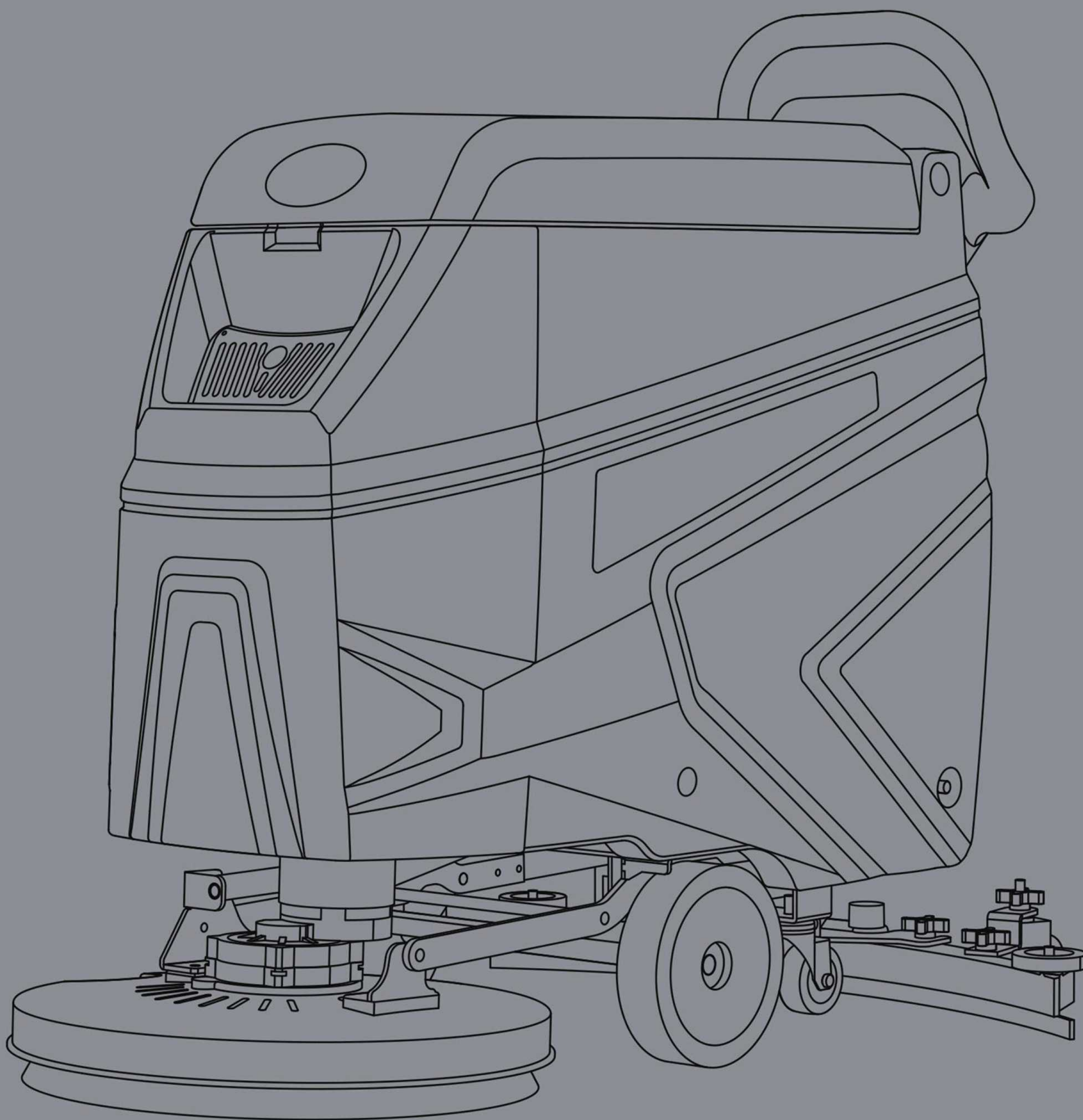


Shiwosi

史 沃 斯



手推式洗地机

【Walk-behind Floor Scrubber】

V5

使用本机器前请充分阅读并理解本说明书，请妥善保存以供日后参考。

Please read and understand this manual thoroughly before using the machine, and keep it properly for future reference.

前言【Foreword】

本使用说明书为每台新型号机器的标配文件，旨在提供必要的操作指导与维护规程。为确保机器安全高效运行，在操作或进行维护作业前，必须通读并透彻理解本说明书全部内容。

This instruction manual is a standard accessory for each new model of the machine, designed to provide necessary operational guidance and maintenance procedures. To ensure the safe and efficient operation of the machine, the entire content of this manual must be read and fully understood before any operation or maintenance work.

本机器设计旨在提供长期可靠的服务，若需以最低成本达成最佳使用效果，应严格遵循以下要求：The machine is engineered for long-term and reliable service. To achieve the optimal performance at the lowest cost, the following requirements must be strictly followed:

- 操作机器时需谨慎合理，避免因误操作导致机器损坏或性能下降；
Operate the machine carefully and rationally to avoid damage or performance degradation caused by misoperation.
- 按照本说明书规定的维护周期及项目进行定期保养；
Carry out regular maintenance in accordance with the maintenance cycles and items specified in this manual.
- 维修时仅可使用制造商提供的原装配件或经认证的等效替代件。
Only use original spare parts provided by the manufacturer or certified equivalent replacement parts for repairs.

保护环境【Environmental Protection】



请依据您当地的废弃物处理法规，在维护环境安全的前提下，丢弃包装材料、电瓶等老旧机器组件、防冻剂和油料等有毒液体。

Please dispose of packaging materials, old machine components such as batteries, and toxic liquids including antifreeze and oil in accordance with local waste disposal regulations, under the premise of ensuring environmental safety.



请务必做好回收工作。

Please make sure to conduct proper recycling work.

预期用途【Intended Use】

本手推式洗地机适用于商业场景，例如酒店、学校、医院、工厂、商铺、办公楼及租赁行业。其设计用途为在室内环境中擦洗硬质地面(如混凝土、瓷砖、石材、合成材料等)。

This walk-behind floor scrubber is suitable for commercial scenarios such as hotels, schools,hospitals,factories,shops,office buildings and the rental industry.It is designed to scrub hard floors (e.g.,concrete,ceramic tiles,stone,synthetic materials,etc.) in indoor environments.

⚠️**警告：**不得用于清洁地毯或打磨木质地板。

Warning: Do not use to clean carpets or sand wooden floors.

⚠️**警告：**严禁超出本使用说明书规定的范围使用本机器。

Warning: It is strictly forbidden to use the machine beyond the scope specified in this instruction manual.

⚠️**注意：**仅可使用推荐的百洁垫、刷子及适用于本机器的市售地面清洁剂。

Note: Only use recommended scouring pads,brushes and commercially available floor cleaners suitable for this machine.

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1 安全规范【Safety Regulations】

请阅读并理解全部说明！【Please read and understand all instructions!】

⚠ **危险：** 本机器存在造成严重人身伤害、死亡或爆炸风险的危险情形。为防止严重伤害，必须严格遵守本说明书中的所有安全说明。

Danger: Hazardous situations exist with this machine that may cause serious personal injury, death or explosion. To prevent serious harm, all safety instructions in this manual must be strictly followed.

⚠ **警告：** 使用未经批准或非史沃斯品牌的配件可能导致过热、机器损坏及安全隐患。

Warning: The use of unapproved or non-Shiwosi brand accessories may cause overheating, machine damage and potential safety hazards.

1.1 安全警告【Safety Warnings】

- 操作机器前务必阅读本说明书。

Be sure to read this manual before operating the machine.

- 禁止用于清洁易燃材料或活性金属(如镁、铝粉)。

Do not use the machine to clean flammable materials or reactive metals (e.g., magnesium, aluminum powder).

- 禁止在易燃液体、蒸汽或可燃粉尘环境中使用。本机器未配备防爆电机，启动及运行时产生的电火花可能引发闪燃或爆炸。

Do not use the machine in environments with flammable liquids, vapors or combustible dust. This machine is not equipped with an explosion-proof motor, and electric sparks generated during startup and operation may cause flash fire or explosion.

- 清洁或维修机器前，必须断开电池电缆及充电器电源线。

The battery cable and charger power cord must be disconnected before cleaning or repairing the machine.

- 禁止使用线缆破损的充电器，禁止改装插头。若充电器电源线损坏，必须由制造商、授权服务提供商或同等资质人员更换，以避免安全隐患。

Do not use a charger with a damaged cable, and do not modify the plug. If the charger power cord is damaged, it must be replaced by the manufacturer, authorized service agent or qualified personnel to avoid potential safety hazards.

- 禁止在户外使用，机器需存放于室内。

Do not use the machine outdoors; the machine must be stored indoors.

- 清洁垫/刷高速旋转时，严禁手部靠近。

Keep hands away when the cleaning pad/brush is rotating at high speed.

1.2 安全须知【Safety Notes】

- 严禁在以下情况操作机器：

It is strictly forbidden to operate the machine under the following circumstances:

- 未经过培训及授权的人员；

Untrained and unauthorized personnel;

- 未阅读并理解本使用说明书全部内容；

Personnel who have not read and understood the entire content of this instruction manual;

- 身体或精神状态无法执行机器操作指令；

Personnel whose physical or mental state is unable to execute machine operation instructions;

- 受酒精或药物影响；

Personnel under the influence of alcohol or drugs;

- 操作时使用手机或其他电子设备；

Using mobile phones or other electronic devices during operation;

- 机器未处于正常工作状态(如部件损坏、功能异常)；

The machine is not in normal working condition (e.g., damaged parts, abnormal functions);

- 户外环境(本机器仅限室内使用)；

Outdoor environment (this machine is for indoor use only);

- 存在易燃蒸汽/液体或可燃粉尘的区域；

Areas with flammable vapors/liquids or combustible dust;

- 使用非史沃斯提供或认可的清洁垫/配件(第三方配件可能导致安全防护失效)；

Using cleaning pads/accessories not provided or approved by Shiwosi (third-party accessories may cause failure of safety protection);

- 存在物体坠落风险的区域；

Areas with the risk of falling objects;

- 光线过暗，无法清晰辨识控制面板或安全操作路径的区域。

Areas with insufficient light to clearly identify the control panel or safe operation path.

- 启动机器前必须执行以下检查：

The following inspections must be performed before starting the machine:

- 检查机器是否存在液体泄漏(如污水、清洁剂)；

Check the machine for liquid leaks (e.g., sewage, cleaning agent);

- 确认所有安全装置安装到位且功能正常。

Confirm that all safety devices are installed in place and function normally.

- 机器运行时需严格遵守以下要求:

The following requirements must be strictly followed when the machine is in operation:

- 仅可按照本说明书规定的方式使用;

Only use the machine in the manner specified in this manual;

- 发现机器损坏或异常运行时, 立即停止操作并报告;

Stop operation immediately and report if the machine is damaged or running abnormally;

- 佩戴不露趾、防滑工作鞋;

Wear closed-toe, non-slip work shoes;

- 转弯时降低速度;

Reduce speed when turning;

- 在斜坡或湿滑地面行驶时缓慢操作;

Operate slowly when driving on slopes or slippery floors;

- 禁止在坡度超过5%(3°)的斜坡上擦洗或运输机器;

Do not scrub or transport the machine on slopes with a gradient exceeding 5% (3°);

- 遵循作业现场关于湿滑地面的安全警示规范(如放置“小心地滑”标识);

Follow the safety warning specifications for slippery floors at the operation site (e.g., place "Caution: Slippery Floor" signs);

- 严格按照化学品容器上的说明进行配比、搬运及废弃处理;

Carry out proportioning, handling and disposal in strict accordance with the instructions on chemical containers;

- 防止儿童及未授权人员靠近机器, 禁止将机器作为玩具使用。

Prevent children and unauthorized personnel from approaching the machine, and do not use the machine as a toy.

- 离开或维修机器前必须执行以下操作:

The following operations must be performed before leaving or repairing the machine:

- 将机器停放在水平地面;

Park the machine on a level ground;

- 关闭机器电源并拔出钥匙。

Turn off the machine power and pull out the key.

