

深圳市精塑光科技有限公司

产品规格书

客 户 Customer	STOP MEDICAL
认可编号 Approval No.	
客户料号 Customer P/N	
产品名称 Product name	隔膜水泵
产品型号 Model No.	BD-05WB
日 期 Date	2025/03/17
版 本 Version	A

客户承认用印栏
Customer Approved Signatures

Approved	Checked	Evaluated

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1. 适用范围与注意事项 Application and Attention:

1-1 本规格书适用于微型 BD-05WB-12V Micro Water Pump 之用。

1-2 本水泵只适用于干净的水 This pump is only suitable for clean water.

1-3 使用温度范围 Operation temperature range:

在温度 5℃到 50℃及湿度 30%RH 到 80%RH 之间泵运作良好。

The temperature have to be between 5℃ and 50℃ and humidity must is between 30%and 80%RH to function the pump well.

1-4 保存温度范围 Preservation temperature range:

在温度-20℃到 60℃及湿度 30%RH 到 85%RH 之间泵保持在良好的状态。

The temperature has to be between negative 20℃and positive 60℃ and humidity has to be between 30%and 85% RH to keep the pump in a good condition.

1-5 单位换算Conversion of units:

1bar=1kgf/cm²=100kpa=14.5psi=10mH₂O; 1L/min=1000mL/min=60L/H

1-6 进水端承受最大外部输入压力≤4psi, 出水端承受最大外部输入压力≤15psi

Inlet side bears the maximum external input pressure ≤4psi, outlet side bears the maximum external input pressure ≤15 psi

1-7 在终端产品上, 禁止使用大于 1Bar 的气压进行管路检查或排水。

On the end product, it is forbidden to use the air pressure greater than 1bar for pipeline inspection or drainage.

1-8 本水泵具有自吸功能, 建议安装在液面之上, 防止滴漏; 若有止逆功能建议增加单向阀或用我司带止逆功能泵。

The water pump has self-priming function. It is recommended to install it above the liquid level to prevent leakage; To have check function It is recommended to add a check valve.

1-9 若用硅胶套固定, 要避免硅胶物质析出到电机里失效。

If it is fixed with silica gel sleeve, it is necessary to avoid silica gel material precipitation into the motor and failure.

1-10 水泵寿命在超负荷或非正常使用时所产生的不良结果, 我们不以确认。

Pump life may be affected adversely by heavy radial load such as produced by rotating eccentric Cams, etc., and also by vibration given from outside. Do check over such negative factors by testing the motors to the actual operating conditions In your application products.

1-11 如果水泵的性能或寿命有问题, 可根据本规格书测试和判断。

If there is any problem with the performance or service life of the pump, it can be tested and judged according to specification.

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1-12 在不超出规格书的满意度范围里、材质、大小和泵的制造形状，或其包括更新的因素，恕不另行通知，目的是为了便于生产，提高质量，性能和泵的生产效率。

In order to facilitate the production, improve the quality, performance and production efficiency of the pump, it is not necessary to notify the manufacturer, material, size and manufacturing shape of the pump within the scope of satisfaction of the specification, or its updated factors.

1-13 避免在有腐蚀气体 (H_2S 、 SO_2 、 NO_2 、 Cl_2 等) 有害气体及发生有害气体 (有机硅系列、苯酚系列物质) 之场所下使用及保管，特别是含有硅化物气体，粘附在电机的换向器，电刷之间，电机的整流火花产生电气能源，而生产 (SiO_2 、 SIC) 等绝缘物，此时接触电阻急剧增大，造成接点障疑，而引起动作不良。

Avoid using and keeping in the place with corrosive gas (H_2S 、 SO_2 、 NO_2 、 Cl_2 etc.) and harmful gas (organic silicon series, phenol series substances), especially the gas containing silicide, sticking between the commutator and brush of the motor, the rectification spark of the motor generates electrical energy, and produces (SiO_2 、 SIC) At this time, the contact resistance increases sharply, resulting in contact failure and bad action.

1-14 请在使用时慎防泵从高处跌落、撞击或混入异物，因 D/V 为脆性大、易碎电子元件，会导致有裂，飞脱的风险。

Please be careful to prevent the pump from falling, hitting or mixing with foreign matters when using. Because D / V is a brittle and fragile electronic component, it will lead to the risk of cracking and flying off.

1-15 若有其他疑问，请直接联系我们或通过我们的销售、客服与我们联系。For more information, please contact us directly or through our sales and representative offices.

