



# 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
品名描述 Product Description	LRA 扁平振动马达 LRA Coin vibration motor		
型号Part No.	VG0825003D		
送样日期Date			
设计Designed by	审核Checked by	批准Approved by	
陳满	陈满	陈满	
2021.06.24	2021.06.24	2021.06.24	

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**规格书目录****Specification Content**

<b>No.</b>	<b>规格书内容/Specification</b>	<b>页码/Page</b>
<b>0</b>	<b>目录/Contents</b>	<b>1</b>
<b>0</b>	<b>修订履历/Change Records</b>	<b>2</b>
<b>1, 2, 3</b>	<b>适用范围/Applicable scope, 使用条件/Applicable Conditions , 测定条件/Masurement Conditions</b>	<b>3</b>
<b>4</b>	<b>性能标准/ characteristics Standard</b>	<b>4</b>
<b>5</b>	<b>机械性能/Mechanical characteristics</b>	<b>5</b>
<b>6</b>	<b>测定方法/ Determination Condition</b>	<b>6</b>
<b>7</b>	<b>可靠性实验/Reliability Test</b>	<b>7</b>
<b>8</b>	<b>可靠性实验/Reliability Test/判断特性/Requirements after the test</b>	<b>8</b>
<b>9</b>	<b>使用注意事项/Attention</b>	<b>9</b>
<b>10</b>	<b>包装/Packaging</b>	<b>10</b>
<b>11</b>	<b>外形图/Outline drawing</b>	<b>11</b>

**修订履历/Change Records**

修改号 Rev. No.	日期 Rev. Date	页码 Page No.	修改项目 Revised Item	更改原因 Reason
A/0	2021.06.24	/	产品颁布/ Release for Production	

**1. 适用范围/Applicable scope**

本规格书适用于线性振动马达 VG0825003D 系列。

This specification applies to linear type motor VG0825003D series.

**2. 使用条件/Applicable conditions**

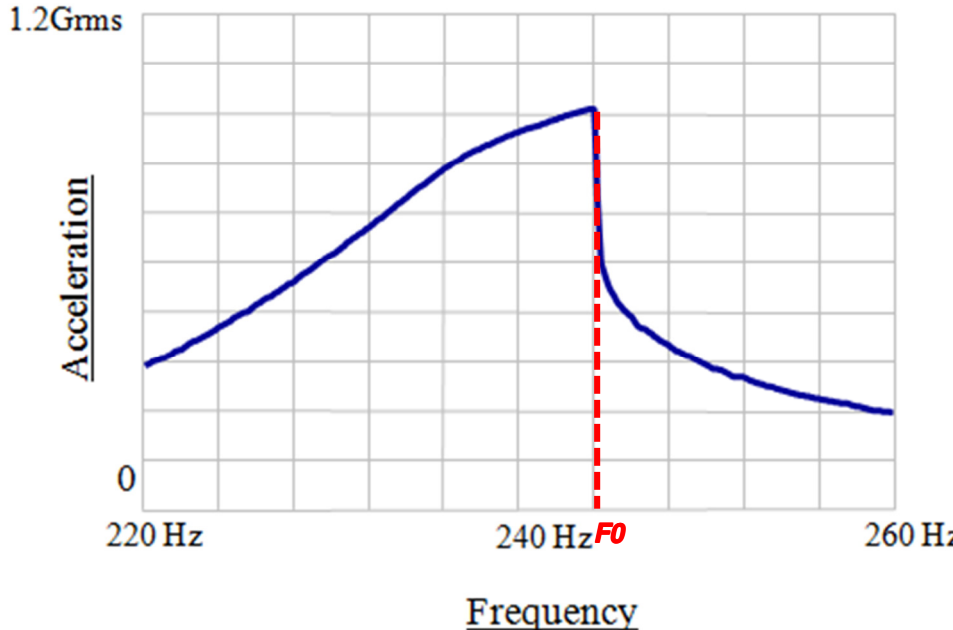
项目/Item		规格/Specification
2-1	额定电压/Rated Voltage	1.2VrmsAC, Sine wave
2-2	使用电压范围/Operating Voltage	0.1~1.25VrmsAC
2-3	振动方向/Direction of vibration	Z axis
2-4	使用环境/Operating Environment	-15°C~+55°C, Ordinary Humidity:65±20%RH
2-5	输入频率/Input Frequency	Resonant Frequency: 235 ~250 Hz
2-6	保存条件/Storage Conditions	-20°C~+60°C, Ordinary Humidity:65±20%RH

