承认规格书

SPECIFICATION FOR APPROVAL

客户： CUSTOMER:	深圳市元鼎智能创新有限公司
客户料号： CUS PART NO:	011901.0002
客户文件/版次： CSR FILE / REVISION:	N/A
品　　名： PART NAME:	VACUUM　PUMP
品　　番： MODEL:	CJVP28-AC12B22

客户签认 CUSTOMER APPROVAL SIGNATURES:

批准 APPROVED	确认 CHECKED	品保确认 QC.CHECKED

注：请在对应栏内签字，如无则填写“NA”。

REMARKS: SIGN EVERY COLUMN AND STATE “NA” IF NOT APPLICABLE.

坤锦签认 CONJOIN SIGNATURES:

品质 QUALITY	应用 APPLICATION	工程 ENGINEERING

厦门坤锦电子科技有限公司 XIAMEN CONJOIN ELECTRONICS TECHNOLOGY CO., LTD				产品规格书 SPECIFICATION (CJVP28-AC12B22)	文件编号 Doc No	WIGCKF5537
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分发编号 Issue No.	281170	客户 Customer	元鼎		发行日期 Date	2024-12-09

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Revision History

序号 No.	修订日期 Date	修订内容 Contents	修订单位 Revised by
1.0	2024-09-04	首次发行 First Release	工程部 Engineering
1.1	2024-12-09	封面：增加客户料号 011901.0002 P7/11：成品图更新，增加线束和防尘贴	工程部 Engineering

1. 目的：为了规范 PUMP 产品的技术要求和试验方法及标志、包装、运输及贮存要求。
   Purpose: This specification is to regulate the technical requirements of pumps, as well as requirements of tests, labeling, packaging, transportation and storage.

2. 适用范围：本标准适用于 **CJVP28-AC12B22**
   Scope of application: This specification applies to CJVP28-AC12B22

3. 标准工作状态：
   Standard Operating Conditions:

3.1	额定电压 **Rated Voltage**	**12V DC**
3.2	工作电压范围 **Operating Voltage Range**	**10.8~13.2 V DC**
3.3	额定负载 **Rated Load**	**-15kPa**
3.4	工作温度范围 **Operating Temperature Range**	温度在**+5℃ ~ +45℃**且相对湿度在 **30% ~ 80%**之间 **The temperature have to be between +5℃ and +45℃ and relative humidity between 30% and 80% to ensure the normal function of pump.**
3.5	介质 **Media**	空气（因使用其他非空气介质或介质异常造成的产品不良和/或其他后果不属于产品质量问题） **Air (product failure and/or other results caused by media other than air or abnormal media should not be categorized into product quality issue)**

4. 测试条件：
   Testing Conditions:

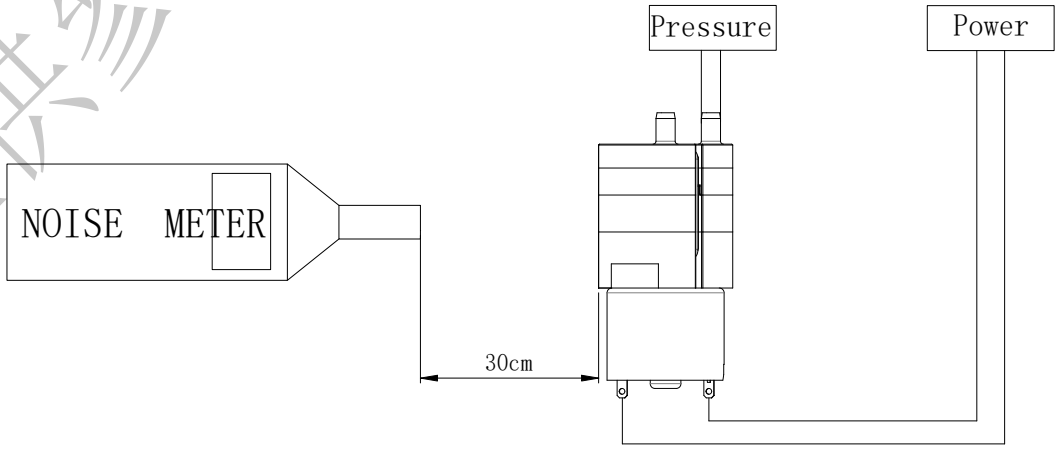
4.1	测试姿势 **Position**	水平 **horizontally**
4.2	电源 **Power Supply**	试验电源的电压稳定无异常 **Regulated power supply**
4.3	环境温度湿度 **Environmental Temperature and Humidity**	测定时原则上温度爲**+20℃**，相对湿度爲 **65%**，如无争议时应在 **(+5℃ ~ +30℃,40% ~ 85%RH)**下进行测定. **Generally the test is carried out with temperature in the range of +20℃ and relative humidity of 65%. If there is no dispute, the test should be done under such condition(+5℃ ~ +30℃, 40% ~ 85%RH).**

