TGV SERIES

▶ **Thru hole voice coil feature**

▶ **Low friction**

▶ **High precision**

TGV Series

TGV50

Specifications	Unit	Value
Stroke❶	mm	10
Motor	-	AVM50-HF-10-C15
Continuous Force	N	25.20
Peak Force	N	105.00
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 Payload❷	Kg	3.0
No-load Moving Mass	Kg	0.26
No-load Total Mass	Kg	1.21
Max. Allowable Payload	Kg	7.5
Max. Allowable Roll Moment Load	Nm	6.8
Max. Allowable Pitch Moment Load	Nm	8.0
Max. Allowable Yaw Moment Load	Nm	9.8

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.
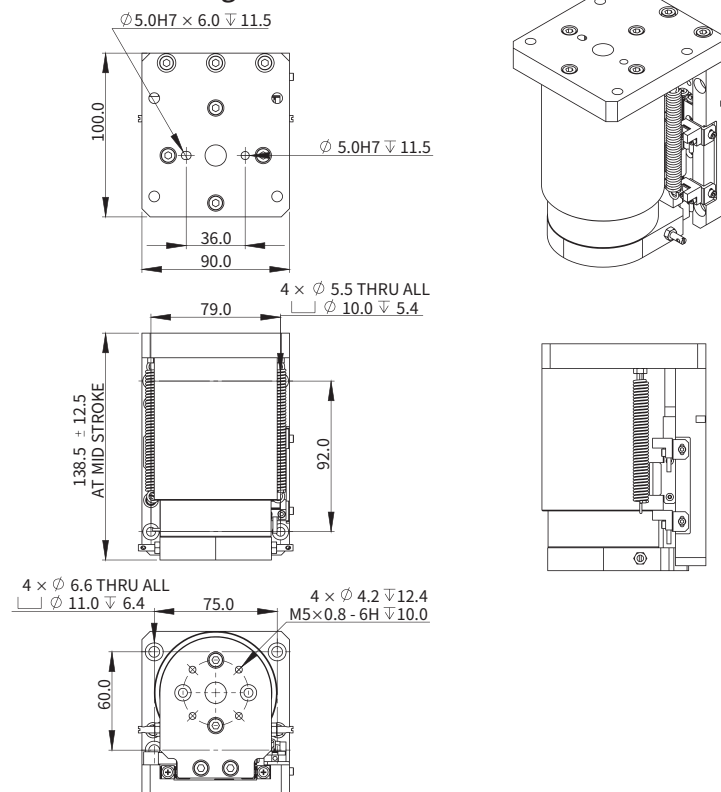
Dimension Drawing
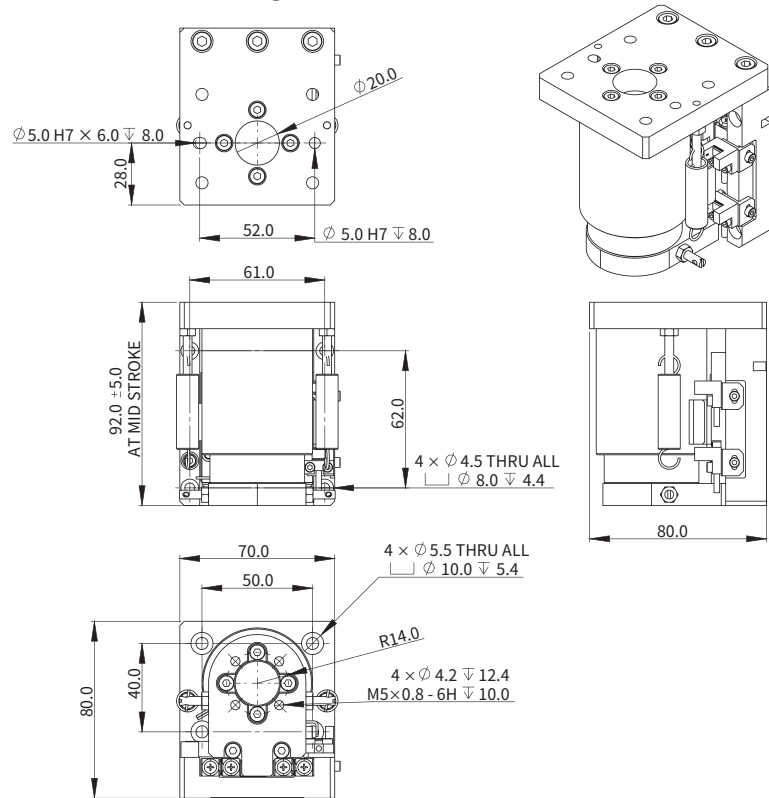
TGV75

