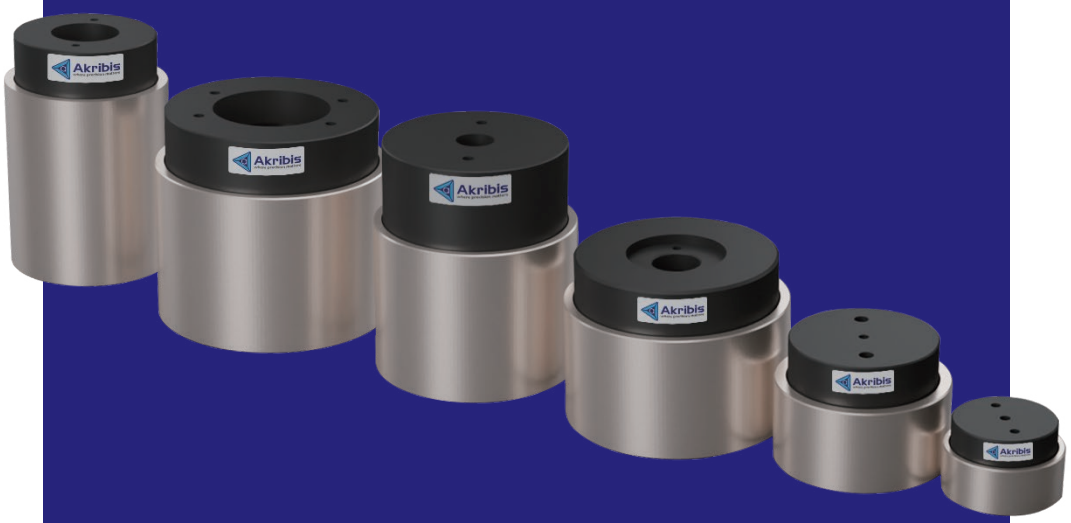


AVM SERIES

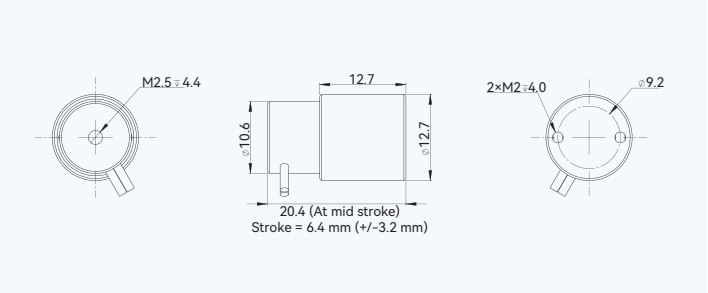
- Direct drive, zero cogging, zero backlash voice coil motors
- Low coil mass with very fast response and bandwidth
- No contact between coil and core movement (no wear and tear)
- Smooth motion at low speeds with limitless resolution (depends on feedback device)

EN-26.3.1

AVM12-6.4

Performance Parameters		Symbol	Unit	AVM12-6.4
Stroke		S	mm	6.4
Continuous Force @100°C❶❷		F_c	N	0.86
Peak Force❷		F_{pk}	N	3.33
Force Constant ±10%❷		K_f	N/A	0.54
Back EMF Constant ±10%❷		K_e	V/(m/s)	0.54
Motor Constant @25°C❷		K_m	N/Sqrt(W)	0.51
Resistance @25°C ±10%❸		R_{25}	Ω	1.10
Inductance ±20%❹		L	mH	0.10
Electrical Time Constant		τ_e	ms	0.09
Continuous Current @100°C❶		I_c	A	1.6
Peak Current		I_{pk}	A	6.2
Continuous Power Dissipation @100°C❶		P_c	W	3.6
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.048
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	5.0
Core Mass		m_{core}	g	7.3
Running Clearance		L_{gap}	mm	0.35
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

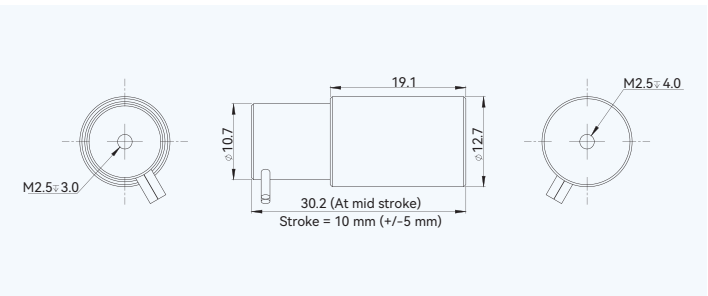


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM12-10

Performance Parameters		Symbol	Unit	AVM12-10
Stroke		S	mm	10.0
Continuous Force @100°C❶❷		F_c	N	1.0
Peak Force❷		F_{pk}	N	3.9
Force Constant ±10%❷		K_f	N/A	0.55
Back EMF Constant ±10%❷		K_e	V/(m/s)	0.55
Motor Constant @25°C❷		K_m	N/Sqrt(W)	0.45
Resistance @25°C ±10%❸		R_{25}	Ω	1.50
Inductance ±20%❹		L	mH	0.16
Electrical Time Constant		τ_e	ms	0.11
Continuous Current @100°C❶		I_c	A	1.8
Peak Current		I_{pk}	A	7.0
Continuous Power Dissipation @100°C❶		P_c	W	6.3
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.084
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	7.1
Core Mass		m_{core}	g	10.4
Running Clearance		L_{gap}	mm	0.30
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