4.4	保存温度 Preservation temperature range	在温度-20℃ 到+60℃及相对湿度 30%到 80%之间 The temperature has to be between -20℃ and +60℃ and relative humidity has to be between 30% and 80% to keep the pump in good condition.

5. 电气特性：

Electrical Characteristics:

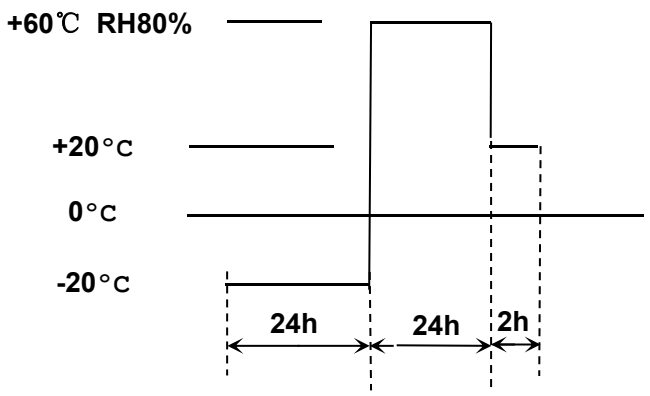
5.1	空载流量 Free Flow	电压 DC12V，泵空载条件下的流量值 DC12V, flow of pump operating under no load.	＞2.5 L/Min
5.2	负载电流 Current under load	电压 DC12V，从 500cc 气罐中抽气 0 ~ -300mmHg 过程的最大电流值 DC12V, max current during vacuumizing a 500cc tank from 0 to-300mmHg.	＜350mA
5.3	最大真空度 Max vacuum	电压 DC12V，从 500cc 气罐中抽气所能达到的最大真空度 DC12V, max vacuum achieved while vacuumizing a 500cc tank.	＜-50kPa
5.4	噪音 Noise	将 pump 置于 5cm 厚的海绵垫上，离噪音仪 30cm,在额定电压下从 500cc 气罐中抽气 0 ~ -300mmHg 过程所测得最大 dB 值（背景噪音 35dB） Place the pump on a 5cm thick sponge, 30cm away from noise meter. Under rated voltage, max noise recorded during vacuumizing a 500cc tank from 0 to -300mmHg. （with background noise 35dB）	＜68 dB (附图一)

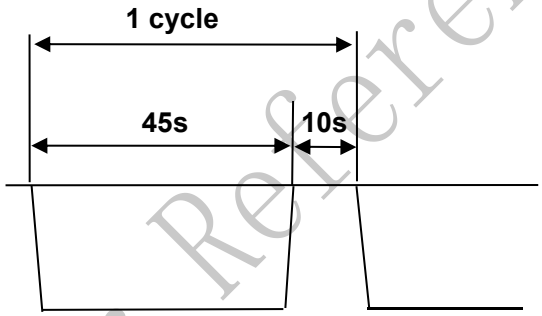


（附图一）

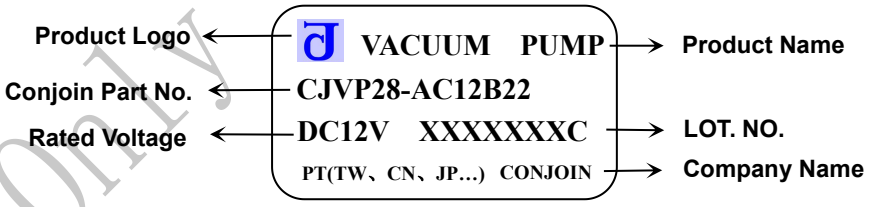
6. 环境试验:在经过以下环境测试后，噪音应小于 **75dB:**

After following environmental tests, noise value less than 75dB.

