



XMGV SERIES

- ▶ Direct drive
- ▶ Zero Cogging, Zero backlash ironless linear motor actuator
- ▶ Stroke from 15mm to 30mm
- ▶ Suitable for high speed and high acceleration application
- ▶ Smooth motion even at low speed (minimum velocity ripple)
- ▶ Use cross roller guide for high stiffness

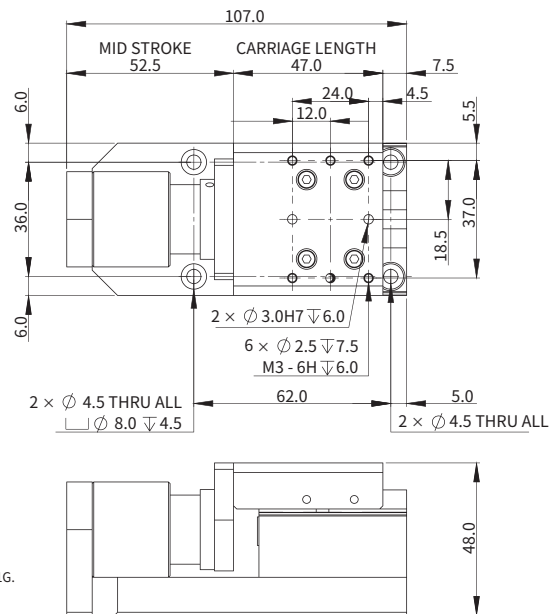
XMGV30

Specifications	Unit	Value
Stroke ^❶	mm	15
Motor	-	AVM30-15
Continuous Force	N	4.63
Peak Force	N	29.40
Resolution	μm	ABI21: 0.5/0.2
		AT2: 0.2/0.05
Bidirectional Repeatability	μm	ABI21 0.5/0.2: ±1
		AT2 0.2/0.05: ±0.5
Straightness	μm	±2.5
Flatness	μm	±2.5
Rated Payload ^❷	Kg	0.6
No-load Moving Mass	Kg	0.14
No-load Total Mass	Kg	0.51
Max. Allowable Payload	Kg	1.4
Max. Allowable Roll Moment Load	Nm	0.8
Max. Allowable Pitch Moment Load	Nm	1.0
Max. Allowable Yaw Moment Load	Nm	1.2

❶ Stroke refers to hardstop-to-hardstop mechanical stroke. The limit sensor are positioned 0.5mm from the hardstops.

❷ The rated load is based on the load in which the acceleration of the mass is at least 1G.

Dimension Drawing



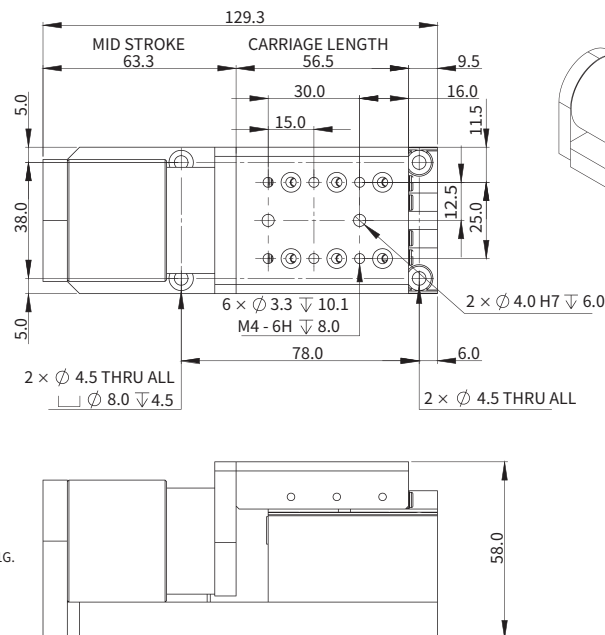
XMGV40

Specifications	Unit	Value
Stroke ^❶	mm	20
Motor	-	AVM40-20
Continuous Force	N	9.93
Peak Force	N	58.05
Resolution	μm	ABI21: 0.5/0.2
		AT2: 0.2/0.05
Bidirectional Repeatability	μm	ABI21 0.5/0.2: ±1
		AT2 0.2/0.05: ±0.5
Straightness	μm	±2.5
Flatness	μm	±2.5
Rated Payload ^❷	Kg	1.5
No-load Moving Mass	Kg	0.20
No-load Total Mass	Kg	0.80
Max. Allowable Payload	Kg	2.8
Max. Allowable Roll Moment Load	Nm	1.4
Max. Allowable Pitch Moment Load	Nm	2.6
Max. Allowable Yaw Moment Load	Nm	3.2