Specifications	Unit	Value
Stroke❶	mm	25
Motor	-	AVM75-HF-25-C12
Continuous Force	N	124.69
Peak Force	N	572.90
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 Payload❷	Kg	8.0
No-load Moving Mass	Kg	1.11
No-load Total Mass	Kg	3.85
Max. Allowable Payload	Kg	11.2
Max. Allowable Roll Moment Load	Nm	14.4
Max. Allowable Pitch Moment Load	Nm	15.0
Max. Allowable Yaw Moment Load	Nm	18.2

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

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Akribis Systems

TGV90

Specifications	Unit	Value
Stroke❶	mm	30
Motor	-	AVM90-30-C77
Continuous Force	N	57.30
Peak Force	N	202.60
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 Payload❷	Kg	6.0
No-load Moving Mass	Kg	1.41
No-load Total Mass	Kg	3.76
Max. Allowable Payload	Kg	14.7
Max. Allowable Roll Moment Load	Nm	28.3
Max. Allowable Pitch Moment Load	Nm	21.1
Max. Allowable Yaw Moment Load	Nm	25.7

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
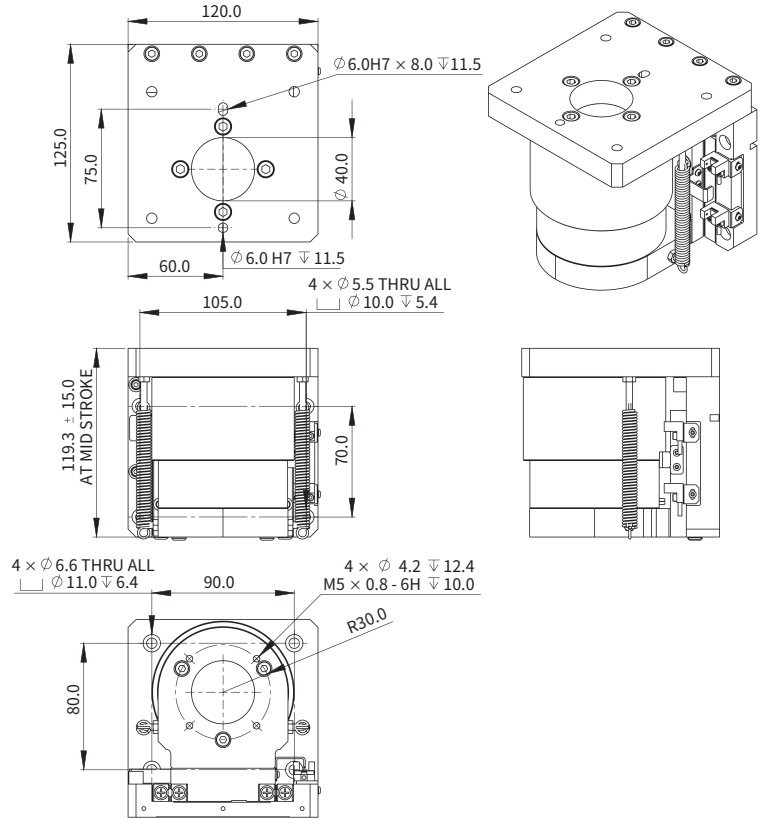
TGV130