6.1	低温放置试验 **Low-temperature characteristic**	在低温**-20**℃条件下放置 **72H** 后，取出置于 **20**℃±**5**℃条件下恢复 **2H**，测试 **5.1~5.3** 在性能规格范围内 **Leave the pump at -20 ℃ for 72 hours and then return it to room temperature (20 ± 5 ℃) for 2 hours. Examine it by tests 5.1~5.3 and performance should be within specification.**
6.2	高温放置试验 **High-temperature characteristic**	在高温 **60**℃条件下放置 **72H** 后，取出置于 **20**℃±**5**℃条件下恢复 **2H**，测试 **5.1~5.3** 在性能规格范围内 **Leave the pump at 60 ℃ for 72 hours and then return it to room temperature (20 ± 5 ℃) for 2 hours. Examine it by tests 5.1~5.3 and should be within performance specification.**
6.3	高温高湿放置试验 **High-temperature & High humidity**	在高温 **60**℃，相对湿度 **80%**的条件下放置 **72H** 后，取出置于 **20**℃±**5**℃条件下恢复 **2H**，测试 **5.1~5.3** 在性能规格范围内 **Leave the pump at 60℃, RH80% for 72 hours and then return it to room temperature (20 ± 5 ℃) for 2 hours. Examine it by tests 5.1~5.3 and should be within performance specification.**
6.4	温湿度循环试验 **Temperature & humidity cycle test**	在低温**-20**℃条件下放置 **24H** 后，取出至于高温 **60**℃，相对湿度 **80%**的条件下放置 **24H** 后，取出至于 **20**℃±**5**℃条件下恢复 **2H**，测试性能 **5.1~5.3** 在规格范围内 **Leave the pump at -20 ℃ for 24 hours, then change to the environment of 60℃, RH 80% for 24 hours, and finally place the pump at (20 ± 5 ℃) for 2 hours. Examine it by tests 5.1~5.3 and no abnormality should be found.** 

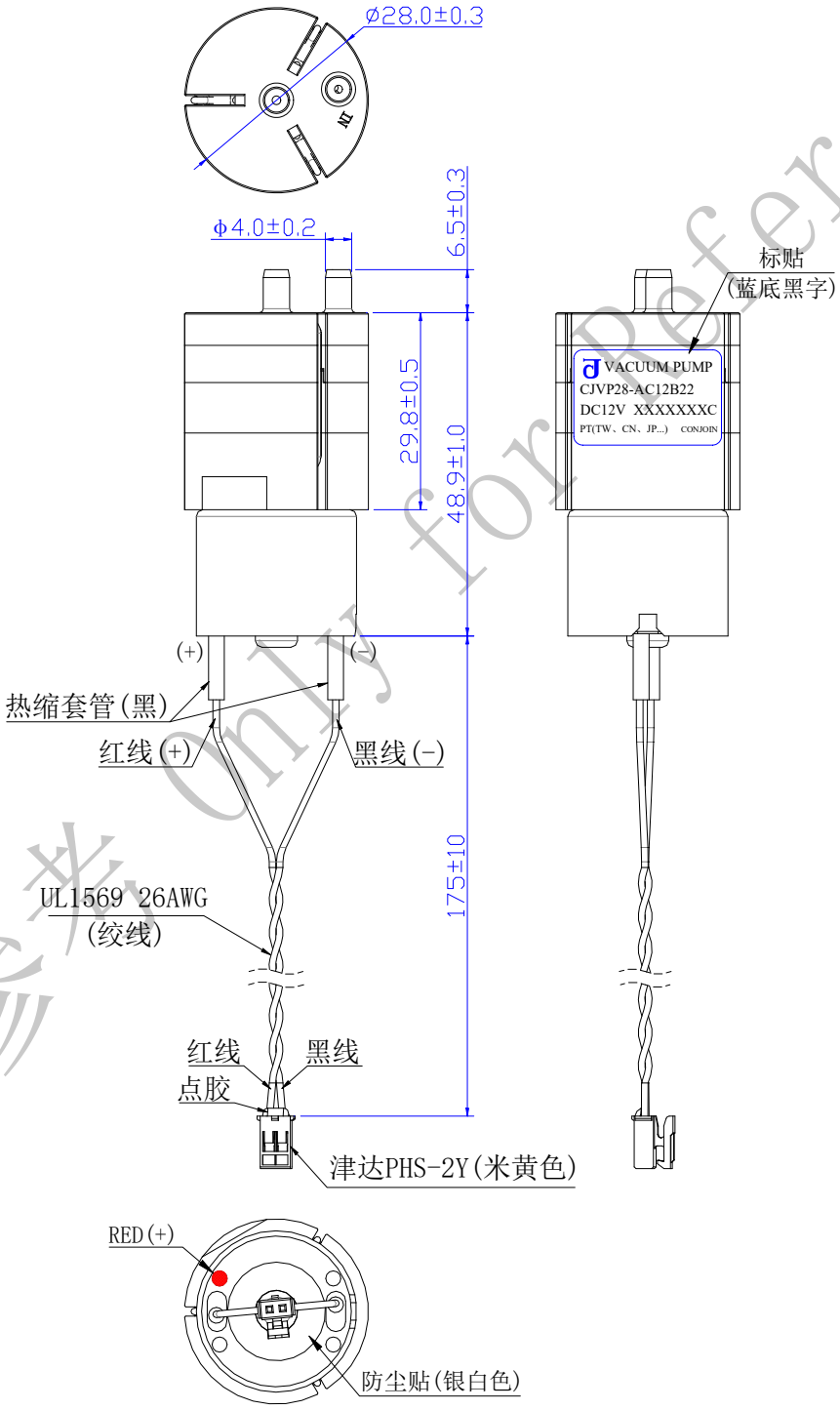
6.5	寿命试验 Life test :	常温环境下，DC12V，进气嘴接 500cc 气罐，抽气工作 45S 停止并泄气 10S 为 1 次循环，8,000 次后测试性能 5.1~5.3 变化在±30%以内。 At room temperature, DC12V, pump inlet connected to tank of 500cc, 45S ON and 10S OFF as one cycle. After 8,000 cycles, examine it by tests 5.1~5.3 and performance change within ±30%. Input: Voltage 12V 

