

AVM SERIES

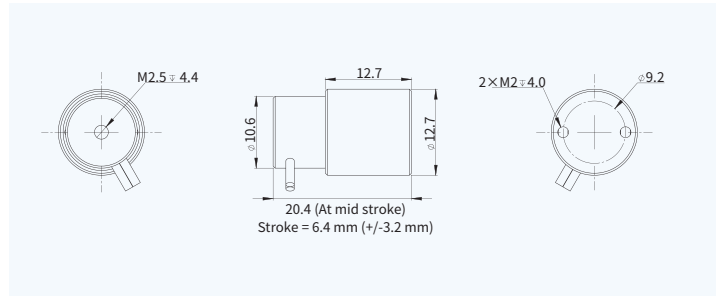
- ▶ Direct drive, zero cogging, zero backlash voice coil motors
- ▶ Low coil mass with very fast response and bandwidth
- ▶ No contact between coil and core movement (no wear and tear)
- ▶ Smooth motion at low speeds with limitless resolution (depends on feedback device)

EN-24.5.1

AVM12-6.4

Performance Parameters		Symbol	Unit	AVM12-6.4
Stroke		S	mm	6.4
Continuous Force @100°C ①②		F _c	N	0.86
Peak Force ②		F _{pk}	N	3.33
Force Constant ±10% ②		K _f	N/A	0.54
Back EMF Constant ±10% ②		K _e	V/(m/s)	0.54
Motor Constant @25°C ②		K _m	N/Sqrt(W)	0.50
Resistance @25°C ±10% ③		R ₂₅	Ω	1.17
Inductance ±20% ④		L	mH	0.10
Electrical Time Constant		T _e	ms	0.09
Continuous Current @100°C ①		I _c	A	1.6
Peak Current		I _{pk}	A	6.2
Continuous Power Dissipation @100°C ①		P _c	W	3.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.051
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

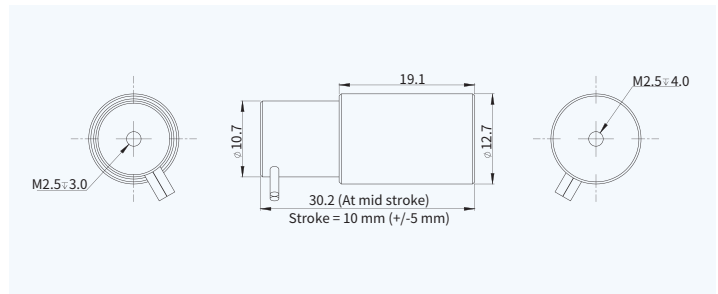


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM12-10

Performance Parameters		Symbol	Unit	AVM12-10
Stroke		S	mm	10.0
Continuous Force @100°C ①②		F _c	N	1.0
Peak Force ②		F _{pk}	N	3.9
Force Constant ±10% ②		K _f	N/A	0.55
Back EMF Constant ±10% ②		K _e	V/(m/s)	0.55
Motor Constant @25°C ②		K _m	N/Sqrt(W)	0.45
Resistance @25°C ±10% ③		R ₂₅	Ω	1.50
Inductance ±20% ④		L	mH	0.16
Electrical Time Constant		T _e	ms	0.11
Continuous Current @100°C ①		I _c	A	1.8
Peak Current		I _{pk}	A	7.0
Continuous Power Dissipation @100°C ①		P _c	W	6.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.084
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	6.3
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

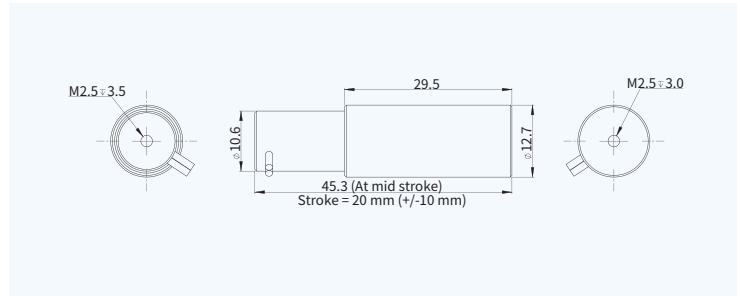


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM12-20

Performance Parameters		Symbol	Unit	AVM12-20
Stroke	S	mm		20.0
Continuous Force @100°C ① ②	F _c	N		1.0
Peak Force ②	F _{pk}	N		3.8
Force Constant ±10% ②	K _f	N/A		0.66
Back EMF Constant ±10% ②	K _e	V/(m/s)		0.66
Motor Constant @25°C ②	K _m	N/Sqrt(W)		0.37
Resistance @25°C ±10% ③	R ₂₅	Ω		3.20
Inductance ±20% ④	L	mH		0.33
Electrical Time Constant	T _e	ms		0.10
Continuous Current @100°C ①	I _c	A		1.5
Peak Current	I _{pk}	A		5.8
Continuous Power Dissipation @100°C ①	P _c	W		9.3
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.124
Max. Voltage	U _{max}	V _{dc}		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

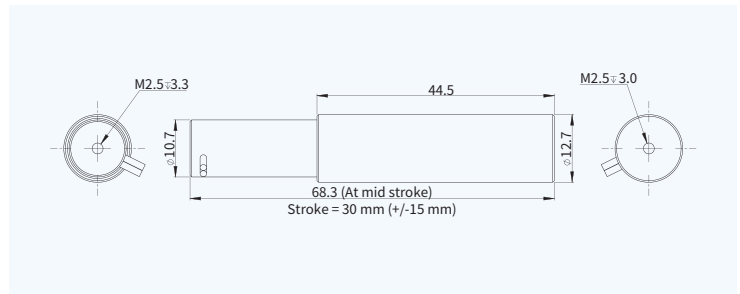


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM12-30

Performance Parameters		Symbol	Unit	AVM12-30
Stroke	S	mm		30.0
Continuous Force @100°C ① ②	F _c	N		0.90
Peak Force ②	F _{pk}	N		3.44
Force Constant ±10% ②	K _f	N/A		0.60
Back EMF Constant ±10% ②	K _e	V/(m/s)		0.60
Motor Constant @25°C ②	K _m	N/Sqrt(W)		0.31
Resistance @25°C ±10% ③	R ₂₅	Ω		3.70
Inductance ±20% ④	L	mH		0.45
Electrical Time Constant	T _e	ms		0.12
Continuous Current @100°C ①	I _c	A		1.5
Peak Current	I _{pk}	A		5.8
Continuous Power Dissipation @100°C ①	P _c	W		10.7
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.143
Max. Voltage	U _{max}	V _{dc}		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



- 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.

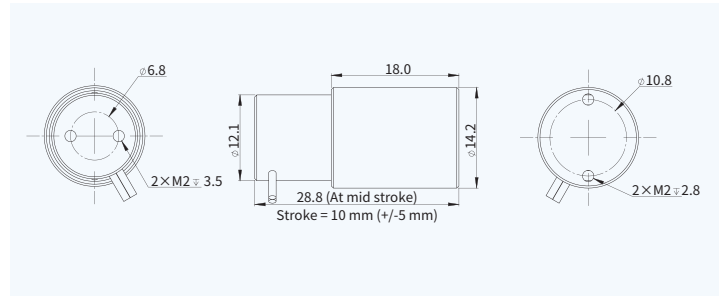
AVM14-10

Performance Parameters	Symbol	Unit	AVM14-10
Stroke	S	mm	10.0
Continuous Force @100°C ① ②	F _c	N	1.05
Peak Force ③	F _{pk}	N	3.12
Force Constant ±10% ②	K _f	N/A	0.87
Back EMF Constant ±10% ②	K _e	V/(m/s)	0.87
Motor Constant @25°C ②	K _m	N/Sqrt(W)	0.59
Resistance @25°C ±10% ③	R ₂₅	Ω	2.22
Inductance ±20% ④	L	mH	0.24
Electrical Time Constant	T _e	ms	0.11
Continuous Current @100°C ①	I _c	A	1.2
Peak Current	I _{pk}	A	3.6
Continuous Power Dissipation @100°C ①	P _c	W	4.1
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ④	K _{th}	W/°C	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



- 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.

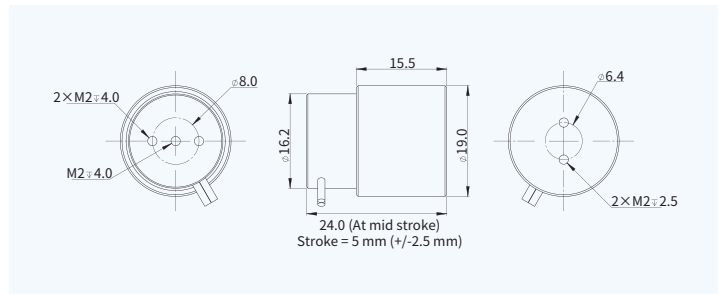
AVM19-5

Performance Parameters	Symbol	Unit	AVM19-5
Stroke	S	mm	5.0
Continuous Force @100°C ① ②	F _c	N	1.66
Peak Force ③	F _{pk}	N	7.50
Force Constant ±10% ②	K _f	N/A	1.66
Back EMF Constant ±10% ②	K _e	V/(m/s)	1.66
Motor Constant @25°C ②	K _m	N/Sqrt(W)	1.11
Resistance @25°C ±10% ③	R ₂₅	Ω	2.24
Inductance ±20% ④	L	mH	0.29
Electrical Time Constant	T _e	ms	0.13
Continuous Current @100°C ①	I _c	A	1.0
Peak Current	I _{pk}	A	4.5
Continuous Power Dissipation @100°C ①	P _c	W	2.9
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ④	K _{th}	W/°C	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



- 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.

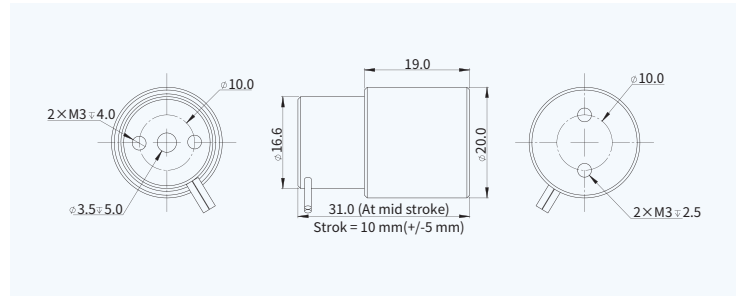
AVM20-10

Performance Parameters	Symbol	Unit	AVM20-10
Stroke	S	mm	10.0
Continuous Force @100°C ①②	F _c	N	1.53
Peak Force ②	F _{pk}	N	7.42
Force Constant ±10%②	K _f	N/A	1.97
Back EMF Constant ±10%②	K _e	V/(m/s)	1.97
Motor Constant @25°C②	K _m	N/Sqrt(W)	1.04
Resistance @25°C ±10%③	R ₂₅	Ω	3.59
Inductance ±20%④	L	mH	0.55
Electrical Time Constant	T _e	ms	0.15
Continuous Current @100°C①	I _c	A	0.8
Peak Current	I _{pk}	A	3.8
Continuous Power Dissipation @100°C①	P _l	W	2.8
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant①	K _{th}	W/°C	0.038
Max.Voltage	U _{max}	V _{dc}	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



- 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.