Specifications	Unit	Value
Stroke❶	mm	10
Motor	-	AVM130-HF-10-C29
Continuous Force	N	162.40
Peak Force	N	487.20
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 Payload❷	Kg	15.0
No-load Moving Mass	Kg	2.35
No-load Total Mass	Kg	10.1
Max. Allowable Payload	Kg	25.0
Max. Allowable Roll Moment Load	Nm	91.1
Max. Allowable Pitch Moment Load	Nm	70.9
Max. Allowable Yaw Moment Load	Nm	86.1

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
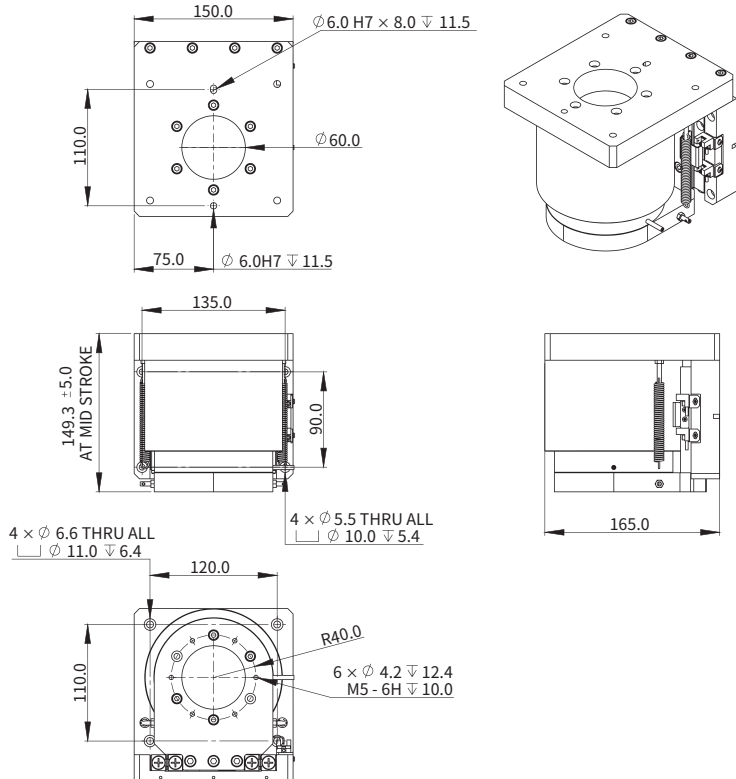
Ordering Part Number (OPN)

TGV1 T V33 E0F 1 A 1 L1

Model:
TGV1: TGV50-10
TGV2: TGV75-25
TGV3: TGV90-30
TGV4: TGV130-10

Cover Type:
T: Standard (Black Anodized)

Coil Type:❶
V33: AVM50-HF-10-0.5A-C15 (Peak Force: 105.0N)
V41: AVM75-HF-25-0.5A-C12 (Peak Force: 572.9N)
V51: AVM90-30-0.5A-C77 (Peak Force: 202.6N)
V58: AVM130-HF-10-0.5A-C29 (Peak Force: 487.2N)

Counter Balance:
L1
L2
L3
L4

Termination:
1: Flying Leads

Cable Length:
A: 0.5m

Scale Type:
1: Steel tape, 11ppm/K ❷❸
2: Glass G8 Soda Lime, 8ppm/K

Encoder Type:
E0F: ABI-21 (0.5µm)
E0G: ABI-21 (0.2µm)
ECF: ATOM2 (0.2µm)
ECJ: ATOM2 (0.2µm)

Payload❹					
Model	Unit	L1	L2	L3	L4
TGV50-10	g	500	1000	2000	3000
TGV75-25	g	2000	4000	6000	8000
TGV90-30	g	2000	3000	4000	6000
TGV130-10	g	5000	8000	10000	15000

Note:
❶ For Coil Type, only allow the following combinations:
TGV50-10 : AVM50-HF-10-0.5A-C15
TGV75-25 : AVM75-HF-25-0.5A-C12
TGV90-30 : AVM90-30-0.5A-C77
TGV130-10 : AVM130-HF-10-0.5A-C29

❷ ABI-21 uses steel tape scale only.
❸ ATOM2 uses glass scale only.
❹ Counter-balance position is at mid- stroke.

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Stacked Stages

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Akribis Systems