7. 其他：
Others：

7.1	端子强度: Motor pin tension	以 0.5Kg 砝码与端子平行负载无异常 Hanging a 0.5Kg static load on the terminal of the pump should not cause damage to the pump.
7.2	落下试验 Fall test	使用标准的包装方式，在水泥地上，距离 50cm 高度上分别从正面、侧面及边角落下性能及结构无异常。 Basic performance and the structure shall not be defected after following tests. Under standard packaging conditions, drop the carton at the height of 50cm on the concrete floor. Once against a corner, twice against edges and three times against faces.
7.3	异常试验 Unusual test	以 DC12V，连续 8H 通电，无发烟，燃烧等现象 Connect the pump to 12V DC and work in continuation for 8hours, and no smoke or ignition should occur.
7.4	外观 Appearance	外观无脏污，刮伤等现象 For appearance, no contamination, scratches, etc. should be found.
7.5	标贴 Labeling	
7.6	生產编号 Lot number	xx xx xx x C 年份 月份 日期 LINE 号 中国制造 Year Month date Line code Made in China （OT=2023 年，OU=2024 年，OV=2025 年… …）
7.7	马达端子 Motor terminal	马达端子建议在 380℃以下的烙铁温度下焊接，并要求在 3S 内操作完成。马达脚作记号侧（如红点）接直流正极，正负极不可反接。 Motor terminal for soldering process，the heat temp. is suggested be controlled by 380℃,and operating time is for 3S only. Motor terminal with marking (eg. red dot) connects to positive pole. Positive and negative pole connection not exchangeable.