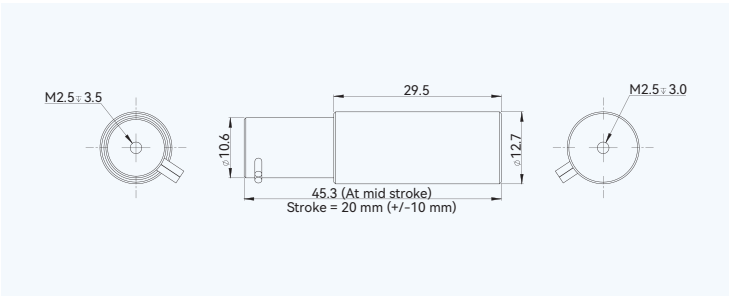


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM12-20

Performance Parameters		Symbol	Unit	AVM12-20
Stroke		S	mm	20.0
Continuous Force @100°C❶❷		F_c	N	1.0
Peak Force❷		F_{pk}	N	3.8
Force Constant ±10%❷		K_f	N/A	0.66
Back EMF Constant ±10%❷		K_e	V/(m/s)	0.66
Motor Constant @25°C❷		K_m	N/Sqrt(W)	0.37
Resistance @25°C ±10%❸		R_{25}	Ω	3.20
Inductance ±20%❹		L	mH	0.33
Electrical Time Constant		τ_e	ms	0.10
Continuous Current @100°C❶		I_c	A	1.5
Peak Current		I_{pk}	A	5.8
Continuous Power Dissipation @100°C❶		P_c	W	9.3
Max. Coil Temperature		t_{max}	°C	100
Thermal Dissipation Constant❶		K_{th}	W/°C	0.124
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	8.5
Core Mass		m_{core}	g	17.3
Running Clearance		L_{gap}	mm	0.35
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

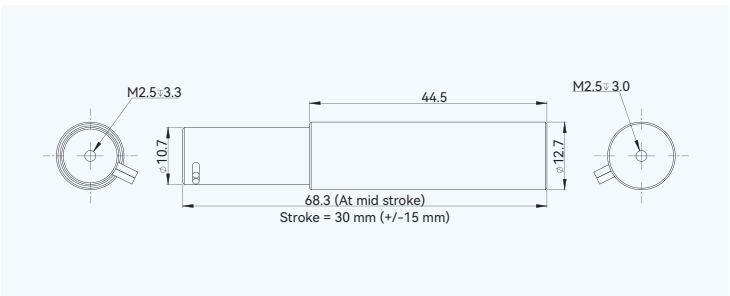


❶Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷The values are at mid stroke.
❸Resistance is measured by DC current with standard 0.5 m lead wire.
❹Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM12-30

Performance Parameters		Symbol	Unit	AVM12-30
Stroke		S	mm	30.0
Continuous Force @100°C❶❷		F_c	N	0.90
Peak Force❷		F_{pk}	N	3.44
Force Constant ±10%❷		K_f	N/A	0.60
Back EMF Constant ±10%❷		K_e	V/(m/s)	0.60
Motor Constant @25°C❷		K_m	N/Sqrt(W)	0.31
Resistance @25°C ±10%❸		R_{25}	Ω	3.70
Inductance ±20%❹		L	mH	0.45
Electrical Time Constant		τ_e	ms	0.12
Continuous Current @100°C❶		I_c	A	1.5
Peak Current		I_{pk}	A	5.8
Continuous Power Dissipation @100°C❶		P_c	W	10.7
Max. Coil Temperature		t_{max}	°C	100
Thermal Dissipation Constant❶		K_{th}	W/°C	0.143
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	14.6
Core Mass		m_{core}	g	25.1
Running Clearance		L_{gap}	mm	0.30
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

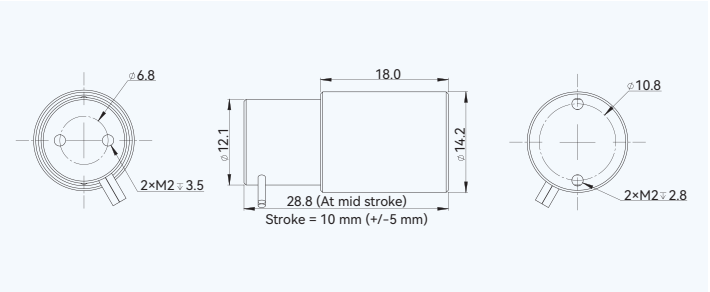


❶Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷The values are at mid stroke.
❸Resistance is measured by DC current with standard 0.5 m lead wire.
❹Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM14-10

Performance Parameters		Symbol	Unit	AVM14-10
Stroke		S	mm	10.0
Continuous Force @100°C❶❷		F_c	N	1.05
Peak Force❷		F_{pk}	N	3.12
Force Constant ±10%❷		K_f	N/A	0.87
Back EMF Constant ±10%❷		K_e	V/(m/s)	0.87
Motor Constant @25°C❷		K_m	N/Sqrt(W)	0.59
Resistance @25°C ±10%❸		R_{25}	Ω	2.22
Inductance ±20%❹		L	mH	0.24
Electrical Time Constant		τ_e	ms	0.11
Continuous Current @100°C❶		I_c	A	1.2
Peak Current		I_{pk}	A	3.6
Continuous Power Dissipation @100°C❶		P_c	W	4.1
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.055
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	3.0
Core Mass		m_{core}	g	13.6
Running Clearance		L_{gap}	mm	0.35
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

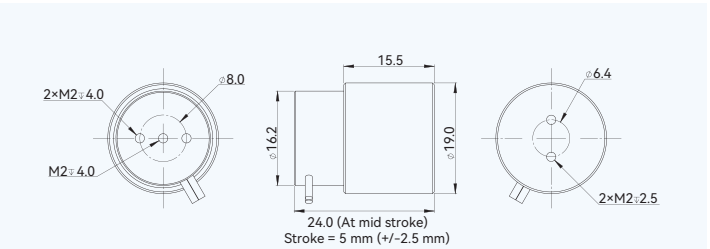


❶Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷The values are at mid stroke.
❸Resistance is measured by DC current with standard 0.5 m lead wire.
❹Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM19-5

