



# 产品规格书

PRODUCT SPECIFICATION

客户名称 Buyer Name	
客户料号 Buyer Part No.	
客户承认签章 Buyers Approval & Signatures	

文件编号 Spec No.		版本	A/0
品名 Product Description	线性振动马达 LINEAR VIBRATION MOTOR		
号Part No.	VLV152564W		
Date			
Designed by	Checked by	Approved by	
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2022.12.02	2022.12.02	2022.12.02	

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## 1. Applications

This specification provided by Vybronic is applied to model VLV152564W 15×25×6.4mmT AC linear resonant actuator, which is used for cellular phone and other handy communication tools.

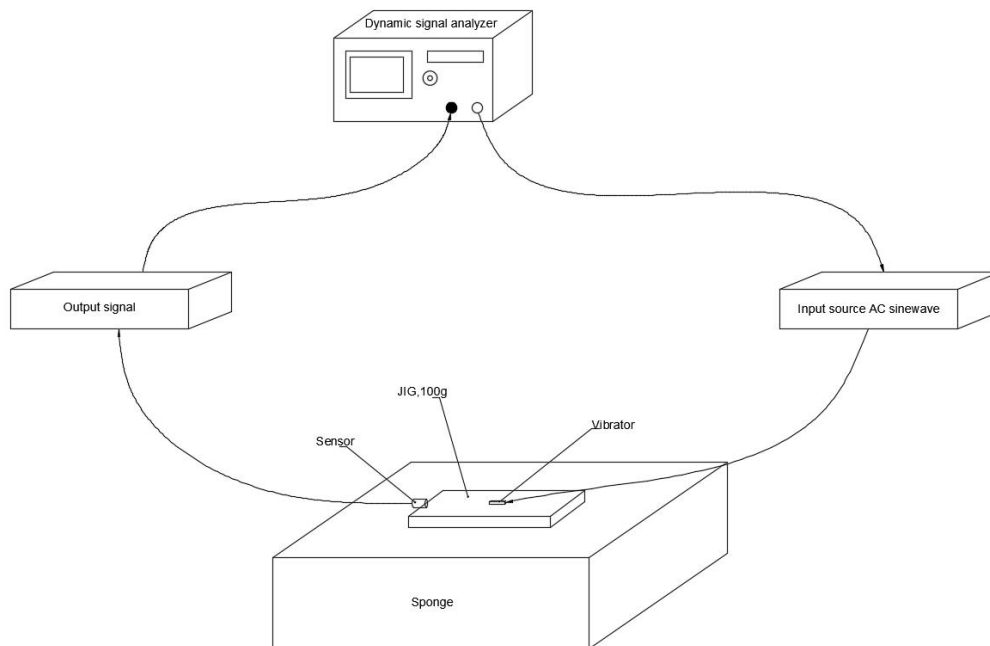
## 2. Storage, Operating Temperature/Humidity Conditions

No.	Item	Condition
2-1	Operating Temperature Range	-20 °C ~ +70 °C
2-2	Storage Temperature Range	-40 °C ~ +85 °C

## 3. Measurement Conditions, Input Voltage

No.	Item	Condition
3-1	Temperature	25 ± 3 °C
3-2	Humidity	65 ± 20%RH
3-3	Rated Input Voltage	1.4± 0.05 Vrms AC, Sinewave
3-4	Input Voltage Range	1.4± 0.05 Vrms AC
3-5	Operating Attitude	Refer to Figure

Refer to figure:



**Figure1: An example of measurement method of linear vibrator**

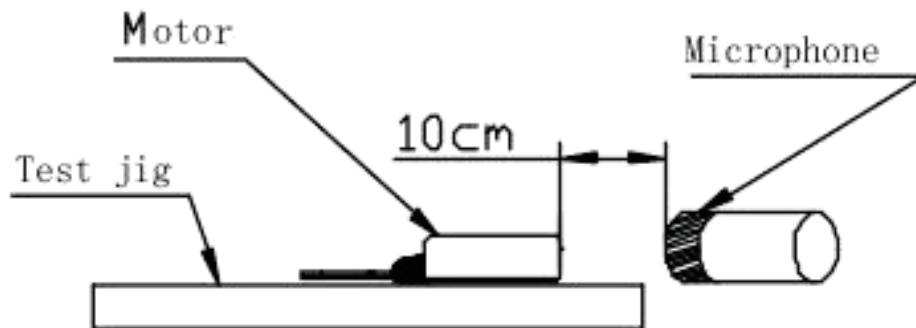
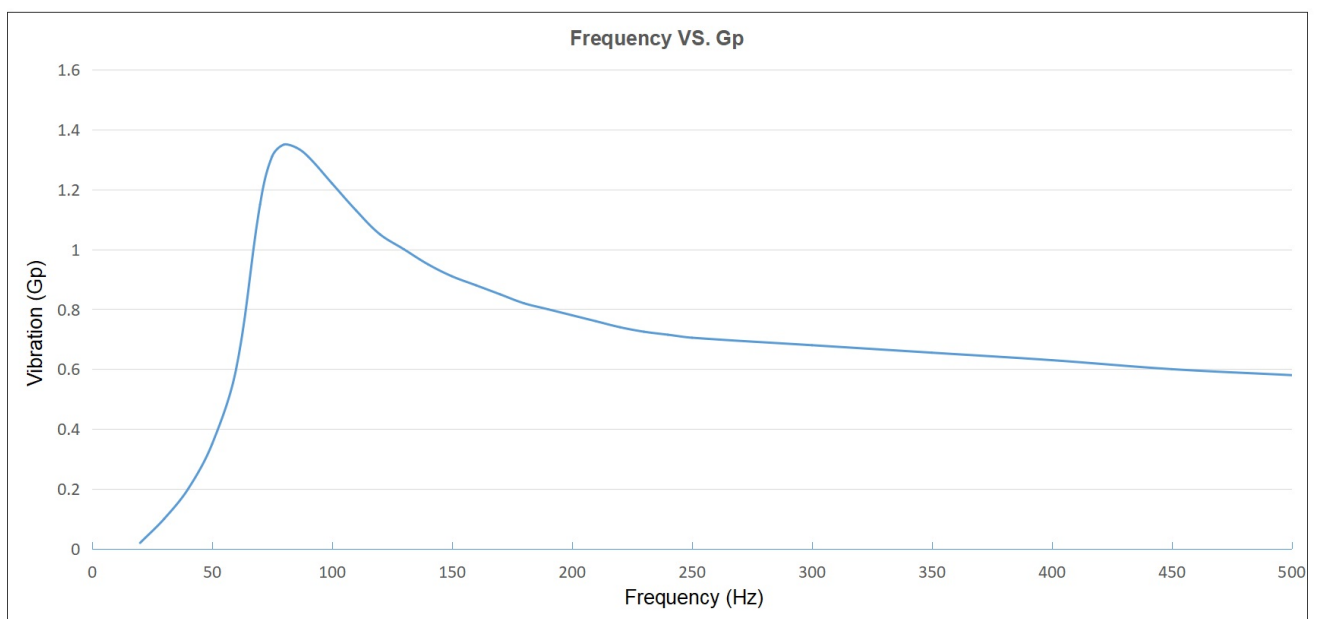
Note:

- Dummy Jig (100 Gram) should be put it on the sponge before measurement.

**4. Characteristics**

No.	Item	RFP				Comment
		MIN	TYP	MAX	Unit	
1	DC Impedance	6.8	8	9.2	ohm	@2000Hz AC sine wave in tester, which should be close to DC Resistance
2	Resonant Frequency F0	70	80	90	Hz	@Rated voltage 1.4Vrms AC, identifying F0 as the frequency associated with max acceleration.
3	Vibration at F0	0.73	0.93	1.13	Grms	As measured on a 100g jig via symmetrical testing where the motor engages the entire 100-gram mass. The mass Center of Gravity, motor line of actuation, and accelerometer must all be aligned on the same axis. @Rated voltage 1.4Vrms AC
4	Vibration at 170 Hz	0.38	0.5	0.62	Grms	
5	Vibration at 500 Hz	0.25	0.36	0.47	Grms	
6	Vibration Polarity					<p>“When positive voltage is applied to the [+] terminal, the internal moving part should travel in the direction of the arrow as shown.”</p> 
7	0 - 90% Rise Time (F0)	/	/	35	ms	
8	0 - 90% Rise Time (170Hz)	/	/	10	ms	
9	100% - 10% Fall Time (F0)	/	/	40	ms	100%-10%, NOT 100%-20%
10	100% - 10% Fall Time (170Hz)	/	/	30	ms	100%-10%, NOT 100%-20%
11	Power Consumption	/	/	<150 @F0 &<250 @all	mW	Total RMS average power consumption of the actuator when driven with a sine wave at nominal drive voltage.
12	NoiseVp	/	/	<2.0	/	Input Source:F0,1.4Vrms AC, sine wave
13	Sweep Noise	/	/	<2.0	/	Input Source:80-500Hz,1.4Vrms AC, sine wave