- 维修作业必须遵守以下规范:

Maintenance work must comply with the following specifications:

- 开始维修前, 务必断开电瓶连接线及充电器电源线;

Be sure to disconnect the battery connection line and charger power cord before starting maintenance;

- 维修区域需照明充足、视野清晰;
The maintenance area must be well-lit and have a clear visibility;
- 所有维修工作必须由经过培训的专业人员执行;
All maintenance work must be performed by trained professionals;
- 仅可使用史沃斯提供或认可的原装替换部件;
Only use original replacement parts provided or approved by Shiwosi;
- 严禁擅自改装机器原始设计;
It is strictly forbidden to modify the original design of the machine without permission;
- 避开运动部件, 维修时禁止穿戴宽松衣物或首饰, 长发需束起;
Keep away from moving parts; do not wear loose clothes or jewelry during maintenance, and tie up long hair;
- 禁止使用不兼容的电瓶充电器(可能损坏电瓶并引发火灾风险)
Do not use incompatible battery chargers (which may damage the battery and cause fire risk);
- 定期检查充电器线缆是否有破损;
Regularly check the charger cable for damage;
- 维修区域需保持良好通风;
The maintenance area must be well-ventilated;
- 避免接触电池酸液;
Avoid contact with battery acid;
- 禁止金属物体放置于电池表面;
Do not place metal objects on the battery surface;
- 禁止使用高压水枪冲洗机器;
Do not clean the machine with a high-pressure water gun;
- 搬运电池时需使用起重机器或足够人力协助;
Use hoisting equipment or sufficient manpower to assist when handling the battery;
- 电瓶安装必须由经过培训的人员操作;
Battery installation must be operated by trained personnel;
- 按本说明书要求佩戴个人防护装备, 包括防护手套和护目镜等。
Wear personal protective equipment as required by this manual, including protective gloves and goggles.
- 机器装卸(上下卡车/拖车)过程必须遵守以下要求:
The following requirements must be complied with during machine loading and unloading (on and off trucks/trailers):
 - 装载前需排空水箱;
Empty the water tank before loading;

- 使用能承受机器及操作人员总重量的坡道、卡车或拖车;
Use ramps, trucks or trailers that can bear the total weight of the machine and the operator;
- 机器仅可在坡度不超过5%(3°)的坡道上行驶;
The machine can only be driven on ramps with a gradient not exceeding 5% (3°);
- 固定机器前, 需降下刷盘及吸水扒;
Lower the brush disc and water suction rake before fixing the machine;
- 关闭机器电源并拔出钥匙;
Turn off the machine power and pull out the key;
- 使用轮挡固定车轮;
Use wheel chocks to fix the wheels;
- 用绑带紧固机器, 防止运输中移位。
Fasten the machine with strapping to prevent displacement during transportation.

2 产品介绍【Product Introduction】

2.1 产品清单【Product List】

物料名称【Material Name】	数量【Quantity】
V5手推式洗地机（V5 Walk-behind Floor Scrubber）	1台（1unit）
说明书（Instruction Manual）	1份（1pcs）
保修卡（Warranty Card）	1份（1pcs）
合格证（Qualification Certificate）	1份（1pcs）

⚠ **注意：** 请检查上述机器及配件是否存在运输损坏迹象。

Note: Please inspect the machine and its accessories for any signs of transit damage.

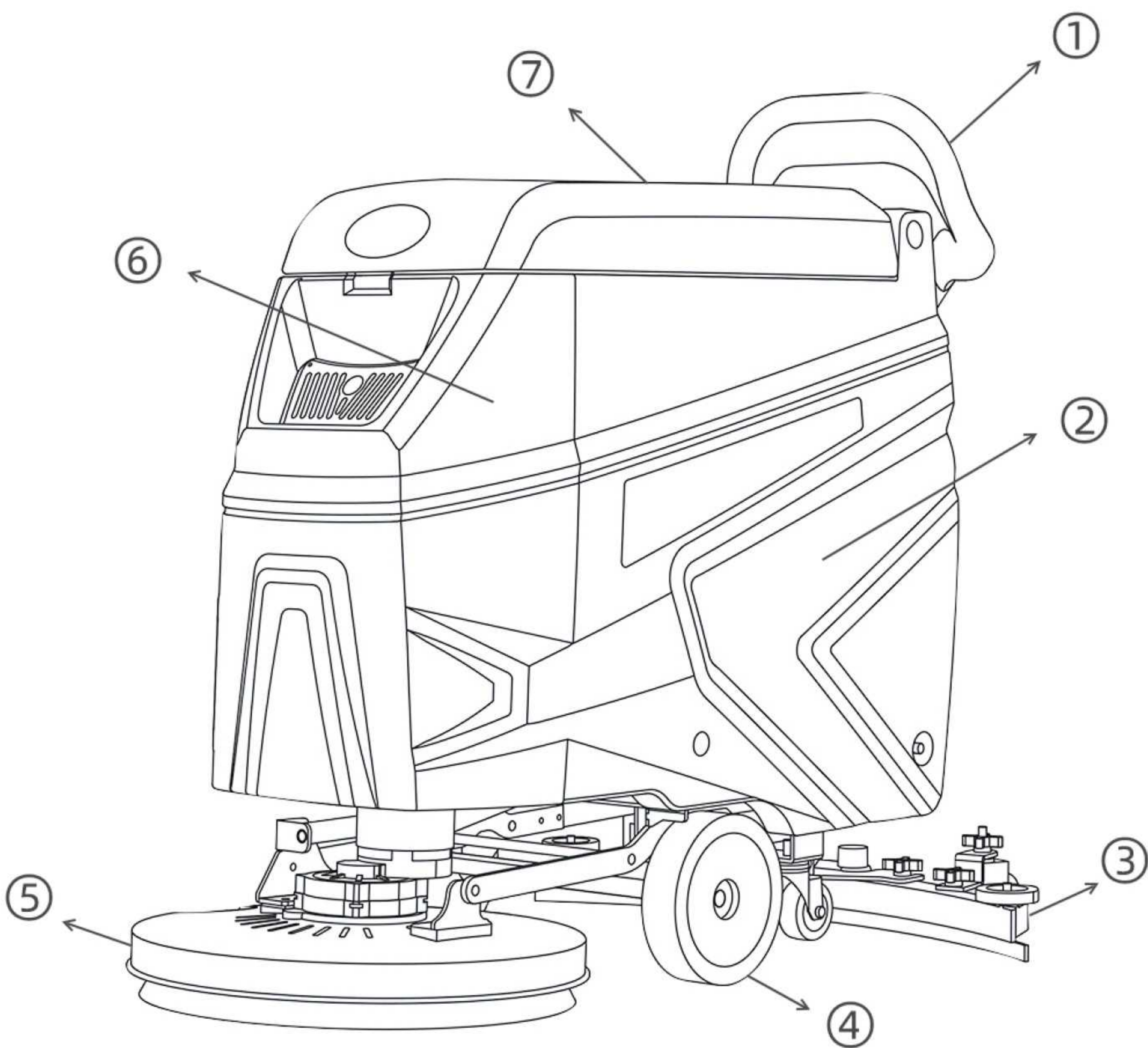
⚠ **注意：** 若发现部件缺失或损坏，请立即联系经销商或史沃斯客户服务。

Note: Contact the dealer or Shiwosi customer service immediately if any parts are missing or damaged.

⚠ **注意：** 请保留包装材料，直至完成产品的全面检查和测试。

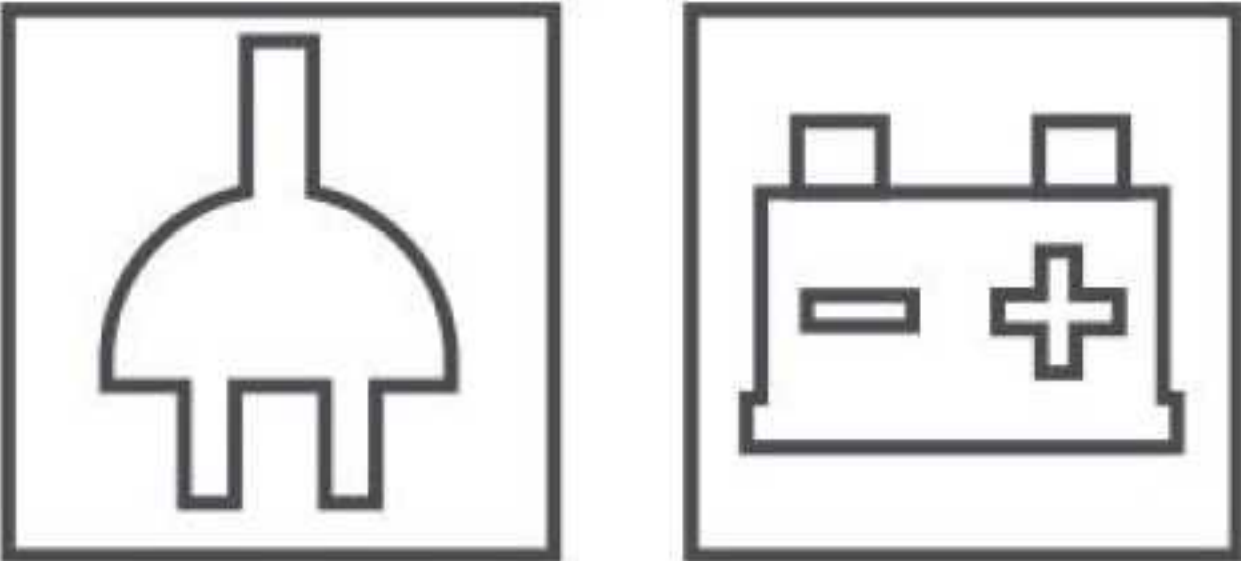
Note: Keep the packaging materials until the comprehensive inspection and testing of the product are completed.

2.2 产品概览【Product Overview】

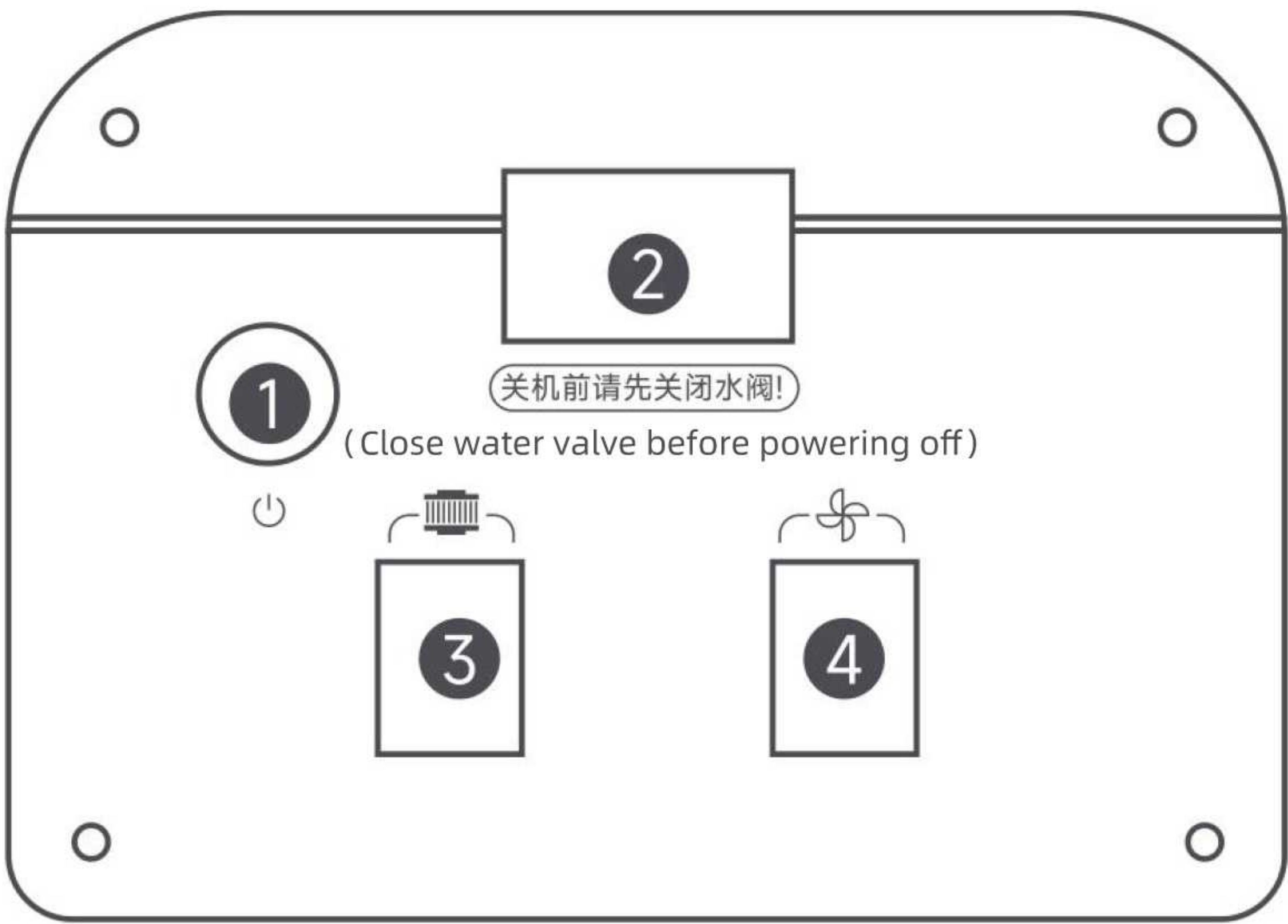


①	扶手（Control Handle）
②	清水箱（Clean Water Tank）
③	吸水扒（Squeegee）
④	前轮（Front Wheel）
⑤	刷盘（Brush Disk）
⑥	污水箱（Sewage Tank）
⑦	污水箱盖（Sewage Tank Lid）

