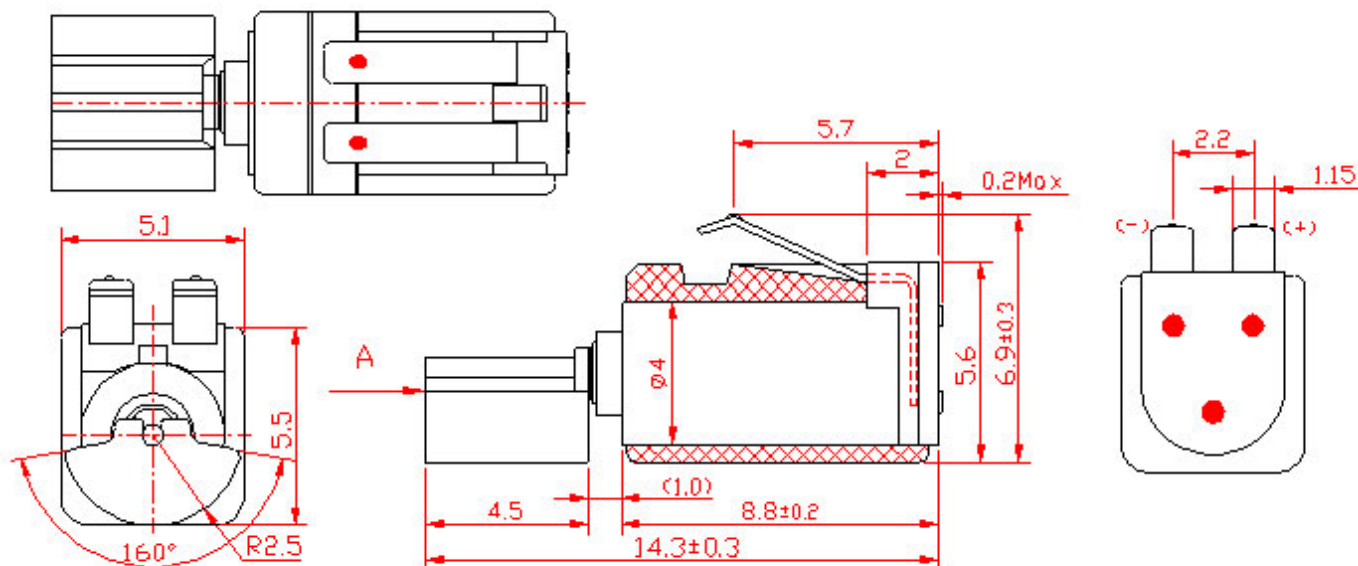




Part No. 4TH2-7877B40



1. General scope

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

DC model **4TH2-7877B40**.

2. Operating conditions

Items	Specifications	Condition & Remarks	
2-1	Rated voltage	3.0V DC	
2-2	Rated load	Counter weight	As specified in the outline drawing.
2-3	Rotation	C.W. (clockwise)	
2-4	Motor position	All positions	
2-5	Operating voltage	2.5~3.3V DC	
2-6	Operating conditions	-30 ~ 70°C, ordinary humidity	No condensation of moisture.
2-7	Storage conditions	-40 ~ 80°C, ordinary humidity	No condensation of moisture.

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
4-2	Appearance	There shall be no evidence of mechanical damage and shall not have inadequate corrosion, etc.
4-3	Shaft end play	0.05 ~ 0.2mm
4-4	Weight of motor	0.92±0.02g approx.
4-5	Holding strength of vibration weight	49N (5kgf)