2. 测试条件 Test condition:

2-1 环境温度 temperature:	20	℃
2-2 相对湿度 humidity:	65%	RH
2-5 测试姿势 position:	水平	Horizontal
2-6 介质 Medium:	水	Water
2-7 额定负载 Rated Load:	15	PSI

如无争议发生可以在下述环境测试：周围温度 5—45℃，相对湿度 30—80%RH

If no disputes occur, the test can be conducted under the blow circumstance: the ambient temperature of 5-45℃ and relative humidity of 30~80%RH.

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3. 性能 Function:

- 3-1 额定电压Rated voltage: DC12.0 V
- 3-2 使用电压Operating voltage : DC 11.0V~13.0 V
- 3-3 抽水稳定电流Current stability : ≤ 850 mA
- 3-4 空载水流量No-load water flow: ≥ 2000 mL/Min. (FIG 1)
- 3-5 额定负载电流Rated Load Curren: / mA
- 3-6 额定负载流量Rated load flow: / mL/Min.
- 3-7 水压力 Water pressure: ≥ 4 bar (FIG 2)
- 3-8 真空 Suction ≤ -0.15 bar

3-9 漏水 leakage : DC12.0V 工作不漏水 DC12.0V work does not leak

3-10 噪音 Noise:Less than 55 dB(FIG 3):

将泵体之下垫 5cm 厚的海绵, 放置在距离噪音仪 30cm 位置, DC12.0V 电压下抽水所测得的 dB 值。

Put a sponge of 5cm under the pump and distance to noise meter from 30cm.and while pump water to test noise value at DC12.0V voltage (FIG3)

4. 可靠性试验 Reliability test:

4-1 低温特性 Low-temperature characteristic:

水泵排水后, 放置在-20℃经 72 小时后, 再取出置于常温 (20℃±5℃) 中 2 小时按 3-3、3-4、3-5、3-6、3-7测试无异常。

Pump drainage, putting the pump in the temperature at negative 20℃ for 72 hours;then taking it out and putting it in a room temperature at 20℃±5℃ for two hours.Under this circumstance, running through test 3-3 3-4 3-5 3-6 3-7 and finding out that the pump still performs well.

4-2 高温特性 High-temperature characteristic:

在60℃经72小时放置后, 再取出置于常温 (20℃±5℃) 中2小时按3-3、3-4、3-5、3-6 3-7测试无异常。

Putting the pump in the temperature at 60℃ for 72 hours;then taking it out and putting it in a room temperature at 20℃±5℃ for two hours. Under this circumstance, running through test 3-3 3-4 3-5 3-6 3-7 and finding out that the pump still performs well

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4-3 高温高湿 High-temperature & High humidity:

在温度 60℃，湿度 80~85%环境中 72 小时取出置于常温（20℃±5℃）中 2 小时按 3-3、3-4、3-5、3-6、3-7 测试无异常。
Putting the pump in the temperature at 60℃ and the humidity between 80~85 % for 72 hours; then taking it out and putting it in a room temperature at 20℃±5℃ for two hours. Under this circumstance, running through test 3-3 3-4 3-5 3-6 3-7 and finding out that the pump still performs well.

4-4 寿命试验 Life test:

额定电压供电，额定负载工作 120 秒，停 120 秒(FIG4)为一循环 测试 15, 0000 次以后按3-3 3-4 3-5 3-6 3-7 测试不超出规格的 20%。
Rated voltage power supply, Rated load work for 120 seconds, stop for 120 seconds (FIG4) is a cycle. After 15, 0000 tests, press 3-3 3-4 3-5 3-6 3-7 to test that the function change does not exceed 20% of the specification.

4-5 低温环境测试 Low- temperature environment test:

在 5℃经 5 小时后 在此温度下测试无异状。
Measuring after 5 hours neglect and there are no abnormalities a deed following test in 5℃.

4-6 高温环境测试 High- temperature environment test:

在 50℃经 5 小时后 在此温度下测试无异状。
Measuring after 5 hours neglect and there are no abnormalities a deed following test in 50℃.

5. 其他 Others:

5-1 跌落试验 Fall test:

使用标准的包装方式，在水泥地面上将其从 50CM 的高度分别从正面、侧面、边角自由落下其性能及结构无异常。

Basic performance and the structure shall not be defected ater following test: With a standard packaging conditions, the dropping it at the front, side, and edges part from 50cm height to the concrete floor.

5-2 异常试验 Unusual test:

用 DC12.0V 连续通电 8 小时无燃烧、冒烟现象。

There is no burning and smoking occurrence while the power is on with DC12.0V for 8 hours continuously.

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5-3 马达端子 Motor Terminal:

以 0.5 公斤砝码与端子负载无异常。端子须在 380℃烙铁温度下焊接，要求在 2S 内操作完成。

No abnormality occurs when a 0.5Kg static is hanging in the parallel direction of the Terminals .The terminals must be 380 °C temperature soldering iron, the requirements to complete the operation in 2 seconds.