Performance Parameters		Symbol	Unit	AVM19-5
Stroke		S	mm	5.0
Continuous Force @100°C❶❷		F_c	N	1.66
Peak Force❷		F_{pk}	N	7.50
Force Constant ±10%❷		K_f	N/A	1.66
Back EMF Constant ±10%❷		K_e	V/(m/s)	1.66
Motor Constant @25°C❷		K_m	N/Sqrt(W)	1.11
Resistance @25°C ±10%❸		R_{25}	Ω	2.24
Inductance ±20%❹		L	mH	0.29
Electrical Time Constant		τ_e	ms	0.13
Continuous Current @100°C❶		I_c	A	1.0
Peak Current		I_{pk}	A	4.5
Continuous Power Dissipation @100°C❶		P_c	W	2.9
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.038
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	9.0
Core Mass		m_{core}	g	23.8
Running Clearance		L_{gap}	mm	0.40
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

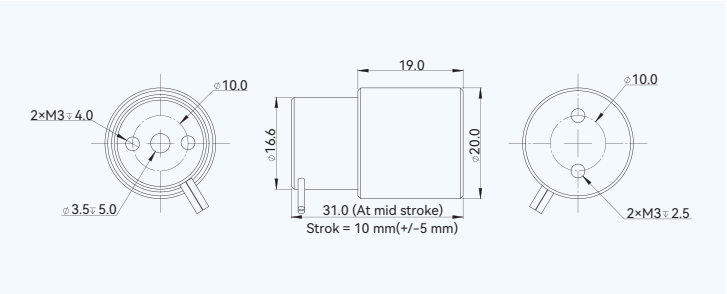


❶Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷The values are at mid stroke.
❸Resistance is measured by DC current with standard 0.5 m lead wire.
❹Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM20-10

Performance Parameters		Symbol	Unit	AVM20-10
Stroke		S	mm	10.0
Continuous Force @100°C❶❷		F_c	N	1.53
Peak Force❷		F_{pk}	N	7.42
Force Constant ±10%❷		K_f	N/A	1.97
Back EMF Constant ±10%❷		K_e	V/(m/s)	1.97
Motor Constant @25°C❷		K_m	N/Sqrt(W)	1.04
Resistance @25°C ±10%❸		R_{25}	Ω	3.59
Inductance ±20%❹		L	mH	0.55
Electrical Time Constant		τ_e	ms	0.15
Continuous Current @100°C❶		I_c	A	0.8
Peak Current		I_{pk}	A	3.8
Continuous Power Dissipation @100°C❶		P_c	W	2.8
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.038
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	11.0
Core Mass		m_{core}	g	45.1
Running Clearance		L_{gap}	mm	0.50
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

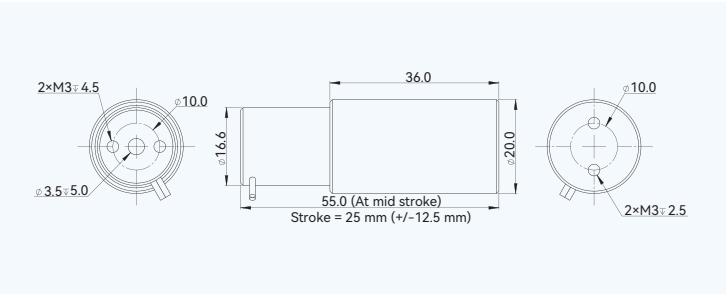


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM20-25

Performance Parameters		Symbol	Unit	AVM20-25
Stroke		S	mm	25.0
Continuous Force @100°C❶❷		F_c	N	1.52
Peak Force❷		F_{pk}	N	6.87
Force Constant ±10%❷		K_f	N/A	2.03
Back EMF Constant ±10%❷		K_e	V/(m/s)	2.03
Motor Constant @25°C❷		K_m	N/Sqrt(W)	0.80
Resistance @25°C ±10%❸		R_{25}	Ω	6.40
Inductance ±20%❹		L	mH	1.15
Electrical Time Constant		τ_e	ms	0.18
Continuous Current @100°C❶		I_c	A	0.8
Peak Current		I_{pk}	A	3.4
Continuous Power Dissipation @100°C❶		P_c	W	4.6
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.062
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	17.8
Core Mass		m_{core}	g	59.0
Running Clearance		L_{gap}	mm	0.50
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

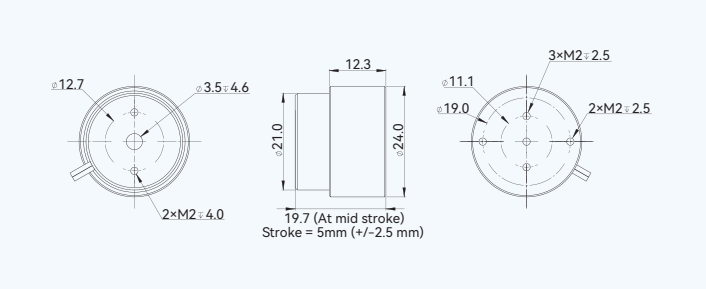


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM24-5

Performance Parameters		Symbol	Unit	AVM24-5
Stroke		S	mm	5.0
Continuous Force @100°C❶❷		F_c	N	2.13
Peak Force❷		F_{pk}	N	11.7
Force Constant ±10%❷		K_f	N/A	3.04
Back EMF Constant ±10%❷		K_e	V/(m/s)	3.04
Motor Constant @25°C❷		K_m	N/Sqrt(W)	1.71
Resistance @25°C ±10%❸		R_{25}	Ω	3.15
Inductance ±20%❹		L	mH	0.55
Electrical Time Constant		τ_e	ms	0.17
Continuous Current @100°C❶		I_c	A	0.7
Peak Current		I_{pk}	A	3.8
Continuous Power Dissipation @100°C❶		P_c	W	2.0
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.027
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	12.0
Core Mass		m_{core}	g	29.7
Running Clearance		L_{gap}	mm	0.50
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