2.3 机器符号【Machine Symbols】

符号【Symbol】	含义【Meaning】
	电瓶充电插头（Battery Charging Plug）
	清水箱排放口（Clean Water Tank Drain Port）
	污水箱排放口（Sewage Tank Drain Port）

2.4 操作台说明【Control Console Description】



①	电源开关（Power Switch）
②	电量显示（Power Indicator）
③	刷盘开关（Brush Disc Switch）
④	吸水开关（Vacuum Switch）

3 产品安装【Product Installation】

3.1 开箱操作【Unpacking Operation】

- ⚠ **警告：** 严禁不使用坡道直接将机器搬离托盘，可能导致机器结构变形或部件损坏。
Warning: Do not move the machine off the pallet without using a ramp, which may cause deformation of the machine structure or damage to parts.
1. 仔细检查机器包装箱是否有破损、挤压或水渍。如有损坏，立即向承运人提出索赔并联系经销商。
Carefully check the machine packaging box for damage, extrusion or water stains.
File a claim with the carrier immediately and contact the dealer if damaged.
2. 使用剪刀剪断包装带，依次取下外层纸箱、缓冲泡沫及配件盒（配件需单独核对清单）。
Use scissors to cut the packing belt, and remove the outer carton, buffer foam and accessory box in turn (check the accessory list separately for accessories).
3. 确保刷盘 / 清洁垫处于最高位置，避免卸机时与木质垫块摩擦导致部件划伤。
Ensure the brush disc/cleaning pad is at the highest position to avoid scratches on parts caused by friction with wooden blocks during unloading.

4. 用榔头敲除限位轮块（运输固定用），确保机器轮子可自由转动。

Use a hammer to remove the limit wheel block (for transportation fixation) to ensure the machine wheels can rotate freely.
5. 将木质垫块与机器后轮对齐，形成缓坡过渡（垫块厚度建议不超过 5cm，坡度≤5°）

Align the wooden block with the rear wheel of the machine to form a gentle slope transition (the thickness of the block is recommended to be no more than 5cm,slope ≤5°).
6. 插入钥匙并接通电源，缓慢推动机器沿木质垫块下滑至地面（建议两人配合：一人控制方向，一人在前方引导平衡）。

Insert the key and turn on the power,and slowly push the machine down the wooden block to the ground (two people are recommended to cooperate: one person controls the direction,and the other guides the balance in front).
7. 卸机后检查刷盘、吸水扒等部件是否因运输松动，确认无异常后移除所有垫块。

After unloading,check if the brush disc,water suction rake and other parts are loose due to transportation,and remove all blocks after confirming no abnormality.

3.2 安装电瓶【Battery Installation】

- ⚠ **警告：** 操作时必须佩戴防护手套和护目镜，避免电瓶酸液接触皮肤或眼睛。

Warning: Wear protective gloves and goggles during operation to avoid battery acid contact with skin or eyes.
- ⚠ **注意：** 严禁正负极接反，避免短路或机器损坏。

Note: It is strictly forbidden to reverse the positive and negative poles to avoid short circuit or machine damage.
- ⚠ **注意：** 安装后检查线缆无松动，合上污水箱并通电测试电压是否正常（约24V）。

Note: After installation,check that the cable is not loose,close the sewage tank and conduct a power-on test to confirm the voltage is normal (about 24V).

电瓶规格 Battery Specs	电瓶型号 Battery Model	24V
	尺寸限制 Size Limit	最大 332mm×176mm×214mm（长×宽×高） Max. 332mm×176mm×214mm (Length×Width×Height)

- 1.安装电瓶前，确认电瓶无破损、表面清洁，正负极标识清晰无反极。

Before installing the battery,confirm that the battery is undamaged,the surface is clean, and the positive and negative pole marks are clear without polarity reversal.
2. 将机器停在水平地面，关闭所有电源开关并拔出钥匙。

Park the machine on a level ground,turn off all power switches and pull out the key.

3. 抬起污水箱，露出电瓶安装区域。

Lift the sewage tank to expose the battery installation area.

4. 按照（图1）所示方向将电瓶放入电瓶舱，正立安装（禁止倒置），确保接线柱朝向一致，且相邻电瓶间距 $\geq 5\text{mm}$ 。

Put the battery into the battery compartment in the direction shown in Figure 1, install it upright (no inversion), ensure the terminals face the same direction, and the distance between adjacent batteries is $\geq 5\text{mm}$.

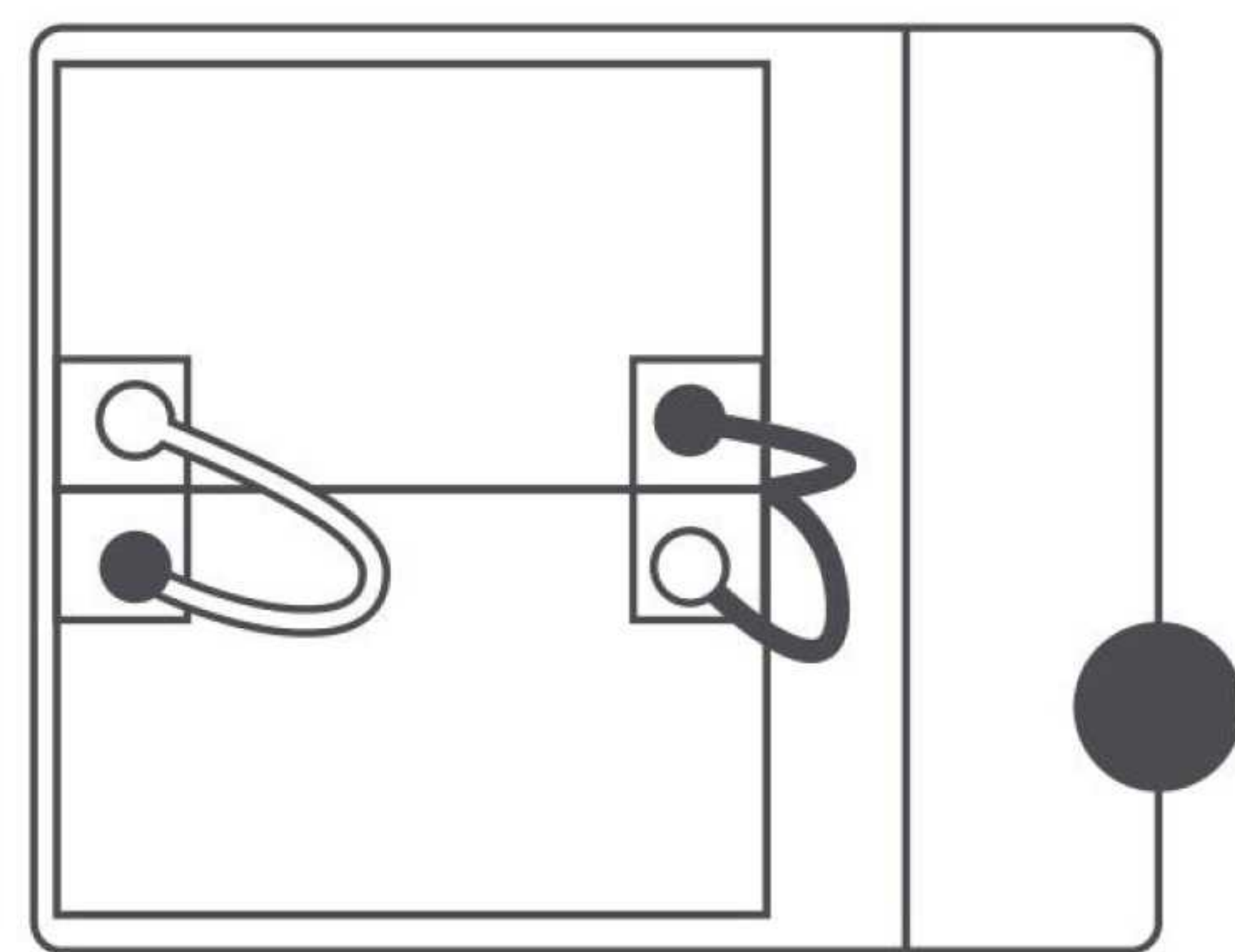


图 1

5. 按照（图 2）接线 – 红色线缆接正极（+），黑色线缆接负极（-），确保接头牢固。

Connect the wires as shown in Figure 2 – the red cable is connected to the positive pole (+), and the black cable is connected to the negative pole (-), ensuring the connectors are firm.

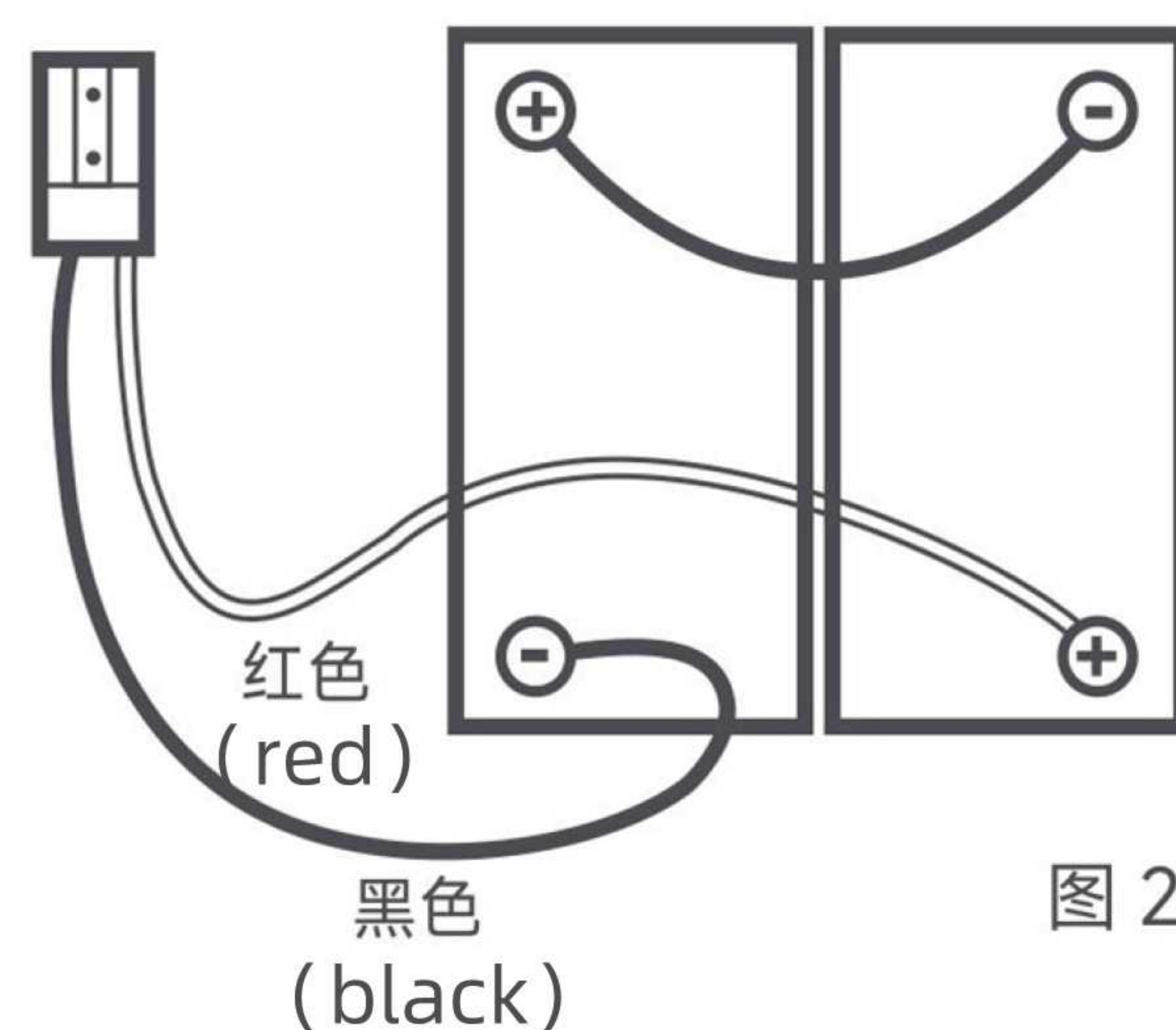


图 2

⚠ **注意：** 为防止极柱损坏，请控制接线扭矩在 $12\sim 15\text{N}\cdot\text{M}$ 。

Note: To prevent damage to the pole posts, control the wiring torque at $12\sim 15\text{N}\cdot\text{M}$.