5-4 外观 Appearance:

产品不能有破损，脏污。

The appearances of the valve shall not contain cracks and impurities, which will decrease the value of the goods.

5-5 标签内容 Label content

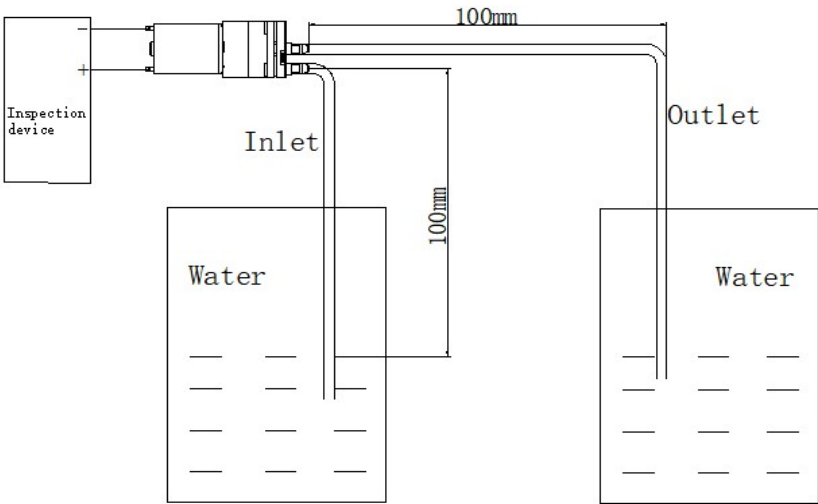
Product Name	TUPU Water Pump
Model No.	BD-05WB
Rated voltage:	DC12.0V
Production date	YYMMDDA

5-6.如对此份规格书有任何须修改、增加、或删除的意见，需经过客户及途浦公司双方面的协商。

In case any modifications, addition or elimination on this specifications are necessary, Decisions shall be made through the negotiations between our customer and TUPU Electronic co.,LTD

