Disc motor module

Features

- Zero cogging force
- High thrust density
- Compact design, with low cross-sectional height
- High dynamic response, non-contact, direct drive disc motor
- High-precision optical linear encoder
- Excellent positioning accuracy and dynamic performance

Description

This module adopts low-profile design with direct-drive ironless disc motor. Combined with high-precision cross roller guide and high-resolution encoder, high-precision dynamic performance and positioning accuracy can be achieved.

Applications

- Healthcare
- Automotive
- Semiconductor equipment

Technical Specifications

	AFM120	AFM165
Travel range	360 deg	360 deg
Accuracy_calibration value	±15 arcsec	±15 arcsec
Unidirectional repeatability	1.5 arcsec	1.5 arcsec
Axial runout	10 µm	10 µm
Radial runout	10 µm	10 µm
Continuous torque	0.4 N·m	1.2 N·m
Max. velocity	120 rpm	67 rpm
Mechanical properties		
Dimensions	135 mm x 120 mm x 25 mm	220 mm x 200 mm x 30 mm
Hollow aperture	36 mm	36 mm
Max. load	6 kg	12.5 kg
Inertia (No load)	0.001268 kg.m2	0.003526 kg.m2
Total mass	1.25 kg	3.65 kg
Material	Aviation aluminum, black anodized	Aviation aluminum, black anodized
Electrical properties		
Drive type	Disc motor	Disc motor
Torque constant	0.36 N·m	0.85 N·m
Peak torque	2.0 N·m	4.0 N·m
Peak current	5.56 A	4.705 A
Continuous current	1.11 A	1.41 A
Electrical resistance	2.89 ohms	5.32 ohms
Electrical inductance	1.41 mH	5.11 mH
Feedback	Incremental optical rotary encoder	Incremental optical rotary encoder
Resolution	0.1 µm	0.1 µm
Electrical limit	NA	NA