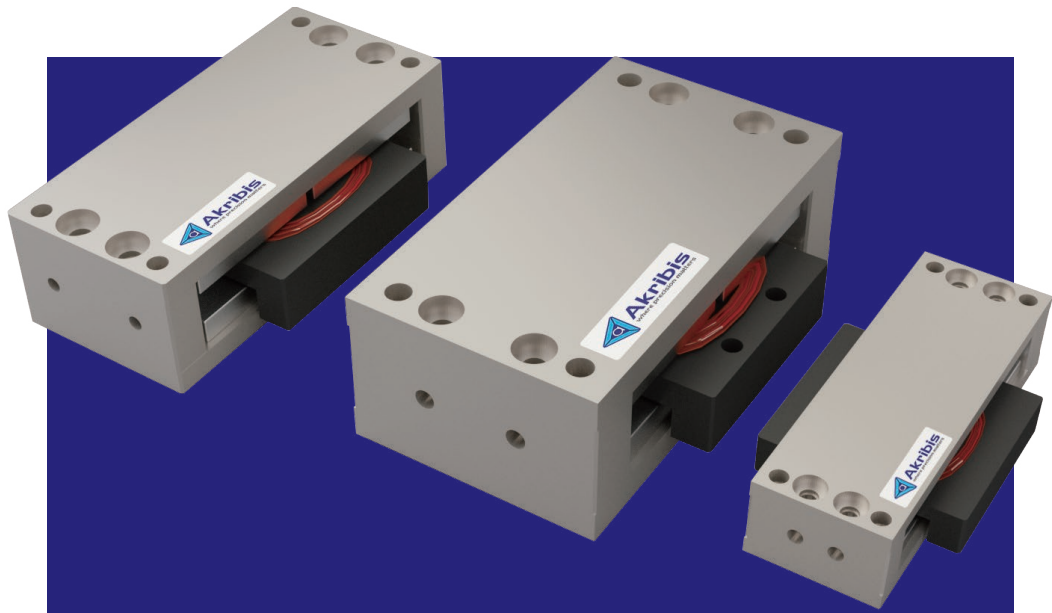




AVA SERIES

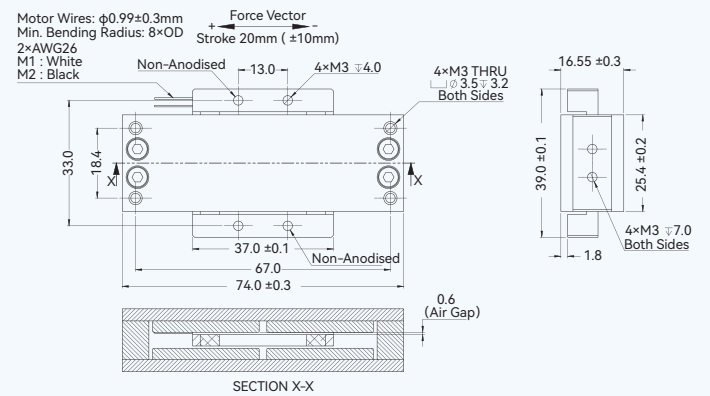
- ▶ Direct drive, zero cogging, zero backlash voice coil motors
- ▶ Low coil mass with very fast response and bandwidth
- ▶ No contact between coil and core movement (no wear and tear)
- ▶ Smooth motion at low speeds with limitless resolution (depends on feedback device)

EN-25.2.1

AVA1-20

Performance Parameters		Symbol	Unit	AVA1-20
Stroke		S	mm	20
Continuous Force @100°C ❶❷		F _c	N	3.84
Peak Force ❸		F _{pk}	N	11.5
Force Constant ±10% ❹		K _f	N/A	1.92
Back EMF Constant ±10% ❹		K _e	V/(m/s)	1.92
Motor Constant @25°C ❹		K _m	N/Sqrt(W)	1.62
Resistance @25°C ±10% ❹		R ₂₅	Ω	1.40
Inductance ±20% ❹		L	mH	0.27
Electrical Time Constant		τ _e	ms	0.19
Continuous Current @100°C ❶		I _c	A	2.0
Peak Current		I _{pk}	A	6.0
Continuous Power Dissipation @100°C ❶		P _c	W	7.2
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ❶		K _{th}	W/°C	0.096
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	17
Core Mass		m _{core}	g	186
Running Clearance		L _{gap}	mm	0.6
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP20		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

