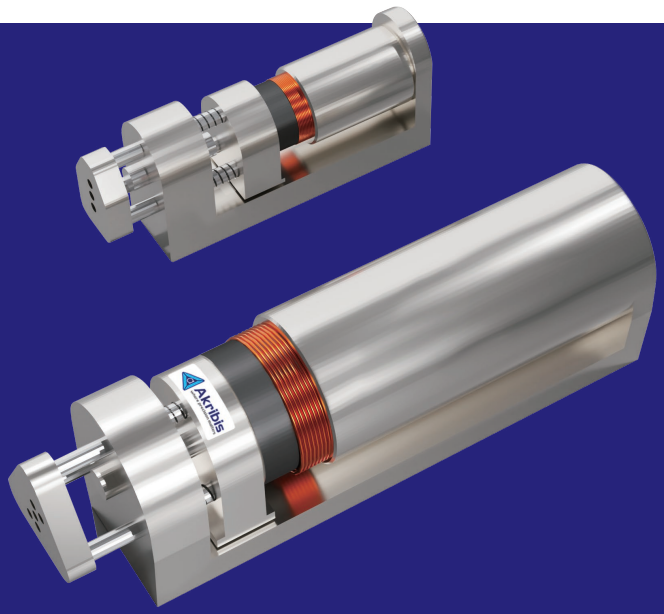


MBV SERIES

- Direct drive linear mechanism by voice coil motor
- Zero cogging effect, zero backlash
- Suitable for short stroke, high speed and high acceleration applications
- For vertical use only

Introduction

The MBV series voice coil motor module consists of a cylindrical voice coil motor, encoder position feedback, bushing guide and structural base; compact and with built-in spring as the counterweight for high-speed movement in the vertical direction.

There are two standard sizes: MBV20 and MVB35, similar configurations are accepted for customization.

Built-in voice coil motor can achieve no cogging force, high response, high frequency and built-in encoder position feedback; the MBV offers superior precision control and fine trajectory control in high-frequency operation compared to the cylinder or electric cylinder construction.

Continuous Force F_{cn} = 5.44N~30.5N
Peak Force F_{pk} = 16.3N~152.4N

Features

- Direct drive, built-in cylindrical voice coil motor
- Stroke from 6mm to 8mm
- Optional resolution of ±50μm
- High responsiveness

Applications

Vertical movement of automation equipment in various industries: high-frequency picking, valve control, handling, material fatigue testing and other applications.

Voice Coil Module Series	Voice Coil Motor Series		Continuous Force (F_{cn}) ■ Peak Force (F_{pk}) Unit: N 5 / 10 / 30 / 50 / 100 / 300	Stroke (mm)	Repeatability (μm)	Page
 MBV20	 AVM20	AVM20-HF-6	5.44 / 16.3	6	up to ±50	110
 MBV35	 AVM35	AVM35-HF-8	30.5 / 152.4	8		110

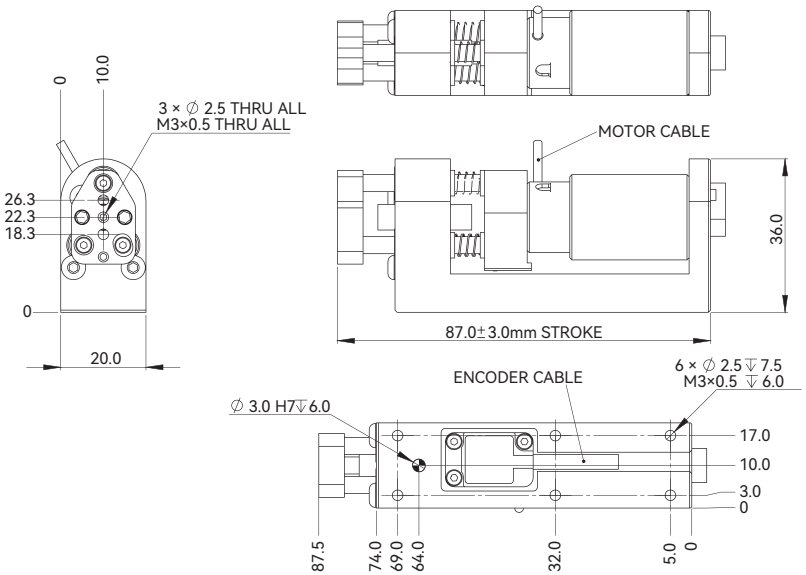
Note:
★ Products can be customized to meet specific working environments, please contact cust-service@akribis-sys.com.