⚠ **注意：** 建议用塞块固定电瓶，避免摇晃碰撞。

Note: It is recommended to fix the battery with a block to avoid shaking and collision.

3.3 安装机器【Machine Assembly】

机器工作原理【Working Principle】

水和清洁剂通过水阀、电磁阀输送至刷盘与地面，刷盘旋转搅拌清洁剂与水形成清洁液，对地面进行擦洗；同时，吸水马达通过吸水扒组件将污水吸入污水箱，实现“洗 - 吸”同步完成。

Water and detergent are delivered to the scrub head via the solution valve and solenoid valve. The rotating brushes agitate the mixture to form a cleaning solution that scrubs the floor. Simultaneously, the vacuum motor suctions the dirty water into the recovery tank through the squeegee assembly, achieving synchronized "scrub-and-dry" performance.

3.3.1 连接吸水扒组件【Connecting the Squeegee Assembly】

⚠ **注意：** 吸水扒组件未正确安装时，可能导致污水残留或吸力下降。建议每次使用前检查胶条状态及吸污管密封性。

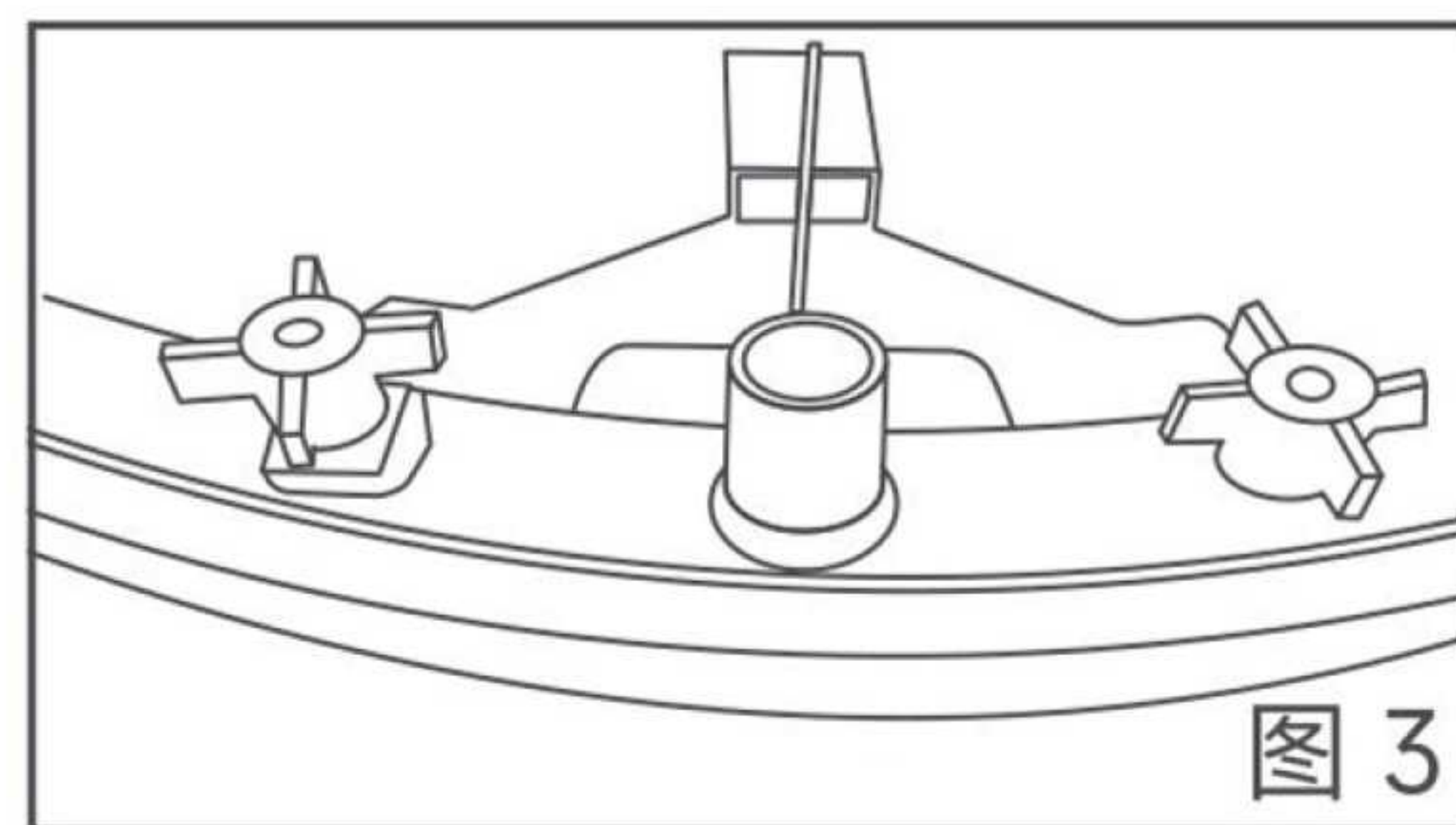
Note: Incorrect installation of the squeegee assembly may cause sewage residue or reduced suction. It is recommended to check the condition of the rubber strip and the tightness of the suction pipe before each use.

1. 将机器停放在水平地面，关闭所有电源开关并取出钥匙。

Park the machine on a level ground, turn off all power switches and take out the key.

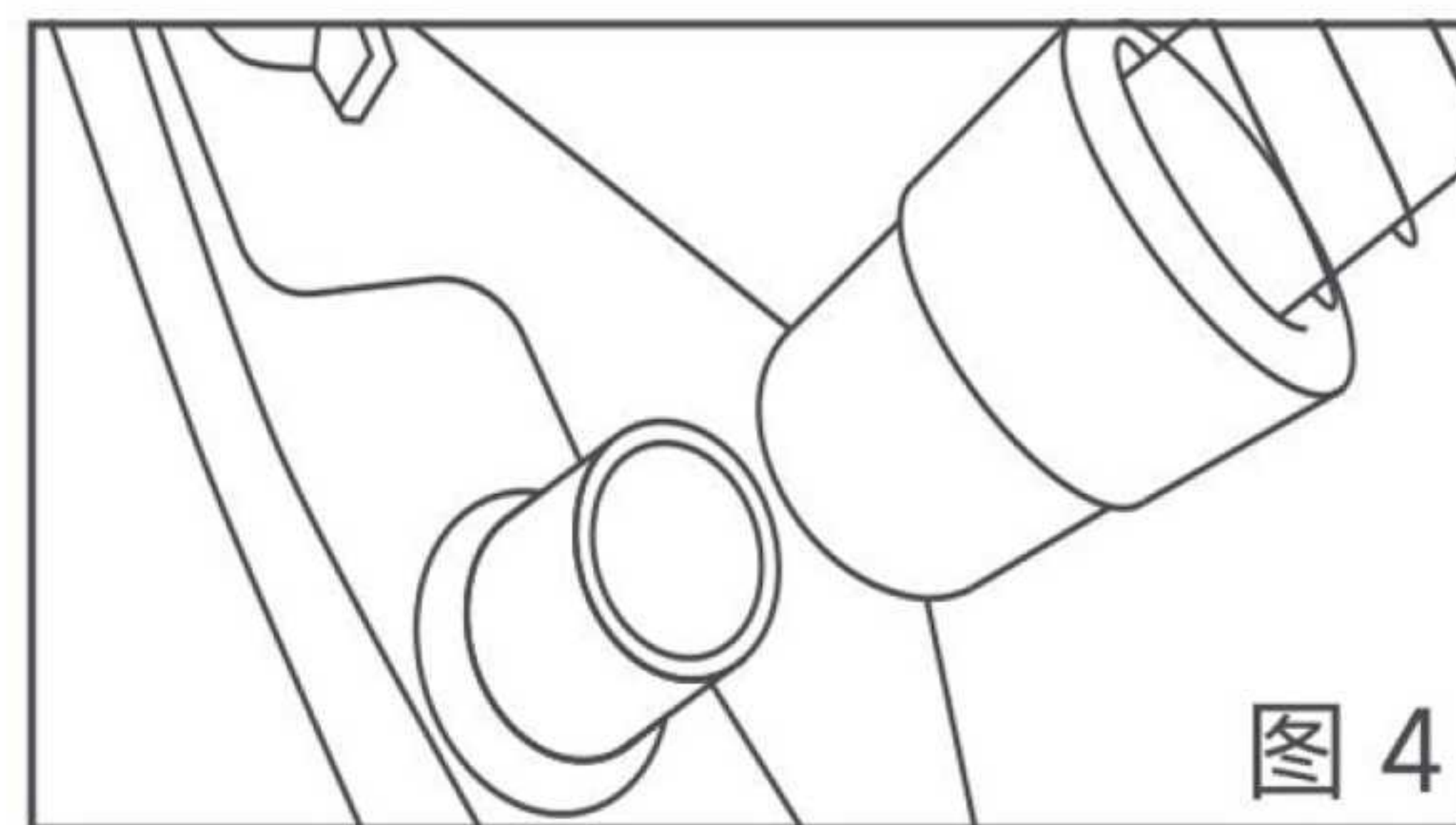
2. 抬起吸水扒升降踏板至最高位置，将吸水扒组件对准安装托架(图3)，确保紧固旋钮完全卡入插槽后旋紧，防止脱落。

Lift the squeegee lifting pedal to the highest position, align the squeegee assembly with the mounting bracket (Figure 3), ensure the fastening knob is fully locked into the slot and then tighten to prevent falling off.



3. 将吸污管一端接口对准吸水扒组件的对应接口，按(图4)所示方向插入并旋紧(听到“咔嗒”声表示到位)。

Align one end of the suction pipe with the corresponding interface of the squeegee assembly, insert and tighten in the direction shown in Figure 4 (a "click" sound indicates it is in place).



4. 确认吸水扒胶条无破损、无异物，若胶条磨损或偏移，需通过调节螺丝校准其与地面的贴合度。

Confirm that the rubber strip of the squeegee is undamaged and free of foreign objects. If the rubber strip is worn or offset, calibrate its fit with the ground through the adjusting screw.