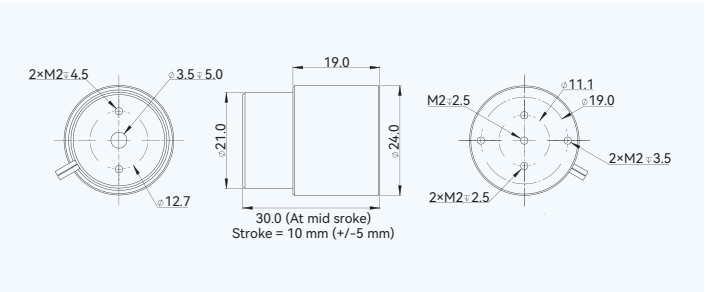


❶Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷The values are at mid stroke.
❸Resistance is measured by DC current with standard 0.5 m lead wire.
❹Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM24-10

Performance Parameters		Symbol	Unit	AVM24-10
Stroke		S	mm	10.0
Continuous Force @100°C❶❷		F_c	N	2.80
Peak Force❷		F_{pk}	N	15.7
Force Constant ±10%❷		K_f	N/A	4.12
Back EMF Constant ±10%❷		K_e	V/(m/s)	4.12
Motor Constant @25°C❷		K_m	N/Sqrt(W)	1.70
Resistance @25°C ±10%❸		R_{25}	Ω	5.86
Inductance ±20%❹		L	mH	1.34
Electrical Time Constant		τ_e	ms	0.23
Continuous Current @100°C❶		I_c	A	0.7
Peak Current		I_{pk}	A	3.8
Continuous Power Dissipation @100°C❶		P_c	W	3.5
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.047
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	16.5
Core Mass		m_{core}	g	45.0
Running Clearance		L_{gap}	mm	0.50
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

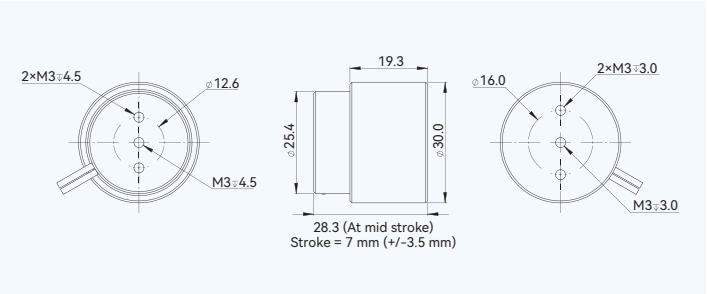


❶Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷The values are at mid stroke.
❸Resistance is measured by DC current with standard 0.5 m lead wire.
❹Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM30-7

Performance Parameters		Symbol	Unit	AVM30-7
Stroke		S	mm	7.0
Continuous Force @100°C❶❷		F_c	N	5.62
Peak Force❷		F_{pk}	N	24.9
Force Constant ±10%❷		K_f	N/A	6.18
Back EMF Constant ±10%❷		K_e	V/(m/s)	6.18
Motor Constant @25°C❷		K_m	N/Sqrt(W)	2.53
Resistance @25°C ±10%❸		R_{25}	Ω	5.94
Inductance ±20%❹		L	mH	1.41
Electrical Time Constant		τ_e	ms	0.24
Continuous Current @100°C❶		I_c	A	0.9
Peak Current		I_{pk}	A	4.0
Continuous Power Dissipation @100°C❶		P_c	W	6.3
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.085
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	18.4
Core Mass		m_{core}	g	86.2
Running Clearance		L_{gap}	mm	0.50
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

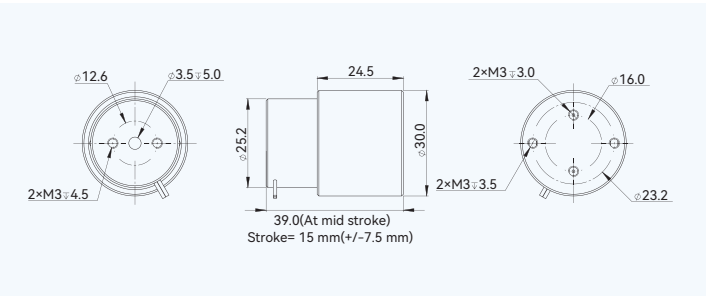


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM30-15

Performance Parameters		Symbol	Unit	AVM30-15
Stroke		S	mm	15.0
Continuous Force @100°C ❶❷		F_c	N	4.43
Peak Force❷		F_{pk}	N	28.2
Force Constant ±10%❷		K_f	N/A	7.03
Back EMF Constant ±10%❷		K_e	V/(m/s)	7.03
Motor Constant @25°C❷		K_m	N/Sqrt(W)	2.20
Resistance @25°C ±10%❸		R_{25}	Ω	10.24
Inductance ±20%❹		L	mH	2.82
Electrical Time Constant		τ_e	ms	0.28
Continuous Current @100°C❶		I_c	A	0.6
Peak Current		I_{pk}	A	4.0
Continuous Power Dissipation @100°C❶		P_c	W	5.2
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.070
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	25.1
Core Mass		m_{core}	g	95.6
Running Clearance		L_{gap}	mm	0.60
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