MBV20

Motor Specifications	Unit	Value
Motor	-	AVM20-HF-6
Continuous Force (NC) @100℃ ❶❷	N	5.44
Peak Force ❷	N	16.3
Force Constant ±10% ❷	N/A	4.54
Back EMF Constant ±10% ❷	V/(m/s)	4.54
Resistance @25℃ ±10% ❸	Ω	4.84
Inductance ±20% ❹	mH	0.60
Continuous Current (NC) @100℃ ❶	A	1.2
Peak Current	A	3.6
Max. Voltage	Vdc	60
Mechanical Specifications	**Unit**	**Value**
Stroke ❺	mm	6.0
Resolution	μm	ABI21: 1.0/0.5/0.2
Repeatability	μm	±50
No-load Moving Mass	kg	0.035
No-load Total Mass	kg	0.14

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

■ Dimensional Drawing



MBV35

Motor Specifications	Unit	Value
Motor	-	AVM35-HF-8
Continuous Force (NC) @100℃ ❶❷	N	30.5
Peak Force ❷	N	152.4
Force Constant ±10% ❷	N/A	38.1
Back EMF Constant ±10% ❷	V/(m/s)	38.1
Resistance @25℃ ±10% ❸	Ω	17.0
Inductance ±20% ❹	mH	7.15
Continuous Current (NC) @100℃ ❶	A	0.8
Peak Current	A	4.0
Max. Voltage	Vdc	60
Mechanical Specifications	**Unit**	**Value**
Stroke ❺	mm	8.0
Resolution	μm	ABI21: 1.0/0.5/0.2
Repeatability	μm	±50
No-load Moving Mass	kg	0.14
No-load Total Mass	kg	0.65

❶ Measurement is taken at ambient temperature 25ºC. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
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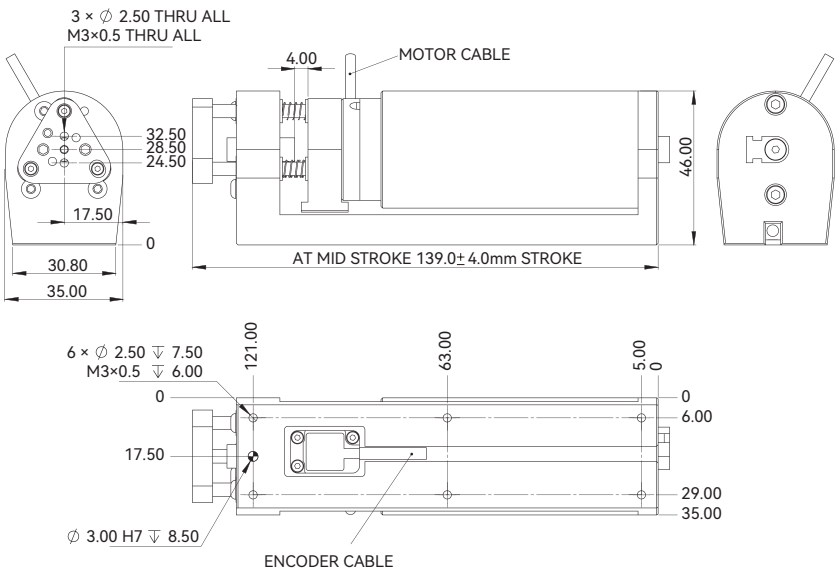
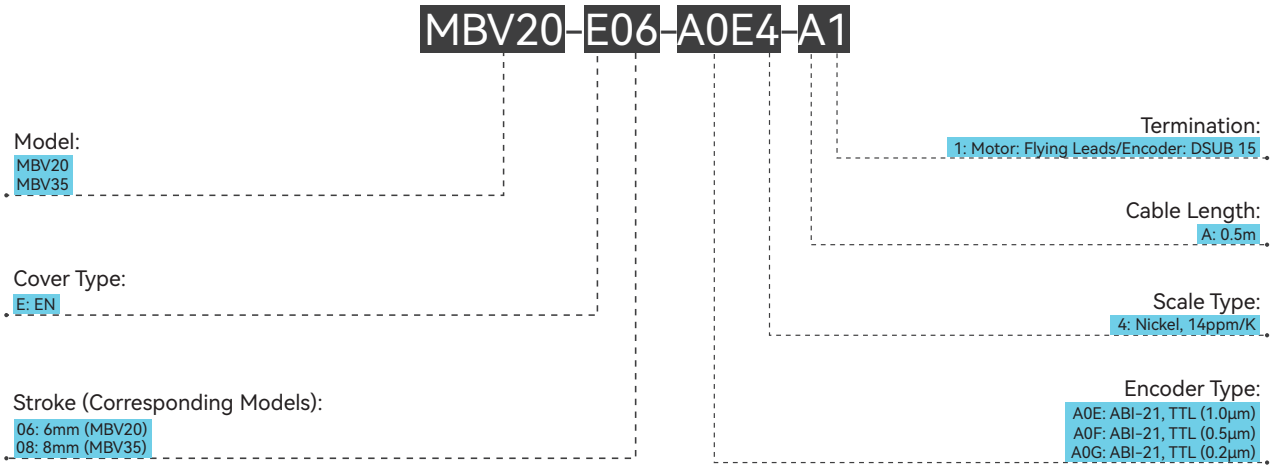
■ Dimensional Drawing



Ordering Part Number (OPN)



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