5-7 附图 With photos

PIG1

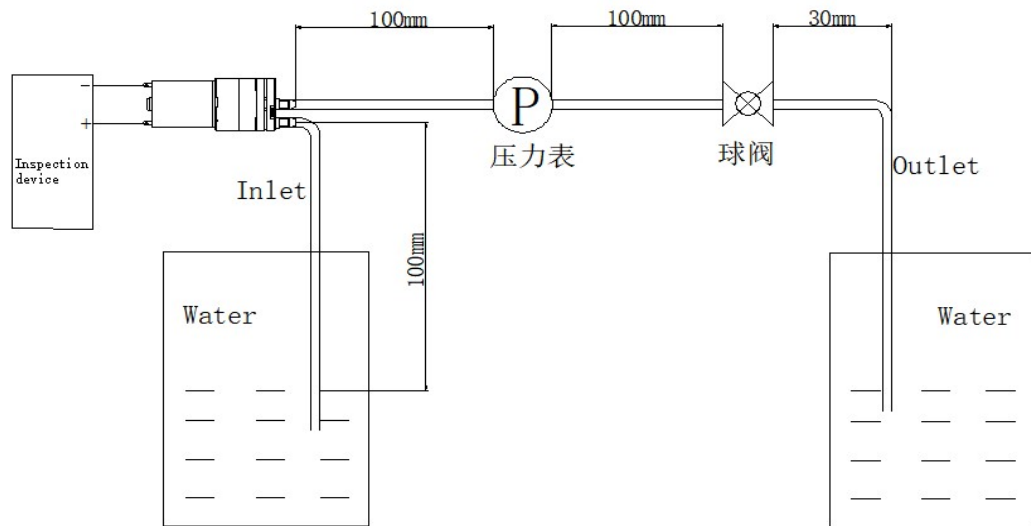


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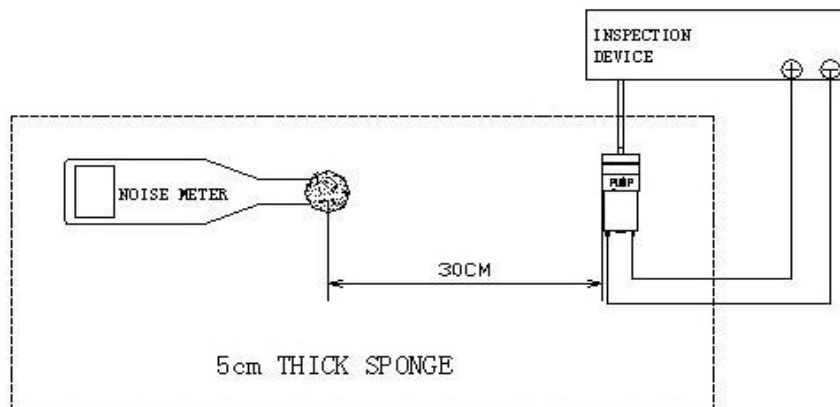
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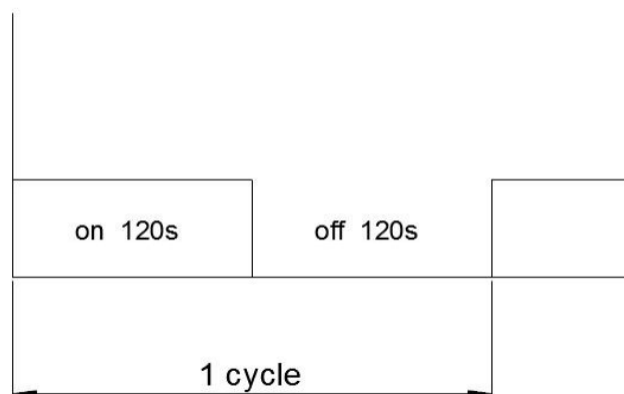
PIG2



PIG3



PIG4

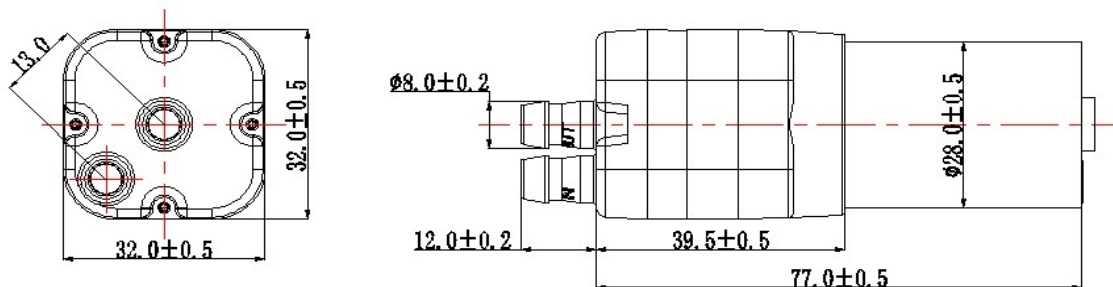


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6 外形尺寸 Dimensions (Unit: mm) :



VCC: Motor Working power supply 电机工作电源电压.

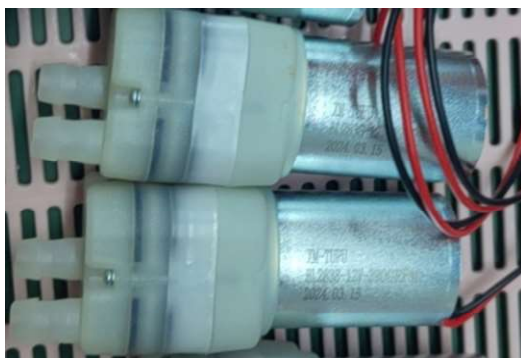
FG: Motor speed feed-back, output pulse signal 速度反馈信号, 脉冲功能输出

FR: Motor rotate direction control input 电机转向控制输入信号

GND: 电机电源负极

PWM: Pulse-Width Modulation for Motor speed adjust 脉宽调制信号用于电机调速控制.

7 图片photo



图片供参考，以实物为准

8 包装Packing

外箱尺寸: 440*310*250mm, 每箱包装数量 200 PCS / carton

9. 重量 Products weight

105g/pcs

21000g/carton

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10. 验收标准Acceptance standard:

根据 GB/T2828.1-2012 AQL CR: 0/MA: 0.25/MI: 0.65 单次抽样, 正常检验水平 II。
According to GB/T2828.1-2012 single sampling, normal inspection level II.

说明/Explain:

1. 在确认收到此规格书后, 请在其发出的两周内回传给我司, 如果客户未在指定期限内回传我司, 我司将视为客户已经承认了此规格, 如果客户需要更改请与途浦公司相关担当者联系。

After confirming receipt of this specification, please send it back to us within two weeks of its issuance. If the customer fails to return it to us within the specified time limit, we will be deemed to have recognized this specification by the customer. If the customer needs to change, please contact the relevant agent of TUPU Electronic co., LTD.

2. 对此规格书的修改都需要经过双方的同意, 如果修改后的规格书发行了, 那么此规格书就在收到修改后的规格书的当天作废。

Any revision of this specification is to be made under mutual agreement. In case the revised specification is issued, this specification become invalid at the date of the receipt of the revised specification.