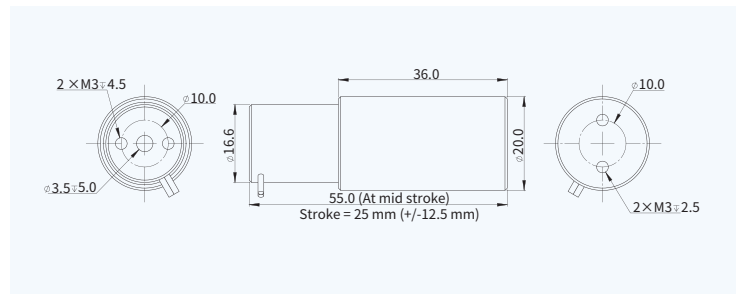
AVM20-25

Performance Parameters	Symbol	Unit	AVM20-25
Stroke	S	mm	25.0
Continuous Force @100°C ①②	F _c	N	1.52
Peak Force ②	F _{pk}	N	6.87
Force Constant ±10%②	K _f	N/A	2.03
Back EMF Constant ±10%②	K _e	V/(m/s)	2.03
Motor Constant @25°C②	K _m	N/Sqrt(W)	0.80
Resistance @25°C ±10%③	R ₂₅	Ω	6.40
Inductance ±20%④	L	mH	1.15
Electrical Time Constant	T _e	ms	0.18
Continuous Current @100°C①	I _c	A	0.8
Peak Current	I _{pk}	A	3.4
Continuous Power Dissipation @100°C①	P _l	W	4.6
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant①	K _{th}	W/°C	0.062
Max.Voltage	U _{max}	V _{dc}	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

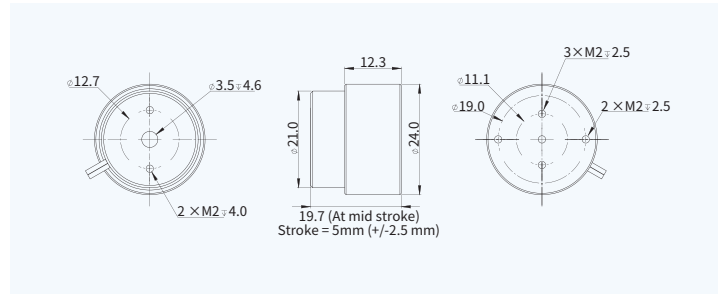


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM24-5

Performance Parameters		Symbol	Unit	AVM24-5
Stroke		S	mm	5.0
Continuous Force @100°C ①②		F _c	N	2.13
Peak Force ②		F _{pk}	N	11.7
Force Constant ±10% ②		K _f	N/A	3.04
Back EMF Constant ±10% ②		K _e	V/(m/s)	3.04
Motor Constant @25°C ②		K _m	N/Sqrt(W)	1.71
Resistance @25°C ±10% ③		R ₂₅	Ω	3.15
Inductance ±20% ④		L	mH	0.55
Electrical Time Constant		T _e	ms	0.17
Continuous Current @100°C ①		I _c	A	0.7
Peak Current		I _{pk}	A	3.8
Continuous Power Dissipation @100°C ①		P _c	W	2.0
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.027
Max.Voltage		U _{max}	V _{dc}	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

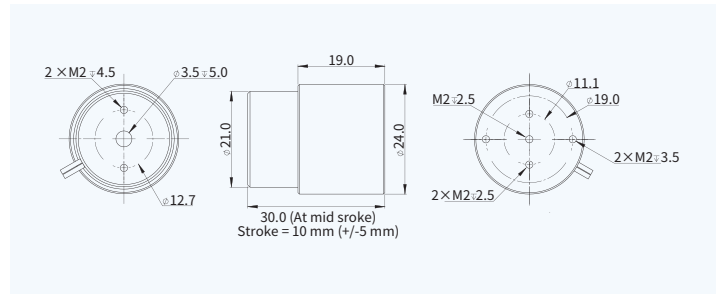


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM24-10

Performance Parameters		Symbol	Unit	AVM24-10
Stroke		S	mm	10.0
Continuous Force @100°C ①②		F _c	N	2.80
Peak Force ②		F _{pk}	N	15.7
Force Constant ±10% ②		K _f	N/A	4.12
Back EMF Constant ±10% ②		K _e	V/(m/s)	4.12
Motor Constant @25°C ②		K _m	N/Sqrt(W)	1.70
Resistance @25°C ±10% ③		R ₂₅	Ω	5.86
Inductance ±20% ④		L	mH	1.34
Electrical Time Constant		T _e	ms	0.23
Continuous Current @100°C ①		I _c	A	0.7
Peak Current		I _{pk}	A	3.8
Continuous Power Dissipation @100°C ①		P _c	W	3.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.047
Max.Voltage		U _{max}	V _{dc}	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

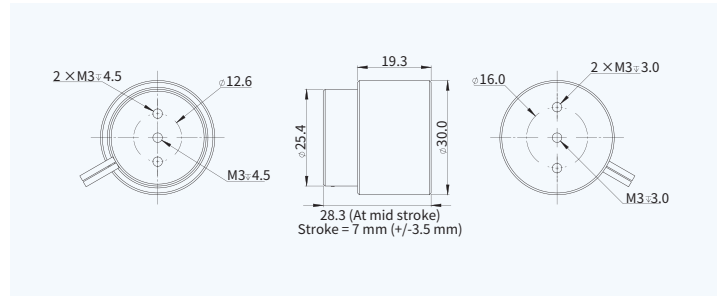


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM30-7

Performance Parameters		Symbol	Unit	AVM30-7
Stroke	S	mm		7.0
Continuous Force @100°C ① ②	F _c	N		5.62
Peak Force ②	F _{pk}	N		24.9
Force Constant ±10% ②	K _f	N/A		6.18
Back EMF Constant ±10% ②	K _e	V/(m/s)		6.18
Motor Constant @25°C ②	K _m	N/Sqrt(W)		2.53
Resistance @25°C ±10% ③	R ₂₅	Ω		5.94
Inductance ±20% ④	L	mH		1.41
Electrical Time Constant	T _e	ms		0.24
Continuous Current @100°C ①	I _c	A		0.9
Peak Current	I _{pk}	A		4.0
Continuous Power Dissipation @100°C ①	P _l	W		6.3
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.085
Max.Voltage	U _{max}	V _{dc}		60
Mechanical Parameters				
Coil Mass	m _{coil}	g		15.3
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

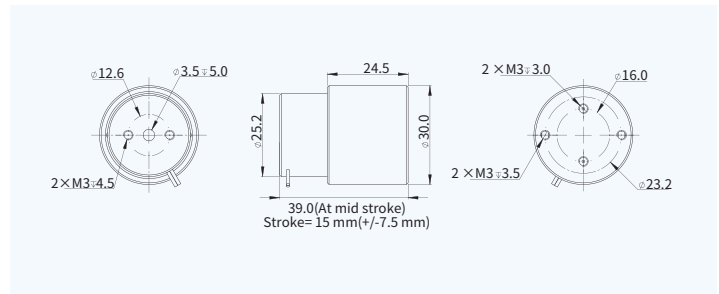


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM30-15

Performance Parameters		Symbol	Unit	AVM30-15
Stroke	S	mm		15.0
Continuous Force @100°C ① ②	F _c	N		4.43
Peak Force ②	F _{pk}	N		28.2
Force Constant ±10% ②	K _f	N/A		7.03
Back EMF Constant ±10% ②	K _e	V/(m/s)		7.03
Motor Constant @25°C ②	K _m	N/Sqrt(W)		2.20
Resistance @25°C ±10% ③	R ₂₅	Ω		10.24
Inductance ±20% ④	L	mH		2.82
Electrical Time Constant	T _e	ms		0.28
Continuous Current @100°C ①	I _c	A		0.6
Peak Current	I _{pk}	A		4.0
Continuous Power Dissipation @100°C ①	P _l	W		5.2
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.070
Max.Voltage	U _{max}	V _{dc}		60
Mechanical Parameters				
Coil Mass	m _{coil}	g		31.8
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

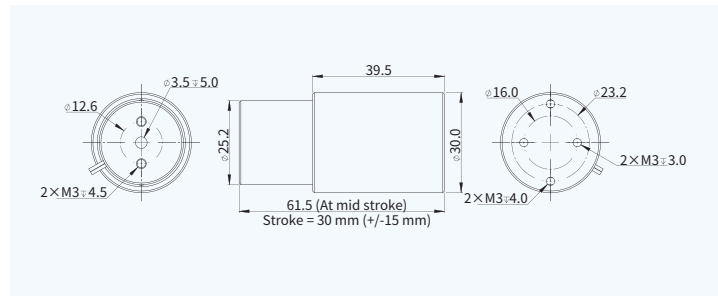


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM30-30

Performance Parameters		Symbol	Unit	AVM30-30
Stroke		S	mm	30.0
Continuous Force @100°C ①②		F _c	N	4.65
Peak Force ②		F _{pk}	N	13.9
Force Constant ±10% ②		K _f	N/A	3.32
Back EMF Constant ±10% ②		K _e	V/(m/s)	3.32
Motor Constant @25°C ②		K _m	N/Sqrt(W)	1.80
Resistance @25°C ±10% ③		R ₂₅	Ω	3.40
Inductance ±20% ④		L	mH	0.99
Electrical Time Constant		T _e	ms	0.29
Continuous Current @100°C ①		I _c	A	1.4
Peak Current		I _{pk}	A	4.2
Continuous Power Dissipation @100°C ①		P _c	W	8.6
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		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

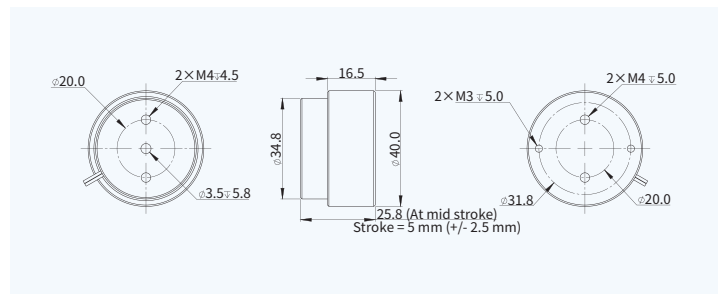


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM40-5

Performance Parameters		Symbol	Unit	AVM40-5
Stroke		S	mm	5.0
Continuous Force @100°C ①②		F _c	N	6.45
Peak Force ②		F _{pk}	N	38.9
Force Constant ±10% ②		K _f	N/A	8.37
Back EMF Constant ±10% ②		K _e	V/(m/s)	8.37
Motor Constant @25°C ②		K _m	N/Sqrt(W)	3.90
Resistance @25°C ±10% ③		R ₂₅	Ω	4.60
Inductance ±20% ④		L	mH	2.15
Electrical Time Constant		T _e	ms	0.47
Continuous Current @100°C ①		I _c	A	0.8
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C ①		P _c	W	3.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		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

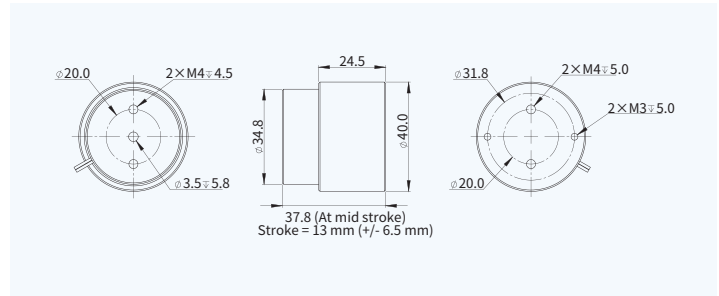


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM40-13

Performance Parameters		Symbol	Unit	AVM40-13
Stroke		S	mm	13.0
Continuous Force @100°C ①②		F _c	N	9.27
Peak Force ②		F _{pk}	N	54.9
Force Constant ±10% ②		K _f	N/A	12.0
Back EMF Constant ±10% ②		K _e	V/(m/s)	12.0
Motor Constant @25°C ②		K _m	N/Sqrt(W)	4.26
Resistance @25°C ±10% ③		R ₂₅	Ω	8.0
Inductance ±20% ④		L	mH	4.44
Electrical Time Constant		T _e	ms	0.55
Continuous Current @100°C ①		I _c	A	0.8
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C ①		P _c	W	6.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.082
Max. Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	60.4
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

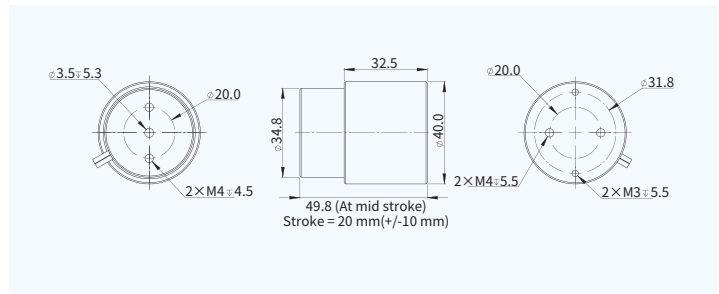


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM40-20

Performance Parameters		Symbol	Unit	AVM40-20
Stroke		S	mm	20.0
Continuous Force @100°C ①②		F _c	N	10.5
Peak Force ②		F _{pk}	N	61.7
Force Constant ±10% ②		K _f	N/A	13.6
Back EMF Constant ±10% ②		K _e	V/(m/s)	13.6
Motor Constant @25°C ②		K _m	N/Sqrt(W)	4.02
Resistance @25°C ±10% ③		R ₂₅	Ω	11.5
Inductance ±20% ④		L	mH	5.2
Electrical Time Constant		T _e	ms	0.45
Continuous Current @100°C ①		I _c	A	0.8
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C ①		P _c	W	8.8
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.117
Max. Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	67.0
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

