

AMZ SERIES VERTICAL Z MODULE

- ▶ Compact design
- ▶ Direct drive technology
- ▶ High response
- ▶ High precision optical encoder
- ▶ Stackable configuration

EN-26.3.1

Introduction

The AMZ series micro positioning stage consists of micro linear motor, micro guide rail, encoder position feedback and structural base. The internal structure is extremely compact. It is a high-precision positioning motion stage.

The encoder position feedback built in AMZ65 vertical micro positioning stage can be selected according to the actual technical requirements. Customization service is available.

Continuous Force $F_{cn} = 4.43\text{N}$

Peak Force $F_{pk} = 28.2\text{N}$


Features

- ▶ Compact and direct-drive Z-axis positioning stage
- ▶ Stroke from 8mm and other lengths of travel can be customized
- ▶ Built-in grating scale and repeatability up to $\pm 0.2\mu\text{m}$
- ▶ It can be combined with AMS/AML or AMR flexibly to form an XZ, XYZ or XYZT stage
- ▶ Built-in cylinder weight

Applications

Submicron positioning, optical alignment stage.

They are applied to point-to-point high-speed optical positioning, Z-axis optical focusing, micro assembly and fiber optical alignment for automation equipment of all industries.

| Miniature Modules | Continuous Force (F_{cn}) | | | | | Peak Force (F_{pk}) | | Stroke (mm) | Repeatability (μm) | Page |
|--|-------------------------------|---|---|------|----|-------------------------|---------|-------------|---------------------------------|------|
| | 1 | 3 | 5 | 10 | 30 | 50 | Unit: N | | | |
|  AMZ65 | | | | 4.43 | | | 28.2 | 8 | up to ± 0.2 | 128 |

Note:

① Longer stroke available upon request.

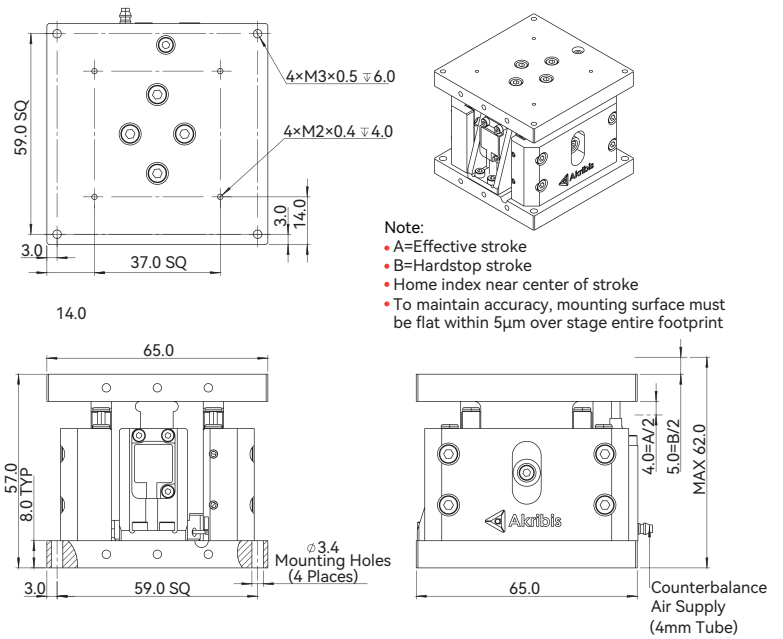
★ Products can be customized to meet specific working environments, please contact cust-service@akribis-sys.com.

AMZ65

| Motor Specifications | Unit | Value | |
|---|---------|-------------|------|
| Motor | - | AVM30-15 | |
| Continuous Force (NC) @100°C ^{1 2} | N | 4.43 | |
| Peak Force ³ | N | 28.2 | |
| Force Constant ±10% ² | N/A | 7.03 | |
| Back EMF Constant ±10% ² | V/(m/s) | 7.03 | |
| Resistance @25°C ±10% ⁴ | Ω | 10.24 | |
| Inductance ±20% ² | mH | 2.82 | |
| Continuous Current (NC) @100°C ¹ | A | 0.6 | |
| Peak Current | A | 4.0 | |
| Max. Voltage | Vdc | 60 | |
| Mechanical Specifications | Unit | Value | |
| Precision Grade | - | P | N |
| Effective Stroke | mm | 8 | |
| Resolution | μm | SINCOS/0.05 | 0.2 |
| Repeatability | μm | ±0.2 | ±1.0 |
| Horizontal Straightness | μm | ±1.5 | |
| Vertical Straightness | μm | ±1.5 | |
| Rated Payload ⁵ | kg | 1.0 | |
| No-Load Moving Mass | kg | 0.29 | |
| No-Load Total Mass | kg | 0.6 | |
| Max. Static Moment ⁶ | Nm | 0.1 | |

- ¹ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ² The values are at mid stroke.
 - ³ Resistance is measured by DC current with standard 0.5m cable.
 - ⁴ Inductance is measured by current frequency of 1kHz.
 - ⁵ Load capacity of module without cantilever.
 - ⁶ This value is based on providing a higher control bandwidth, please contact cust-service@akribis-sys.com for higher load requirements.
 - ★ Maximum pressure allowed for Air Cylinder Counter-balance is 0.6MPa which provides maximum 17N counterbalance force.
- The contents of datasheet are subject to change without prior notice.

Dimensional Drawing



Ordering Part Number (OPN)

AMZ65-T08-A0G4-A1

Model:

AMZ65

Precision Grade:

Unmarked: Normal ¹

Cover Type:

T: Standard (Black Anodized)

Effective Stroke:

08: 8mm

Termination:

1: Motor: Flying Leads/Encoder: DSUB 15
2: Motor: TYCO2/Encoder: DSUB 15

Cable Length:

A: 0.5m
B: 3.0m

Scale Type:

4: Nickel, 14ppm/K

Encoder Type:

A0G: ABI-21, TTL (0.2μm)

AMZ65P-T08-R0A2-A1

Model:

AMZ65

Precision Grade:

P: Precision ¹

Cover Type:

T: Standard (Black Anodized)

Effective Stroke:

08: 8mm

Termination:

1: Motor: Flying Leads/Encoder: DSUB 15
2: Motor: TYCO2/Encoder: DSUB 15

Cable Length:

A: 0.5m
B: 3.0m

Scale Type:

2: Glass G8 Soda Lime, 8ppm/K

Encoder Type:

R0A: ATOM2, SINCOS (1Vpp)
R0J: ATOM2, TTL (0.05μm)

Note:

- ¹ Normal Grade and Precision Grade uses anti-creep roller.
- ★ Default mounting orientation for this module is horizontal. For other mounting orientations, please contact cust-service@akribis-sys.com.