Pet Drinking Fountain Project Material Requirements Specification

Customer Name: Lianchong

Product Name: Brushless DC Water Pump

Product model: Wireless HB-202

Material Code:

Change content history:

Serial Number	Version Status		Start and end date	Person in charge	page number	Remark
1	R:A Production version 2022-5-24			Su Tuosen	5	

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1. Overview

1.1 Scope of application

This specification applies to the technical requirements and material requirements of pet drinking fountain products.

This specification is applicable to the selection, testing and acceptance of pet drinking fountain products.

1.2 Basic information of the project

Pump Name:	Wireless water pump communication protocol
Pump Model:	HB-202
Pump head:	50cm
Specifications:	HB-202 wireless communication protocol version, black earless wireless water pump, including the transmitting drive end coil connected to 6Pin Terminals
Pump version:	V1

1.3 Product pictures and water pump pictures

2. Technical index requirements

2.1 Introduction to test items and equipment

List	Test items	equipment
Current test starting voltage, power, current		Power Tester
Noise test mute effect		SIMATIC Display Noise Tester
Head test flow, head 2.2 Test		Lift pipe

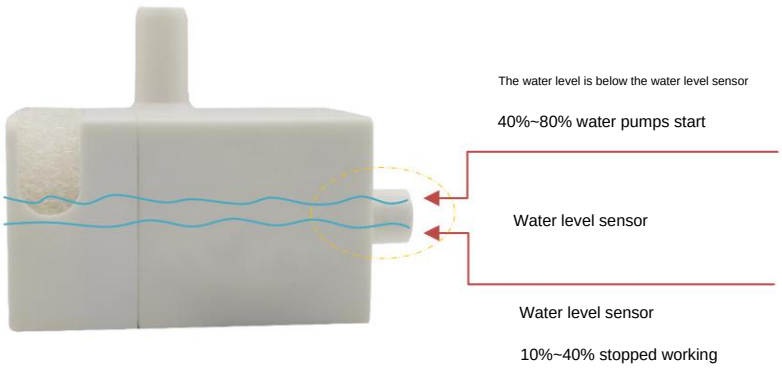
description

project	illustrate	Remark
Lift test	1. When measuring, the inner diameter of the selected hard pipe should be equal to (or greater than) the outer diameter of the product outlet;	
	2. Place the product in a water storage container, connect its rated voltage to make it work normally, wait for it to work stably (10 seconds), align the outlet of the water outlet hard pipe with the water pump outlet, place the water outlet hard pipe vertically, and the horizontal line to the position where the water flows out and stops; measure the distance from the horizontal plane to the highest position	
Flow test	of the water outlet pipe. 1. When measuring, the inner diameter of the selected hose should be equal to (or greater	During the test, there should be no leakage at the hose connection and the hose should not bend; during the test, the water level of the pumping should remain unchanged.
	than) the outer diameter of the product outlet; 2. Place the product in a water storage container, connect its rated voltage to make it work normally, wait for it to work stably (10 seconds), quickly align the outlet of the water outlet hose with the water container, and start the stopwatch to time when water flows out of the outlet of the water outlet hose;	
	3. After 60 seconds, immediately stop the water flow from the outlet hose and stop timing (the test time cannot be less than 60 seconds) and quickly move the outlet hose away from the water container. The water capacity in the container is the flow rate of the product, and the general unit is L/h or L/min.	
Noise test	1. Use a closed noise box, wrapped in metal on the outside and covered with sound insulation cotton on the inside. The test instrument uses the Cima screen noise tester, and the minimum environmental value is 30.0dB;	
	2. The water pump must be placed in the pet water dispenser for testing. Place tiles under the noise box and the whole machine on the tiles, 30~40cm away from the noise tester;	
	3. Close the doors and windows of the room during the test. The test time is 30 minutes, and the minimum value within this time period is the test result.	
Start the test	The rated voltage of the 5VDC water pump is placed in clean water. The experimental environment is: under normal temperature and humidity, and 100,000 cycles are performed according to the cycle conditions shown in the right figure (run 10S, stop 1S).	
Continuous testing	The rated voltage of the 5VDC water pump is placed in clean water. The experimental environment: continuous operation for 10,000 hours at normal temperature and humidity.	
Judgment Criteria	After the life test, the pump is placed in normal temperature and humidity for 2 hours and then measured: 1. The change rate of the load current value relative to the initial value is within ±15%. 2. The change rate of the maximum head value relative to the initial value is within ±15%. 3. The change rate of the maximum flow value relative to the initial value is within ±20%. 4. No abnormality occurs in the pump.	