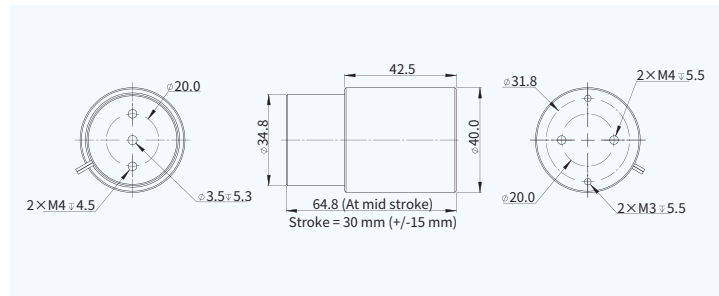


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM40-30

Performance Parameters		Symbol	Unit	AVM40-30
Stroke		S	mm	30.0
Continuous Force @100°C ①②		F _c	N	11.1
Peak Force ②		F _{pk}	N	65.3
Force Constant ±10%②		K _f	N/A	14.5
Back EMF Constant ±10%②		K _e	V/(m/s)	14.5
Motor Constant @25°C②		K _m	N/Sqrt(W)	3.64
Resistance @25°C ±10%③		R ₂₅	Ω	15.8
Inductance ±20%④		L	mH	7.9
Electrical Time Constant		T _e	ms	0.50
Continuous Current @100°C①		I _c	A	0.8
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C①		P _l	W	12.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant①		K _{th}	W/°C	0.161
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	105.0
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

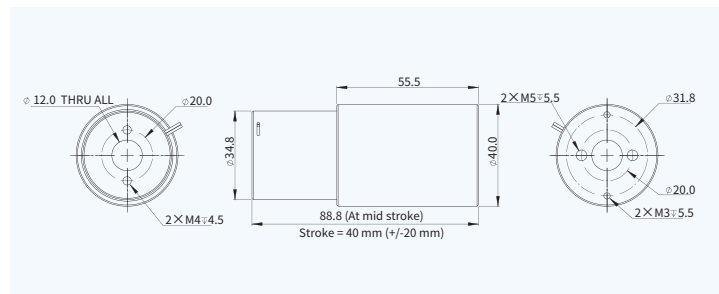


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM40-40

Performance Parameters		Symbol	Unit	AVM40-40
Stroke		S	mm	40.0
Continuous Force @100°C ①②		F _c	N	7.72
Peak Force ②		F _{pk}	N	39.5
Force Constant ±10%②		K _f	N/Arms	6.17
Back EMF Constant ±10%②		K _e	Vpeak/(m/s)	6.17
Motor Constant @25°C②		K _m	N/Sqrt(W)	2.50
Resistance @25°C ±10%③		R ₂₅	Ω	6.10
Inductance ±20%④		L	mH	3.12
Electrical Time Constant		T _e	ms	0.51
Continuous Current @100°C①		I _c	Arms	1.3
Peak Current		I _{pk}	Arms	6.4
Continuous Power Dissipation @100°C①		P _l	W	12.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant①		K _{th}	W/°C	0.164
Max.Voltage		U _{max}	V _{dc}	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

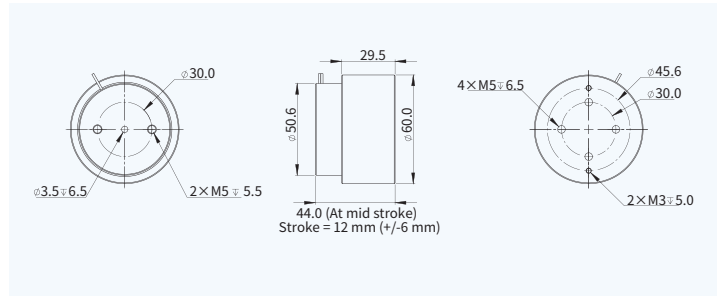


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM60-12

Performance Parameters	Symbol	Unit	AVM60-12
Stroke	S	mm	12.0
Continuous Force @100°C ①②	F _c	N	21.4
Peak Force ②	F _{pk}	N	98.7
Force Constant ±10% ②	K _f	N/A	13.8
Back EMF Constant ±10% ②	K _e	V/(m/s)	13.8
Motor Constant @25°C ②	K _m	N/Sqrt(W)	7.72
Resistance @25°C ±10% ③	R ₂₅	Ω	3.20
Inductance ±20% ④	L	mH	2.12
Electrical Time Constant	T _e	ms	0.66
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	9.9
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.132
Max.Voltage	U _{max}	V _{dc}	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

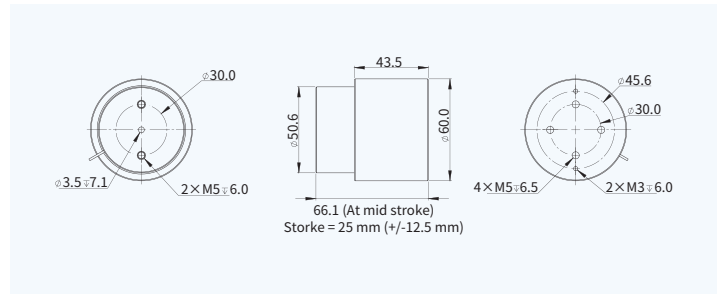


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM60-25

Performance Parameters	Symbol	Unit	AVM60-25
Stroke	S	mm	25.0
Continuous Force @100°C ①②	F _c	N	26.8
Peak Force ②	F _{pk}	N	121.6
Force Constant ±10% ②	K _f	N/A	17.3
Back EMF Constant ±10% ②	K _e	V/(m/s)	17.3
Motor Constant @25°C ②	K _m	N/Sqrt(W)	7.47
Resistance @25°C ±10% ③	R ₂₅	Ω	5.35
Inductance ±20% ④	L	mH	3.82
Electrical Time Constant	T _e	ms	0.71
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	16.6
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.2
Max.Voltage	U _{max}	V _{dc}	60
Mechanical Parameters			
Coil Mass	m _{coil}	g	215.0
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

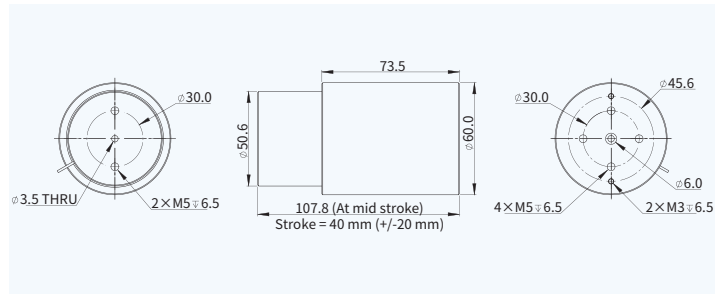


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM60-40

Performance Parameters		Symbol	Unit	AVM60-40
Stroke		S	mm	40.0
Continuous Force @100°C ①②		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°C②		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°C①		I _c	A	1.6
Peak Current		I _{pk}	A	7.0
Continuous Power Dissipation @100°C①		P _c	W	29.4
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant①		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

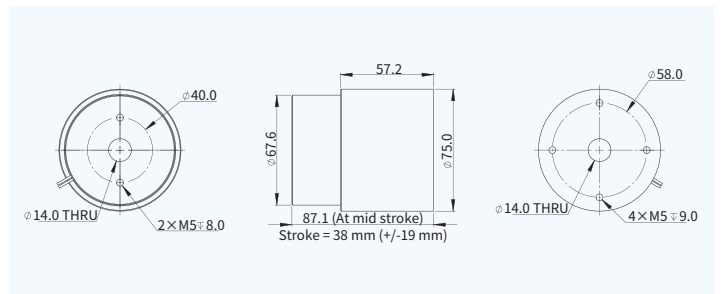


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM75-38

Performance Parameters		Symbol	Unit	AVM75-38
Stroke		S	mm	38.0
Continuous Force @100°C ①②		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°C②		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°C①		I _c	A	3.3
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C①		P _c	W	30.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant①		K _{th}	W/°C	0.41
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	520.0
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

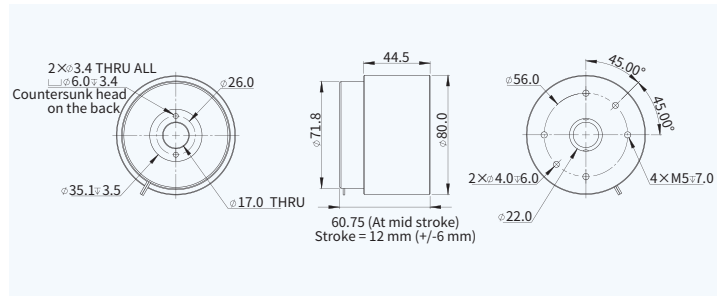


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM80-12

Performance Parameters		Symbol	Unit	AVM80-12
Stroke	S	mm		12.0
Continuous Force @100°C ①②	F _c	N		47.9
Peak Force ②	F _{pk}	N		205.9
Force Constant ±10% ②	K _f	N/A		32.8
Back EMF Constant ±10% ②	K _e	V/(m/s)		32.8
Motor Constant @25°C ②	K _m	N/Sqrt(W)		12.0
Resistance @25°C ±10% ③	R ₂₅	Ω		7.50
Inductance ±20% ④	L	mH		1.70
Electrical Time Constant	T _e	ms		0.23
Continuous Current @100°C ①	I _c	A		1.5
Peak Current	I _{pk}	A		6.2
Continuous Power Dissipation @100°C ①	P _c	W		20.6
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.275
Max.Voltage	U _{max}	V _{dc}		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

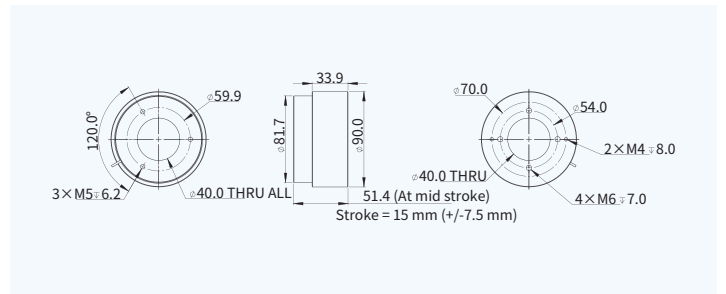


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM90-15

Performance Parameters		Symbol	Unit	AVM90-15
Stroke	S	mm		15.0
Continuous Force @100°C ①②	F _c	N		36.1
Peak Force ②	F _{pk}	N		132.5
Force Constant ±10% ②	K _f	N/A		9.01
Back EMF Constant ±10% ②	K _e	V/(m/s)		9.01
Motor Constant @25°C ②	K _m	N/Sqrt(W)		7.62
Resistance @25°C ±10% ③	R ₂₅	Ω		1.40
Inductance ±20% ④	L	mH		1.20
Electrical Time Constant	T _e	ms		0.86
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		28.9
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.38
Max.Voltage	U _{max}	V _{dc}		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

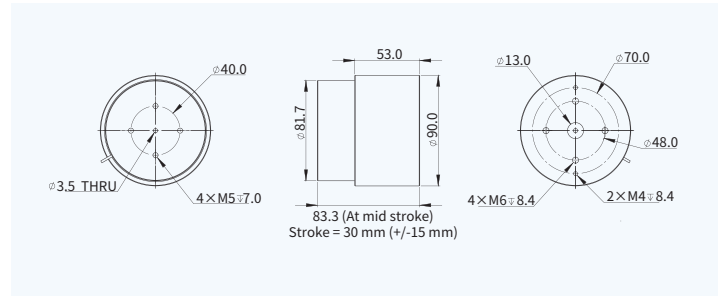


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM90-30

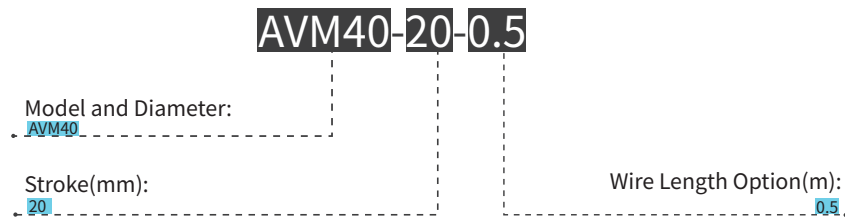
Performance Parameters		Symbol	Unit	AVM90-30
Stroke		S	mm	30.0
Continuous Force @100°C ❶ ❷		F _c	N	95.6
Peak Force ❷		F _{pk}	N	340.3
Force Constant ±10% ❷		K _f	N/A	23.9
Back EMF Constant ±10% ❷		K _e	V/(m/s)	23.9
Motor Constant @25°C ❷		K _m	N/Sqrt(W)	14.5
Resistance @25°C ±10% ❸		R ₂₅	Ω	2.73
Inductance ±20% ❹		L	mH	3.80
Electrical Time Constant		τ _e	ms	1.39
Continuous Current @100°C ❶		I _c	A	4.0
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C ❶		P _l	W	56.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ❶		K _{th}	W/°C	0.751
Max.Voltage		U _{max}	V _{dc}	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



- 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.