14	Rated Voltage	/	1.4	/	Vrms	Drive voltage value for long-term normal operation of the motor,AC
15	Weight	10	11	12	Gram	Motor Assy
16	Motor Length	24.65	24.8	24.95	mm	See appendix 1
17	Motor Width	14.45	14.6	14.75	mm	See appendix 1
18	Motor Height	6.3	6.4	6.5	mm	See appendix 1(without adhesive)
19	Insulation Resistance	10			MΩ	100V DC input, between Case and Lead Wire


**Figure2: Noise measurement condition**

**Figure3: Frequency Characteristics**

**5. Reliability Test**

No.	Test item		Specifications
	Type	Name	
5-1	Mechanical Tests	Repeat random drop test (Tumbler)	.Sample quantity: 10 pcs. DUT power off .Test condition: Drop from 100cm height with a 150g jig to a steel plate. Random drop for 200 times, Rotation speed 10-12 times / min .Reference: IEC60068-2-32
5-2		Free fall drop test	.Sample quantity: 10 pcs. DUT power off .Test condition: Drop from 100cm height with a 150g jig to a steel or concrete surface. Each surface three times (3 x 6), total 18 drops. .Reference: IEC60068-2-32
5-3		Micro-drop test	.Sample quantity: 10 pcs. DUT power off .Test condition: Drop from 10cm height with a 150g jig to a steel plate. each surface one thousand times (1,000 x 6), total 6,000 drops.
5-4	Environmental Tests	High temperature storage test	.Sample quantity: 10 pcs. DUT power off. .Test condition: +70±2°C, 168 hours .Reference: IEC60068-2-2 Bb
5-5		Low temperature storage test	.Sample quantity: 10 pcs. DUT power off. .Test condition: -40±2°C, 168 hours .Reference: IEC60068-2-1 Ab
5-6		High temperature High Humidity storage test	.Sample quantity: 10 pcs. DUT power off. .Test condition: 65°C,95%RH, 120 hours .Reference: IEC60068-2-2 Bb
5-7		Thermal shock test	.Sample quantity: 10 pcs. DUT power off. .Test condition: -40°C/2H <---> +80°C/ 2H, transition time less than 5 min, total 15 cycles .Reference: IEC60068-2-14 Na
5-8		Salt mist test	Sample quantity: 10 pcs. DUT power off. +35°C, 5%Nacl, 24 hours
5-9	Accelerated Life	Life test (Alarm mode)	.Sample quantity: 10 pcs. DUT power on (Under 1.4Vrms AC, 80Hz). .Test condition: 2 s on / 1s off, normal temperature & humidity, total 1,000,000 cycles.

MEASUREMENT: The measurement is conducted after 2 hours of recovery after climatic test.

JUDGEMENT : After test, following specifications must be satisfied.

- . The fluctuation of acceleration and frequency is not over ±30% of its initial value after the test.
- . Noise is not over 55 dB, other parameters must be within specification defined.

## 6. Packing

TBD

## 7. Cautions & Handling

- (1) Do not press the product with more than 0.5 kgf or drop it.  
It can cause the transformation of performance or external appearance.
- (2) Don't use under the following conditions. It may cause a decline in performance.
  - Do not drop into fluid (such as: water, alcohol, etc.)
  - Do not keep at high temperature or high humidity for extended periods of times
  - Do not use near gases which cause erosion
  - Please refrain from operating the vibrator near magnetic devices.
- (3) The vibrator has a strong magnet, so please be aware that it has a magnetic force on the surface of the bracket.
- (4) To optimize the vibration force, rated frequency and voltage could be changed as to assemble condition.



Appendix 1 (Outline drawing)