**3. 测定条件/Measurement Conditions**

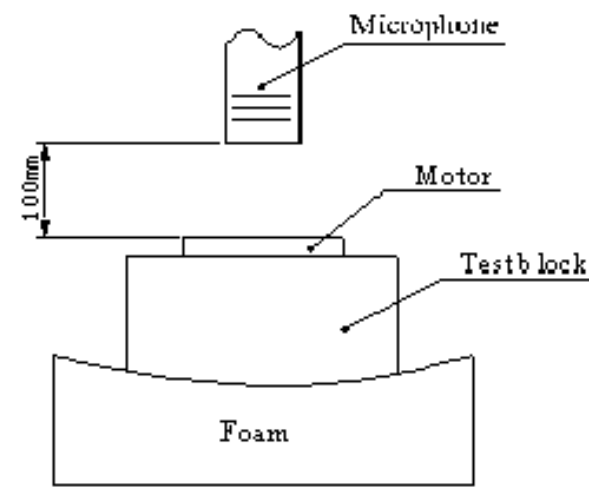
一般情况下，马达可以在 22~28°C，相对湿度 45~85%RH 的环境中测试.为保证一致性，测试应在下表规定内进行 Normally, the vibra could be measured under 22~28°C,45~85%RH. For coherence, it must be measured under below environment requirements:

项目/Item		规格/Specification
3-1	温度/Temperature	20°C±5°C
3-2	湿度/Humidity	65±20%RH
3-3	气压/Air Pressure	1013±40 hpa

**4、性能标准/ characteristics Standard**

项目/Item		规格/Specification	测试条件/ Test Condition
4-1	额定电压/ Rated Voltage	1.2VrmsAC, Sine wave	1.2VrmsAC, Sine wave
4-2	Rated Current 额定电流	Max 60mArms	235~250Hz, 1.2Vrms AC, sine wave
4-3	Acceleration F0 点振动量	Min 0.73Grms	
4-4	Frequency Characteristics 频率特性	<p style="text-align: center;"><b>Acceleration Characteristics</b></p>  <p style="text-align: center;"><b>Figure 1. Linear Vibrator Frequency Characteristics</b></p>	
4-5	绝缘电阻 Insulation Resistance	10MΩ Min (100V)	在 100V 直流电压下机壳与 导线/At DC 100V Between wire and case
4-6	阻抗 Resistance	19 Ohm±10%	20°C ± 5°C

**5、机械性能/Mechanical characteristics**

项目/Item		规格/Specification	测试条件/Test Conditions
5-1	噪音/Noise	50分贝最大/50 dB Max. (10cm distance from microphone/ 距离麦克风 10 cm 的位置)	235~250Hz, 1.2Vrms AC, sine wave 在额定电压下。 At rated voltage 背景噪音：不大于28dB. A计权. Back ground noise 28dB (A) Max.
			
5-2	马达尺寸 Vibra Size	Refer to 11. Outline drawing	
5-3	原子线抗拉强度 Anti-pulling strength of atomic line	最小 5N/ (0.5kgf) Min	破坏性测试，对原子线沿着轴向施加推力 Destructive test, give pulling force to the atomic line along to the axial direction.