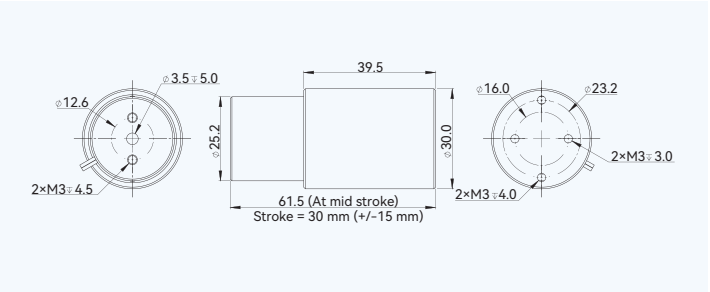


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM30-30

Performance Parameters		Symbol	Unit	AVM30-30
Stroke		S	mm	30.0
Continuous Force @100°C❶❷		F_c	N	4.65
Peak Force❷		F_{pk}	N	13.9
Force Constant ±10%❷		K_f	N/A	3.32
Back EMF Constant ±10%❷		K_e	V/(m/s)	3.32
Motor Constant @25°C❷		K_m	N/Sqrt(W)	1.80
Resistance @25°C ±10%❸		R_{25}	Ω	3.40
Inductance ±20%❹		L	mH	0.99
Electrical Time Constant		τ_e	ms	0.29
Continuous Current @100°C❶		I_c	A	1.4
Peak Current		I_{pk}	A	4.2
Continuous Power Dissipation @100°C❶		P_c	W	8.6
Max. Coil Temperature		t_{max}	°C	100
Thermal Dissipation Constant❶		K_{th}	W/°C	0.115
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	48.3
Core Mass		m_{core}	g	150.6
Running Clearance		L_{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
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

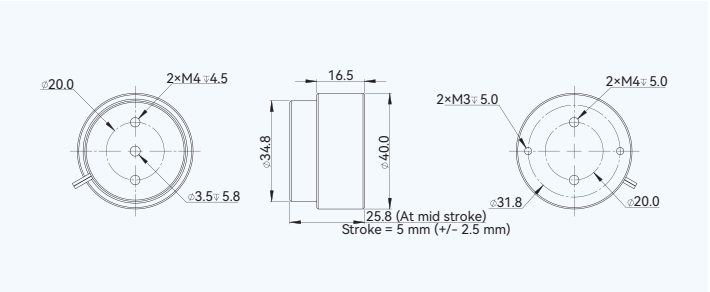


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM40-5

Performance Parameters		Symbol	Unit	AVM40-5
Stroke		S	mm	5.0
Continuous Force @100°C❶❷		F_c	N	6.45
Peak Force❷		F_{pk}	N	38.9
Force Constant ±10%❷		K_f	N/A	8.37
Back EMF Constant ±10%❷		K_e	V/(m/s)	8.37
Motor Constant @25°C❷		K_m	N/Sqrt(W)	3.90
Resistance @25°C ±10%❸		R_{25}	Ω	4.60
Inductance ±20%❹		L	mH	2.15
Electrical Time Constant		τ_e	ms	0.47
Continuous Current @100°C❶		I_c	A	0.8
Peak Current		I_{pk}	A	4.5
Continuous Power Dissipation @100°C❶		P_c	W	3.5
Max. Coil Temperature		t_{max}	°C	100
Thermal Dissipation Constant❶		K_{th}	W/°C	0.047
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	40.3
Core Mass		m_{core}	g	124.7
Running Clearance		L_{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
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

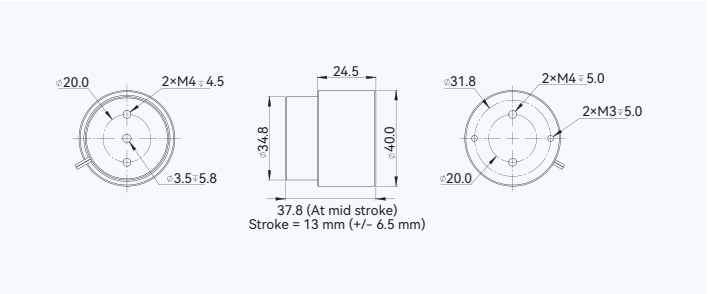


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM40-13

Performance Parameters		Symbol	Unit	AVM40-13
Stroke		S	mm	13.0
Continuous Force @100°C❶❷		F_c	N	9.27
Peak Force❷		F_{pk}	N	54.9
Force Constant ±10%❷		K_f	N/A	12.0
Back EMF Constant ±10%❷		K_e	V/(m/s)	12.0
Motor Constant @25°C❷		K_m	N/Sqrt(W)	4.26
Resistance @25°C ±10%❸		R_{25}	Ω	8.0
Inductance ±20%❹		L	mH	4.44
Electrical Time Constant		τ_e	ms	0.55
Continuous Current @100°C❶		I_c	A	0.8
Peak Current		I_{pk}	A	4.5
Continuous Power Dissipation @100°C❶		P_c	W	6.1
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.082
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	50.0
Core Mass		m_{core}	g	175.1
Running Clearance		L_{gap}	mm	0.60
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

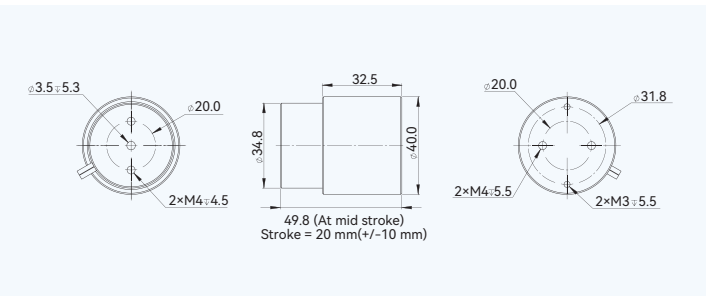


❶Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷The values are at mid stroke.
❸Resistance is measured by DC current with standard 0.5 m lead wire.
❹Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM40-20