3.3.2 安装刷盘【Installing the Brush Disc】

1. 将机器停放在水平地面，关闭所有电源开关并取出钥匙。

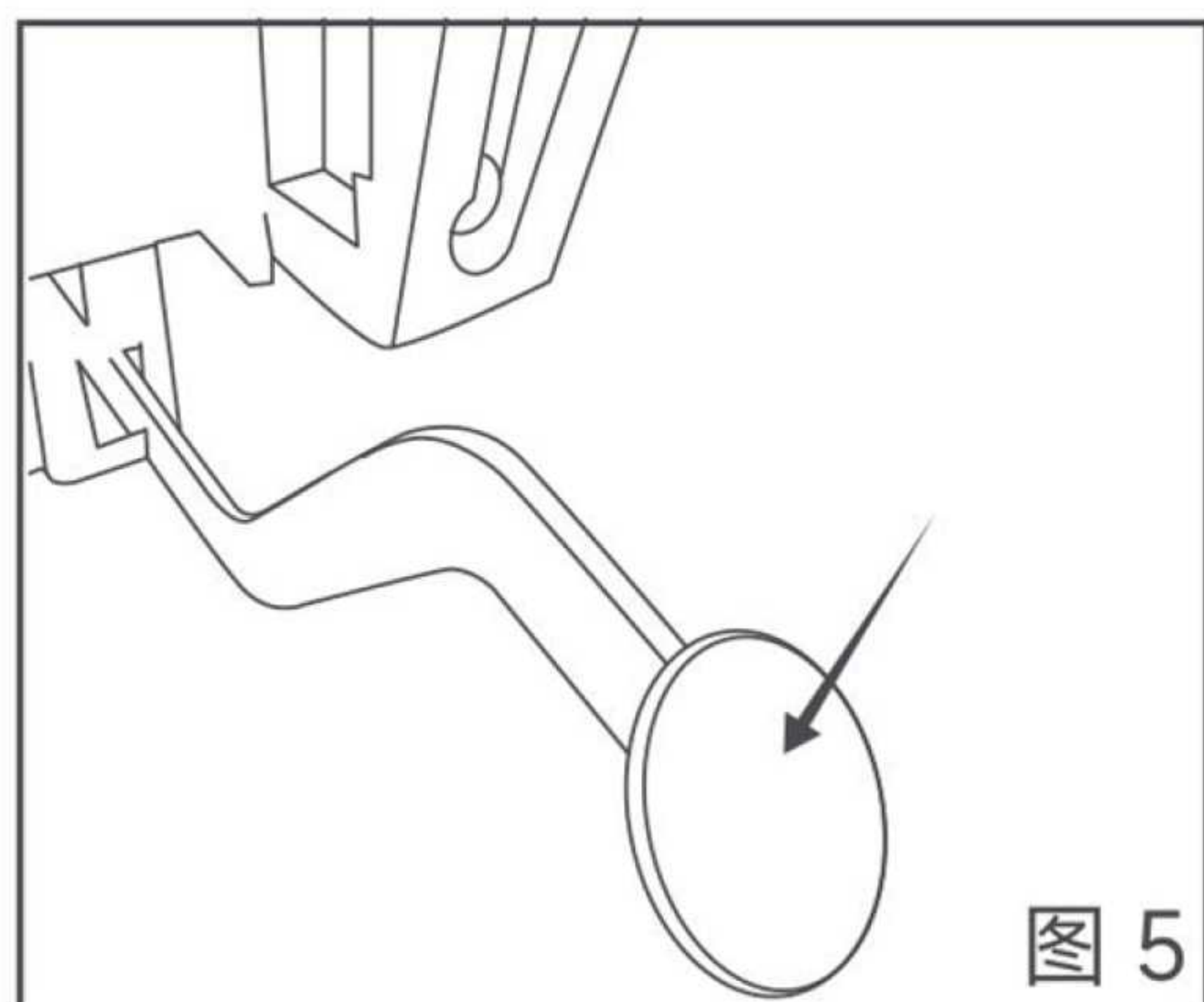
Park the machine on a level ground, turn off all power switches and take out the key.

2. 踩下刷盘升降踏板并向右移动，使刷盘电机升至最高位置(图5)。

Step on the brush disc lifting pedal and move it to the right to raise the brush disc motor to the highest position (Figure 5).

3. 将刷盘中心对准刷盘电机的卡扣，顺时针旋转直至听到“咔嗒”声，确认安装牢固;拆卸时逆时针旋转即可取下。

Align the center of the brush disc with the buckle of the brush disc motor, rotate clockwise until a "click" sound is heard to confirm firm installation; rotate counterclockwise to remove it during disassembly.



3.3.3 注入清洗液【Adding Cleaning Solution】

- ⚠ **警告：** 禁止使用颗粒状清洁剂（如洗衣粉）、易燃性液体（如酒精、汽油），以免堵塞管路或引发爆炸。

Warning: Do not use granular cleaning agents (e.g., washing powder) or flammable liquids (e.g., alcohol, gasoline) to avoid pipeline blockage or explosion.

⚠ **注意:** 操作时需佩戴防护手套, 严格遵守清洁剂容器上的混合比例及安全处理说明, 防止化学灼伤。

Note: Wear protective gloves during operation, and strictly follow the mixing ratio and safety handling instructions on the cleaning agent container to prevent chemical burns.

注水位置【Water filling position】: 机器前方的水桶注水孔(图6), 用于向清水箱注入清洗液。

The water filling port at the front of the machine (Figure 6), used to inject cleaning solution into the clean water tank.

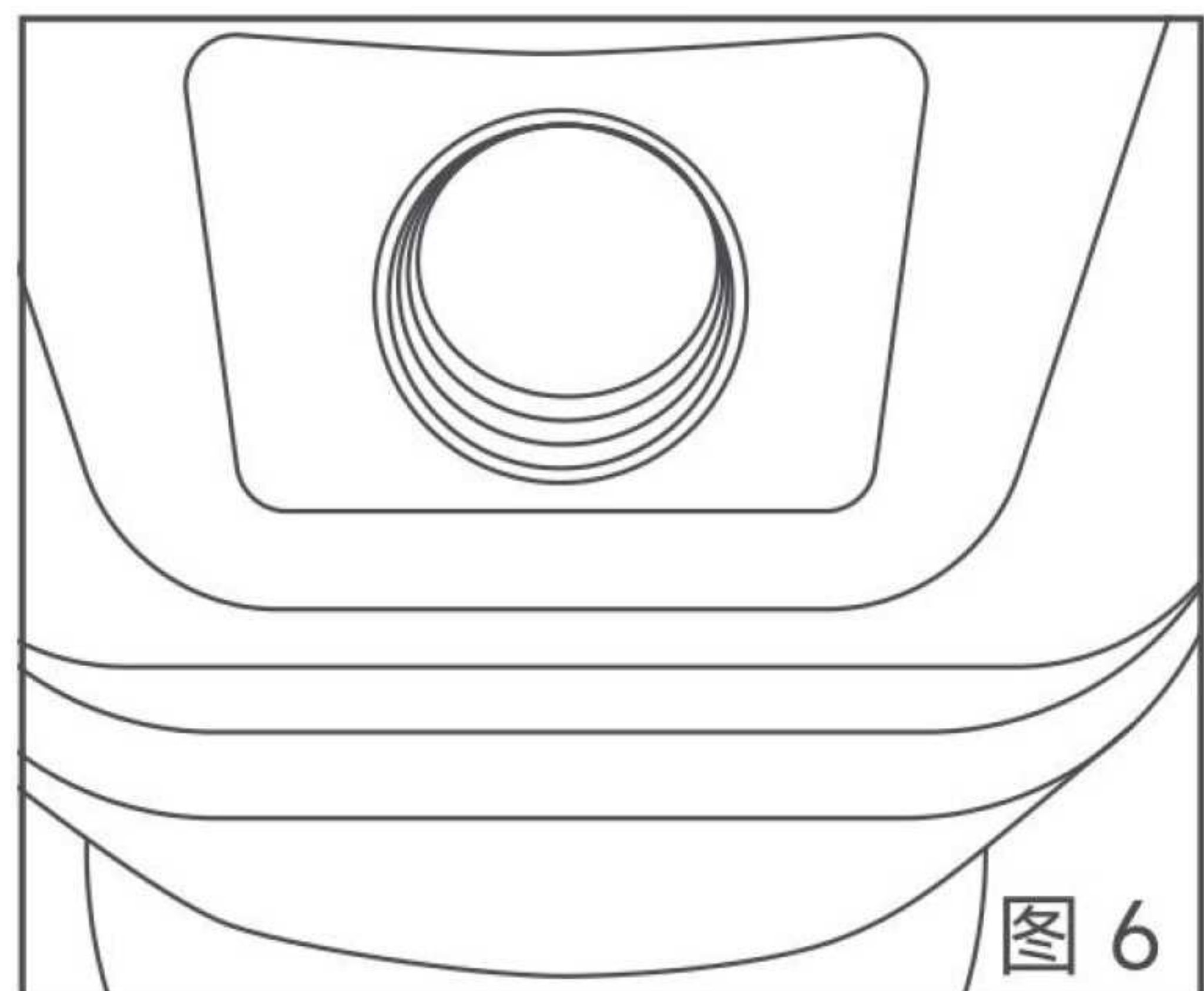


图 6

操作规范【Operation Specifications】

- 水质与温度: 使用温水(最高60°C), 避免高温损坏水箱密封件。

Water quality and temperature: Use warm water (max. 60°C) to avoid damage to the water tank seal due to high temperature.

- 清洁剂配比: 按清洁剂容器上的说明比例混合(如1:100清水稀释), 直接倒入清水箱。

Cleaning agent proportioning: Mix according to the ratio indicated on the cleaning agent container (e.g., 1:100 clear water dilution) and pour directly into the clean water tank.

- 工具清洁: 注水用的水桶需单独专用, 禁止与排放污水的水桶混用, 避免交叉污染。

Tool cleaning: The water bucket for water injection must be specially used alone, and it is forbidden to mix with the water bucket for discharging sewage to avoid cross-contamination.

4 机器操作【Machine Operation】

⚠ **警告:** 严禁在靠近或存在易燃液体、气体或可燃性粉尘的场所操作机器。

Warning: It is strictly forbidden to operate the machine near or in places with flammable liquids, gases or combustible dust.

⚠ **注意:** 未阅读并理解本操作手册前, 禁止操作机器。

Note: Do not operate the machine before reading and understanding this operation manual.

4.1 操作前检查【Pre-operation Inspection】

- 水清除地面大颗粒灰尘、杂物, 避免堵塞吸水扒或损坏刷盘。

Remove large particles of dust and debris from the ground to avoid blocking the water suction rake or damaging the brush disc.

- 查看电量表刻度，确保电量充足。

Check the power meter scale to ensure sufficient power

- 检查刷盘/清洁垫磨损程度，若刷毛长度 < 10mm 需及时更换。

Check the wear degree of the brush disc/cleaning pad; replace it in time if the bristle length is < 10mm.

- 检查胶条是否磨损、变形，调整角度确保与地面完全贴合。

Check if the rubber strip is worn or deformed, and adjust the angle to ensure full contact with the ground.

- 清空污水箱，确认污水过滤网已安装且清洁，防止堵塞吸污管路。

Empty the sewage tank, confirm that the sewage filter screen is installed and clean to prevent blockage of the suction pipeline.

4.2 机器启停【Machine Start and Stop】

⚠ **注意：**若机器在运行中发出异常噪音或吸力下降，需立即停机检查，排除故障后方可继续使用。

Note: If the machine makes abnormal noise or the suction decreases during operation, stop the machine immediately for inspection and troubleshooting before continuing to use it.

启动机器【Start the Machine】

1. 打开操作台的主电源开关。

Turn on the main power switch of the console.

2. 按下刷盘电机按钮和吸水电机按钮，确认电机运转正常。

Press the brush disc motor button and vacuum motor button to confirm the motors are running normally.

3. 降下工作组件（Lower the working components）：

- 放下吸水扒提拉把手，使吸水扒组件降至地面(图7);

Put down the squeegee lifting handle to lower squeegee assembly to the ground (Figure 7);

- 踩下刷盘升降踏板并向左移动，使刷盘落地(图8)。

Step on the brush disc lifting pedal and move it to the left to lower the brush disc to the ground (Figure 8).