6、测试方法/Test Method

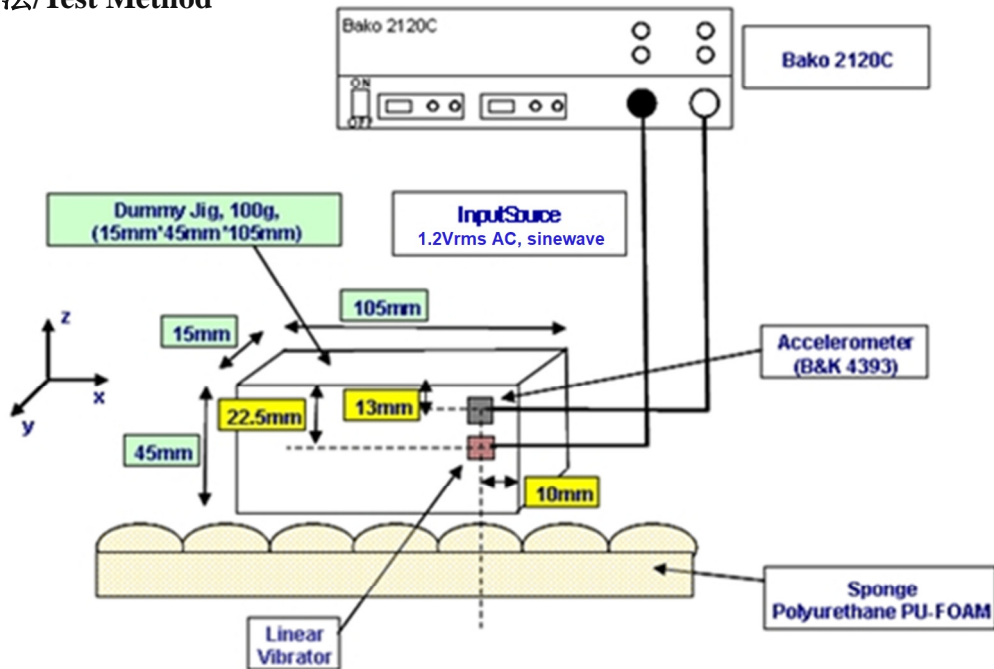


Figure 2. An Example of Measurement Method of Linear Vibrator 测试方法 图 2

6-1 线性马达加速度测试安装位置(参考图 2)

Linear Vibrator/ Accelerometer mounting position (refer to Figure1)

6-2 线性马达/加速度测试 sensor

Linear Vibrator/Accelerometer

6-3 线性马达测试虚拟 Jig 厚度 15mm

Linear Vibrator Dummy Jig 15mm

6-4 虚拟 JIG 位置尺寸

Dummy Jig position

6-5 虚拟 Jig 15mm\*105mm

Dummy Jig 15mm\*105mm

6-6 虚拟 Jig 应放置在泡棉上

Dummy Jig should be located on Sponge

6-7 加速度测试条件

Measurement of Acceleration/

6-8 输入电压: 1.2VrmsAC, sine wave

Input Source (1.2VrmsAC, sine wave)

6-9 输入电压 2~3 秒后, 测定线性马达的加速度

Acceleration of Linear Vibrator should be measured 2~3second later when source inputed

(1.2VrmsAC,sine wave)

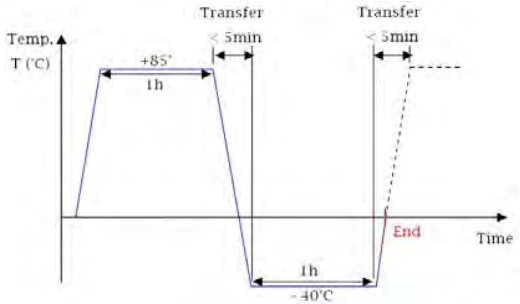
6-10 为了保证测定的精确性, 测定三次取三次平均值

For the precise measurement, Acceleration of Linear Vibrator is average data (repeat3 time )