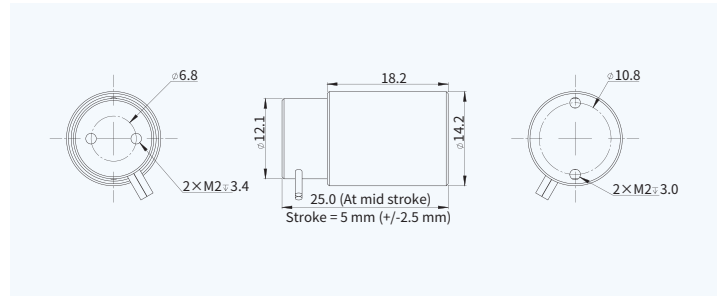
Part Numbering



AVM14-HF-5

Performance Parameters		Symbol	Unit	AVM14-HF-5
Stroke	S	mm		5.0
Continuous Force @100°C ①②	F _c	N		2.27
Peak Force ②	F _{pk}	N		6.81
Force Constant ±10% ②	K _f	N/A		1.75
Back EMF Constant ±10% ②	K _e	V/(m/s)		1.75
Motor Constant @25°C ②	K _m	N/Sqrt(W)		1.26
Resistance @25°C ±10% ③	R ₂₅	Ω		1.93
Inductance ±20% ④	L	mH		0.14
Electrical Time Constant	T _e	ms		0.07
Continuous Current @100°C ①	I _c	A		1.3
Peak Current	I _{pk}	A		3.9
Continuous Power Dissipation @100°C ①	P _l	W		4.2
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.056
Max.Voltage	U _{max}	V _{dc}		60
Mechanical Parameters				
Coil Mass	m _{coil}	g		7.0
Core Mass	m _{core}	g		13.7
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

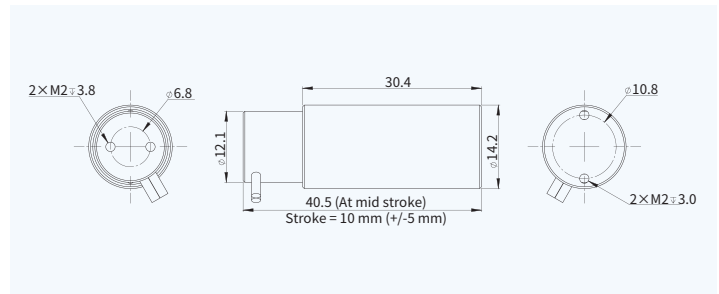


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM14-HF-10

Performance Parameters		Symbol	Unit	AVM14-HF-10
Stroke	S	mm		10.0
Continuous Force @100°C ①②	F _c	N		3.22
Peak Force ②	F _{pk}	N		9.65
Force Constant ±10% ②	K _f	N/A		2.48
Back EMF Constant ±10% ②	K _e	V/(m/s)		2.48
Motor Constant @25°C ②	K _m	N/Sqrt(W)		1.30
Resistance @25°C ±10% ③	R ₂₅	Ω		3.60
Inductance ±20% ④	L	mH		0.36
Electrical Time Constant	T _e	ms		0.10
Continuous Current @100°C ①	I _c	A		1.3
Peak Current	I _{pk}	A		3.9
Continuous Power Dissipation @100°C ①	P _l	W		7.8
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.105
Max.Voltage	U _{max}	V _{dc}		60
Mechanical Parameters				
Coil Mass	m _{coil}	g		10.1
Core Mass	m _{core}	g		22.3
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

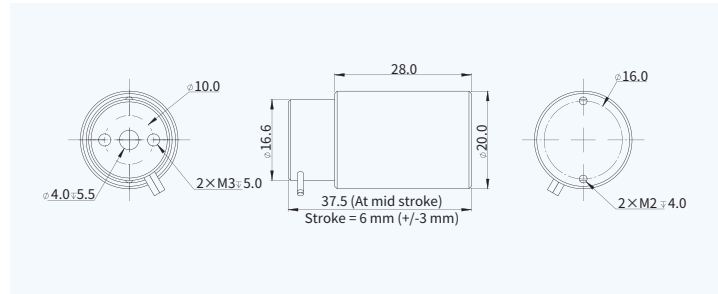


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM20-HF-6

Performance Parameters		Symbol	Unit	AVM20-HF-6
Stroke		S	mm	6.0
Continuous Force @100°C ①②		F _c	N	5.44
Peak Force ②		F _{pk}	N	16.3
Force Constant ±10% ②		K _f	N/A	4.54
Back EMF Constant ±10% ②		K _e	V/(m/s)	4.54
Motor Constant @25°C ②		K _m	N/Sqrt(W)	2.06
Resistance @25°C ±10% ③		R ₂₅	Ω	4.84
Inductance ±20% ④		L	mH	0.60
Electrical Time Constant		τ _e	ms	0.12
Continuous Current @100°C ①		I _c	A	1.2
Peak Current		I _{pk}	A	3.6
Continuous Power Dissipation @100°C ①		P _c	W	9.0
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.120
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	13.5
Core Mass		m _{core}	g	47.5
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

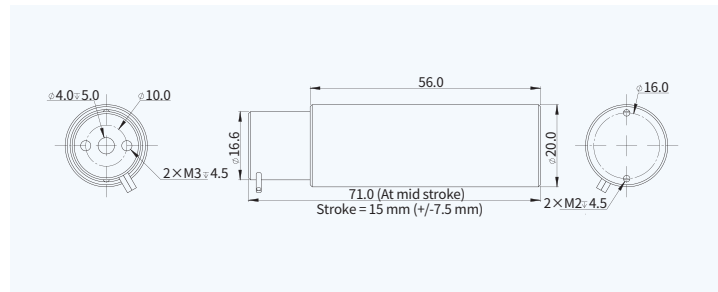


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM20-HF-15

Performance Parameters		Symbol	Unit	AVM20-HF-15
Stroke		S	mm	15.0
Continuous Force @100°C ①②		F _c	N	4.54
Peak Force ②		F _{pk}	N	19.8
Force Constant ±10% ②		K _f	N/A	5.83
Back EMF Constant ±10% ②		K _e	V/(m/s)	5.83
Motor Constant @25°C ②		K _m	N/Sqrt(W)	1.96
Resistance @25°C ±10% ③		R ₂₅	Ω	8.80
Inductance ±20% ④		L	mH	1.48
Electrical Time Constant		τ _e	ms	0.17
Continuous Current @100°C ①		I _c	A	0.8
Peak Current		I _{pk}	A	3.4
Continuous Power Dissipation @100°C ①		P _c	W	6.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.092
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	24.3
Core Mass		m _{core}	g	89.6
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.

AVM High Force Series

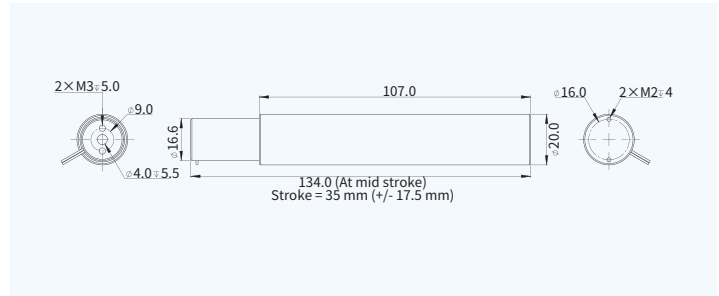
AVM20-HF-35

Performance Parameters	Symbol	Unit	AVM20-HF-35
Stroke	S	mm	35.0
Continuous Force @100°C ①②	F _c	N	4.80
Peak Force ②	F _{pk}	N	23.9
Force Constant ±10% ②	K _f	N/A	3.43
Back EMF Constant ±10% ②	K _e	V/(m/s)	3.43
Motor Constant @25°C ②	K _m	N/Sqrt(W)	1.56
Resistance @25°C ±10% ③	R ₂₅	Ω	4.80
Inductance ±20% ④	L	mH	1.40
Electrical Time Constant	T _e	ms	0.29
Continuous Current @100°C ①	I _c	A	1.4
Peak Current	I _{pk}	A	7.0
Continuous Power Dissipation @100°C ①	P _c	W	12.1
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.162
Max.Voltage	U _{max}	Vdc	60

Mechanical Parameters			
Coil Mass	m _{coil}	g	72.9
Core Mass	m _{core}	g	150.4
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.

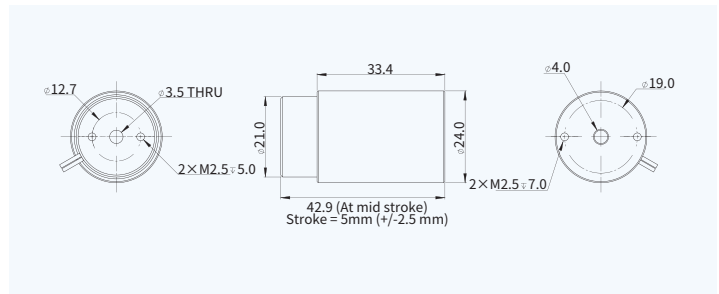
AVM24-HF-5

Performance Parameters	Symbol	Unit	AVM24-HF-5
Stroke	S	mm	5.0
Continuous Force @100°C ①②	F _c	N	6.13
Peak Force ②	F _{pk}	N	33.5
Force Constant ±10% ②	K _f	N/A	8.76
Back EMF Constant ±10% ②	K _e	V/(m/s)	8.76
Motor Constant @25°C ②	K _m	N/Sqrt(W)	3.03
Resistance @25°C ±10% ③	R ₂₅	Ω	8.35
Inductance ±20% ④	L	mH	1.68
Electrical Time Constant	T _e	ms	0.20
Continuous Current @100°C ①	I _c	A	0.7
Peak Current	I _{pk}	A	3.8
Continuous Power Dissipation @100°C ①	P _c	W	5.3
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.070
Max.Voltage	U _{max}	Vdc	60

Mechanical Parameters			
Coil Mass	m _{coil}	g	21.5
Core Mass	m _{core}	g	82.0
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

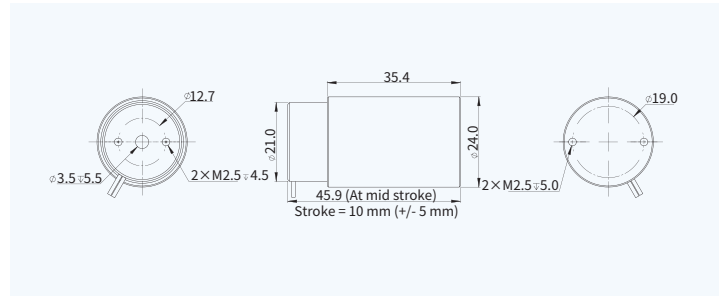


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM24-HF-10

Performance Parameters		Symbol	Unit	AVM24-HF-10
Stroke		S	mm	10.0
Continuous Force @100°C ①②		F _c	N	7.53
Peak Force ②		F _{pk}	N	40.9
Force Constant ±10% ②		K _f	N/A	10.8
Back EMF Constant ±10% ②		K _e	V/(m/s)	10.8
Motor Constant @25°C ②		K _m	N/Sqrt(W)	3.45
Resistance @25°C ±10% ③		R ₂₅	Ω	9.70
Inductance ±20% ④		L	mH	2.11
Electrical Time Constant		T _e	ms	0.22
Continuous Current @100°C ①		I _c	A	0.7
Peak Current		I _{pk}	A	3.8
Continuous Power Dissipation @100°C ①		P _c	W	6.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.082
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	28.6
Core Mass		m _{core}	g	81.1
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

