

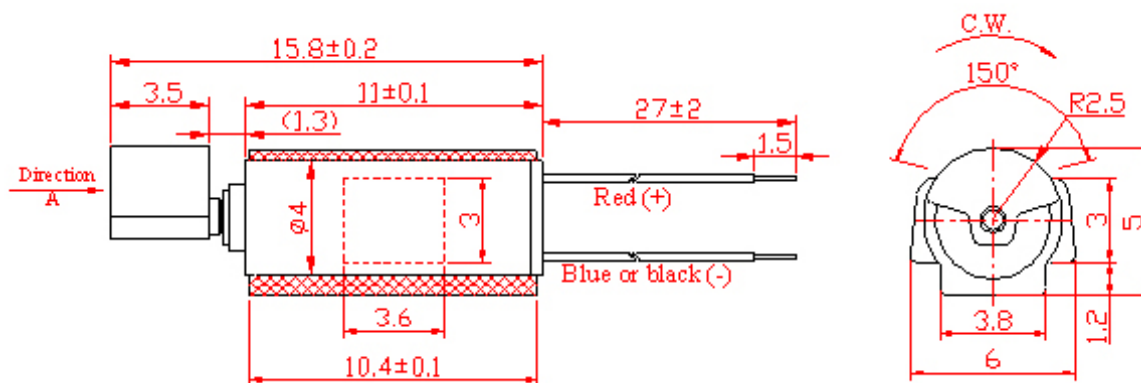


JinLong Machinery
VibratorMotor.com

KOTL

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Part No. 4KL-0354B



1. General scope

1-1 The specifications apply to the coreless cylindrical permanent magnetic micro vibration motor

DC model **4KL-0354B**.

2. Operating conditions

Items	Specifications	Condition & Remarks
2-1	Rated voltage	3.0V DC
2-2	Rated load	Vibration weight
2-3	Rated speed	11,500±2000rpm
2-4	Rotation	C.W. (clockwise)
2-5	Motor position	All positions
2-6	Operating voltage	2.0~4.0V DC
2-7	Operating conditions	-30 ~ 70°C, ordinary humidity
2-8	Storage conditions	-40 ~ 80°C, ordinary humidity

3. Measuring conditions

Items	Specifications	Condition & Remarks
3-1	Temperature	20±2°C

3-2	Humidity	(63 ~ 67%) RH	
3-3	Motor position	Motor shaft horizontal	Lock the motor in a test fixture.

3-4 All data are based on the measuring conditions: Temperature, 20°C; Humidity, 65% RH. If any disagreement occurs, such test conditions are available: Temperature, 5~35°C; Humidity, 45 ~ 85% RH.

4. Mechanical specifications

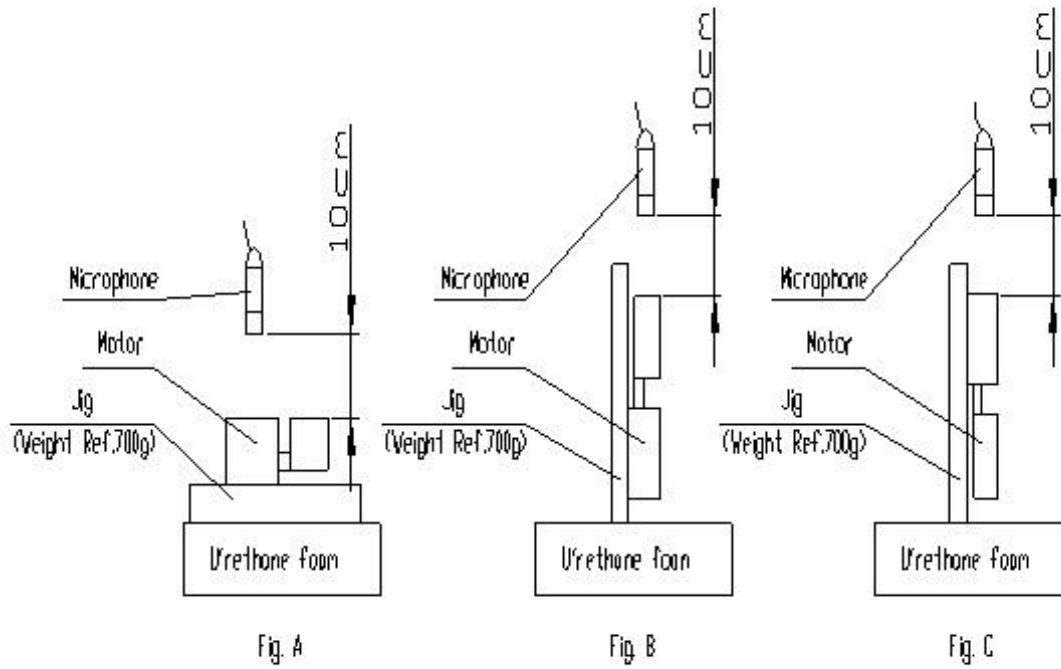
Items		Specifications	Condition & Remarks
4-1	Configuration	As specified in outline drawing	Outline drawing No: 4KL-0354B .
4-2	Appearance	There shall be no evidence of mechanical damage and shall not have inadequate corrosion, etc.	Visual examination: Inspection carried out on samples.
4-3	Shaft end play	0.05 ~ 0.2mm	
4-4	Weight of motor	1.23g approx.	Body + Vibration weight: 0.62+0.61
4-5	Holding strength of vibration weight	49N (5kgf)	