**7、耐久性能/Durability characteristics**

项目/Item		测试条件/Test Condition	判定标准/Judgment
7-1	寿命 Lifetime test	1、试验循环/Test cycle: 200,000 cycle (1cycle: 2sec on/1sec off) 2、测试设备/Test equipment: 寿命试验机 /Lifetime test machine. 3. 输入电压(1.2VrmsAC, Sine wave),输入频率: 240Hz Input voltage : 1.2VrmsAC,Sine -wave ), Input frequency(240Hz)	试验后, 马达应符合 8-1 项的要求/ The test result should meet the requirements of item 7-1.
7-2	低温放置 Low temperature storage test	温度/Temperature:-30℃ 时间/Time :168H	在常温下放置 4 小时后, 马达应符合 8-1 项要求/ After 4-hour storage, the test result should meet the requirements of item 8-1.
7-3	高温放置 High temperature storage test	温度/Temperature:70℃ 时间/Time :168H	
7-4	湿度放置 Humidity storage test	温度/Temperature:50℃ 湿度/Humidity:95%RH 时间/Time:120H 无水气凝结/No condensation of moisture	
7-5	振动/Vibration test	1. 马达固定治具重量 160g The motor fixed fixture weight 160g 2. 全振幅/Double amplitude:1.5mm(p-p) 3. 频率/Frequency:10~55Hz 4. 条件/Condition:在样机中, 在 3 个直 的轴方向每个方向做 1H 测试/ Do the test at three straight shaft directions for ten minutes to the samples.	测试结果应符合 8-1 项要求/ The test result should meet the requirements of item 8-1.



7-7	自然跌落 /Drop test	<ol style="list-style-type: none"> <li>1. 试验状态/Test status:将马达固定在重量约 100g (包括马达本身) 的物体上, 落向水泥地面/Fix the motor on a object weighted about 100g (include the motor) and drop it to the cement floor.</li> <li>2. 高度/Height:1.5m</li> <li>3. 方向/Direction : ±X, ±Y, ±Z</li> <li>4. 次数/ Number of the test:每个方向 3 次/times for each direction</li> </ol>	测试结果应符合 8-1 项的要求/ The test result should meet the requirements of item 8-1.
7-8	温度冲击试验 Temperature shock test	<p>测试模式/Test mode: 1 hour at -40°C, 1 hour at 85°C, as one cycle, Transfer time between extreme temperatures: &lt;5 分钟 /5min 循环次数: 15cycles</p>  <p>The graph shows temperature (T in °C) on the y-axis and Time on the x-axis. It depicts a cycle where the temperature rises to +85°C, stays there for 1 hour, then drops to -40°C, stays there for 1 hour, and then rises back to +85°C. Transfer times between these temperatures are indicated as &lt;5min. The cycle ends at a point labeled 'End'.</p>	在常温下放置 2 小时后, 测试结果应符合 8-1 项要求/ After 2 hour exposure in ordinary temperature and humidity and the test result should meet the requirements of item 8-1.

## 8、判断特性/Requirements after reliable test

8-1 试验后应满足下列条件

9-变化率: 不超出初始值的±30%

10-额定电流: 60 mArms Max.

11-噪音: 50dBMax

12-2 外观、结构方面无异常发生

8-1 After test, following specifications must be satisfied.

