



SGL SERIES

- ▶ Zero cogging effect
- ▶ High speed and high acceleration
- ▶ Compact in size
- ▶ Low velocity ripple
- ▶ High precision

SGL Series

Introduction

SGL series utilize linear motor positioning system, it consists of single linear guide, linear motor, encoder feedback and aluminum cover to form a compact footprint and high performance module.

There are 2 standard products: SGL80 and SGL100. The built-in linear motor and encoders for the 2 standard products are selectable according to the actual technical requirements and customization is accepted.

Built-in AUM ironless linear motor is cogging free with single linear guide. Suitable for light load, high velocity, high precision point to point transport application.

F_{cn} (Continuous Force) = 35.2N~85.0N

F_{pk} (Peak Force) = 176.0N~433.0N





Features

- ▶ Single guide linear motor stage
- ▶ Built-in AUM iron less linear motor
- ▶ Repeatability up to $\pm 2\mu\text{m}$
- ▶ Stroke from 100mm to 800mm, customized stroke can be longer
- ▶ Optional resolution of $0.5\mu\text{m}$ or $0.05\mu\text{m}$
- ▶ High precision and precise homing
- ▶ Velocity up to 3m/s, acceleration up to 10G or higher

Applications

Suitable for light load point to point micron level fast positioning, can satisfy 5m/s velocity or higher, stroke unlimited(100m or longer).

Transport and fast positioning in electronics, semiconductor, solar PV, lithium battery, LCD display. And industrial printer and laser manufacturing scenarios which require high velocity, high precision, harsh trajectory following and velocity ripples.

Linear Module Series	Linear Motor Series		Continuous Force (F_{cn})					Peak Force (F_{pk})	Unit: N	Stroke (mm)	Repeatability (μm)	Page
			50	100	200	300	400	500				
 SGL80	 AUM2	AUM2-S4	35.2					176.0		100 ~ 800	Up to ± 2	116
		AUM3-S2	57.0					289.0				118
 SGL100	 AUM3	AUM3-S3	85.0					433.0				119

Note:

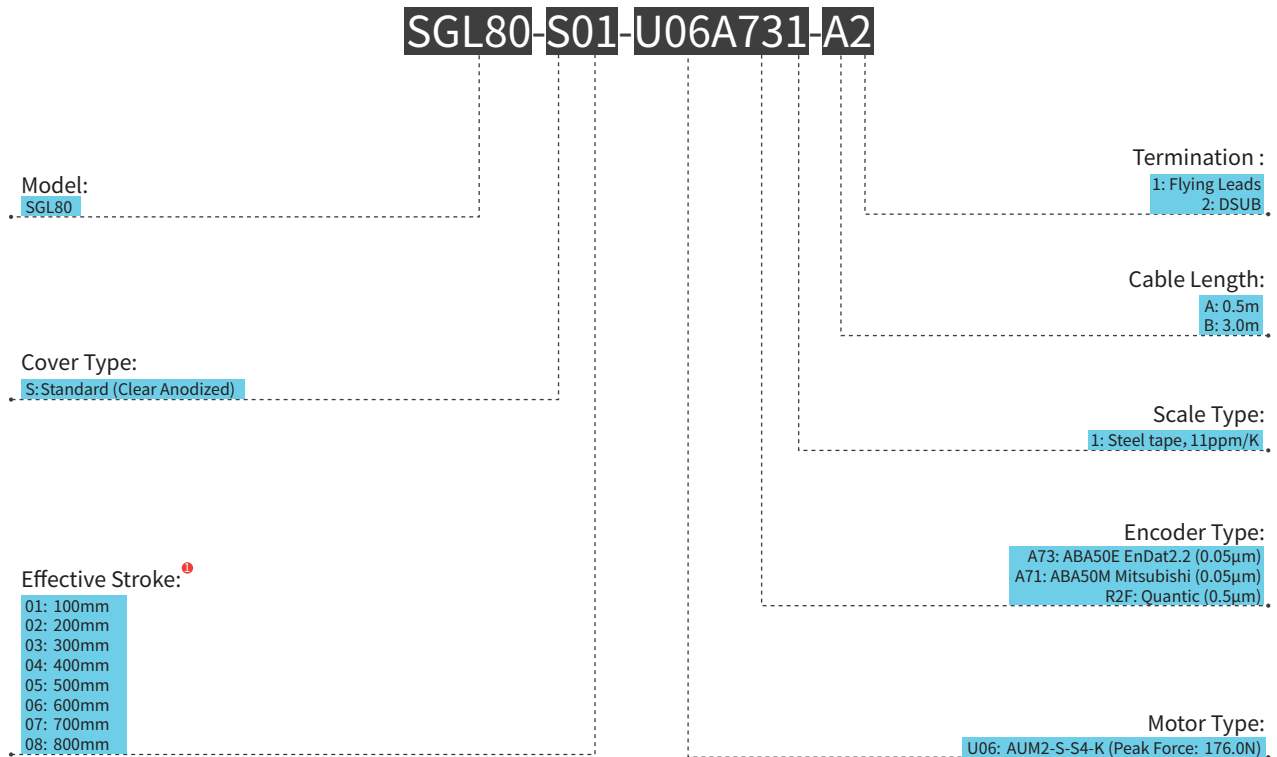
ⓘ Longer stroke available upon request.