Performance Parameters		Symbol	Unit	AVM40-20
Stroke		S	mm	20.0
Continuous Force @100°C❶❷		F_c	N	10.5
Peak Force❷		F_{pk}	N	61.7
Force Constant ±10%❷		K_f	N/A	13.6
Back EMF Constant ±10%❷		K_e	V/(m/s)	13.6
Motor Constant @25°C❷		K_m	N/Sqrt(W)	4.02
Resistance @25°C ±10%❸		R_{25}	Ω	11.5
Inductance ±20%❹		L	mH	5.2
Electrical Time Constant		τ_e	ms	0.45
Continuous Current @100°C❶		I_c	A	0.8
Peak Current		I_{pk}	A	4.5
Continuous Power Dissipation @100°C❶		P_c	W	8.8
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.117
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	64.0
Core Mass		m_{core}	g	226.2
Running Clearance		L_{gap}	mm	0.60
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

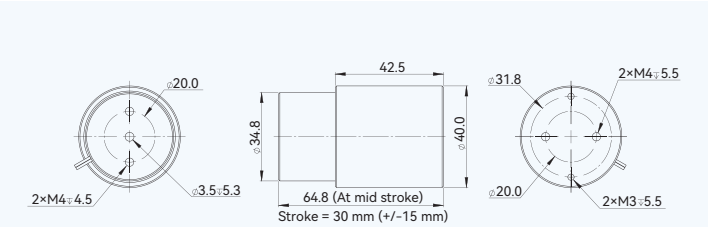


❶Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷The values are at mid stroke.
❸Resistance is measured by DC current with standard 0.5 m lead wire.
❹Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM40-30

Performance Parameters		Symbol	Unit	AVM40-30
Stroke		S	mm	30.0
Continuous Force @100°C❶❷		F_c	N	11.1
Peak Force❷		F_{pk}	N	65.3
Force Constant ±10%❷		K_f	N/A	14.5
Back EMF Constant ±10%❷		K_e	V/(m/s)	14.5
Motor Constant @25°C❷		K_m	N/Sqrt(W)	3.64
Resistance @25°C ±10%❸		R_{25}	Ω	15.8
Inductance ±20%❹		L	mH	7.9
Electrical Time Constant		τ_e	ms	0.50
Continuous Current @100°C❶		I_c	A	0.8
Peak Current		I_{pk}	A	4.5
Continuous Power Dissipation @100°C❶		P_c	W	12.1
Max. Coil Temperature		t_{max}	°C	100
Thermal Dissipation Constant❶		K_{th}	W/°C	0.161
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	82.0
Core Mass		m_{core}	g	288.6
Running Clearance		L_{gap}	mm	0.60
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

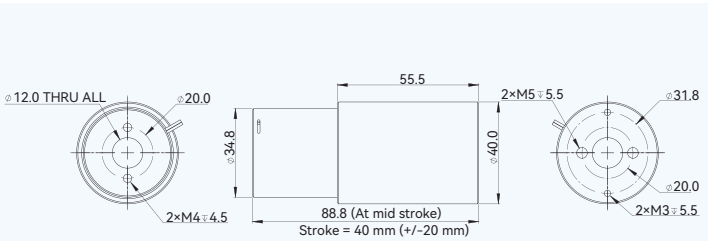


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM40-40

Performance Parameters		Symbol	Unit	AVM40-40
Stroke		S	mm	40.0
Continuous Force @100°C❶❷		F_c	N	7.72
Peak Force❷		F_{pk}	N	39.5
Force Constant ±10%❷		K_f	N/Arms	6.17
Back EMF Constant ±10%❷		K_e	Vpeak/(m/s)	6.17
Motor Constant @25°C❷		K_m	N/Sqrt(W)	2.50
Resistance @25°C ±10%❸		R_{25}	Ω	6.10
Inductance ±20%❹		L	mH	3.12
Electrical Time Constant		τ_e	ms	0.51
Continuous Current @100°C❶		I_c	Arms	1.3
Peak Current		I_{pk}	Arms	6.4
Continuous Power Dissipation @100°C❶		P_c	W	12.3
Max. Coil Temperature		t_{max}	°C	100
Thermal Dissipation Constant❶		K_{th}	W/°C	0.164
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	150.2
Core Mass		m_{core}	g	321.2
Running Clearance		L_{gap}	mm	0.60
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

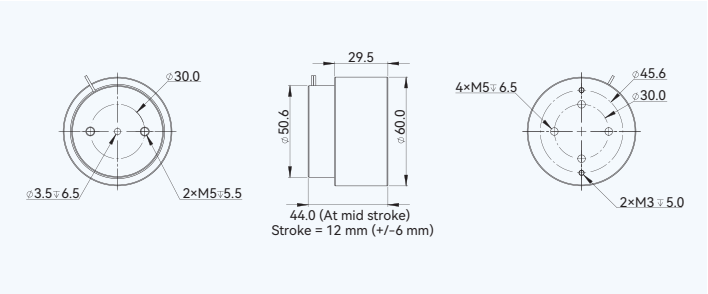


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM60-12

Performance Parameters		Symbol	Unit	AVM60-12
Stroke		S	mm	12.0
Continuous Force @100°C❶❷		F_c	N	21.4
Peak Force❷		F_{pk}	N	98.7
Force Constant ±10%❷		K_f	N/A	13.8
Back EMF Constant ±10%❷		K_e	V/(m/s)	13.8
Motor Constant @25°C❷		K_m	N/Sqrt(W)	7.72
Resistance @25°C ±10%❸		R_{25}	Ω	3.20
Inductance ±20%❹		L	mH	4.89
Electrical Time Constant		τ_e	ms	1.53
Continuous Current @100°C❶		I_c	A	1.6
Peak Current		I_{pk}	A	7.0
Continuous Power Dissipation @100°C❶		P_c	W	9.9
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.132
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	130.0
Core Mass		m_{core}	g	480.0
Running Clearance		L_{gap}	mm	0.70
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