2.3 Pump parameters

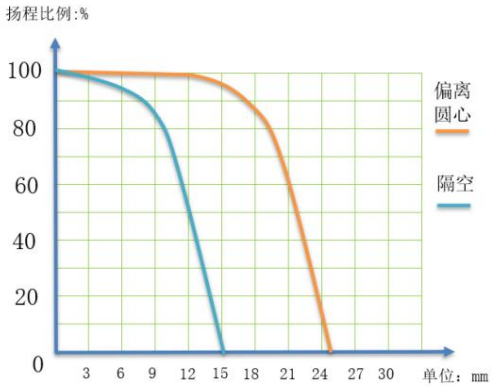
project	HB-202 Parameter Report	Tools/Instruments
Input voltage/frequency	DC 5V	Power Tester
Transmitter board current (standby)	60±10mA	Power Tester
Working current	100-350mA	Power Tester
Current when water shortage	220-252mA	Power Tester
power	0.5-1.6W	Power Tester
Starting voltage	DC 4.2V	Power Regulator
Maximum lift	55±5cm	Lift pipe
100# oil lift	50±5cm	Lift pipe
Maximum flow	2.3±0.3L/min	Flow Meter
noise	<35dB	Decibel Meter
Waterproof grade	IPX8	BST Certification Testing
Maximum speed	3488-3658 rpm	Speed measuring instrument
life	>10000h	DC Power Supply
Operating temperature	3-40ÿ	thermometer
Appearance parameters		
Material	Housing: ABS 121 Insulation: Epoxy resin Pump shaft: Ceramic shaft	
fixing method/color	No ears, no suction cup/black	Laser Engraving
Filter cotton	35*26*6mm 40PPI Black	
Water level sensor	Integrated capacitive	
Rotor	Magnet + POM six-blade rotor with ceramic ring	
Product dimensions	43*37*29mm Water outlet diameter: ÿ8.5mm	

2.4 Water level detection system



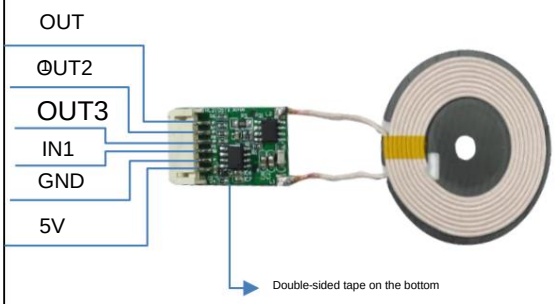
The above is the test result of tap water. If pure water is used, the water level will increase by 10~15% on average.

2.5 Recommendations for installing wireless transmitters and receivers

Center point of water pump receiving plate	Effective deviation from the center of the circle
	
Offset center: <10mm	
Space distance: <8mm	

2.6 Wireless Transmitter Components

Transmitter driver board wiring instructions



Normal function Water shortage Water stall welding point					
Level signal output	0	0	1	1	OUT1/PIN7
	0	1	0	1	OUT2/PIN6
Working status indication	High Normal operation Low Pairing				OUT3
	failed				
	2Hz pulse overcurrent protection high				
Control Input			LED/UV on low		IN1
			LED/UV off negative		
DC 5V power supply	pole				GN D
	positive pole				5V

Recommendations for installing the wireless transmitter

assembly: 1. The transmitter board should face upwards, and the distance between the transmitter board and the water pump receiving board should be less than 8mm. Do not use metal parts to contact the object;