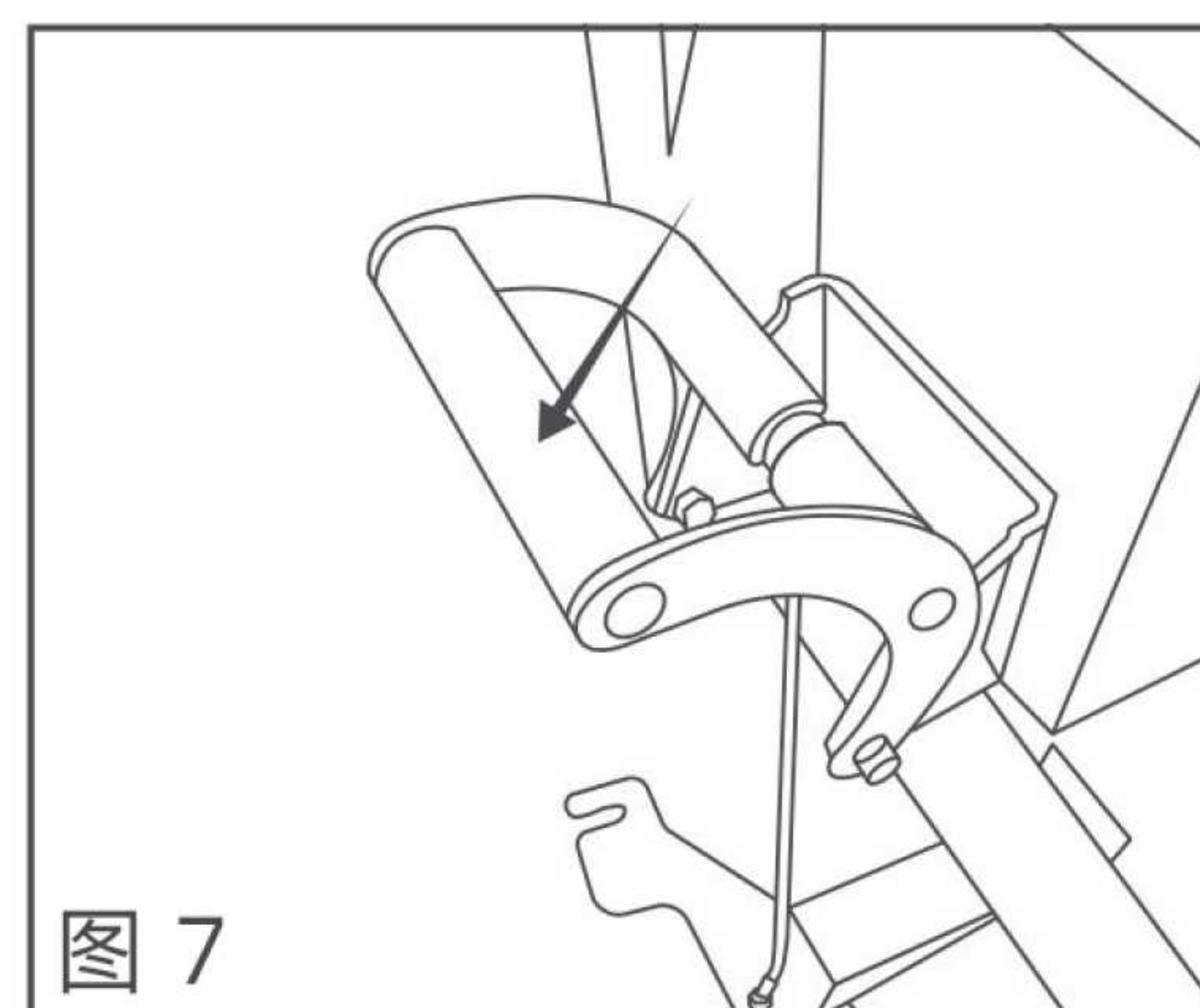


图 7

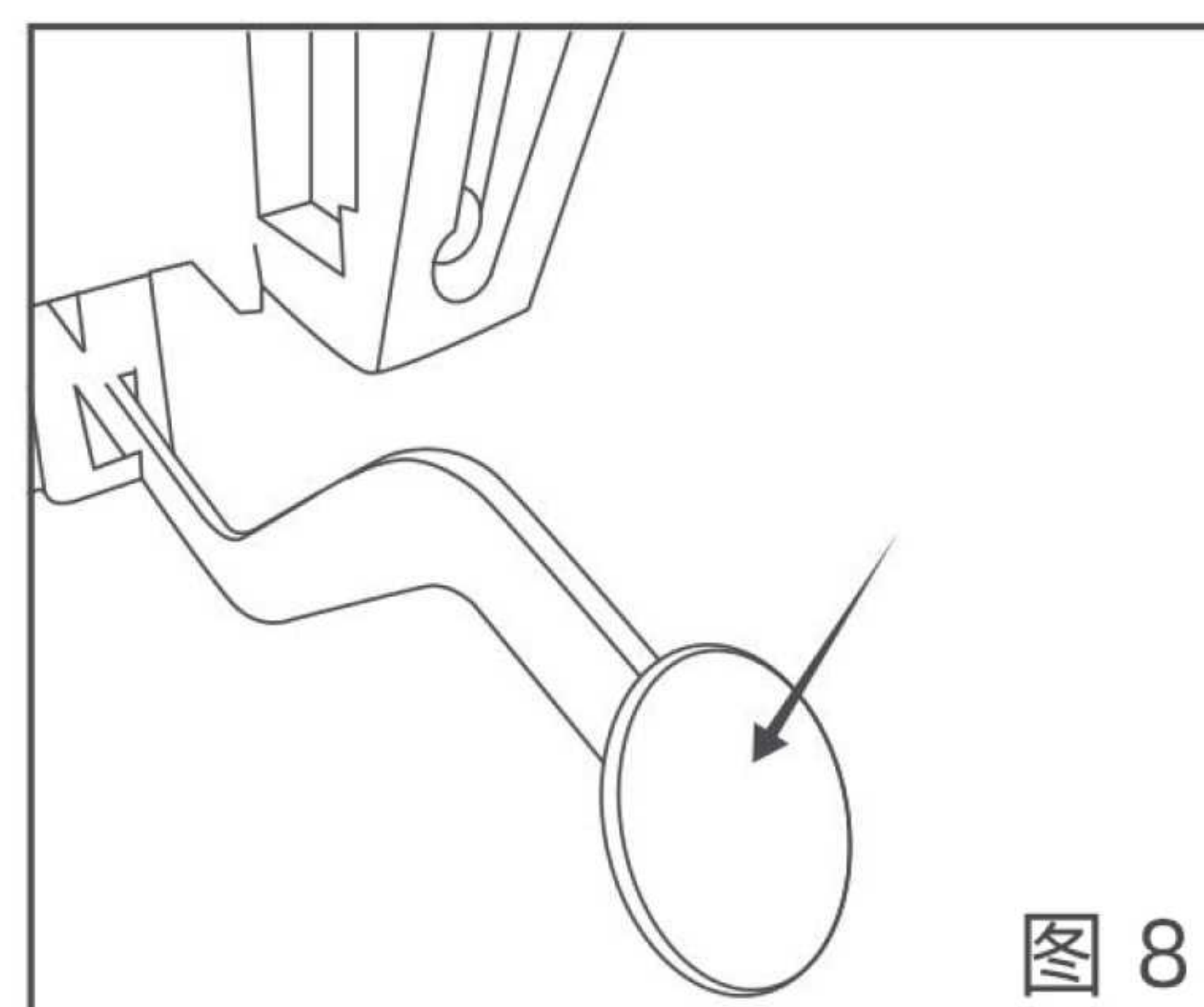


图 8

停止机器【Stop the Machine】

1. 先关闭刷盘开关，让吸水电机继续工作 10~15 秒，确保地面污水完全吸干。

First turn off the brush disc switch and let the vacuum motor work for another 10~15 seconds to ensure the sewage on the ground is completely sucked and dry.

2. 依次关闭吸水电机开关、主电源开关，拔出钥匙。

Turn off the vacuum motor switch and main power switch in turn, and pull out the key.

3. 踩下刷盘/吸水扒升降踏板，将刷盘和吸水扒升至最高位置，避免停放时部件受压变形。

Step on the brush disc/squeegee lifting pedal to raise the brush disc and squeegee to the highest position to avoid deformation of parts due to pressure during parking.

4.3 操作规范【Operation Norms】

⚠ **警告：** 严禁使用机器拾取易燃材料或活性金属，以免引发爆炸或火灾。

Warning: It is strictly forbidden to use the machine to pick up flammable materials or reactive metals to avoid explosion or fire.

⚠ **注意：** 使用机器时，遇到斜坡及滑面时请缓步慢行，穿着防滑鞋。

Warning: When using the machine, walk slowly on slopes and slippery surfaces and wear non-slip shoes.

路径规划【Path Planning】

清洗路径需重叠 5 厘米，保持机器匀速前进（建议速度 1.5~2km/h），避免原地停留导致地面磨损。每道清洗路径重叠 5 厘米。

The cleaning path should overlap by 5cm, and keep the machine moving forward at a constant speed (recommended speed 1.5~2km/h) to avoid ground wear caused by staying in place. Each cleaning path overlaps by 5cm.

特殊地面处理【Special Ground Treatment】

仅允许在坡度 5%（3°）的区域操作；通过斜坡或光滑地面时需缓步推行，操作人员必须穿戴防滑鞋。

Operation is only allowed in areas with a gradient of 5% (3°); walk slowly when passing through slopes or smooth ground, and the operator must wear non-slip shoes.

拖痕预防【Drag Mark Prevention】

清洁前需人工清扫大颗粒杂物（如石子、纸屑）；若吸水后地面出现拖痕，立即用湿抹布擦拭吸水扒胶条，清除附着的毛发或碎屑。

Manually sweep large particles of debris (e.g., stones, paper scraps) before cleaning; if drag marks appear on the ground after water suction, immediately wipe the rubber strip of the water suction rake with a damp cloth to remove attached hair or debris.

泡沫控制【Foam Control】

泡沫过多时，向污水箱加入市售中性消泡剂（添加量参考消泡剂说明书，通常 5~10ml/10L 污水）。

When there is excessive foam, add commercially available neutral defoamer to the sewage tank (the addition amount refers to the defoamer manual, usually 5~10ml/10L sewage).

⚠ **注意：** 严禁泡沫进入污水过滤网，否则会堵塞吸污管路并损坏吸水马达。

Note: It is strictly forbidden for foam to enter the sewage filter screen, otherwise it will block the suction pipeline and damage the vacuum motor.

重度脏污处理【Heavy Dirt Treatment】

重清洗法：先将吸水扒升起进行清洗，让溶液浸渍 3~5 分钟后，将吸水扒降下并再次清洗。

Dual cleaning method: First lift the squeegee for cleaning, let the solution soak for 3~5 minutes, then lower squeegee and clean again.

临时离机操作【Temporary Leave Operation】

离开机器时，请升起吸水扒和刷盘，关闭所有的电源开关并取下钥匙。

When leaving the machine, raise the squeegee and brush head, turn off all power switches and take off the key.

4.4 电瓶充电【Battery Charging】

本章节说明适用于机器随附的原厂全自动智能型充电器（输出电压 24V，适配免维护电瓶 / 锂电池）。

This chapter applies to the original factory automatic intelligent charger attached to the machine (output voltage 24V, suitable for maintenance-free batteries/lithium batteries).

⚠ **注意：** 禁止在充电区域放易燃物，请配备 ABC 干粉灭火器。

Note: Do not place flammable objects in the charging area, and prepare an ABC dry powder fire extinguisher.

⚠ **注意：** 远离火源、热源及暴晒，避免在 - 10°C 以下环境使用（电瓶容量随温度下降而降低）。

Note: Keep away from fire, heat sources and direct sunlight, and avoid use in an environment below -10°C (battery capacity decreases with temperature).

⚠ **注意：** 禁止拆解、短路电瓶，废旧电瓶需专业回收。

Note: Do not disassemble or short-circuit the battery; waste batteries must be recycled professionally.

⚠ **注意：** 频繁充放电、长期亏电或违规操作导致的损坏不予保修。

Note: Damage caused by frequent charging and discharging, long-term under-voltage or irregular operation is not covered by the warranty.

充电步骤【Charging Steps】

1. 将机器移至通风良好、平整干燥的场所，远离火花或火源。

Move the machine to a well-ventilated, flat and dry place, away from sparks or fire sources.