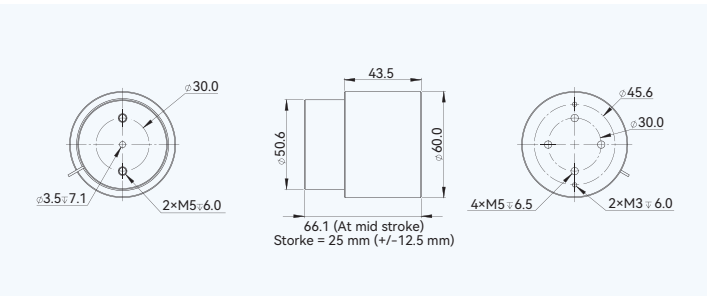


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM60-25

Performance Parameters		Symbol	Unit	AVM60-25
Stroke		S	mm	25.0
Continuous Force @100°C❶❷		F_c	N	26.8
Peak Force❷		F_{pk}	N	121.6
Force Constant ±10%❷		K_f	N/A	17.3
Back EMF Constant ±10%❷		K_e	V/(m/s)	17.3
Motor Constant @25°C❷		K_m	N/Sqrt(W)	7.47
Resistance @25°C ±10%❸		R_{25}	Ω	5.35
Inductance ±20%❹		L	mH	3.82
Electrical Time Constant		τ_e	ms	0.71
Continuous Current @100°C❶		I_c	A	1.6
Peak Current		I_{pk}	A	7.0
Continuous Power Dissipation @100°C❶		P_c	W	16.6
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.2
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	212.0
Core Mass		m_{core}	g	692.9
Running Clearance		L_{gap}	mm	0.7
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

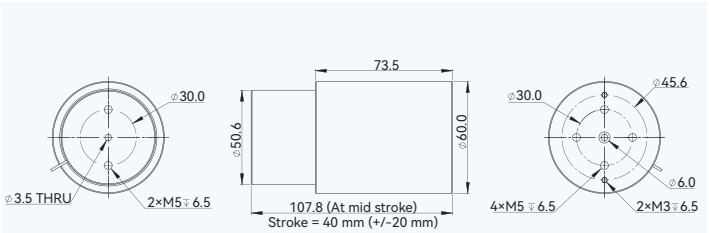


❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM60-40

Performance Parameters		Symbol	Unit	AVM60-40
Stroke		S	mm	40.0
Continuous Force @100°C[1][2]		F_c	N	29.0
Peak Force[2]		F_{pk}	N	131.1
Force Constant ±10%[2]		K_f	N/A	18.7
Back EMF Constant ±10%[2]		K_e	V/(m/s)	18.7
Motor Constant @25°C[2]		K_m	N/Sqrt(W)	6.06
Resistance @25°C ±10%[3]		R_{25}	Ω	9.50
Inductance ±20%[4]		L	mH	8.32
Electrical Time Constant		τ_e	ms	0.88
Continuous Current @100°C[1]		I_c	A	1.6
Peak Current		I_{pk}	A	7.0
Continuous Power Dissipation @100°C[1]		P_c	W	29.4
Max. Coil Temperature		t_{max}	°C	100
Thermal Dissipation Constant[1]		K_{th}	W/°C	0.392
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	446.9
Core Mass		m_{core}	g	1099.5
Running Clearance		L_{gap}	mm	0.70
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

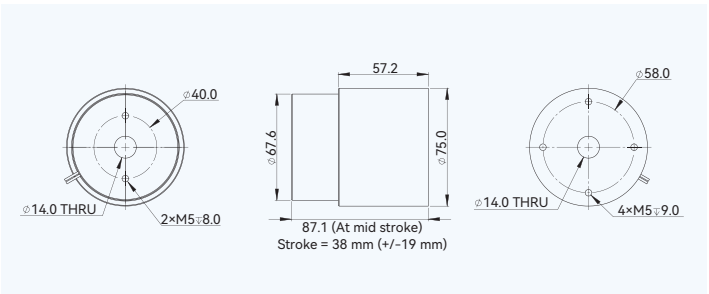


[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
[2] The values are at mid stroke.
[3] Resistance is measured by DC current with standard 0.5 m lead wire.
[4] Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM75-38

Performance Parameters		Symbol	Unit	AVM75-38
Stroke		S	mm	38.0
Continuous Force @100°C[1][2]		F_c	N	48.6
Peak Force[2]		F_{pk}	N	209.9
Force Constant ±10%[2]		K_f	N/A	14.7
Back EMF Constant ±10%[2]		K_e	V/(m/s)	14.7
Motor Constant @25°C[2]		K_m	N/Sqrt(W)	9.9
Resistance @25°C ±10%[3]		R_{25}	Ω	2.20
Inductance ±20%[4]		L	mH	1.99
Electrical Time Constant		τ_e	ms	0.90
Continuous Current @100°C[1]		I_c	A	3.3
Peak Current		I_{pk}	A	14.0
Continuous Power Dissipation @100°C[1]		P_c	W	30.9
Max. Coil Temperature		t_{max}	°C	100
Thermal Dissipation Constant[1]		K_{th}	W/°C	0.41
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	534.0
Core Mass		m_{core}	g	1236.0
Running Clearance		L_{gap}	mm	0.50
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