-Acceleration: Initial Value±30%

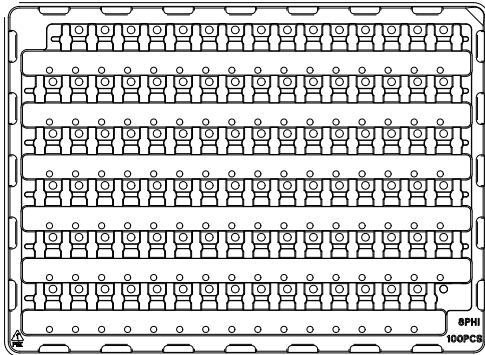
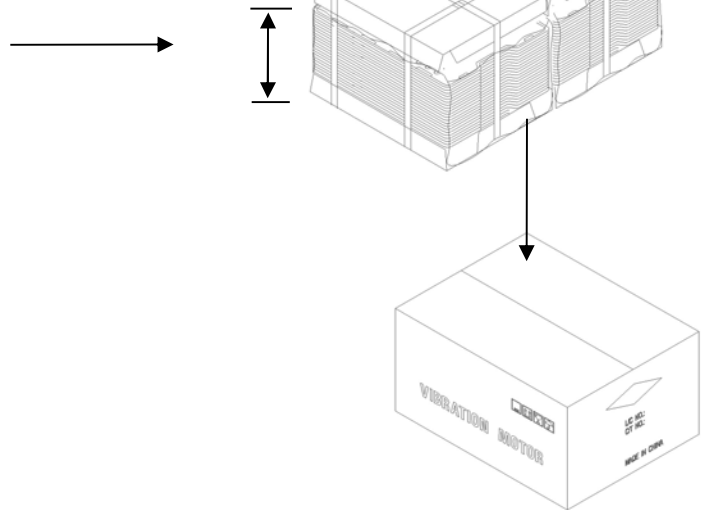
-Rated Current: 60mArms Max

-Noise\_T:50dBMax

8-2 There should be no abnormalities to happen in structure.

**9、使用注意事项/ Points for Attentions**

- 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.
- 5) Packing : Please refer to the packaging drawing.  
(It can be modified by the request of the users.)
- 6) If any problems occur, both the user and Vybronic shall try to solve the problem by mutual agreement and on reflection of the specification sheet.

**10、包装/Packing**

 20(21) Trays  
+ 2 Pads

『 packing status 』

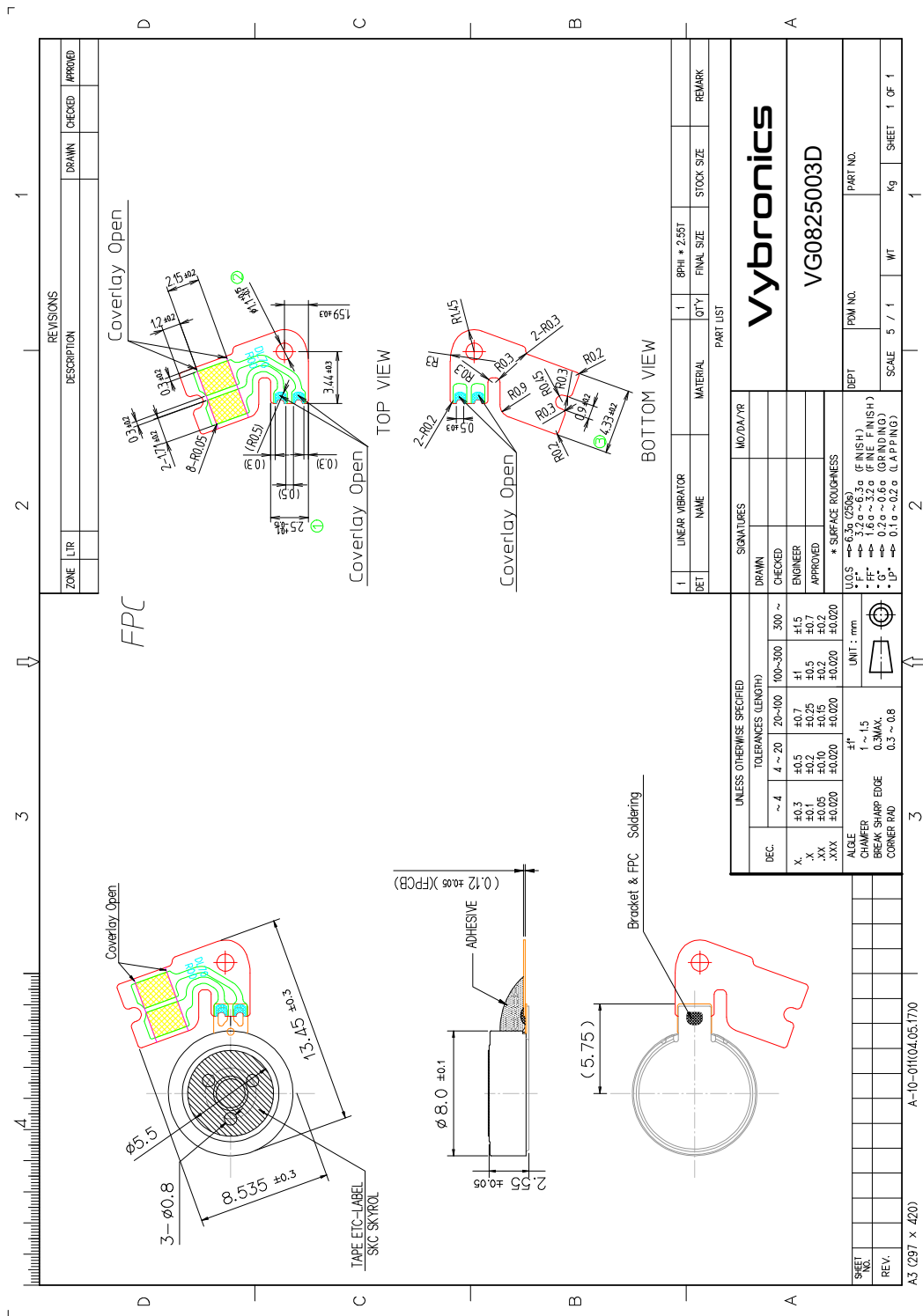
[packing quantity]

