

維盟科技有限公司
EVOwave Technology Co., Ltd.

規格書 / Specification

Description:	Wire Type Vibrator
Part No.:	VK061227WXX
Date:	2015.4.16

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1. 適用範圍/General

本說明書適用於圓筒式永磁直流電機 VK061227WXX 型

This specification applies to cylindrical permanent-magnetic motors DC model VK061227WXX

2. 使用條件/Operating condition

項目/Item	規格/Specification	條件·備註/Condition remark
2-1 額定電壓 Rated voltage	1.3V DC	
2-2 額定負荷 Rated load	振子 Vibration weight	見外形圖 As specified in outline drawing
2-3 旋轉方向 Rotation	CW.CCW(clockwise or anticlockwise)	
2-4 馬達位置 Motor position	全方位 All position	
2-5 使用電壓範圍 Operating voltage	0.9~1.6V DC	
2-6 使用環境 Operating environment	-30~70℃, Ordinary Humidity	無水氣凝結 No condensation of moisture
2-7 保存環境 Storage environment	-40~80℃, Ordinary Humidity	無水氣凝結 No condensation of moisture

3 · 測定條件/Measuring condition

所有資料都是在溫度 20℃，濕度 65%的條件下測得的。判定有異議時，在溫度 5~35℃、濕度 45~85% 的範圍內測試。

All data are based on the measurement under the temperature of 20℃ and humidity 65%RH.however.the ranges of temperature 5~35℃ and humidity 45~85%RH are to be applicable as long as no problems

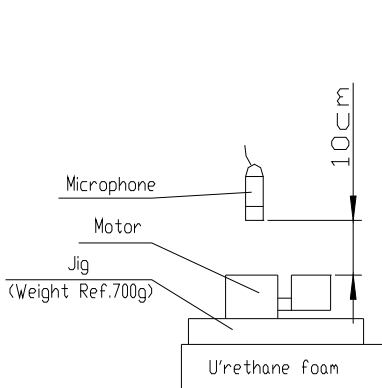
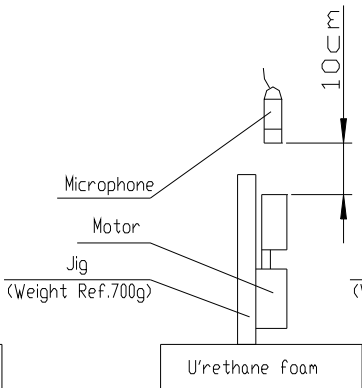
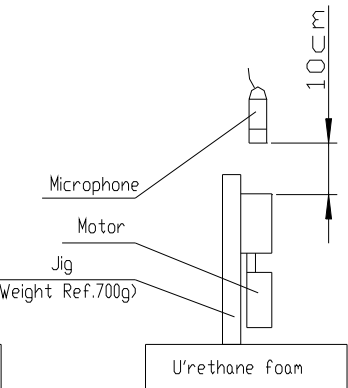
項目/Item	規格/Specification	條件·備註/Condition remark
3-1 溫度 Temperature	20±2℃	
3-2 濕度 Humidity	(63%~67%) RH	
3-3 位置 Motor position	軸向水準 Motor shaft horizontal	將馬達固定在試驗臺上 Lock the motor in a test fixture

4 · 機械要求/Mechanical specification

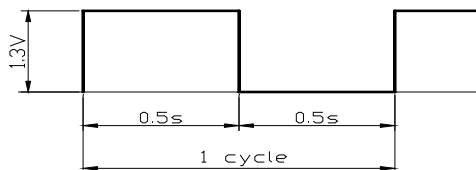
項目/Item	規格/Specification	條件·備註/Condition remark
4-1 結構 Configuration	見外形圖 As specified in outline drawing	Outline drawing No: VK061227WXX
4-2 外觀 Appearance	不含有機械損壞及不充分的浸蝕等。 There shall be no evidence of mechanical damage and shall not have inadequate corrosion and so on	目測（容許範圍根據樣品外形） Visual examination(allowable extent is based on boundary sample)
4-3 軸向間隙 Shaft end play	0.1mm~0.3mm	

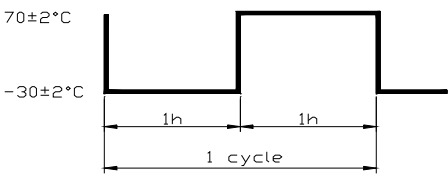
4-4	振子固定力 Holding strength of vibration weight	49N (5kgf) Min	
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5.性能特徵/Performance and characteristics