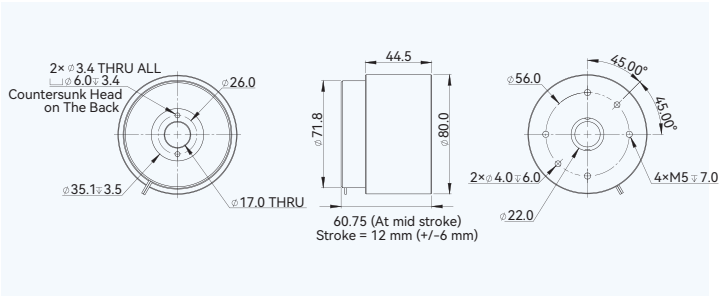


[1] Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
[2] The values are at mid stroke.
[3] Resistance is measured by DC current with standard 0.5 m lead wire.
[4] Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM80-12

Performance Parameters		Symbol	Unit	AVM80-12
Stroke		S	mm	12.0
Continuous Force @100°C❶❷		F_c	N	47.9
Peak Force❷		F_{pk}	N	205.9
Force Constant ±10%❷		K_f	N/A	32.8
Back EMF Constant ±10%❷		K_e	V/(m/s)	32.8
Motor Constant @25°C❷		K_m	N/Sqrt(W)	12.0
Resistance @25°C ±10%❸		R_{25}	Ω	7.50
Inductance ±20%❹		L	mH	1.70
Electrical Time Constant		τ_e	ms	0.23
Continuous Current @100°C❶		I_c	A	1.5
Peak Current		I_{pk}	A	6.2
Continuous Power Dissipation @100°C❶		P_c	W	20.6
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.275
Max.Voltage		U_{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m_{coil}	g	235.3
Core Mass		m_{core}	g	1265.0
Running Clearance		L_{gap}	mm	0.60
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

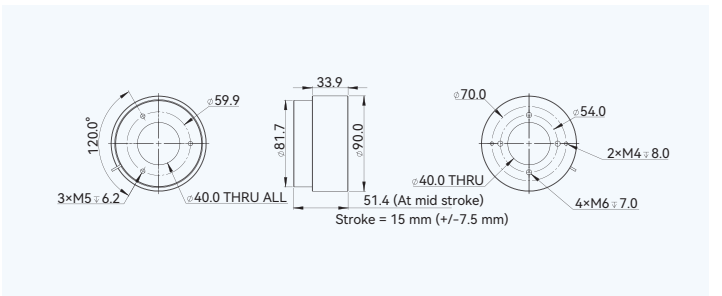


❶Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷The values are at mid stroke.
❸Resistance is measured by DC current with standard 0.5 m lead wire.
❹Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM90-15

Performance Parameters		Symbol	Unit	AVM90-15
Stroke		S	mm	15.0
Continuous Force @100°C❶❷		F_c	N	36.1
Peak Force❷		F_{pk}	N	132.5
Force Constant ±10%❷		K_f	N/A	9.01
Back EMF Constant ±10%❷		K_e	V/(m/s)	9.01
Motor Constant @25°C❷		K_m	N/Sqrt(W)	7.62
Resistance @25°C ±10%❸		R_{25}	Ω	1.40
Inductance ±20%❹		L	mH	1.20
Electrical Time Constant		τ_e	ms	0.86
Continuous Current @100°C❶		I_c	A	4.0
Peak Current		I_{pk}	A	14.0
Continuous Power Dissipation @100°C❶		P_c	W	28.9
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant❶		K_{th}	W/℃	0.38
Max.Voltage		U_{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m_{coil}	g	563.5
Core Mass		m_{core}	g	831.9
Running Clearance		L_{gap}	mm	0.60
Other Information				
Insulation Class			Class A (105°C)	
Protection Grade			IP00	
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

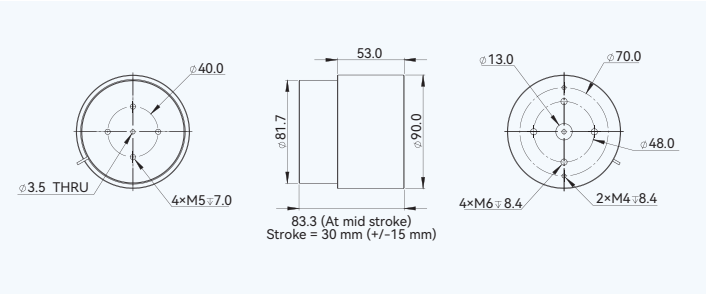


❶Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷The values are at mid stroke.
❸Resistance is measured by DC current with standard 0.5 m lead wire.
❹Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM90-30

Performance Parameters		Symbol	Unit	AVM90-30
Stroke		S	mm	30.0
Continuous Force @100°C[1][2]		F_c	N	95.6
Peak Force[2]		F_{pk}	N	340.3
Force Constant ±10%[2]		K_f	N/A	23.9
Back EMF Constant ±10%[2]		K_e	V/(m/s)	23.9
Motor Constant @25°C[2]		K_m	N/Sqrt(W)	14.5
Resistance @25°C ±10%[3]		R_{25}	Ω	2.73
Inductance ±20%[4]		L	mH	3.50
Electrical Time Constant		τ_e	ms	1.28
Continuous Current @100°C[1]		I_c	A	4.0
Peak Current		I_{pk}	A	14.0
Continuous Power Dissipation @100°C[1]		P_c	W	56.3
Max. Coil Temperature		t_{max}	℃	100
Thermal Dissipation Constant[1]		K_{th}	W/℃	0.751
Max.Voltage		U_{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m_{coil}	g	820.0
Core Mass		m_{core}	g	1639.0
Running Clearance		L_{gap}	mm	0.65
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
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



[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

AVM40-20-0.5

Model and Diameter:
AVM40

Stroke(mm):
20

Wire Length Option(m):
0.5