mounted on a 5micron flat granite table.
4. Available for 1um only.

Example : SGL80/100/120-AUM2-S-S2-K-H9D-3.0-300-R10-1.0-S-T