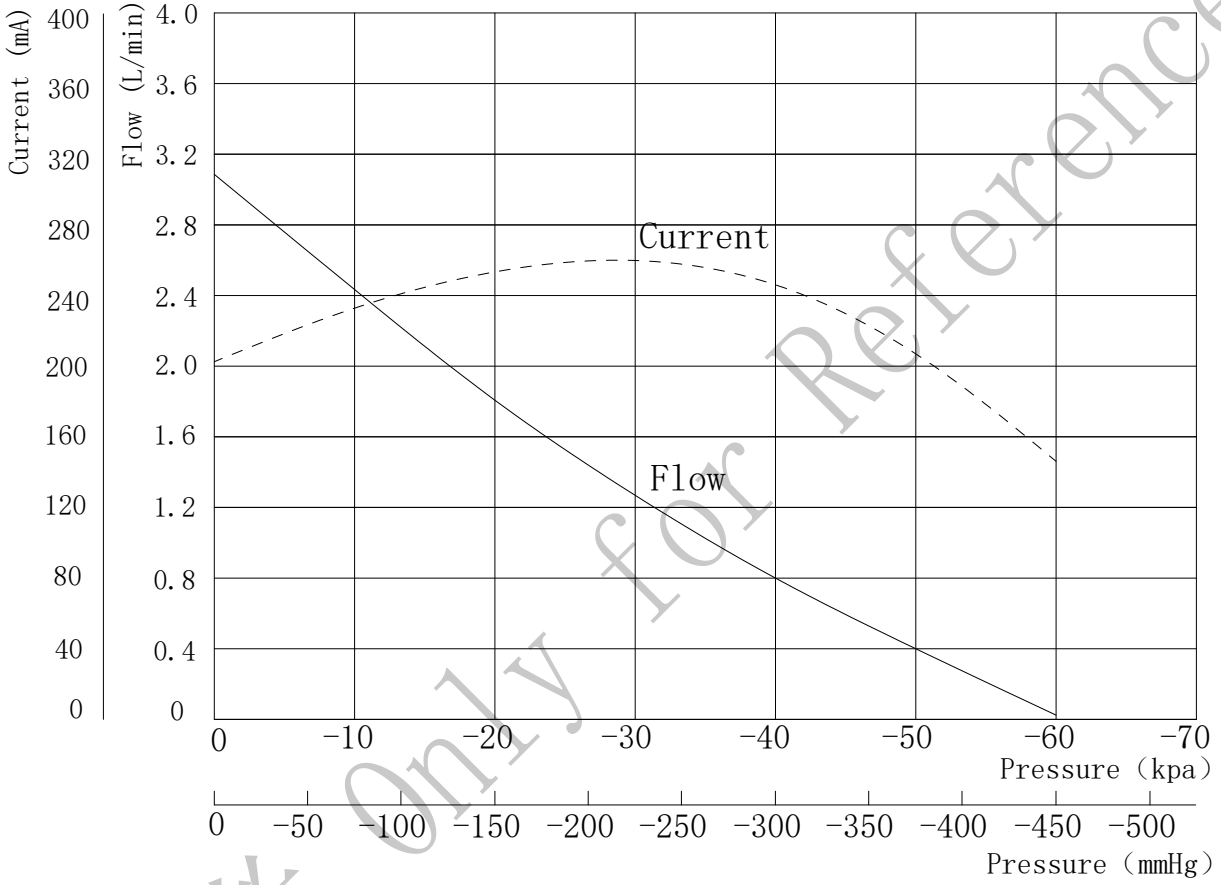
8. 成品图：

Drawing of Finished Product



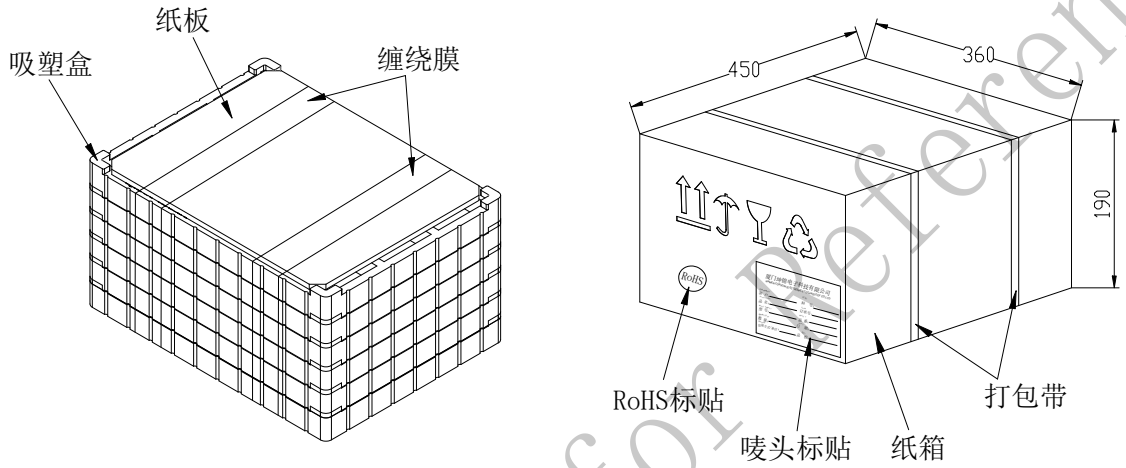
9.产品特性图：

Product Feature Figure:



10. 包装图：

Packaging Illustration:



包装数量:

32pcs * 6层 = 192pcs/箱

11. 当产品生命周期终止或报废时，按当地环保法律法规执行。

When the product life cycle is terminated or scrapped, it is implemented in accordance with local environmental laws and regulations.