5. Performance and characteristics

Items		Specifications	Condition & Remarks
5-1	Rated speed	11,500±2000rpm	At rated voltage and rated load (vibration weight).
5-2	Rated current	65mA max	
5-3	Stall current	80mA max	At rated voltage.
5-4	Starting voltage	1.7V DC max	At rated load (vibration weight) any position of rotor.
5-5	Insulation resistance	1M• min	At DC 100V between the lead wires and motor body.
5-6	Terminal resistance	41• approx.	At 20°C.
	Mechanical noise	50db (A) max	

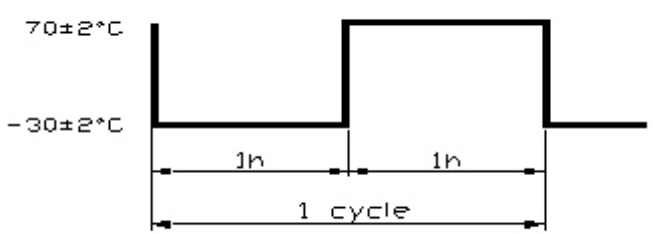
Measured at rated voltage and rated load (vibration weight).
 Background noise: 28db (A) max. @ 10cm.
 Measuring instruments: B & K.
 The weight of jig: 700g.

5-7



6. Reliability Test

Items		Standard test conditions						Condition & Remarks
6-1	Life test							After 2 hours exposure in ordinary Motors shall be approved as specified in item 7-1.
		Position	Voltage	Load	Temperature	Humidity	Life	
		Horizontal	Rated	Counter weight	20 °C	65 %	200,000 cycles	
					40 °C	90 %	40,000 cycles	
6-2	Low temperature exposure test	Temperature: $-40 \pm 2^{\circ}\text{C}$ Time: 96hrs						After the test motors shall be approved as specified in item 7-2.
6-3	High temperature exposure test	Temperature: $85 \pm 2^{\circ}\text{C}$ Time: 96hrs						

6-4	High humidity exposure test	Temperature: $40 \pm 2^{\circ}\text{C}$ Humidity: 90 ~ 95% RH Exposure time: 240hrs Dry time: 4hrs No condensation of moisture	
6-5	Vibration test	Displacement: 1.5mm (p-p) Frequency: 10 ~ 55Hz Period: 20 Mins log sweep (10 ~ 55 ~ 10Hz) Direction: x, y, z Time: Every 2 hours	After the test motors shall be approved as specified in item 7-2.
6-6	Drop test	Set the motor to the approximately 75g (include the motor) weight of block drop the motor on the concrete floor. Height: 1.5 meters Direction: $\pm x, \pm y, \pm z$ Times: Each 2 times	After the test motors shall be approved as specified in item 7-2.
6-7	Heat stock test	Test cycle: 5cycles 	After the test motors shall be approved as specified in item 7-2.

7. Post environmental

Items	Requirements
7-1 Table A	1) Rated speed: Initial data -30% min./ +60% max. 2) Rated current: Initial data $\pm 30\%$ max 3) Insulation resistance: $1\text{M}\cdot$ min 4) Starting voltage: 2.0V DC max 5) Wave of current: No blot wave.

7-2	Table B	1) Rated speed:	Initial data -30% min./ +60% max.
		2) Rated current:	Initial data $\pm 30\%$ max
		3) Starting voltage:	2.0V DC max

8. Matters to be paid attention to when using motor

8-1 Please lay the motors carefully in transportation to avoid any damage to the motor body or its electric function because of collision.

8-2 Please do not leave the motors in the environment of high temperature, high humidity and gas that will cause rust and corrosion. Please don't store the motors for over 6 months.

8-3 Please do not lock the motor shaft when the electric power is supplied.

8-4 Please do not touch the weights when motor is rotating.