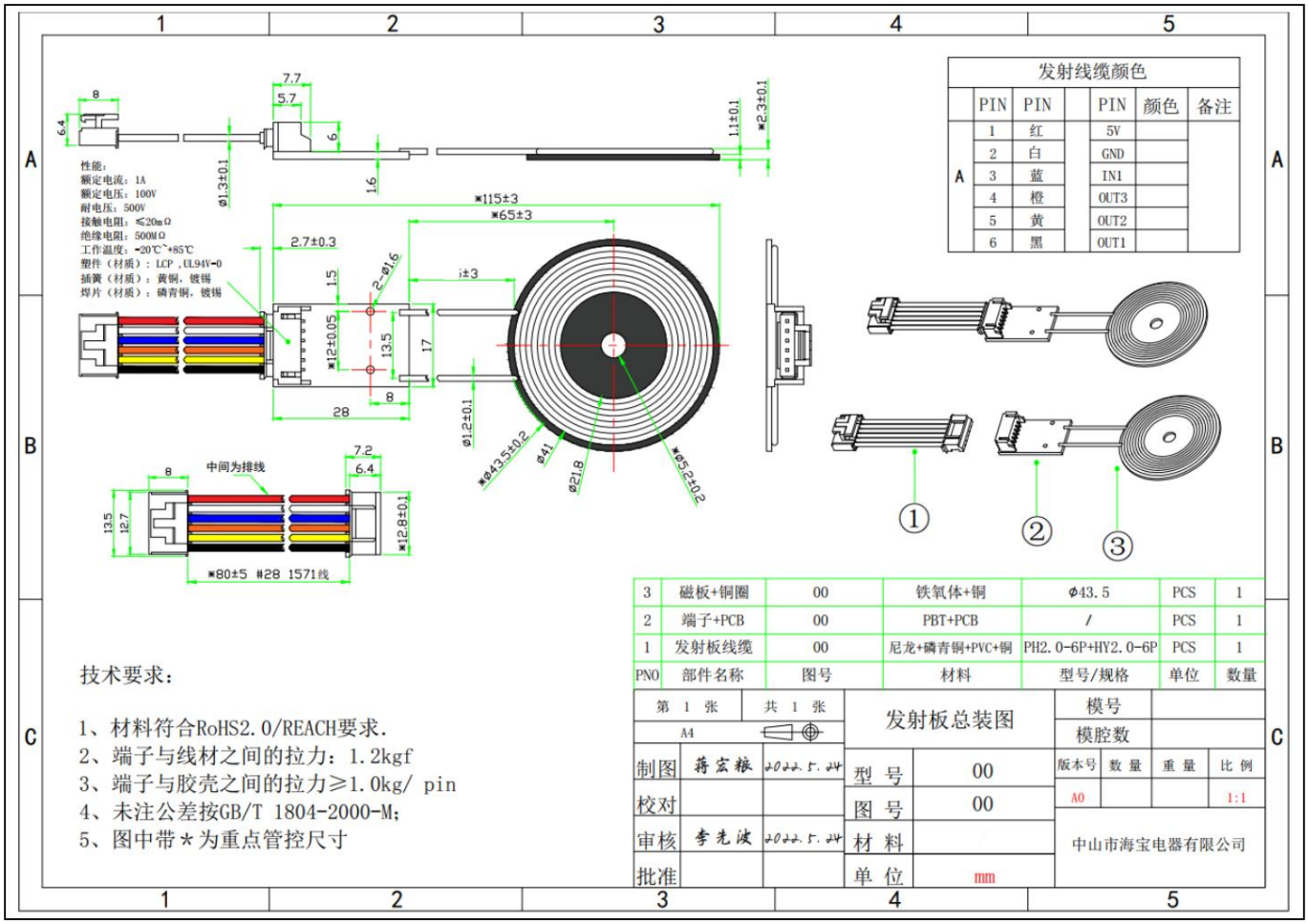
2. The center offset between the receiving board and the transmitting board is recommended to be less