❶ Stroke refers to hardstop-to-hardstop mechanical stroke. The limit sensor are positioned 0.5mm from the hardstops.

❷ The rated load is based on the load in which the acceleration of the mass is at least 1G.

Dimension Drawing

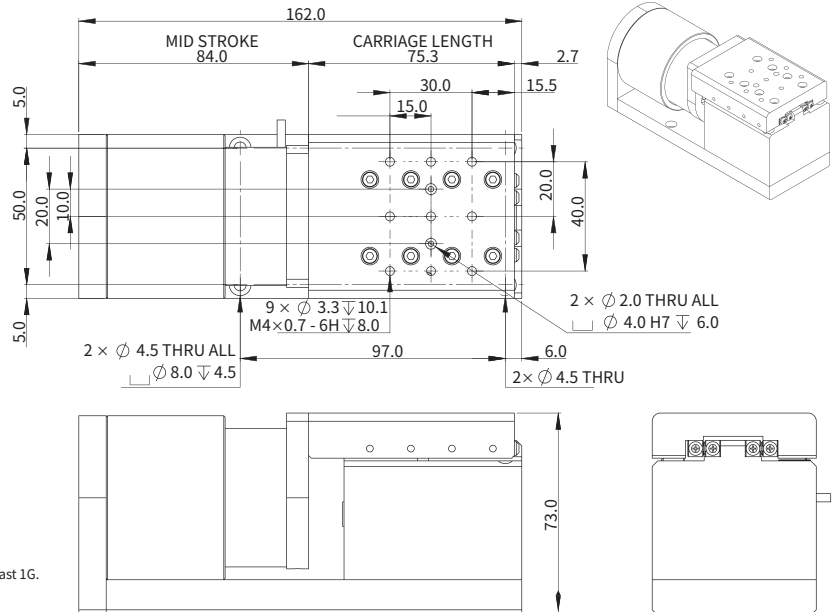


XMGV60

Specifications	Unit	Value
Stroke ^①	mm	25
Motor	-	AVM60-25
Continuous Force	N	26.35
Peak Force	N	119.00
Resolution	μm	ABI21: 0.5/0.2 AT2: 0.2/0.05
Bidirectional Repeatability	μm	ABI21 0.5/0.2: ±1 AT2 0.2/0.05: ±0.5
Straightness	μm	±2.5
Flatness	μm	±2.5
Rated Payload ^②	Kg	4.0
No-load Moving Mass	Kg	0.45
No-load Total Mass	Kg	1.90
Max. Allowable Payload	Kg	7.1
Max. Allowable Roll Moment Load	Nm	3.4
Max. Allowable Pitch Moment Load	Nm	9.0
Max. Allowable Yaw Moment Load	Nm	11.0

- ① Stroke refers to hardstop-to-hardstop mechanical stroke. The limit sensor are positioned 0.5mm from the hardstops.
② The rated load is based on the load in which the acceleration of the mass is at least 1G.