★ Products can be customized to meet specific working environments, please contact cust-service@akribis-sys.com.

SGL80 Series

SGL80 Series		
Motor Specifications	Unit	Value
Motor	-	AUM2-S4
Continuous Force	N	35.2
Peak Force	N	176.0
Force Constant $\pm 10\%$	N/Arms	22.0
Back EMF Constant $\pm 10\%$	Vpeak/(m/s)	18.0
Mechanical Specifications	Unit	Value
Linear Guide	-	15# Single guide
Encoder	μm	TTL digital 0.5 resolution optical scale
		Absolute 0.05 resolution optical scale
Repeatability	μm	± 3
Straightness	$\mu\text{m}/\text{mm}$	$\pm 10/300$
Maximum Velocity	m/s	1.5
Rated Payload	kg	7
No-load Moving Mass	kg	1.7
Mounting Orientation	-	Horizontal or side orientation

Ordering Part Number (OPN)



Note:

● Standard stroke in intervals of 100mm only. For more options, please contact Akribis sales engineers (cust-service@akribis-sys.com).

SGL100 Series

SGL100 Series			
Motor Specifications	Unit	Value	
Motor	-	AUM3-S2	AUM3-S3
Continuous Force	N	57	85
Peak Force	N	289	433
Force Constant $\pm 10\%$	N/Arms	31.4	47.1
Back EMF Constant $\pm 10\%$	Vpeak/(m/s)	25.6	38.5
Mechanical Specifications	Unit	Value	
Linear Guide	-	15# Single guide	
Encoder	μm	TTL digital 0.5 resolution optical scale	
		Absolute 0.05 resolution optical scale	
Repeatability	μm	± 3	
Straightness	$\mu\text{m}/\text{mm}$	$\pm 20/500$	$\pm 20/500$
Maximum Velocity	m/s	2	2
Rated Payload	kg	5	8
No-load Moving Mass	kg	1.25	1.64
Mounting Orientation	-	Horizontal or side orientation	Horizontal or side orientation

Ordering Part Number (OPN)

SGL100-S01-U18A731-A2

Model:

SGL100

Cover Type:

S: Standard (Clear Anodized)

Effective Stroke:

01: 100mm
02: 200mm
03: 300mm
04: 400mm
05: 500mm
06: 600mm
07: 700mm
08: 800mm

Termination :

1: Flying Leads
2: DSUB

Cable Length:

A: 0.5m
B: 3.0m

Scale Type:

1: Steel tape, 11ppm/K

Encoder Type:

A73: ABA50E EnDat2.2 (0.05 μm)
A71: ABA50M Mitsubishi (0.05 μm)
R2F: Quantic (0.5 μm)

Motor Type:

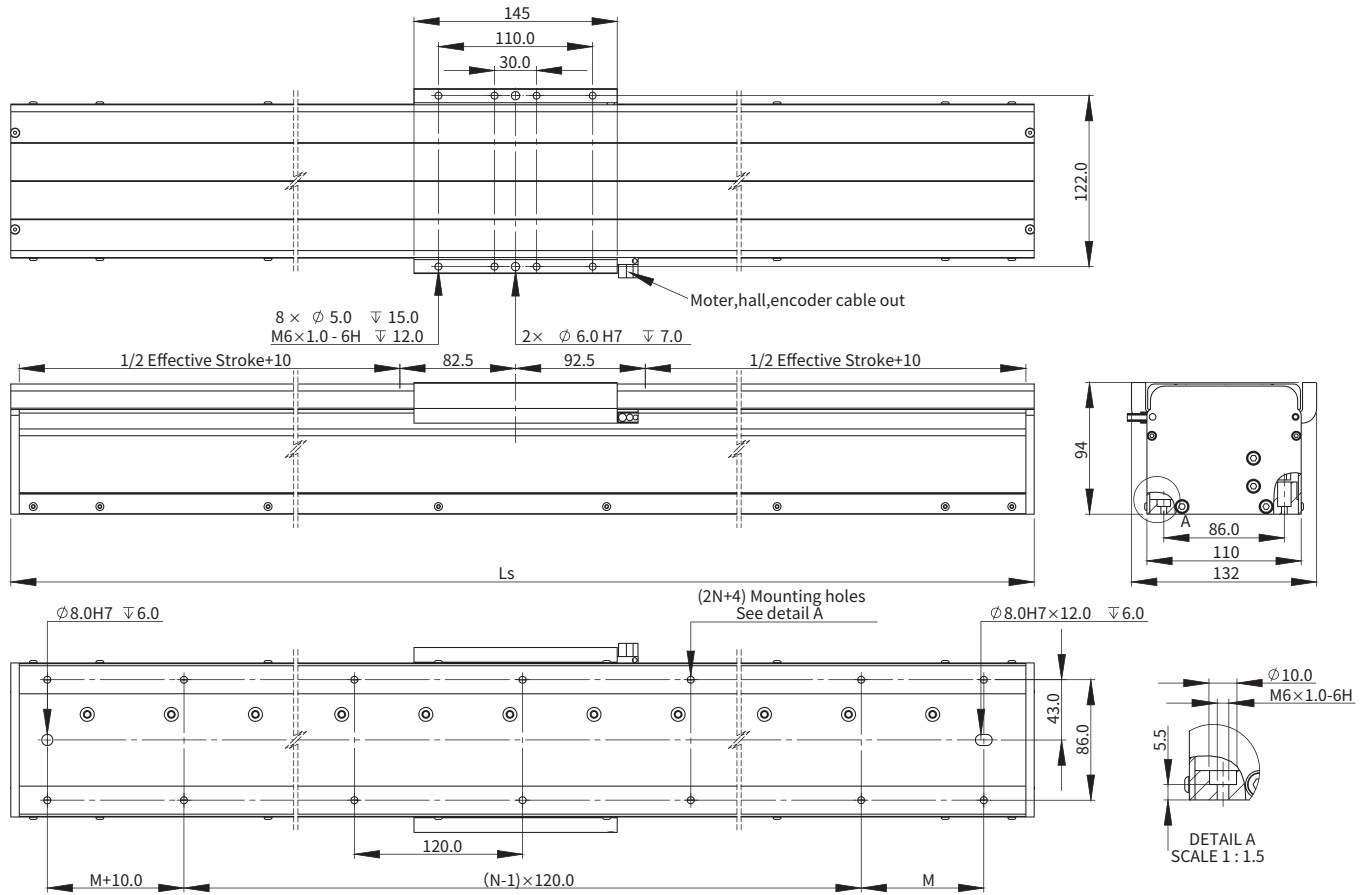
U18: AUM3-S-S2-K (Peak Force:289.0N)
U22: AUM3-S-S3-K (Peak Force:433.0N)

Note:

Standard stroke in intervals of 100mm only. For more options, please contact Akribis sales engineers (cust-service@akribis-sys.com).

