



# TGS-XY SERIES

- ▶ Tri Guide Stacked XY Stage
- ▶ Three rail guides support longer upper axis in the bottom
- ▶ Compact size with customized flat cables with built-in tubes

EN-26.3.1

## TGS-XY

Motor Specifications	Unit	L	U
Motor	-	AUM5-S3	AUM4-S3
Continuous Force (NC) @100°C <sup>①</sup>	N	295	166
Peak Force	N	2122	936
Force Constant ±10%	N/Arms	117.9	72.0
Back EMF Constant ±10%	Vpeak/(m/s)	96.3	58.8
Resistance (L-L) @25°C ±10% <sup>②</sup>	Ω	12.40	13.97
Inductance (L-L) ±40% <sup>③</sup>	mH	19.50	11.50
Continuous Current (NC) @100°C <sup>①</sup>	Arms	2.5	2.3
Peak Current	Arms	18.0	13.0
Max. Bus Voltage	Vdc	330	330
Magnetic Period	mm	84	60
Mechanical Specifications	Unit	L	U
Effective Stroke	mm	500	500
Resolution	μm	0.5/0.1/SINCOS	0.5/0.1/SINCOS
Repeatability	μm	±2/±1	±2/±1
Straightness	μm	±10	±10
Flatness	μm	±10	±10
Rated Payload	kg	NA	20
No-load Moving Mass	kg	40	7
No-load Total Mass	kg	370	370
Max. Static Moment	Nm	NA	10

① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment. Abbreviations: NC=Natural Cooling, AC=Air Cooling, WC=Water Cooling.

② Resistance is measured by DC current with standard 0.5m cable.

③ Inductance is measured by current frequency of 1 kHz. The variation range of AUM inductance is ±40% because three phase inductances are different.

The value in the catalog is the average between the maximum and minimum values. For each phase, the variation range is ±20%.

• The table above presents the highest capability of this stage layout.

• Contact us for more options and details.

• Products can be customized to meet specific working environment, please contact [cust-service@akribis-sys.com](mailto:cust-service@akribis-sys.com).

The contents of datasheet are subject to change without prior notice.

## Ordering Part Number (OPN)

**TGS-S0202-U76U46AD01-A1**

### Model:

TGS: TGS-XY base guide on granite

### Cover Type:

S: Standard (Clear Anodized)  
T: Standard (Black Anodized)  
N: No Cover

### Lower Axis Stroke: <sup>①</sup>

02: 200mm  
03: 300mm  
04: 400mm  
05: 500mm

### Upper Axis Stroke: <sup>①</sup>

02: 200mm  
03: 300mm  
04: 400mm  
05: 500mm

### Lower Axis Motor:

U76: AUM5-S-S3-J (Peak Force: 2122.0N)  
U77: AUM5-S-S3-K (Peak Force: 2122.0N)  
U78: AUM5-P-S3-J (Peak Force: 2122.0N)  
U79: AUM5-P-S3-K (Peak Force: 2122.0N)

### Termination:

1: Motor: Flying Leads/  
Encoder: DSUB 15/Hall: DSUB 9  
2: Motor: DSUB 9W4/  
Encoder: DSUB 15/Hall: DSUB 9

### Cable Length:

A: 0.5m  
B: 3.0m

### Scale Type:

1: Steel Tape, 11ppm/K

### Encoder Type:

AD0: ABA-20, BISS C (50nm)  
A70: ABA-50, BISS C (50nm)  
A71: ABA-50, Mitsubishi 2-Wires (50nm)  
A73: ABA-50, EnDat 2.2 (50nm)  
ABA: ABI-51X, SINCOS (1Vpp)  
ABF: ABI-51X, TTL (0.5μm)  
ABH: ABI-51X, TTL (0.1μm)  
R2F: Quantic, TTL (0.5μm)  
R2H: Quantic, TTL (0.1μm)

### Upper Axis Motor:

U46: AUM4-S-S3-J (Peak Force: 936.0N)  
U47: AUM4-S-S3-K (Peak Force: 936.0N)  
U48: AUM4-P-S3-J (Peak Force: 936.0N)  
U49: AUM4-P-S3-K (Peak Force: 936.0N)

### Note:

① Standard stroke in intervals of 100mm only. For more options, please contact Akribis sales engineers ([cust-service@akribis-sys.com](mailto:cust-service@akribis-sys.com)).

★ Products can be customized to meet specific working environment, please contact [cust-service@akribis-sys.com](mailto:cust-service@akribis-sys.com).

## Dimensional Drawing

Introduction | Sing Guide | Q&A | Motion Control of Gantry Stages | Dual Guide Modules | Cross Roller Modules | Voice Coil Modules | Miniature Modules | Picker Modules | Air Bearing Modules | Stacked Stages | Gantry Stages | Water Stages