項目/Item		規格/Specification	條件·備註/Condition remark
5-1	額定轉速 Rated speed	8500±2000rpm	在額定電壓和額定負載（振子）下。 At rated voltage and rated load (vibration weight).
5-2	額定電流 Rated current	85 mA Max	
5-3	堵轉電流 Stall current	160 mA Max	在額定電壓下 At rated voltage
5-4	起動電壓 Starting voltage	0.75V DC Max	在額定負載（振子）下電樞的任意位置。 At rated load (vibration weight) any position of rotor.
5-5	絕緣電阻 Insulation resistance	1M Ω Min	在 100V 直流下，端子和機殼間 At DC 100V between Terminal and case.
5-6	端子阻抗 Terminal resistance	10 Ω ($\pm 20\%$)	在 20°C 下 At 20°C
5-7	機械噪音 Mechanical noise	小於 50 分貝.A 計權 50dB(A)Max	
	在額定電壓、額定負載（振子）下。 At rated voltage and rated load (vibration weight). 背景噪音：不大於 28dB.A 計權 Back ground noise 28dB(A) Max 測試儀器：B&k Measuring instruments: B&k 夾具重量：700g Weight of jig:700g  Fig. A  Fig. B  Fig. C		

6 · 可靠性/Reliability

項目/Item		規格/Specification						判定標準/Judgment
6-1	壽命 Life							在常溫常濕下放置 2h 後，馬達應符合項 7-1 的要求。 After 2 hours exposure in ordinary temperature and humidity, Motors shall be approved as specified in item 7-1.
		位置 Position	電壓 Volt	負荷 Load	溫度 Temp	濕度 Humi	壽命 Life	
		軸水準 Horizon	Rate d 額定	Weigh t 振子	20° C	65%	200,00 0 Cycles	
6-2	低溫放置 Low temp exposure	溫度時間 /Temperature : -40±2℃ /Time : 96h						在常溫常濕下放置 2h 後，馬達應符合項 7-2 的要求。 After 2 hours exposure in ordinary temperature and humidity, Motors shall be approved as specified in item 7-2.
6-3	高溫放置 High temp. Exposure	溫度時間 /Temperature : 60±2℃ /Time : 96h						
6-4	濕度放置 Humidity exposure	溫度濕度 放置時間 無水氣凝結 /Temperature : 40±2℃ /Humidity : 90~95%RH / Exposure time : 96h /No condensation of moisture						
6-5	振動 Vibration	全振幅 頻率 週期 /Displacement :1.5mm (p-p) /Frequency :10 to 55Hz /Period :20min 範圍內 (10~55~10Hz) /20 Minutes log sweep (10~55~10Hz) 方向 時間 /Direction :x、y、z /Time :每 2h /Each 2 hours						測試結果應符合項 7-2 的要求。 After the test motors shall be approved as specified in item 7-2.
6-6	自然跌落 Free fall	試驗狀態/Test state:將馬達固定在約 75 克（包括馬達本身）的物體上，落向水泥地面。 Set the motor to the approximately 75g (include the motor) weight of block drop the motor on the concrete floor. 高度 方向 次數 /Height :1.5m /Direction :±x.±y.±z /Number of times:每個 方向 2 次 /Each 2 times						測試結果應符合項 7-2 的要求。 After the test motors shall be approved as specified in item 7-2.

6-7	熱衝擊 Heat shock test	 試驗迴圈 /Test cycle :20 cycles	在常溫常濕下放置 2h 後，馬達應符合項 7-2 的要求。 After 2 hours exposure in ordinary temperature and humidity, Motors shall be approved as specified in item 7-2.
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7. 要求/Requirements

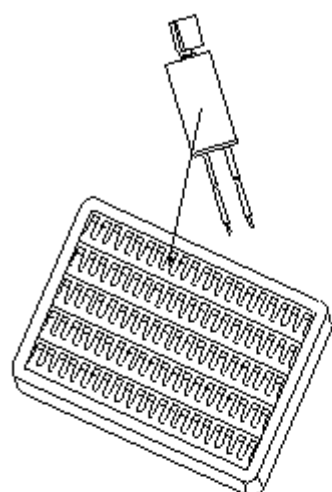
項目/Item		判定基準/Requirements	
7-1	表 A Table A	1)額定轉速/Rated speed 2)額定電流/Rated current 3)起動電壓/Starting voltage	:不低於初始值-30% ; 不高於初始值+60% data-30% Initial Min data+60% Initial Max :不大於初始值±30%/Initial data±30% max :不大於 1.1V 直流電壓 1.1V DC Max
7-2	表 B Table B	1)額定轉速/Rated speed 2)額定電流/Rated current 3)起動電壓/Starting voltage	:不大於初始值±30%/Initial data±30% Max :不大於初始值±30%/Initial data±30% Max :不大於 1.1V 直流電壓 1.1V DC Max