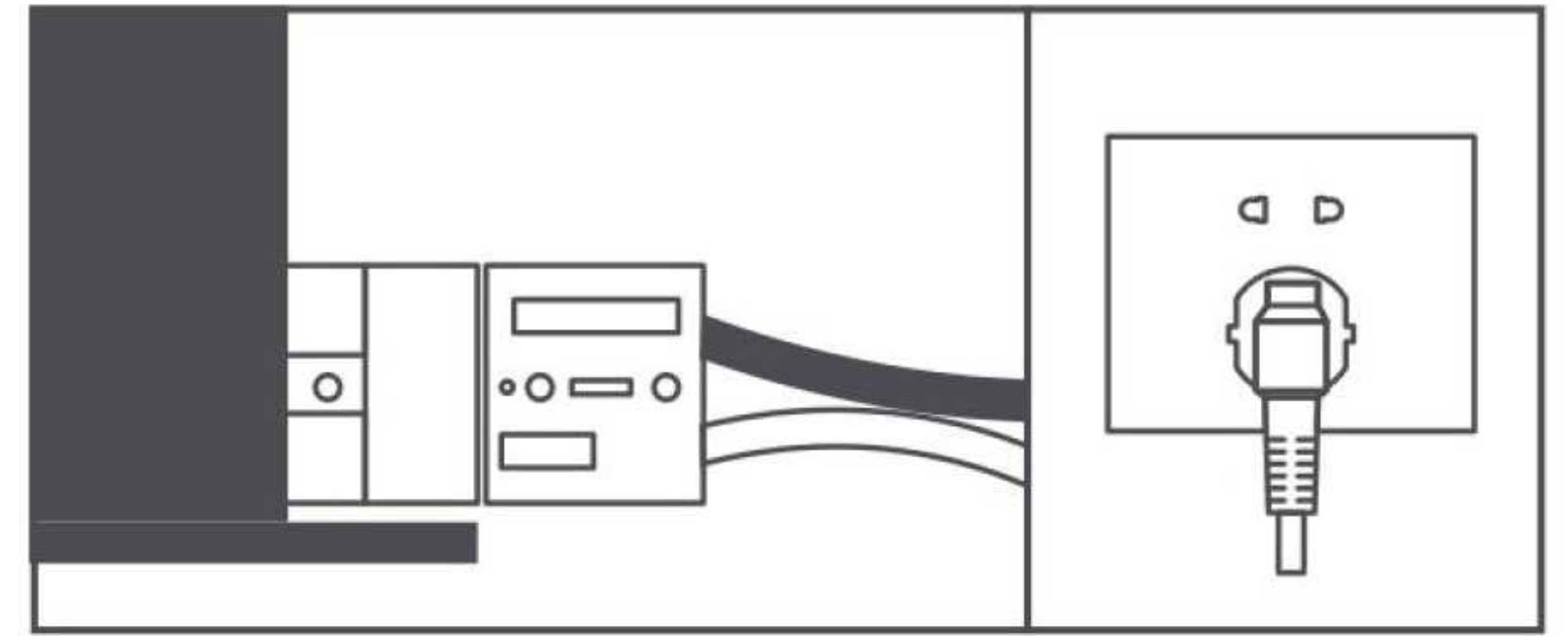
2. 升起吸水扒和刷盘，关闭所有电源并取下钥匙，打开污水箱盖增强通风。

Raise the squeegee and brush head, turn off all power and take out the key, and open the sewage tank cover to enhance ventilation.

3. 检查充电器线缆无破损，插头触点清洁无氧化。

Check that the charger cable is undamaged and the plug contacts are clean and free of oxidation.

4. 将充电器 AC 交流电源线插入接地电源插座，再将 DC 直流线插入机器后方充电插座；充电期间机器功能自动锁定，充满后所有灯常亮（建议充电时间 8~10 小时）。



Insert the charger's AC power cord into an earthed power socket, then insert the DC cord into the charging socket at the rear of the machine; the machine functions are automatically locked during charging, and all lights are on when fully charged (recommended charging time 8~10 hours).

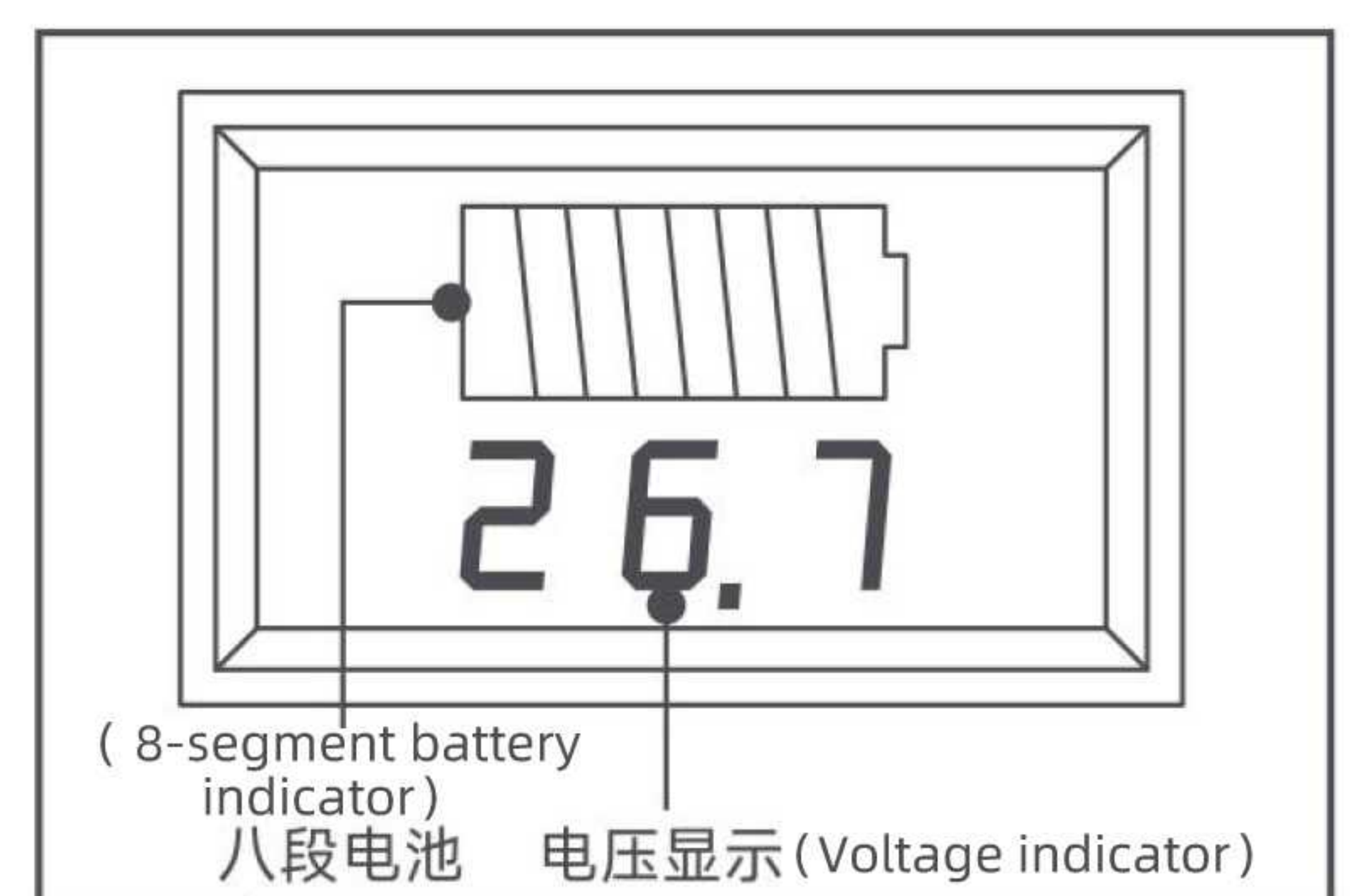
⚠ **注意：** 若需中断充电，必须先拔 AC 电源线，再拔 DC 线（防止弧光放电）。

Note: If charging needs to be interrupted, the AC power cord must be unplugged firstly, then the DC cord (to prevent arc discharge).

电量管理与电瓶保护【Power Management and Battery Protection】

- 日常充电：使用后立即充电，避免长期亏电；电量表仅剩 1 格灯时停止作业，否则最后 1 格灯闪烁时清洗功能自动关闭（防止电瓶耗尽）。

Daily charging: Charge immediately after use to avoid long-term under-voltage; stop operation when there is only 1 grid light left on the power meter, otherwise the cleaning function will be automatically turned off when the last grid light flashes (to prevent battery exhaustion).



随着电量耗用，指示灯会从右至左依次熄灭
(As the battery power decreases, the indicator lights will turn off one by one from right to left)

- 低电量处理：当自动关闭后，需立即推至充电区充电，禁止强制启动。

Low power processing: When the machine is automatically turned off due to low power, push it to the charging area for charging immediately, and do not force startup.

4.5 水箱排水【Water Tank Drainage】

⚠ **注意：** 离开或维修机器之前，请将机器停放在水平地面上，然后关闭机器并取出钥匙。

Note: Before leaving or repairing the machine, park the machine on a level ground, then turn off the machine and take out the key.

4.5.1 排放污水箱【Discharging the Sewage Tank】

1. 将机器推至指定排水地点，关闭电源钥匙并确保机器停放平稳。

Push the machine to the designated drainage location, turn off the power key and ensure the machine is parked stably.

2. 口朝上握住污水箱排水管，取下管盖后倾斜排水管排放污水（图 9、10）；待污水完全排尽后，必须盖紧管盖，防止使用时因漏气导致吸水马达吸力下降。

Hold the sewage tank drain hose with the opening facing up, remove the pipe cover and tilt the drain pipe to discharge sewage (Figures 9,10); after the sewage is completely drained, the pipe cover must be tightly closed to prevent the suction of the vacuum motor from decreasing due to air leakage during use.

3. 清洗污水箱内部时，需避免清水直接冲进污水箱水位限制器（图 11），以免损坏液位传感器。

When cleaning the inside of the sewage tank, avoid flushing clean water directly into the sewage tank water level limiter (Figure 11) to prevent damage to the liquid level sensor.

- ⚠ **注意：** 排放污水的水桶禁止用于向清水箱注入清洁液，防止交叉污染。

Note: The water bucket for discharging sewage is forbidden to be used for injecting cleaning solution into the clean water tank to prevent cross-contamination.

- ⚠ **注意：** 管盖未盖紧会导致吸水系统漏气，表现为污水残留或吸力不足，需重新旋紧确认无缝隙。

Note: A loose pipe cover will cause air leakage in the water suction system, which is manifested as sewage residue or insufficient suction; it needs to be retightened to confirm no gaps.