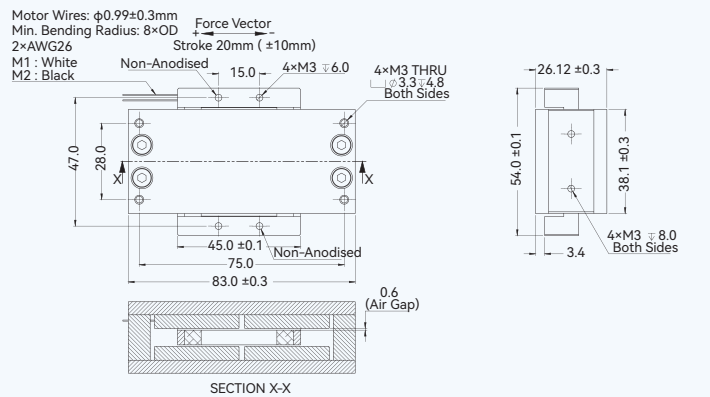


- NOTE:
- ❶ User to ensure the coil is shielded/ grounded through the 2 pcs of non-anodised tap holes.
 - ❷ The default cable length is 0.5m; comes with flying leads.
 - ❸ A positive (+ve) voltage applied to the white lead will product a force on the coil assembly in the positive (+ve) force vector direction.
- ❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVA2-20

Performance Parameters		Symbol	Unit	AVA2-20
Stroke		S	mm	20
Continuous Force @100°C ❶❷		F _c	N	11.69
Peak Force ❸		F _{pk}	N	35.1
Force Constant ±10% ❹		K _f	N/A	8.35
Back EMF Constant ±10% ❹		K _e	V/(m/s)	8.35
Motor Constant @25°C ❹		K _m	N/Sqrt(W)	4.34
Resistance @25°C ±10% ❹		R ₂₅	Ω	3.7
Inductance ±20% ❹		L	mH	1.24
Electrical Time Constant		τ _e	ms	0.34
Continuous Current @100°C ❶		I _c	A	1.4
Peak Current		I _{pk}	A	4.2
Continuous Power Dissipation @100°C ❶		P _c	W	9.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ❶		K _{th}	W/°C	0.125
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	45
Core Mass		m _{core}	g	496
Running Clearance		L _{gap}	mm	0.6
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP20		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

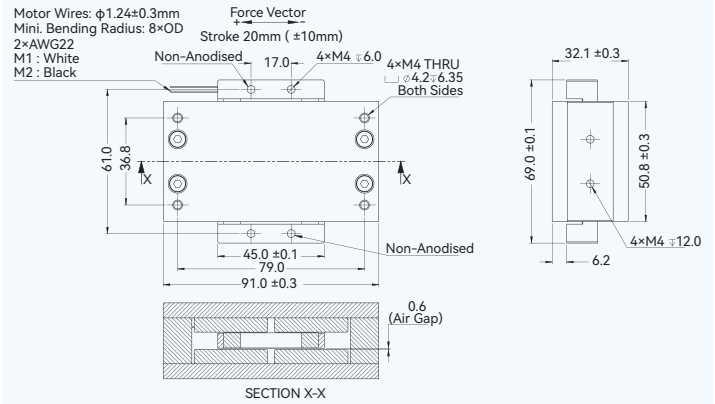


- NOTE:
- ❶ User to ensure the coil is shielded/ grounded through the 2 pcs of non-anodised tap holes.
 - ❷ The default cable length is 0.5m; comes with flying leads.
 - ❸ A positive (+ve) voltage applied to the white lead will product a force on the coil assembly in the positive (+ve) force vector direction.
- ❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVA3-20

Performance Parameters		Symbol	Unit	AVA3-20
Stroke		S	mm	20
Continuous Force @100°C ①②		F _c	N	26.32
Peak Force ②		F _{pk}	N	79.0
Force Constant ±10% ②		K _f	N/A	9.40
Back EMF Constant ±10% ②		K _e	V/(m/s)	9.40
Motor Constant @25°C ②		K _m	N/Sqrt(W)	7.43
Resistance @25°C ±10% ③		R ₂₅	Ω	1.6
Inductance ±20% ④		L	mH	0.7
Electrical Time Constant		τ _e	ms	0.44
Continuous Current @100°C ①		I _c	A	2.8
Peak Current		I _{pk}	A	8.4
Continuous Power Dissipation @100°C ①		P _t	W	16.2
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.216
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	72
Core Mass		m _{core}	g	930
Running Clearance		L _{gap}	mm	0.6
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP20		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension



NOTE:

1. User to ensure the coil is shielded / grounded through the 2 pcs of non-anodized threaded holes.
2. The default cable length is 0.5m; coming with flying leads.
3. A positive (+ve) voltage applied to the white lead will product a force on the coil assembly in the positive (+ve) force vector direction.

- 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 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

Part Numbering