- 100ea/ tray
- 1 carton box
  - 40(42) trays with a dummy tray on the top
  - 4000ea/ carton box,



No	Material	Size	Q'ty/Lot	How to Pack
1	PET Tray (MP09-00007A)	327x239x9.6	40(42)	<ul style="list-style-type: none"> <li>● 40(42) trays are packed with packing vinyl.</li> <li>● The trays are bound with pad and pp band</li> <li>● One bound traies are put to a carton.</li> <li>● Lot Numbering</li> <li>● Delivery</li> </ul>
2	Box	510x350x175	1	
3	Pad		4	
4	Packing vinyl		2	
5	PP-band		-	

11、外形图/ Outline drawing



ZONE	LTR	DESCRIPTION	REVISIONS	APPROVED	CHECKED	DRAWN

LINEAR VIBRATOR	QTY	FINAL SIZE	STOCK SIZE	REMARK
1	1	BPH # 2.55T		

SIGNATURES	MODIFY/yr	PART LIST
DRAWN		
CHECKED		
ENGINEER		
APPROVED		

**Vybronics**

**VG0825003D**

UNIT : mm

UNLESS OTHERWISE SPECIFIED

TOLERANCES (LENGTH)

DEC.    ~ 4    4 ~ 20    20 ~ 100    100 ~ 300    300 ~

X,        ±0.3    ±0.5    ±0.7    ±1        ±1.5

.X,        ±0.1    ±0.2    ±0.25    ±0.5    ±0.7

.XX,       ±0.05    ±0.1    ±0.15    ±0.2    ±0.3

.XXX,      ±0.020    ±0.020    ±0.020    ±0.020    ±0.020

ANGLE      1° ~ 1.5

CHAMFER    0.3 MAX

BIGG SHARP EDGE    0.3 ~ 0.8

CORNER RAD

SHEET NO.    1

REV.           

LINEAR VIBRATOR	MATERIAL	SCALE	SCALE	SCALE	SCALE	SCALE	SCALE	SCALE
1		5 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1

1

A-10-011(04.05.17)

A3 (297 x 420)