8. 使用時注意事項/Matters to be paid attention to when using motor

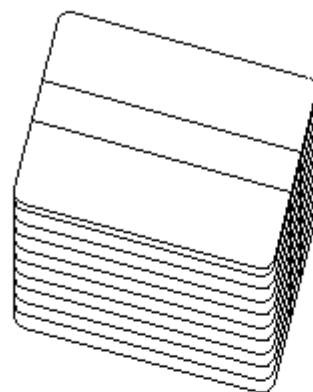
- 8-1 電機在運輸過程中應小心輕放，避免嚴重碰撞敲擊引起的電機機身和性能受損。
(Please lay the motors carefully in transportation to avoid any serious damage to the motor body or its electric function because of collision.)
- 8-2 必須按照規格書的標準使用，否則會影響電機壽命。
(Please use the motor according to the instruction of this product specification, or else, it will be bad for motor's life.)
- 8-3 請在 6 個月內使用，請不要在高溫、低溫、高濕環境下存儲。在使用和打開馬達外包裝時請避免水氣凝結。
(Make arrangement to limit the storage period to 6 months or less. Please do not store motor in high temperature. Low temperature. high humidity environment. Condensation of atmosphere must be avoided in motor usage or opening the packaging of the motor.)
- 8-4 馬達應適當的操作、儲存和運轉環境中均不可存在腐蝕性氣體。例如： H_2S 、 SO_2 、 NO_2 、 CL_2 等。另外存儲環境中不可有諸如矽、氰、甲醛水和苯酚等能放射出腐蝕性氣體的物質，在電機的機械構造或裝置中，如果存在腐蝕性氣體，那麼這會引起馬達不運轉。
(For proper operation. storage and operating environment must not contain corrosive gases. For example H_2S . SO_2 . NO_2 . CL_2 . etc. In addition storage environment must not have materials that emit corrosive gases especially from silicon. cyanic. formalin and phenol group. In the mechanism or the set. existence of corrosive gases may cause no rotation in motor.)
- 8-5 請通電後不要長時間堵住機軸，並且馬達轉動時不要觸碰振子。
(Please don't stall the shaft for a long time after powering, and not to touch the weight when motor is rotating.)
- 8-6 馬達軸向間隙處不應有雜物（如顆粒、纖維物、頭髮、膠帶、膠水等）
(There should be no sundries (such as grain, fibre, hair, small tape, glue etc.) in the shaft end play.)

圓柱馬達包裝

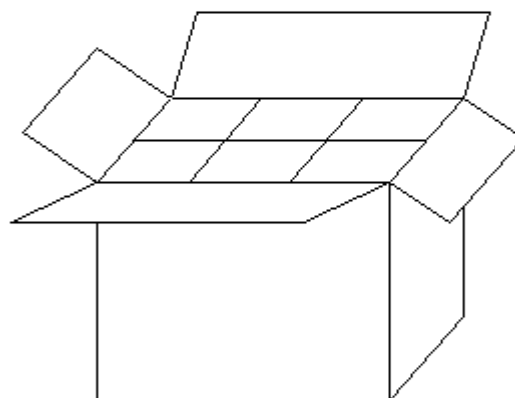
Pack drawing of VK0612 cylindrical type



100PCS(1 tray) × 10



1000PCS(1 bundle) × 6



包裝試驗要求/ Package Test Requirement:
標準/ Criterion:

1. 整箱重量小於等於9kg的，跌落高度設定為75cm。
/ The weight of the whole carton less than 9kg, the dropping height is 75cm.
2. 整箱重量大於9kg但小於等於23kg的，跌落高度設定為60cm。
/ The weight of the whole carton more than 9kg and less than 23kg, the dropping height is 60cm.

試驗方法/Test Methods:

跌落要求為六面三棱一角。/ Dropping requirement is 6 faces, 3 arris, 1 angle.

六面：先從最大兩面跌，然後是中間大小的兩面，最後跌最小的兩面，一共六次。

/ 6 faces: First dropping with two biggest faces, then dropping with another two middle faces, at last dropping with two smallest faces, once per face, total 6 faces.