12. 说明:

Instruction

如对于此份规格书有任何需修改，增加，或删除的意见，须经客户及我公司双方协商。

In case, any modifications, additions, or eliminations on these specifications are necessary, decisions shall be made through the negotiations between our customers and us.

13. 使用注意事项（由以下禁止使用方法所造成泵产品功能性失效的，敝司不承担责任。）

Notes about using (Conjoin is not responsible for any pump failure caused by below prohibited improper using):

13.1 进出气嘴等泵体外表面不可接触乙醇、天那水、墨水稀释液等腐蚀性化学液体。

Contact of pump body surface (for example outlet port) with corrosive chemical liquid such as ethanol, thinner, ink thinner etc. is prohibited.

13.2 进出气嘴不可长期与 **PVC** 材料及其它具有腐蚀性的套管接触；建议测试及装配时使用硅胶、**EPDM** 等材质的橡胶套管。

Outlet port cannot be connected to tubing of corrosive material such as PVC. For tubing used in testing and assembling, silicone rubber or EPDM material is recommended.

13.3 进气口（见成品图）必须保持进气通畅，严禁异物堵塞等造成泵产品的损害。

Good ventilation of inlet port (see drawing of finished product) should be ensured and blocking of inlet by foreign material is prohibited.

13.4 严禁带有腐蚀性的气体进入泵体以免造成泵体损害。

Corrosive gas is prohibited from entering pump body to avoid damage to pump.

13.5 使用过程中，严禁任何液体与马达底部端盖（含电刷脚、电路板）相接触以免造成泵产品损害。

During usage ,it is strictly forbided for any liquid to touch the bottom of motor(including terminal and PCB),so as not to damage the pump.

14. 马达使用环境气氛：

Surrounding Atmosphere:

14.1 正确使用和储存马达十分必要。使用和储存环境禁止存在腐蚀性气体(H_2S,PH_3, SO_2, NO_2, CL_2)或其他挥发性的腐蚀性气体。此外，储存环境或其他配套部品不能挥发或存在有机硅 SiO_2, SiC，氰物质，福尔马林，磷化物，苯酚等系列物质,否则会导致马达不工作。

For proper operation,storage and operating environment should not contain corrosive gases e.g H2S,PH3,SO2,NO2,CL2, and etc. In addition,storage environment should not have material that emit corrosive gases especially from silicic, cyanic,Formalin, phosphide and phenol group. In a mechanisim or a set,existence of corrosive gases may cause no rotation in motor.

14.2 如果含有低分子硅化合物和磷化合物材料附着在马达的换向器、电刷或其他部件上，在换向电弧高温作用下，硅化合物和磷化合物材料可能会分解成 SiO_2，SiC，P_4O_6，P_4O_{10} 或其他成分的氧化物，这些物质使换向器和电刷之间的接触电阻迅速增加，当硅/磷化合物材料用在整机上时应非常小心。务必仔细检查所用粘合剂或密封材料不会产生上述挥发物质，不管是用在马达安装上或客户整机产品上;特别是使用含有氰化物和硫化物气体的粘合剂或密封材料时。

If material contain low molecular silicon and phosphide compounds, adhere to the motor's commutator, brush or other parts, then due to electric are reaction of the commutator and brush the

materials breaks up into SiO2/SiC/P4O6/P4O10 or other constituents which produce a rapid increase In the contact resistance between the commutator and brush. Therefore grease should be taken when silicon material is used ina unit and check well at the same time that such binding agents or sealing material are not generating gases of detrimental nature,whether used for motor mounting or applied during your product assembles. Care are must be taken for an optimum selection,especially when using those of cyanic adhesive and sulfur gas.

14.3 熏剂（消毒剂）和它的气体将导致马达不转。因此，马达不可暴露在熏剂（消毒剂）和它的气氛中。如果包装材料和运输中使用熏剂，就必须采取特别的防护措施防止熏剂（消毒剂）和它的气体进入到马达内部。

Fumigant and its gas may cause no rotation in motor. Therefore motors should not be exposed to fumigant and its gas.Protection countermeasures must be taken,especially when using fumigant in packing material and transportation.

14.4 要预防极端温度下的冷凝结露。马达结构结露会引起短路或漏电，设计时，要考虑到冷凝结露现象。必要时设置冷凝结露传感器来作切断主电源的保护对策。

A motor should be protected from temperature extremes which could cause condensation. This might lead to short circuit or current leakage.Condensation should be considered in set design.A safety device，such as condensation sensor,is recommended to add on set to cut off power supply.