Dimension Drawing

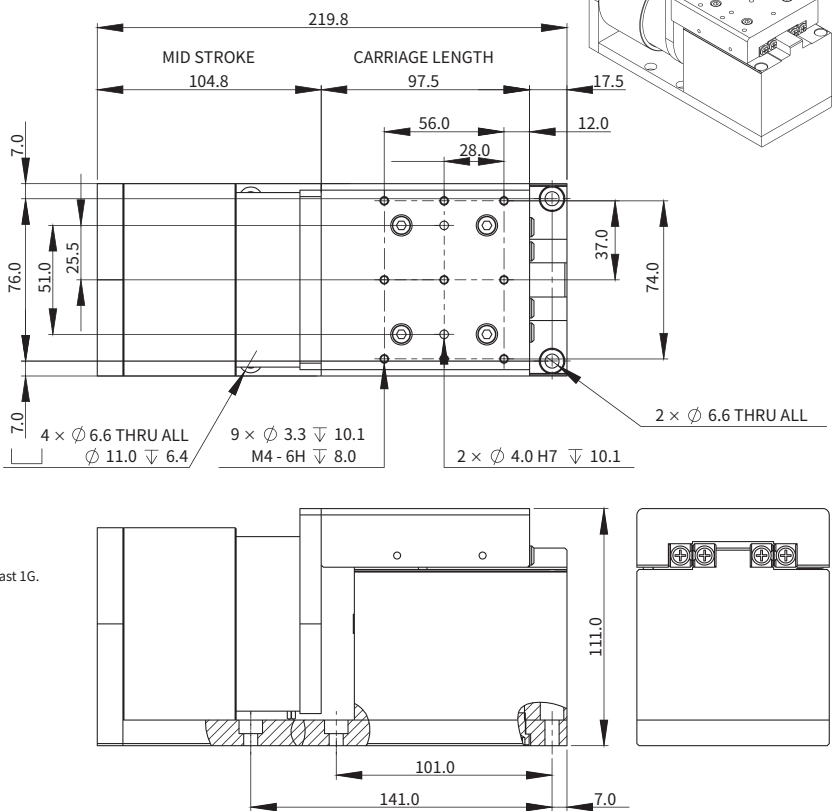


XMGV90

Specifications	Unit	Value
Stroke ^①	mm	30
Motor	-	AVM90-30
Continuous Force	N	89.10
Peak Force	N	315.00
Resolution	μm	ABI21: 0.5/0.2 AT2: 0.2/0.05
Bidirectional Repeatability	μm	ABI21 0.5/0.2: ±1 AT2 0.2/0.05: ±0.5
Straightness	μm	±2.5
Flatness	μm	±2.5
Rated Payload ^②	Kg	14.0
No-load Moving Mass	Kg	1.63
No-load Total Mass	Kg	5.31
Max. Allowable Payload	Kg	18.3
Max. Allowable Roll Moment Load	Nm	16.0
Max. Allowable Pitch Moment Load	Nm	21.0
Max. Allowable Yaw Moment Load	Nm	25.6

- ① Stroke refers to hardstop-to-hardstop mechanical stroke. The limit sensor are positioned 0.5mm from the hardstops.
② The rated load is based on the load in which the acceleration of the mass is at least 1G.

Dimension Drawing



Ordering Part Number (OPN)

XMV1TV16EOF1A1

Model:

XMV1: XMGV30
 XMV2: XMGV40
 XMV3: XMGV60
 XMV4: XMGV90

Termination:

1: Flying Leads

Cable Length:

A: 0.5m

Cover Type:

T: Standard (Black Anodized)

Scale Type:

1: Steel tape, 11ppm/K²
 2: Glass G8 Soda Lime, 8ppm/K³

Coil Type:¹

V16: AVM30-15-0.5A (Peak Force: 29.40N)
 V26: AVM40-20-0.5A (Peak Force: 58.05N)
 V37: AVM60-25-0.5A (Peak Force: 119.00N)
 V48: AVM90-30-0.5A (Peak Force: 315.00N)

Encoder Type:

EOF: ABI-21 (0.5µm)
 EOG: ABI-21 (0.2µm)
 ECF: ATOM2 (0.2µm)
 ECJ: ATOM2 (0.2µm)

Note:

- ¹ For Coil Type, only allow the following combinations:
 XMGV30 : AVM30-15-0.5A
 XMGV40 : AVM40-20-0.5A
 XMGV60 : AVM60-25-0.5A
 XMGV90 : AVM90-30-0.5A
- ² ABI-21 uses steel tape scale only.
- ³ ATOM2 uses glass scale only.