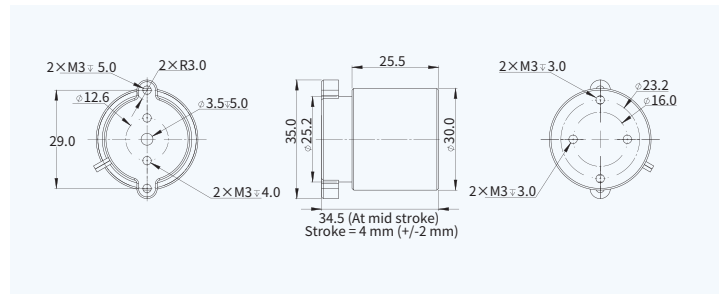


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM30-HF-4

Performance Parameters		Symbol	Unit	AVM30-HF-4
Stroke		S	mm	4.0
Continuous Force @100°C ①②		F _c	N	7.23
Peak Force ②		F _{pk}	N	46.1
Force Constant ±10% ②		K _f	N/Arms	11.5
Back EMF Constant ±10% ②		K _e	Vpeak/(m/s)	11.5
Motor Constant @25°C ②		K _m	N/Sqrt(W)	4.06
Resistance @25°C ±10% ③		R ₂₅	Ω	8.0
Inductance ±20% ④		L	mH	1.40
Electrical Time Constant		T _e	ms	0.17
Continuous Current @100°C ①		I _c	Arms	0.6
Peak Current		I _{pk}	Arms	4.0
Continuous Power Dissipation @100°C ①		P _c	W	4.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.055
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	27.7
Core Mass		m _{core}	g	98.7
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

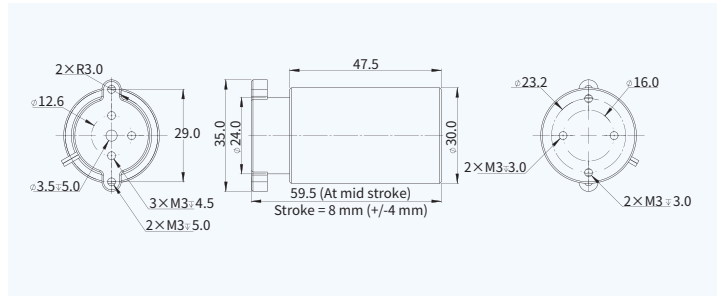


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM30-HF-8

Performance Parameters	Symbol	Unit	AVM30-HF-8
Stroke	S	mm	8.0
Continuous Force @100°C ①②	F _c	N	9.99
Peak Force ②	F _{pk}	N	51.9
Force Constant ±10% ③	K _f	N/A	13.0
Back EMF Constant ±10% ②	K _e	V/(m/s)	13.0
Motor Constant @25°C ④	K _m	N/Sqrt(W)	4.14
Resistance @25°C ±10% ③	R ₂₅	Ω	9.80
Inductance ±20% ④	L	mH	1.75
Electrical Time Constant	τ _e	ms	0.18
Continuous Current @100°C ①	I _c	A	0.8
Peak Current	I _{pk}	A	4.0
Continuous Power Dissipation @100°C ①	P _c	W	7.5
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.100
Max.Voltage	U _{max}	Vdc	60
Mechanical Parameters			
Coil Mass	m _{coil}	g	30.9
Core Mass	m _{core}	g	194.9
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

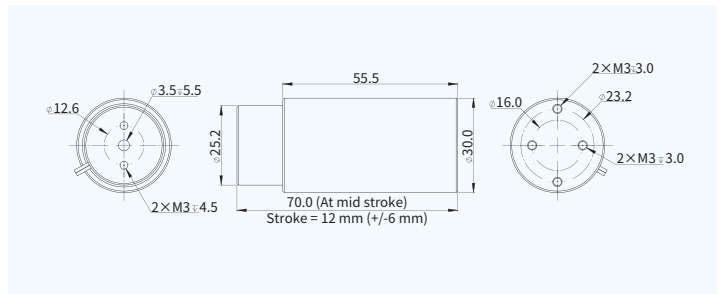


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM30-HF-12

Performance Parameters	Symbol	Unit	AVM30-HF-12
Stroke	S	mm	12.0
Continuous Force @100°C ①②	F _c	N	12.9
Peak Force ②	F _{pk}	N	81.8
Force Constant ±10% ③	K _f	N/Arms	10.2
Back EMF Constant ±10% ②	K _e	Vpeak/(m/s)	10.2
Motor Constant @25°C ④	K _m	N/Sqrt(W)	4.52
Resistance @25°C ±10% ③	R ₂₅	Ω	5.10
Inductance ±20% ④	L	mH	1.39
Electrical Time Constant	τ _e	ms	0.27
Continuous Current @100°C ①	I _c	Arms	1.3
Peak Current	I _{pk}	Arms	8.0
Continuous Power Dissipation @100°C ①	P _c	W	10.4
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.139
Max.Voltage	U _{max}	Vdc	60
Mechanical Parameters			
Coil Mass	m _{coil}	g	57.5
Core Mass	m _{core}	g	210.6
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

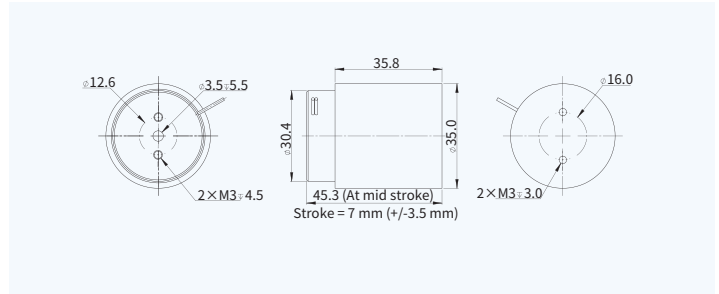


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM35-HF-7

Performance Parameters		Symbol	Unit	AVM35-HF-7
Stroke		S	mm	7.0
Continuous Force @100°C ①②		F _c	N	14.8
Peak Force ②		F _{pk}	N	73.0
Force Constant ±10%②		K _f	N/A	16.4
Back EMF Constant ±10%②		K _e	V/(m/s)	16.4
Motor Constant @25°C②		K _m	N/Sqrt(W)	5.39
Resistance @25°C ±10%③		R ₂₅	Ω	9.28
Inductance ±20%④		L	mH	3.55
Electrical Time Constant		T _e	ms	0.38
Continuous Current @100°C①		I _c	A	0.9
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C①		P _c	W	9.7
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant①		K _{th}	W/°C	0.129
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	53.0
Core Mass		m _{core}	g	146.8
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

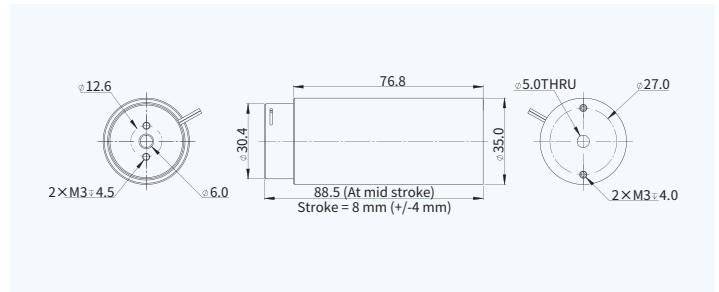


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM35-HF-8

Performance Parameters		Symbol	Unit	AVM35-HF-8
Stroke		S	mm	8.0
Continuous Force @100°C ①②		F _c	N	30.5
Peak Force ②		F _{pk}	N	152.4
Force Constant ±10%②		K _f	N/A	38.1
Back EMF Constant ±10%②		K _e	V/(m/s)	38.1
Motor Constant @25°C②		K _m	N/Sqrt(W)	9.24
Resistance @25°C ±10%③		R ₂₅	Ω	17.0
Inductance ±20%④		L	mH	7.15
Electrical Time Constant		T _e	ms	0.42
Continuous Current @100°C①		I _c	A	0.8
Peak Current		I _{pk}	A	4.0
Continuous Power Dissipation @100°C①		P _c	W	14.0
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant①		K _{th}	W/°C	0.187
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	85.2
Core Mass		m _{core}	g	371.4
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

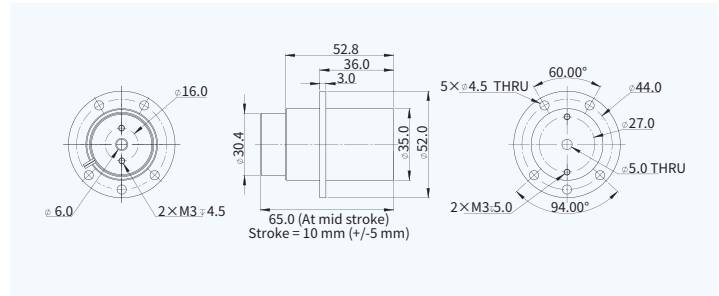


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM35-HF-10

Performance Parameters		Symbol	Unit	AVM35-HF-10
Stroke	S	mm		10.0
Continuous Force @100°C ①②	F _c	N		19.0
Peak Force ②	F _{pk}	N		95.1
Force Constant ±10% ②	K _f	N/A		23.8
Back EMF Constant ±10% ②	K _e	V/(m/s)		23.8
Motor Constant @25°C ②	K _m	N/Sqrt(W)		6.79
Resistance @25°C ±10% ③	R ₂₅	Ω		12.2
Inductance ±20% ④	L	mH		5.22
Electrical Time Constant	T _e	ms		0.43
Continuous Current @100°C ①	I _c	A		0.8
Peak Current	I _{pk}	A		4.0
Continuous Power Dissipation @100°C ①	P _l	W		10.1
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.134
Max.Voltage	U _{max}	V _{dc}		60
Mechanical Parameters				
Coil Mass	m _{coil}	g		78.0
Core Mass	m _{core}	g		285.7
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

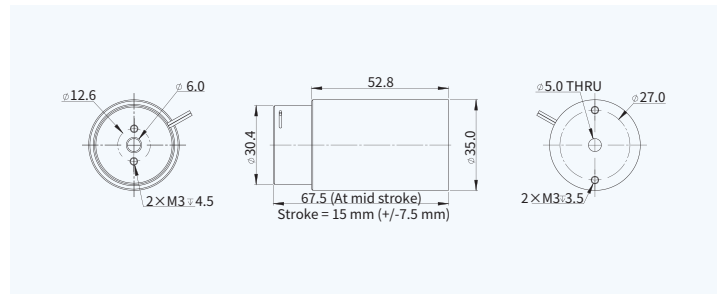


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM35-HF-15

Performance Parameters		Symbol	Unit	AVM35-HF-15
Stroke	S	mm		15.0
Continuous Force @100°C ①②	F _c	N		20.5
Peak Force ②	F _{pk}	N		103.0
Force Constant ±10% ②	K _f	N/A		25.7
Back EMF Constant ±10% ②	K _e	V/(m/s)		25.7
Motor Constant @25°C ②	K _m	N/Sqrt(W)		6.48
Resistance @25°C ±10% ③	R ₂₅	Ω		15.7
Inductance ±20% ④	L	mH		7.36
Electrical Time Constant	T _e	ms		0.47
Continuous Current @100°C ①	I _c	A		0.8
Peak Current	I _{pk}	A		4.0
Continuous Power Dissipation @100°C ①	P _l	W		12.9
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.173
Max.Voltage	U _{max}	V _{dc}		60
Mechanical Parameters				
Coil Mass	m _{coil}	g		101.0
Core Mass	m _{core}	g		262.7
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

