

Axial Flux Motors SA SERIES

Diameters ranging from 30 mm to over 1 meter.

SA Axial Flux Motors are slotless, and have zero cogging torque, enabling ultra precise movement at low speeds. Their large apertures enable unique spacial opportunities for the required process and application.

Our integrated encoder solution simplifies the integration process within motion assemblies. SA motors are highly scalable to larger diameters, with a smooth transition to a modular construction. Contact Allient to discuss how SA motors can meet your motion solution needs.



KEY FEATURES & BENEFITS

Scalable Sizes:

Modular approach supports 2+ meters in diameters.

Torque Linearity:

Designed to mitigate saturation for linear torque output, enabling advanced control and torque sensing systems.

Low Axial Profile:

Compact design with axial lengths as small as 5 mm are possible.

Winding and Impedance:

Supports both low and high voltage or current applications.

Sinusoidal Torque Curves:

Arc-shaped forcers engineered for smooth operation (ultra-low torque ripple) using sinusoidal current and field waveforms.

Slotless Design:

Eliminates cogging torque for smooth, precise motion.



OPTIONS & ACCESSORIES

Fully Configurable:

The axial flux motor is simply coils mounted on a PC board, flex circuit or in a coil assembly, and a magnet that is axially magnetized. Motors can have optional pole counts from 4 to more than 100 poles.

Customizable Winding & Impedance:

Optimized for battery-powered or traditional control systems.

Moving Magnet Configurations:

Easily configurable for continuous rotation or limited motion applications.

Custom Winding:

Custom windings available to meet specific application requirements.

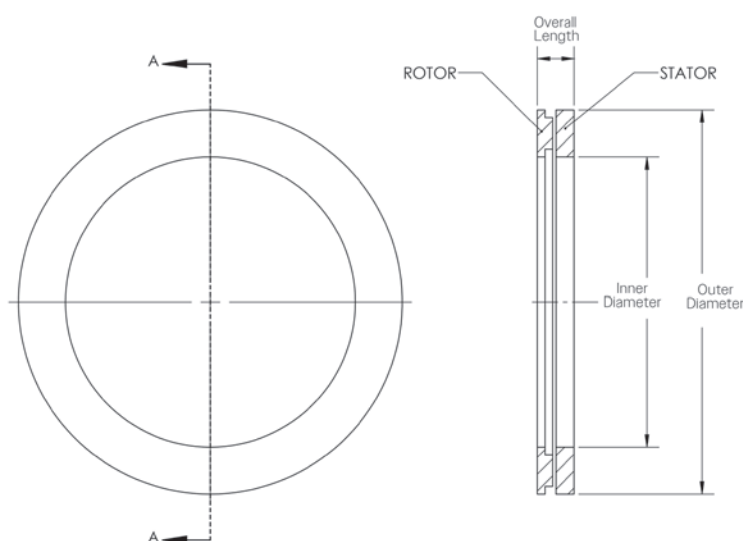
APPLICATIONS

The SA series of Axial Flux Motors are excellent for low profile applications:

Including

- Camera pointing systems
- Gimbals
- MRI and CT scanning machines
- Low-profile precision rotary stages

DIMENSIONS



Model	Outer Diameter	Inner Diameter	Overall Length
SA-63-A-10-A-000	63.5	25.0	9.6
SA-100-A-11-A-000	99.1	25.0	11.1
SA-104-A-10-A-000	104.0	77.0	10.2
SA-170-A-10-A-000	170.0	131.5	10.2
SA-222-A-34-A-000	222.0	128.8	34.0
SA-283-A-35-A-000	283.0	155.7	35.1
SA-1795-A-50-A-000	1795.0	1541.0	50.0