三棱：指任選三條同一角的棱，跌落秩序：最長棱，中間長度，最短的，一共三次。

/ 3 arris: Choose any 3 arris which make up of the same the angle, the dropping sequence is the longest arris, middle arris, shortest arris. Total 3 times.

一角：指上一步三條棱所組成的角，跌落一次。

/ 1 angle: Point to the angle which is made up with the 3 arris in the above step, Dropping for 1 time.

判定基準/ Judgement Criterion:

經過跌落試驗後，產品外觀、性能無不良。

/ After drop test, no evidence of damage on the appearance and performance.

Remarks:

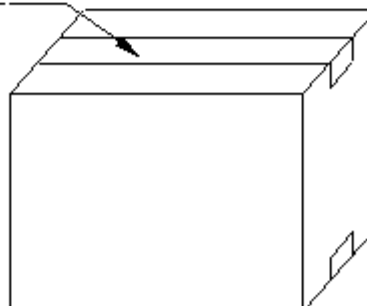
1000PCS/CTN: 24cm× 17.5cm× 27.5cm

2000PCS/CTN: 34cm× 24cm× 27.5cm

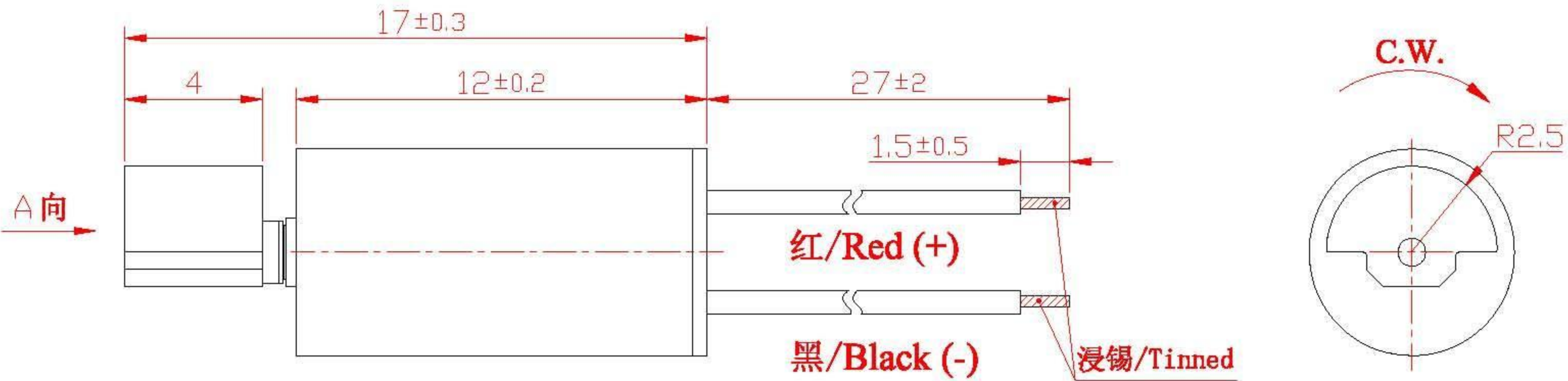
4000PCS/CTN: 47cm× 34cm× 27.5cm

6000PCS/CTN: 51cm× 47cm× 27.5cm

OPP TAPE



- 技术要求/Technic requirement
- 1.额定电压/Rated voltage:1.3V
 - 2.额定电流/Rated current:85mA Max
 - 3.额定转速/Rated speed:8500 ± 2000rpm
 - 4.堵转电流/Stall current:160mA Max
 - 5.端子阻抗/Terminal resistance:10Ω(±20%)
 - 6.起动电压/Starting voltage:0.75V Max
 - 7.轴向间隙/Shaft end play:0.1~0.3mm
 - 8.导线规格/Lead spec: AWG30 UL3302
 - 9.所有尺寸为A向压紧后的尺寸(不包括轴向间隙)
/Overall length is measured after counterweight being pressed against body in direction A. (Shaft end play is not included.)
 - 10.未注线性公差为/Unmarked tolerance: ± 0.1mm



借（通）用件登记

底图总号
签 字
日 期

标 记	处 数	分 区	更改文件号	签 名	日 期				
设 计	杨 兰	2006. 04. 27	标准化	吴云明	2006. 04. 27	阶 段 标 记	重 量	比 例	
校 对	张爱平	2006. 04. 27							
审 核	葛 佳	2006. 04. 27							
工 艺	吴宏良	2006. 04. 27	批 准	郑向超	2006. 04. 27	共 页	第 页		

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外 形 图

VK061227WXX

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