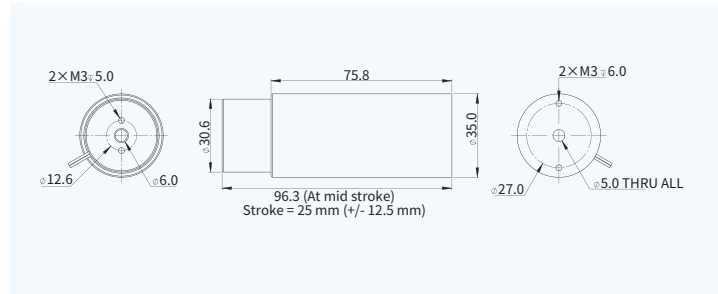


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM35-HF-25

Performance Parameters		Symbol	Unit	AVM35-HF-25
Stroke		S	mm	25.0
Continuous Force @100°C ①②		F _c	N	27.9
Peak Force ②		F _{pk}	N	139.5
Force Constant ±10% ②		K _f	N/A	13.9
Back EMF Constant ±10% ②		K _e	V/(m/s)	13.9
Motor Constant @25°C ②		K _m	N/Sqrt(W)	6.11
Resistance @25°C ±10% ③		R ₂₅	Ω	5.20
Inductance ±20% ④		L	mH	2.94
Electrical Time Constant		T _e	ms	0.57
Continuous Current @100°C ①		I _c	A	2.0
Peak Current		I _{pk}	A	10.0
Continuous Power Dissipation @100°C ①		P _c	W	26.8
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.357
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	156.2
Core Mass		m _{core}	g	358.8
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

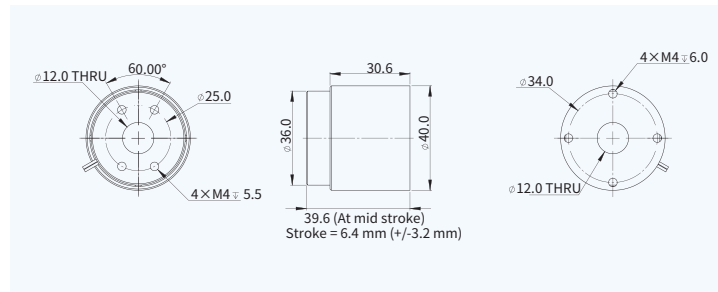


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM40-HF-6.4

Performance Parameters		Symbol	Unit	AVM40-HF-6.4
Stroke		S	mm	6.4
Continuous Force @100°C ①②		F _c	N	17.7
Peak Force ②		F _{pk}	N	96.3
Force Constant ±10% ②		K _f	N/A	13.6
Back EMF Constant ±10% ②		K _e	V/(m/s)	13.6
Motor Constant @25°C ②		K _m	N/Sqrt(W)	5.82
Resistance @25°C ±10% ③		R ₂₅	Ω	5.48
Inductance ±20% ④		L	mH	1.44
Electrical Time Constant		T _e	ms	0.26
Continuous Current @100°C ①		I _c	A	1.3
Peak Current		I _{pk}	A	7.0
Continuous Power Dissipation @100°C ①		P _c	W	11.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.159
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	49.0
Core Mass		m _{core}	g	195.0
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.

AVM High Force Series

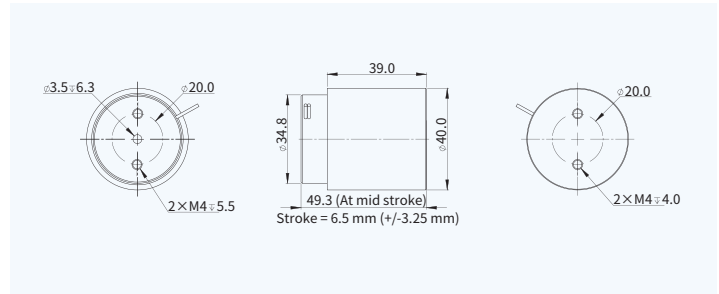
AVM40-HF-6.5

Performance Parameters	Symbol	Unit	AVM40-HF-6.5
Stroke	S	mm	6.5
Continuous Force @100°C ①②	F _c	N	17.1
Peak Force ②	F _{pk}	N	95.5
Force Constant ±10% ②	K _f	N/A	21.4
Back EMF Constant ±10% ②	K _e	V/(m/s)	21.4
Motor Constant @25°C ②	K _m	N/Sqrt(W)	6.59
Resistance @25°C ±10% ③	R ₂₅	Ω	10.51
Inductance ±20% ④	L	mH	4.20
Electrical Time Constant	T _e	ms	0.40
Continuous Current @100°C ①	I _c	A	0.8
Peak Current	I _{pk}	A	4.5
Continuous Power Dissipation @100°C ①	P _c	W	8.7
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.116
Max. Voltage	U _{max}	V _{dc}	60

Mechanical Parameters			
Coil Mass	m _{coil}	g	68.0
Core Mass	m _{core}	g	218.7
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



- 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.

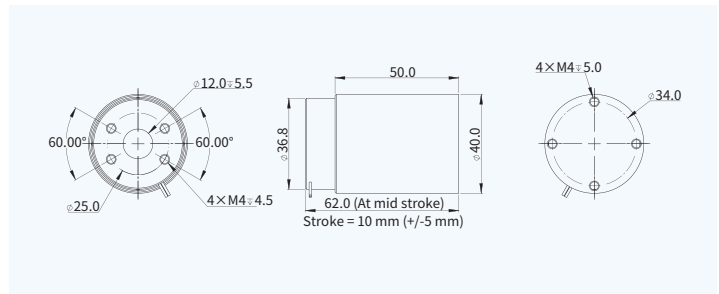
AVM40-HF-10

Performance Parameters	Symbol	Unit	AVM40-HF-10
Stroke	S	mm	10.0
Continuous Force @100°C ①②	F _c	N	25.5
Peak Force ②	F _{pk}	N	102.1
Force Constant ±10% ②	K _f	N/A	19.6
Back EMF Constant ±10% ②	K _e	V/(m/s)	19.6
Motor Constant @25°C ②	K _m	N/Sqrt(W)	9.14
Resistance @25°C ±10% ③	R ₂₅	Ω	4.60
Inductance ±20% ④	L	mH	1.96
Electrical Time Constant	T _e	ms	0.43
Continuous Current @100°C ①	I _c	A	1.3
Peak Current	I _{pk}	A	5.2
Continuous Power Dissipation @100°C ①	P _c	W	10.0
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.134
Max. Voltage	U _{max}	V _{dc}	60

Mechanical Parameters			
Coil Mass	m _{coil}	g	98.1
Core Mass	m _{core}	g	334.5
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

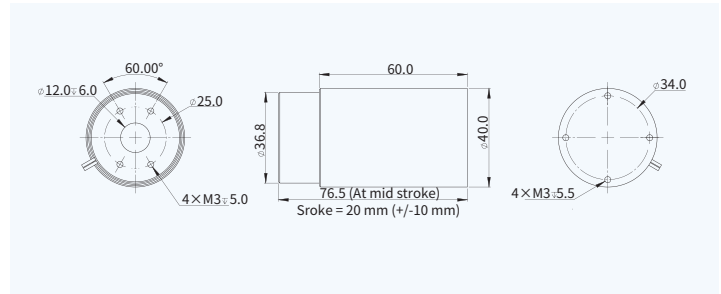


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM40-HF-20

Performance Parameters		Symbol	Unit	AVM40-HF-20
Stroke		S	mm	20.0
Continuous Force @100°C ①②		F _c	N	30.4
Peak Force ②		F _{pk}	N	122.1
Force Constant ±10% ②		K _f	N/A	23.4
Back EMF Constant ±10% ②		K _e	V/(m/s)	23.4
Motor Constant @25°C ②		K _m	N/Sqrt(W)	8.78
Resistance @25°C ±10% ③		R ₂₅	Ω	7.10
Inductance ±20% ④		L	mH	3.56
Electrical Time Constant		T _e	ms	0.50
Continuous Current @100°C ①		I _c	A	1.3
Peak Current		I _{pk}	A	5.2
Continuous Power Dissipation @100°C ①		P _c	W	15.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.206
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	146.9
Core Mass		m _{core}	g	397.3
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

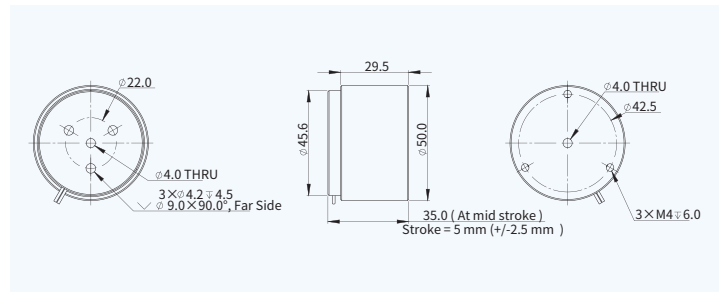


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM50-HF-5

Performance Parameters		Symbol	Unit	AVM50-HF-5
Stroke		S	mm	5.0
Continuous Force @100°C ①②		F _c	N	23.1
Peak Force ②		F _{pk}	N	92.9
Force Constant ±10% ②		K _f	N/Arms	16.5
Back EMF Constant ±10% ②		K _e	Vpeak/(m/s)	16.5
Motor Constant @25°C ②		K _m	N/Sqrt(W)	8.96
Resistance @25°C ±10% ③		R ₂₅	Ω	3.40
Inductance ±20% ④		L	mH	1.35
Electrical Time Constant		T _e	ms	0.40
Continuous Current @100°C ①		I _c	Arms	1.4
Peak Current		I _{pk}	Arms	5.6
Continuous Power Dissipation @100°C ①		P _c	W	8.6
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.115
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	82.6
Core Mass		m _{core}	g	344.6
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.

AVM High Force Series

Introduction

Sizing Guide

Frequently Asked Questions

Linear Motors

Voice Coil Motors

Direct Drive Rotary Motors

Motion Control of Gantry Stages

Akribis systems

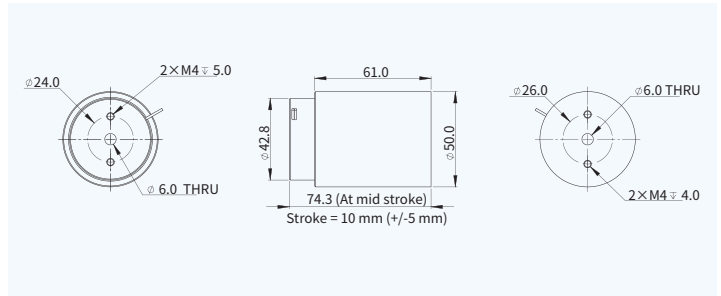
AVM50-HF-10

Performance Parameters	Symbol	Unit	AVM50-HF-10
Stroke	S	mm	10.0
Continuous Force @100°C ①②	F _c	N	34.6
Peak Force ②	F _{pk}	N	141.4
Force Constant ±10% ③	K _f	N/A	28.8
Back EMF Constant ±10% ②	K _e	V/(m/s)	28.8
Motor Constant @25°C ④	K _m	N/Sqrt(W)	9.88
Resistance @25°C ±10% ③	R ₂₅	Ω	8.50
Inductance ±20% ④	L	mH	5.20
Electrical Time Constant	τ _e	ms	0.61
Continuous Current @100°C ①	I _c	A	1.2
Peak Current	I _{pk}	A	5.0
Continuous Power Dissipation @100°C ①	P _c	W	15.8
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.210
Max.Voltage	U _{max}	Vdc	60

Mechanical Parameters			
Coil Mass	m _{coil}	g	148.0
Core Mass	m _{core}	g	553.0
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



- 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.