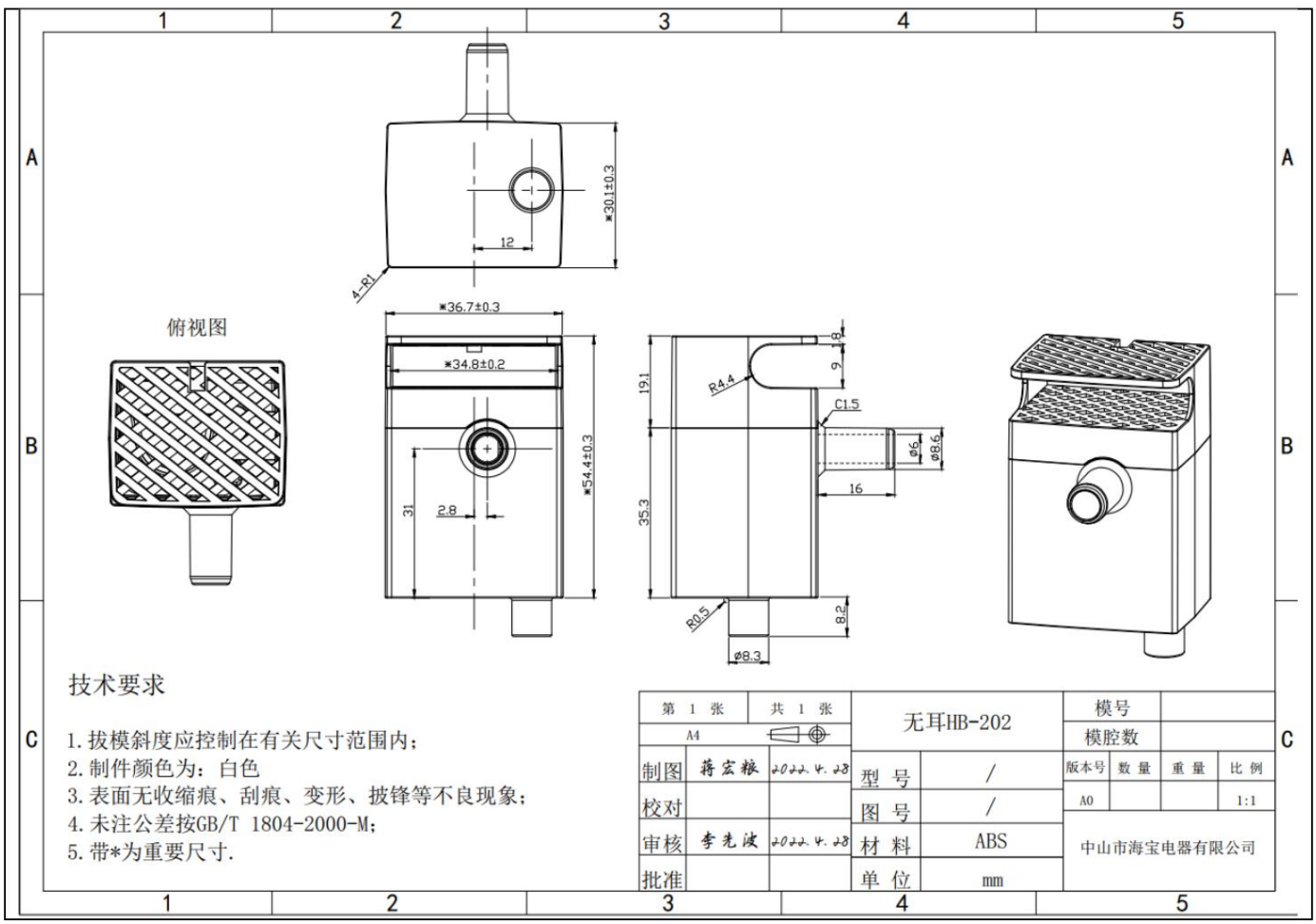
than 10mm; 3. The back of the transmitting coil is made of magnets, which are fragile and must be shockproof. 4. The L1 and L2 ends of the

driver board can be welded at will 5. Pay attention to the distance

between the transmitting driver and the water pump. The LED/UV lamp can be controlled after successful matching.

2.8 Engineering drawings





(Pet drinking fountain pump)-BOM table

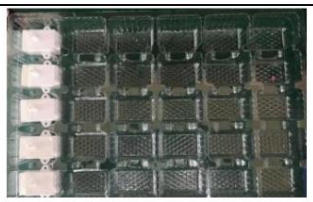
Edition: T:A Customers: 518 Model: 518001 Customization date: 2022/4/29

Item No.		Product Name	Version Specification		Material Color Unit Quantity Remarks			
1	803330061 Wireless water pump		T:A	30cm lift	ABS White PCS		1	
1.1	8060600004R Transmitter drive coil Z		T:A Communication protocol version PCB		/	PCS	1	
1.2	8060600005R PH-NY terminal		T:A	ÿ15cm+PH-NY6A BPT	/	PCS	1	

Type: W. Purchased B. Semi-finished product Z. Finished product C. Customer-supplied

confirm: Audit: Production:

3. Packaging specifications (packaging diagram)

1. Single product packaging photo or 2D image 2. Single layer packaging photo or 2D image Dimensions (mm) Weight Packing Quantity Material					
		495*330*50 2.5kg		30 pcs/plate	Blister tray plate
3. Minimal white packaging or 2D image inside the box	4. Label the surface after packaging the whole box Slice or 2D image				
		495*330*270 13.5kg 100pcs/box tea board			

(This picture is a packaging diagram of this project, the specific details are subject to the actual mass production)

4. Product after-sales service:

The water pump maintains a repair rate of no more than 3‰, the water pump is under warranty for one year, and faulty products will be repaired or replaced within one year.

Quality Failure Description		Remark
Not working	If the circuit board or transmitting coil is damaged, the water pump or transmitting board will be replaced for free.	
	The rotor is stuck and runs normally after cleaning, which is not covered by the warranty.	
The yellowing of epoxy and shell will increase with the use time, and the natural oxidation discoloration is not covered by the warranty.		
noise	Obvious noise	Due to the poor quality of water used by users and the low frequency of water changes, stains, scale, and hair are caused. The increase in the number of hairs and other factors will cause serious wear on the steel shaft and is not within the scope of maintenance.
		Free replacement due to product reasons such as rotor problems, insufficient pump concentricity, etc.