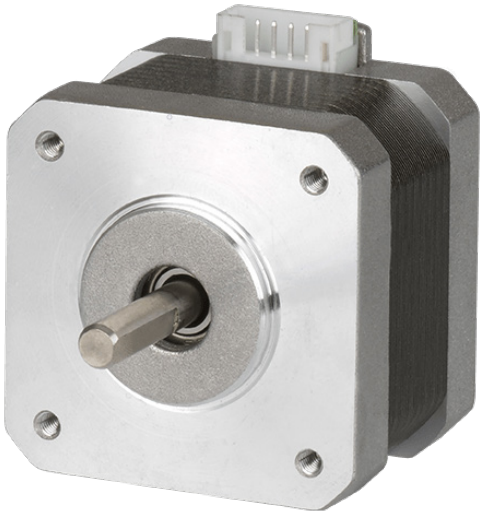
2-phase Stepper Motor
(☐ 42 mm, ☐ 56 mm)



AK-2 Series
CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.
The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Features

- Compact and light weight with high accuracy, high speed and high torque
- Ideal for building compact sized system
- Connector type wiring structure

Ordering Information

This is only for reference, the actual product does not support all combinations..
For selecting the specified model, follow the Autonics website.

A	❶	K	-	❷	2	❸	❹	❺

❶ Max. stop torque
Number: Max. stop torque (unit: kgf cm)

❷ Rated current
M: 1.2 A / Phase
G: 2.0 A / Phase

❸ Frame size
4: ☐ 42 mm
6: ☐ 56 mm

❹ Axial length
Number: Refer to 'Dimensions'

❺ Shaft type
No mark: Single shaft
W: Dual shaft

Product Components

- Product
- Instruction manual

Specifications

Model	A2K-M243☐	A3K-M244☐	A4K-M245☐
Max. stop torque	2.06 kgf cm (0.21 N m)	2.97 kgf cm (0.3 N m)	3.3 kgf cm (0.33 N m)
Rotor inertia moment	33×10^{-7} kg · m^2	56×10^{-7} kg · m^2	72×10^{-7} kg · m^2
Rated current	1.2 A / Phase		
Basic step angle	1.8° / 0.9° (Full step / Half step)		
Resistance	2.7 Ω ± 10%	3.3 Ω ± 10%	2.8 Ω ± 10%
Inductance	2.3 mH ± 20%	3.3 mH ± 20%	3.1 mH ± 20%
Unit weight (packaged)	≈ 0.23 kg (≈ 0.33 kg)	≈ 0.29 kg (≈ 0.39 kg)	≈ 0.43 kg (≈ 0.53 kg)

Model	A6K-G264☐	A9K-G265☐	A16K-G268☐
Max. stop torque	5.7 kgf cm (0.57 N m)	9.0 kgf cm (0.90 N m)	15.70 kgf cm (1.57 N m)
Rotor inertia moment	145×10^{-7} kg · m^2	245×10^{-7} kg · m^2	470×10^{-7} kg · m^2
Rated current	2.0 A / Phase		
Basic step angle	1.8° / 0.9° (Full step / Half step)		
Resistance	1.3 Ω ± 10%	1.7 Ω ± 10%	2.5 Ω ± 10%
Inductance	1.7 mH ± 20%	3.0 mH ± 20%	4.9 mH ± 20%
Unit weight (packaged)	≈ 0.50 kg (≈ 0.65 kg)	≈ 0.70 kg (≈ 0.85 kg)	≈ 1.10 kg (≈ 1.25 kg)

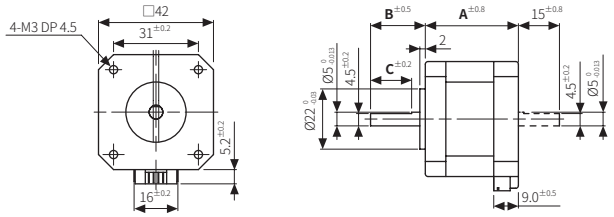
Motor phase	2-phase
Run method	Unipolar
Insulation class	B type (130°C)
Insulation resistance	Between motor coil and case: ≥ 100 MΩ (500 VDC⎓ megger)
Dielectric strength	Between motor coil and case: 500 VAC~ 50 / 60 Hz for 1 minute
Ambient temp.	0 to 50°C, storage: -20 to 70°C (no freezing or condensation)
Ambient humi.	20 to 90%RH, storage: 15 to 90%RH (no freezing or condensation)
Protection rating	IP30 (IEC34-5 standard)
Approval	EAC
Stop angle error	≤ 0.05° (Full step, no load)
Shaft vibration	0.05 mm T.I.R.
Radial movement 01)	≤ 0.05 mm T.I.R.
Axial movement 02)	≤ 0.075 mm T.I.R.
Shaft concentricity	0.075 mm T.I.R.
Shaft perpendicularity	0.075 mm T.I.R.

01) Amount of radial shaft displacement when applying radial load (5 N) to the end of the shaft.
02) Amount of axial shaft displacement when applying axial load (10 N) to the shaft.

Dimensions

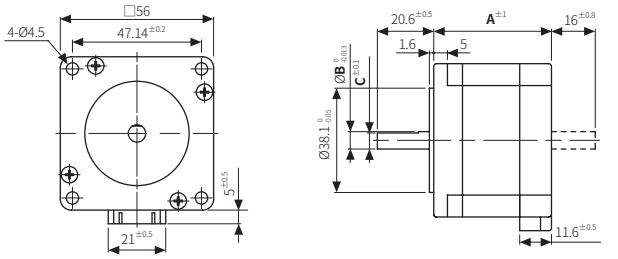
- Unit: mm, For the detailed drawings, follow the Autonics website.
- The dotted lines are included in dual shaft type.

■ □ 42 mm



Axial length	3	4	5
A	34	40	47.5
B	20	20	23
C	15	15	18

■ □ 56 mm



Axial length	4	6	9
A	43	55	79
B	6.35	6.35	8
C	5.85	5.85	7.5

Sold Separately

- Motor cable: CID6-AK42, CID6-AK56
- Flexible coupling: ERB Series