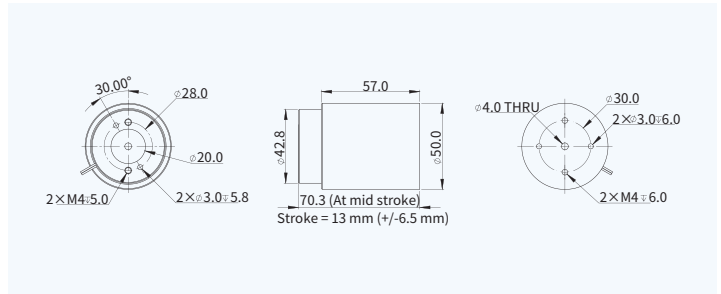
AVM50-HF-13

Performance Parameters	Symbol	Unit	AVM50-HF-13
Stroke	S	mm	13.0
Continuous Force @100°C ①②	F _c	N	39.7
Peak Force ②	F _{pk}	N	165.7
Force Constant ±10% ③	K _f	N/Arms	33.1
Back EMF Constant ±10% ②	K _e	Vpeak/(m/s)	33.1
Motor Constant @25°C ④	K _m	N/Sqrt(W)	11.11
Resistance @25°C ±10% ③	R ₂₅	Ω	8.86
Inductance ±20% ④	L	mH	5.08
Electrical Time Constant	τ _e	ms	0.57
Continuous Current @100°C ①	I _c	Arms	1.2
Peak Current	I _{pk}	Arms	5.0
Continuous Power Dissipation @100°C ①	P _c	W	16.4
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.219
Max.Voltage	U _{max}	Vdc	60

Mechanical Parameters			
Coil Mass	m _{coil}	g	144.0
Core Mass	m _{core}	g	628.0
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

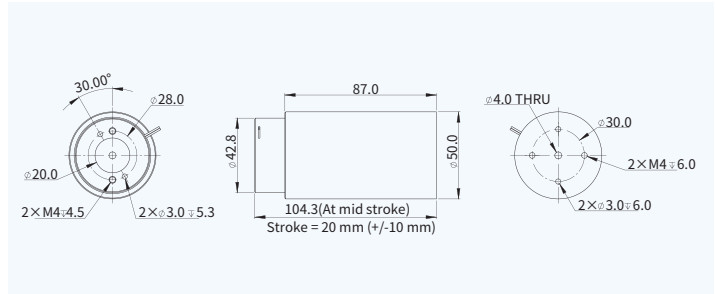


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM50-HF-20

Performance Parameters		Symbol	Unit	AVM50-HF-20
Stroke		S	mm	20.0
Continuous Force @100°C ①②		F _c	N	50.0
Peak Force ②		F _{pk}	N	208.5
Force Constant ±10%②		K _f	N/A	41.6
Back EMF Constant ±10%②		K _e	V/(m/s)	41.6
Motor Constant @25°C②		K _m	N/Sqrt(W)	12.0
Resistance @25°C ±10%③		R ₂₅	Ω	11.9
Inductance ±20%④		L	mH	8.2
Electrical Time Constant		τ _e	ms	0.69
Continuous Current @100°C①		I _c	A	1.2
Peak Current		I _{pk}	A	5.0
Continuous Power Dissipation @100°C①		P _c	W	22.2
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant①		K _{th}	W/°C	0.295
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	195.0
Core Mass		m _{core}	g	931.1
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

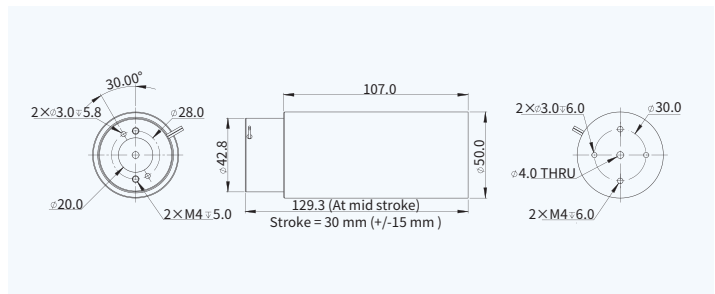


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM50-HF-30

Performance Parameters		Symbol	Unit	AVM50-HF-30
Stroke		S	mm	30.0
Continuous Force @100°C ①②		F _c	N	46.1
Peak Force ②		F _{pk}	N	202.3
Force Constant ±10%②		K _f	N/A	25.6
Back EMF Constant ±10%②		K _e	V/(m/s)	25.6
Motor Constant @25°C②		K _m	N/Sqrt(W)	10.7
Resistance @25°C ±10%③		R ₂₅	Ω	5.70
Inductance ±20%④		L	mH	8.15
Electrical Time Constant		τ _e	ms	1.43
Continuous Current @100°C①		I _c	A	1.8
Peak Current		I _{pk}	A	7.9
Continuous Power Dissipation @100°C①		P _c	W	23.8
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant①		K _{th}	W/°C	0.317
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	376.3
Core Mass		m _{core}	g	1132.1
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

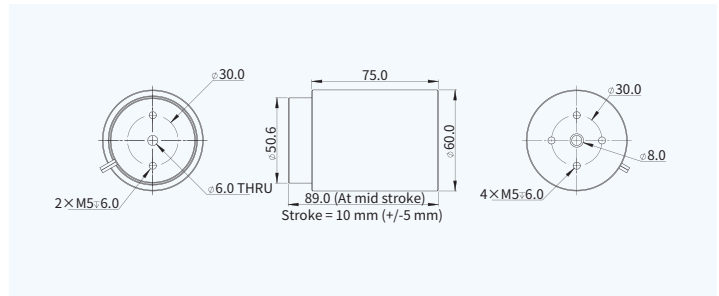


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM60-HF-10

Performance Parameters		Symbol	Unit	AVM60-HF-10
Stroke	S	mm		10.0
Continuous Force @100°C ①②	F _c	N		52.2
Peak Force ②	F _{pk}	N		223.7
Force Constant ±10% ②	K _f	N/A		32.6
Back EMF Constant ±10% ②	K _e	V/(m/s)		32.6
Motor Constant @25°C ②	K _m	N/Sqrt(W)		13.3
Resistance @25°C ±10% ③	R ₂₅	Ω		5.98
Inductance ±20% ④	L	mH		4.33
Electrical Time Constant	T _e	ms		0.72
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		19.7
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.263
Max.Voltage	U _{max}	V _{dc}		60
Mechanical Parameters				
Coil Mass	m _{coil}	g		236.5
Core Mass	m _{core}	g		997.0
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

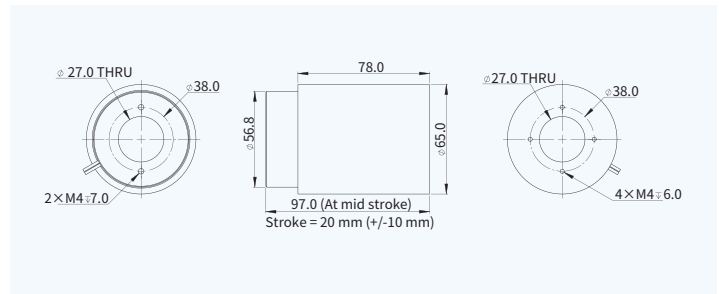


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM65-HF-20

Performance Parameters		Symbol	Unit	AVM65-HF-20
Stroke	S	mm		20.0
Continuous Force @100°C ①②	F _c	N		47.8
Peak Force ②	F _{pk}	N		143.6
Force Constant ±10% ②	K _f	N/A		31.9
Back EMF Constant ±10% ②	K _e	V/(m/s)		31.9
Motor Constant @25°C ②	K _m	N/Sqrt(W)		11.9
Resistance @25°C ±10% ③	R ₂₅	Ω		7.20
Inductance ±20% ④	L	mH		8.66
Electrical Time Constant	T _e	ms		1.20
Continuous Current @100°C ①	I _c	A		1.5
Peak Current	I _{pk}	A		4.5
Continuous Power Dissipation @100°C ①	P _c	W		20.9
Max. Coil Temperature	t _{max}	°C		100
Thermal Dissipation Constant ①	K _{th}	W/°C		0.278
Max.Voltage	U _{max}	V _{dc}		60
Mechanical Parameters				
Coil Mass	m _{coil}	g		365.5
Core Mass	m _{core}	g		1210.8
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

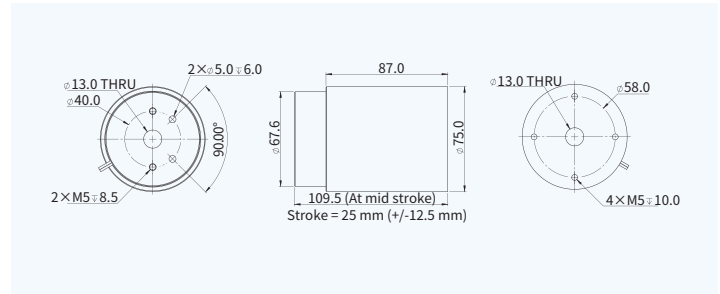


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM75-HF-25

Performance Parameters		Symbol	Unit	AVM75-HF-25
Stroke		S	mm	25.0
Continuous Force @100°C ① ②		F _c	N	127.9
Peak Force ②		F _{pk}	N	590.1
Force Constant ±10% ②		K _f	N/A	34.6
Back EMF Constant ±10% ②		K _e	V/(m/s)	34.6
Motor Constant @25°C ②		K _m	N/Sqrt(W)	20.6
Resistance @25°C ±10% ③		R ₂₅	Ω	2.83
Inductance ±20% ④		L	mH	2.76
Electrical Time Constant		T _e	ms	0.98
Continuous Current @100°C ①		I _c	A	3.7
Peak Current		I _{pk}	A	17.0
Continuous Power Dissipation @100°C ①		P _l	W	49.8
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.665
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	710.0
Core Mass		m _{core}	g	1940.0
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

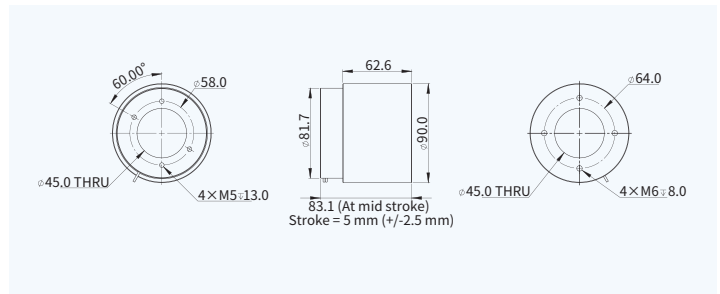


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM90-HF-5

Performance Parameters		Symbol	Unit	AVM90-HF-5
Stroke		S	mm	5.0
Continuous Force @100°C ① ②		F _c	N	61.6
Peak Force ②		F _{pk}	N	218.6
Force Constant ±10% ②		K _f	N/A	15.5
Back EMF Constant ±10% ②		K _e	V/(m/s)	15.5
Motor Constant @25°C ②		K _m	N/Sqrt(W)	14.2
Resistance @25°C ±10% ③		R ₂₅	Ω	1.20
Inductance ±20% ④		L	mH	0.75
Electrical Time Constant		T _e	ms	0.63
Continuous Current @100°C ①		I _c	A	4.0
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C ①		P _l	W	24.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.323
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	427.2
Core Mass		m _{core}	g	1514.6
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.

AVM High Force Series

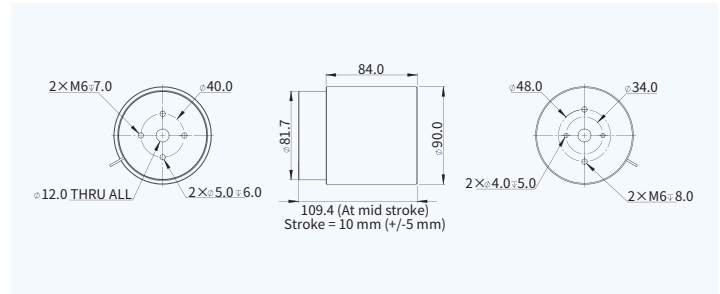
AVM90-HF-10

Performance Parameters	Symbol	Unit	AVM90-HF-10
Stroke	S	mm	10.0
Continuous Force @100°C ①②	F _c	N	156.1
Peak Force ②	F _{pk}	N	610.2
Force Constant ±10% ②	K _f	N/A	44.6
Back EMF Constant ±10% ②	K _e	V/(m/s)	44.6
Motor Constant @25°C ②	K _m	N/Sqrt(W)	25.3
Resistance @25°C ±10% ③	R ₂₅	Ω	3.10
Inductance ±20% ④	L	mH	4.02
Electrical Time Constant	T _e	ms	1.30
Continuous Current @100°C ①	I _c	A	3.5
Peak Current	I _{pk}	A	14.0
Continuous Power Dissipation @100°C ①	P _ċ	W	48.9
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.653
Max. Voltage	U _{max}	V _{dc}	120

Mechanical Parameters			
Coil Mass	m _{coil}	g	960.0
Core Mass	m _{core}	g	2400.0
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.