5. Performance and characteristics

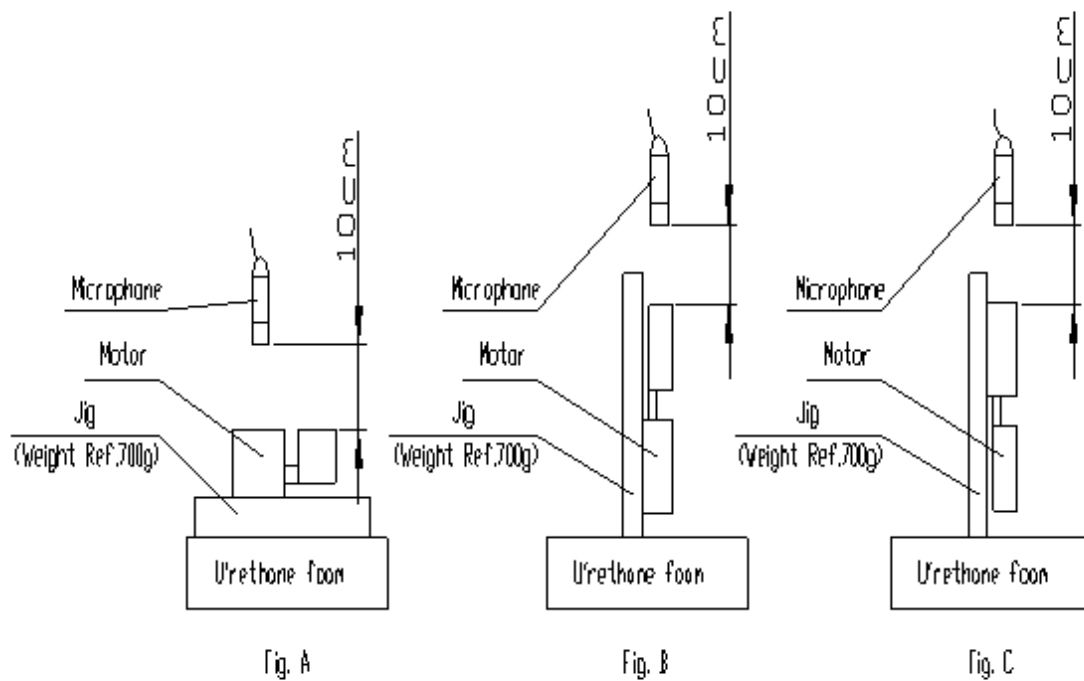
Items	Specifications	Condition & Remarks
5-1	Rated speed	8,000±1,500rpm
5-2	Rated current	80mA max
5-3	Stall current	90mA max
5-4	Starting voltage	2.0V DC max
5-5	Insulation resistance	1M• min
5-6	Terminal resistance	40• approx.
	Mechanical noise	50db (A) max

Measured at rated voltage and rated load (vibration weight).

Background noise: 28db (A) max. @ 10cm.

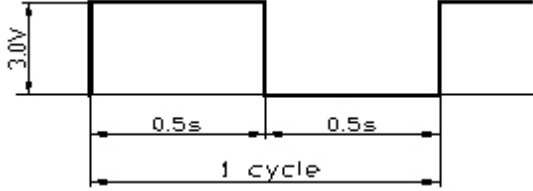
Measuring instruments: B & K.

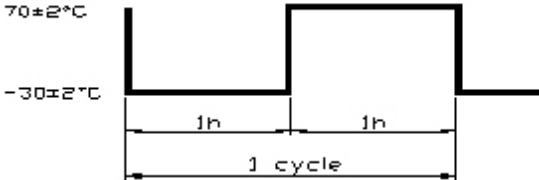
The weight of jig: 700g.



5-7

6. Reliability Test

Items	Standard test conditions	Condition & Remarks															
6-1 Life test	 <table border="1" data-bbox="402 600 1182 705"> <thead> <tr> <th>Position</th> <th>Voltage</th> <th>Load</th> <th>Temperature</th> <th>Humidity</th> <th>Life</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Horizontal</td> <td rowspan="2">Rated</td> <td rowspan="2">Counter weight</td> <td>20 °C</td> <td>65 %</td> <td>200,000 cycles</td> </tr> <tr> <td>40 °C</td> <td>90 %</td> <td>40,000 cycles</td> </tr> </tbody> </table>	Position	Voltage	Load	Temperature	Humidity	Life	Horizontal	Rated	Counter weight	20 °C	65 %	200,000 cycles	40 °C	90 %	40,000 cycles	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: 24hrs																
6-3 High temperature exposure test	Temperature: $85 \pm 2^{\circ}\text{C}$ Time: 300hrs																
6-4 High humidity exposure test	Temperature: $40 \pm 2^{\circ}\text{C}$ Humidity: 90% RH Exposure time: 96hrs Dry time: 4 hrs No condensation of moisture	After the test motors shall be approved as specified in item 7-2.															
6-5 Vibration test	Displacement: 1.5mm (p-p) Frequency: 10 to 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: Every 2 hours	After the test motors shall be approved as specified in item 7-2.															

<p>6-7 Heat stock</p>	<p>Test cycle: 5 cycles</p> 	<p>After the test motors shall be approved as specified in item 7-2.</p>
-----------------------	--	--

7. Post environmental

Items	Requirements
<p>7-1 Table A</p>	<p>1) Rated speed: Initial data -30% min./ +60% max. 2) Rated current: Initial data ±30% max 3) Insulation resistance: 1M• min 4) Starting voltage: 2.0V DC max 5) Wave of current: No blot wave.</p>
<p>7-2 Table B</p>	<p>1) Rated speed: Initial data -30% min./ +60% max. 2) Rated current: Initial data ±30% max 3) Starting voltage: 2.0V DC max</p>

8. Matters to be paid attention to when using motor

- 8-1 Lay the motors carefully in transportation to avoid any damage to the motor body or its electric function because of collision.
- 8-2 Storage temperature: 20±10°C. Do not leave the motors in the environment of high temperature, high humidity and gas that will cause rust and corrosion. Do not 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.