SGL100 Series

■ SGL100-AUM3-S2 Dimensional Drawing

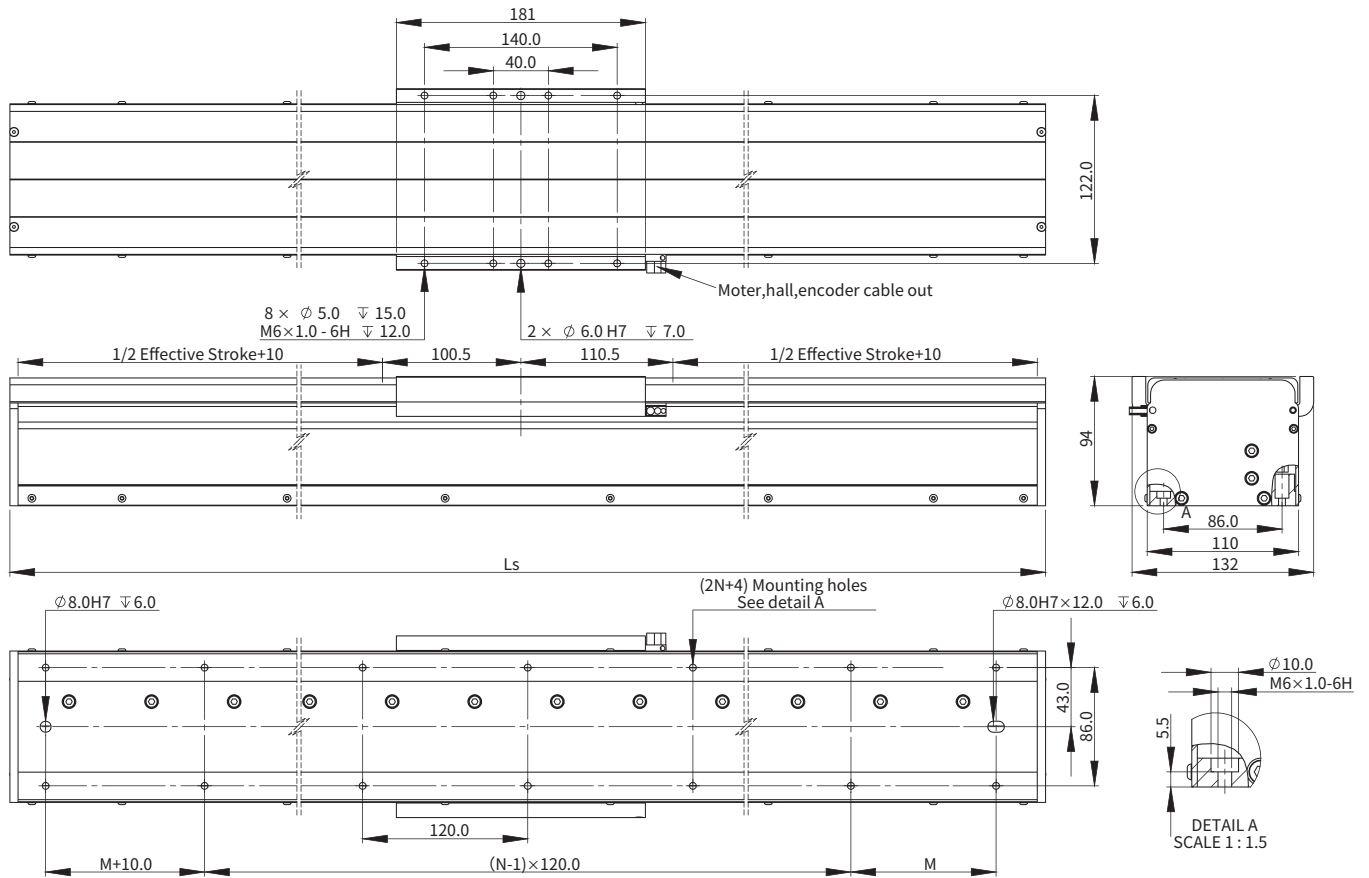


Effective Stroke(mm)	Module Length L_s (mm)	N	M (mm)	Module Mass (kg)
100	307	1	117.5	6.5
200	407	3	47.5	8.5
300	507	3	97.5	10.4
400	607	5	27.5	11.8
500	707	5	77.5	13.8
600	807	5	127.5	15.7
700	907	7	57.5	17.2
800	1007	7	107.5	19.1

Introduction | Sizing Guide | QA | Motion Control of Gantry Stages | Linear Modules | Stacked Stages | Gantry Stages | Voice Coil Modules | Miniature Stages | Pickers | Water Stages | Akribis systems

SGL100 Series

■ SGL100-AUM3-S3 Dimensional Drawing



Effective Stroke(mm)	Module Length L_s (mm)	N	M (mm)	Module Mass (kg)
100	343	3	15.5	7.3
200	443	3	65.5	9.7
300	543	3	115.5	11.1
400	643	5	45.5	13
500	743	5	95.5	15
600	843	7	25.5	16.4
700	943	7	75.5	18.4
800	1043	7	125.5	20.3