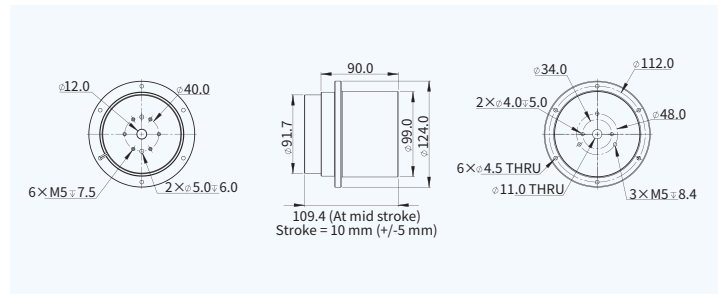
AVM100-HF-10

Performance Parameters	Symbol	Unit	AVM100-HF-10
Stroke	S	mm	10.0
Continuous Force @100°C ①②	F _c	N	193.6
Peak Force ②	F _{pk}	N	763.7
Force Constant ±10% ②	K _f	N/A	55.3
Back EMF Constant ±10% ②	K _e	V/(m/s)	55.3
Motor Constant @25°C ②	K _m	N/Sqrt(W)	30.0
Resistance @25°C ±10% ③	R ₂₅	Ω	3.40
Inductance ±20% ④	L	mH	4.43
Electrical Time Constant	T _e	ms	1.30
Continuous Current @100°C ①	I _c	A	3.5
Peak Current	I _{pk}	A	14.0
Continuous Power Dissipation @100°C ①	P _ċ	W	53.7
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.716
Max. Voltage	U _{max}	V _{dc}	120

Mechanical Parameters			
Coil Mass	m _{coil}	g	1117.0
Core Mass	m _{core}	g	3300.0
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

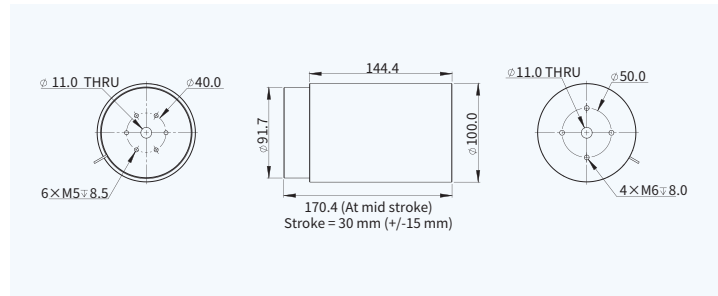


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM100-HF-30

Performance Parameters		Symbol	Unit	AVM100-HF-30
Stroke		S	mm	30.0
Continuous Force @100°C ①②		F _c	N	309.5
Peak Force ②		F _{pk}	N	1241.9
Force Constant ±10% ②		K _f	N/A	88.4
Back EMF Constant ±10% ②		K _e	V/(m/s)	88.4
Motor Constant @25°C ②		K _m	N/Sqrt(W)	39.2
Resistance @25°C ±10% ③		R ₂₅	Ω	5.10
Inductance ±20% ④		L	mH	7.78
Electrical Time Constant		T _e	ms	1.53
Continuous Current @100°C ①		I _c	A	3.5
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C ①		P _c	W	80.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	1.074
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	2012.9
Core Mass		m _{core}	g	5485.7
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

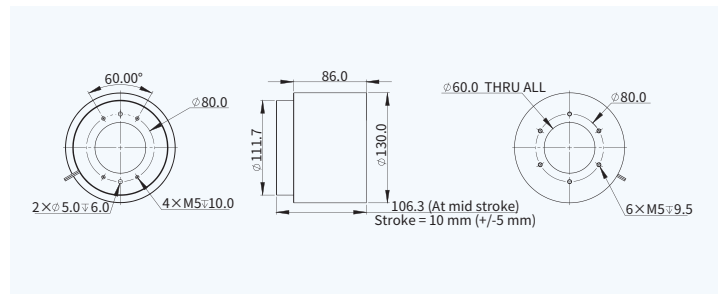


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM130-HF-10

Performance Parameters		Symbol	Unit	AVM130-HF-10
Stroke		S	mm	10.0
Continuous Force @100°C ①②		F _c	N	150.8
Peak Force ②		F _{pk}	N	452.3
Force Constant ±10% ②		K _f	N/A	22.8
Back EMF Constant ±10% ②		K _e	V/(m/s)	22.8
Motor Constant @25°C ②		K _m	N/Sqrt(W)	26.4
Resistance @25°C ±10% ③		R ₂₅	Ω	0.75
Inductance ±20% ④		L	mH	0.75
Electrical Time Constant		T _e	ms	1.00
Continuous Current @100°C ①		I _c	A	6.6
Peak Current		I _{pk}	A	19.8
Continuous Power Dissipation @100°C ①		P _c	W	42.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.56
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	1080.0
Core Mass		m _{core}	g	5300.0
Running Clearance		L _{gap}	mm	0.55
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.

AVM High Force Series

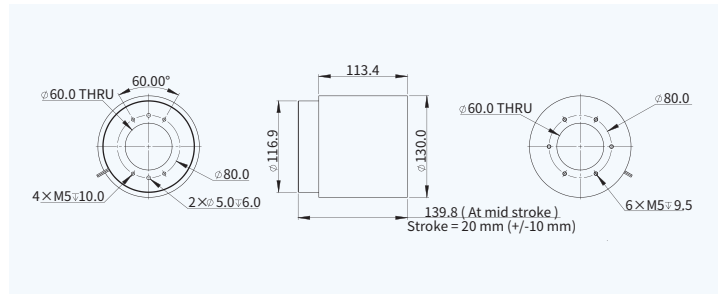
AVM130-HF-20

Performance Parameters	Symbol	Unit	AVM130-HF-20
Stroke	S	mm	20.0
Continuous Force @100°C ①②	F _c	N	226.0
Peak Force ②	F _{pk}	N	678.1
Force Constant ±10% ②	K _f	N/A	70.6
Back EMF Constant ±10% ②	K _e	V/(m/s)	70.6
Motor Constant @25°C ②	K _m	N/Sqrt(W)	30.8
Resistance @25°C ±10% ③	R ₂₅	Ω	5.27
Inductance ±20% ④	L	mH	7.83
Electrical Time Constant	T _e	ms	1.49
Continuous Current @100°C ①	I _c	A	3.2
Peak Current	I _{pk}	A	9.6
Continuous Power Dissipation @100°C ①	P _z	W	69.5
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.927
Max. Voltage	U _{max}	Vdc	120

Mechanical Parameters			
Coil Mass	m _{coil}	g	1955.5
Core Mass	m _{core}	g	6559.0
Running Clearance	L _{gap}	mm	0.55

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.

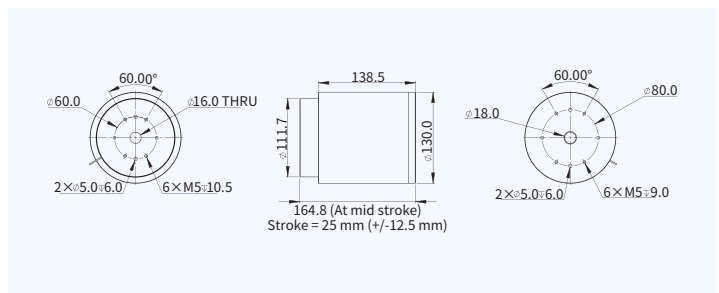
AVM130-HF-25

Performance Parameters	Symbol	Unit	AVM130-HF-25
Stroke	S	mm	25.0
Continuous Force @100°C ①②	F _c	N	316.4
Peak Force ②	F _{pk}	N	667.8
Force Constant ±10% ②	K _f	N/A	47.9
Back EMF Constant ±10% ②	K _e	V/(m/s)	47.9
Motor Constant @25°C ②	K _m	N/Sqrt(W)	40.2
Resistance @25°C ±10% ③	R ₂₅	Ω	1.42
Inductance ±20% ④	L	mH	1.59
Electrical Time Constant	T _e	ms	1.12
Continuous Current @100°C ①	I _c	A	6.6
Peak Current	I _{pk}	A	14.0
Continuous Power Dissipation @100°C ①	P _z	W	79.7
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	1.063
Max. Voltage	U _{max}	Vdc	120

Mechanical Parameters			
Coil Mass	m _{coil}	g	1550.0
Core Mass	m _{core}	g	9300.0
Running Clearance	L _{gap}	mm	0.55

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

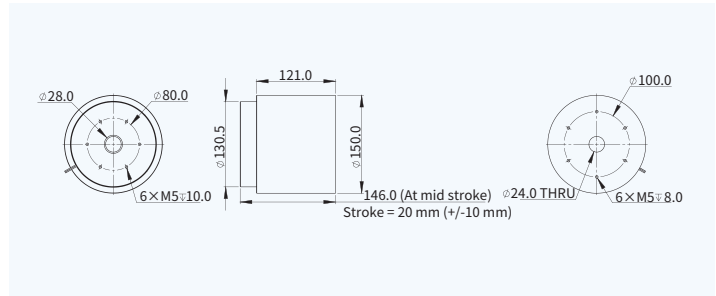


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM150-HF-20

Performance Parameters		Symbol	Unit	AVM150-HF-20
Stroke		S	mm	20.0
Continuous Force @100°C ①②		F _c	N	626.0
Peak Force ②		F _{pk}	N	1882.5
Force Constant ±10% ②		K _f	N/A	104.3
Back EMF Constant ±10% ②		K _e	V/(m/s)	104.3
Motor Constant @25°C ②		K _m	N/Sqrt(W)	61.3
Resistance @25°C ±10% ③		R ₂₅	Ω	2.90
Inductance ±20% ④		L	mH	2.10
Electrical Time Constant		T _e	ms	0.72
Continuous Current @100°C ①		I _c	A	6.0
Peak Current		I _{pk}	A	18.0
Continuous Power Dissipation @100°C ①		P _c	W	134.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	1.794
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	1500.0
Core Mass		m _{core}	g	13100.0
Running Clearance		L _{gap}	mm	0.75
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

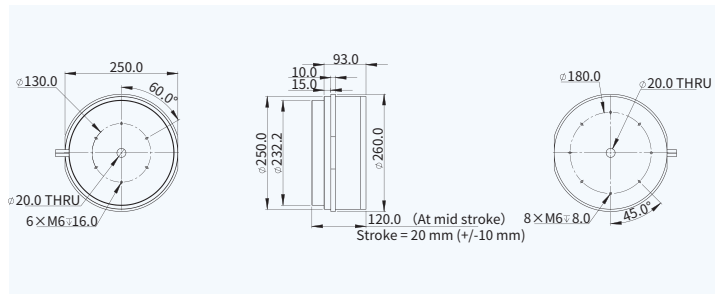


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject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

AVM250-HF-20

Performance Parameters		Symbol	Unit	AVM250-HF-20
Stroke		S	mm	20.0
Continuous Force @100°C ①②		F _c	N	1111.4
Peak Force ②		F _{pk}	N	4715.2
Force Constant ±10% ②		K _f	N/A	168.4
Back EMF Constant ±10% ②		K _e	V/(m/s)	168.4
Motor Constant @25°C ②		K _m	N/Sqrt(W)	87.5
Resistance @25°C ±10% ③		R ₂₅	Ω	3.70
Inductance ±20% ④		L	mH	5.32
Electrical Time Constant		T _e	ms	1.44
Continuous Current @100°C ①		I _c	A	6.6
Peak Current		I _{pk}	A	28.0
Continuous Power Dissipation @100°C ①		P _c	W	207.7
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	2.769
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	5900.0
Core Mass		m _{core}	g	27200.0
Running Clearance		L _{gap}	mm	0.90
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.

AVM High Force Series

Part Numbering

AVM60-HF-10-0.5

Motor Model:

AVM60

Cable Length(m):

0.5

Series Code:

HF¹

Stroke (mm):

10

¹ HF= High force series