4.5.2 排放清水箱【Discharging the Clean Water Tank】

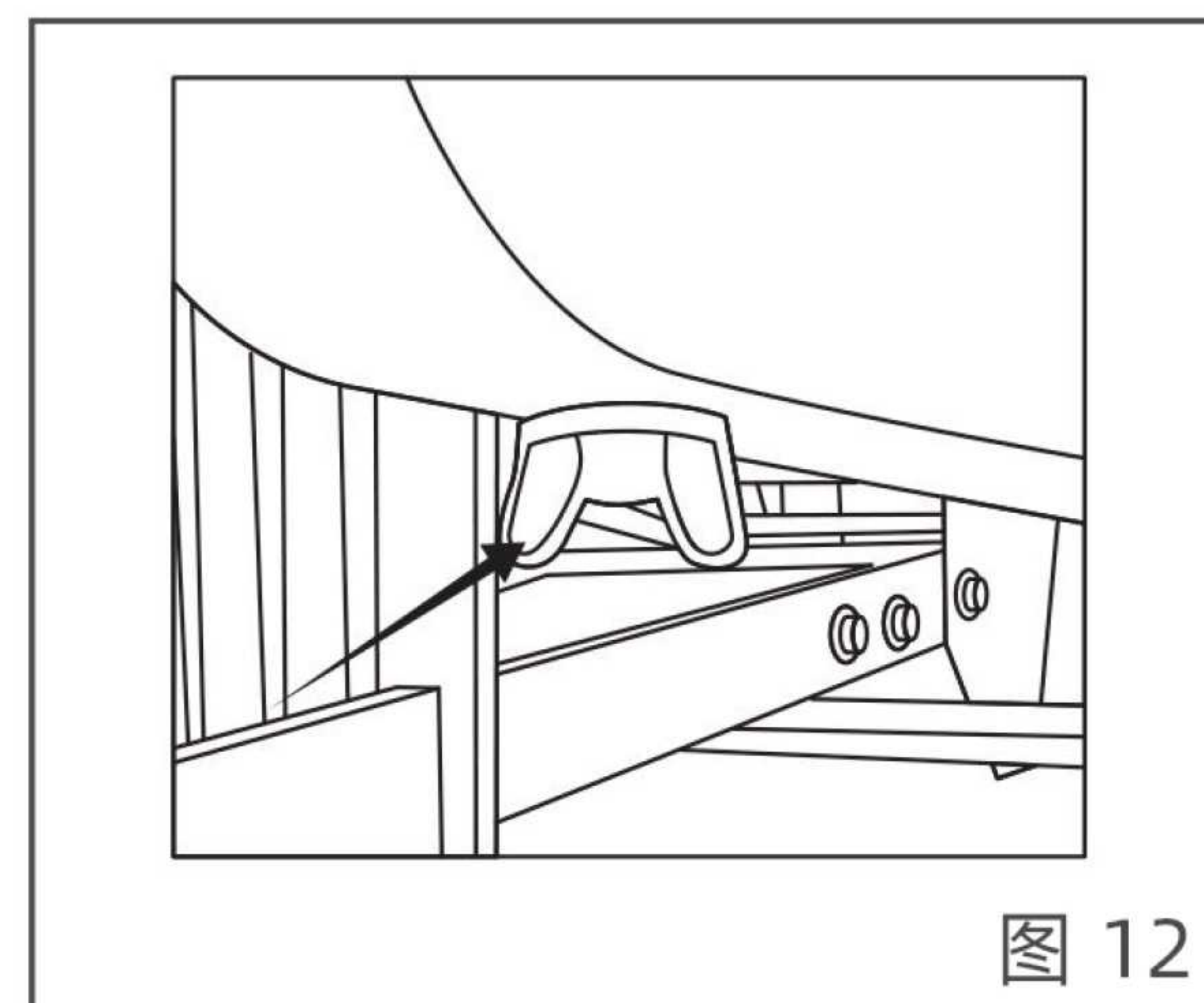
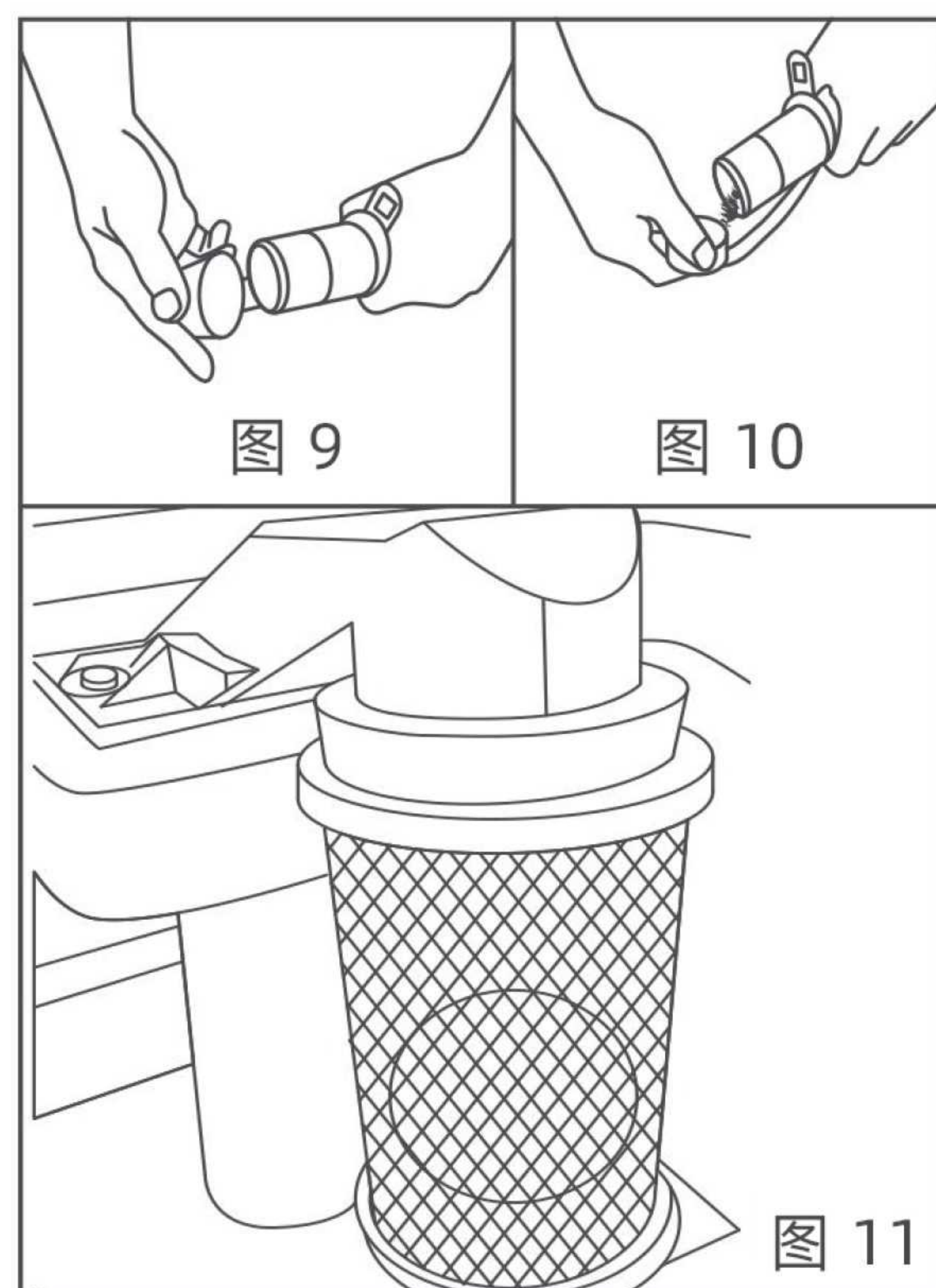
- ⚠ **注意：** 若清水箱内有残留清洁剂，需用清水冲洗箱体后再排放，避免不同清洁剂混合产生化学反应。

Note: If there is residual cleaning agent in the clean water tank, rinse the tank with clean water before discharging to avoid chemical reactions caused by mixing different cleaning agents.

1. 确认机器已停放至排水区域，关闭电源钥匙。
Confirm that the machine has been parked in the drainage area and turn off the power key.

2. 找到清水箱底部的排水口，顺时针拧开排水口盖（图 12），让剩余清水自然排空。

Find the drain at the bottom of the clean water tank, unscrew the drain cover clockwise



(Figure 12) and let the remaining clean water drain naturally.

3. 排水完毕后，将排水口盖拧紧复位，防止使用时清洁剂泄漏。

After drainage,tighten the drain cover to reset to prevent leakage of cleaning agent during use.

5 维护与保养【Maintenance & Upkeep】

为确保机器长期稳定运行，需定期执行以下维护流程，并严格遵守安全操作要求。

To ensure the long-term stable operation of the machine,the following maintenance procedures must be performed regularly,and the safety operation requirements must be strictly followed.

⚠ **警告：** 注意触电危险。维护机器前，请先断开电瓶接线。

Warning: Beware of electric shock hazard. Disconnect the battery wiring before maintaining the machine.

⚠ **注意：** 维护机器时，需根据需要佩戴个人防护装备。

Note: Wear personal protective equipment as needed when maintaining the machine.

⚠ **注意：** 所有维护工作必须由经过培训的专业人员执行。

Note: All maintenance work must be performed by trained professionals.

维护周期表【Maintenance Cycle Table】

⚠ **注意：** 在多尘极端条件下，建议根据粉尘浓度增加维护频率（如每日维护项目可缩短至每 4 小时一次，或每次使用后增加滤网清洁步骤）。

Note: In dusty and extreme conditions,it is recommended to increase the maintenance frequency according to the dust concentration (e.g.,daily maintenance items can be shortened to once every 4 hours,or an additional filter cleaning step can be added after each use).

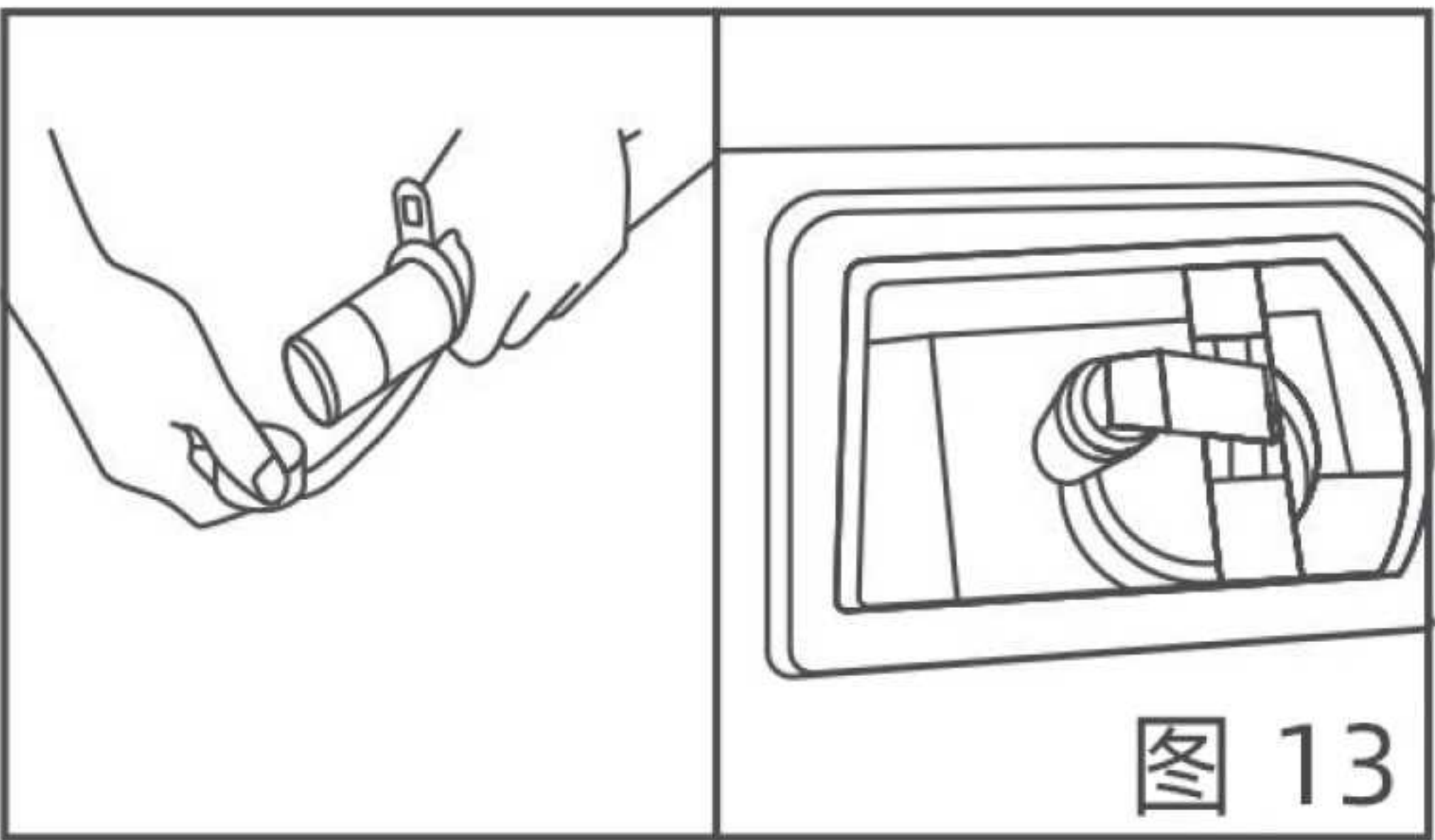
维护部件 Maintenance Part	间隔周期 Interval Cycle	责任人 Person in Charge	维护操作 Maintenance Operation
刷盘 Brush Disc	每日 (每次使用后) Daily (after each use)	操作员 O	检查刷盘 / 针座的高度 Check the height of the brush disc/needle seat
污水箱 Sewage Tank	每日 (每次使用后) Daily (after each use)	操作员 O	检查是否有损坏、磨损 或内部碎屑 Check for damage,wear or internal debris

电池电极 & 接线 Battery Electrodes & Wiring	每 200 小时 Every 200 hours	专业人员 T	检查电极氧化情况 并清洁接线端子 Check electrode oxidation and clean terminals
真空 / 刷盘 / 驱动马达 Vacuum/Brush Disc/Drive Motor	首次 500 小时, 之后每 100 小时 First 500 hours, then every 100 hours	专业人员 T	检查马达碳刷磨损程度 (若剩余长度 < 5mm 需更换) Check the wear degree of motor carbon brushes (replace if the remaining length is <5mm)
驱动轮 Drive Wheel	每 500 小时 Every 500 hours	专业人员 T	检查轮胎是否有裂纹、 鼓包或过度磨损 (若胎纹深度 < 2mm 需更换) Check for cracks,bulges or excessive wear on the tire (replace if the tread depth is <2mm)

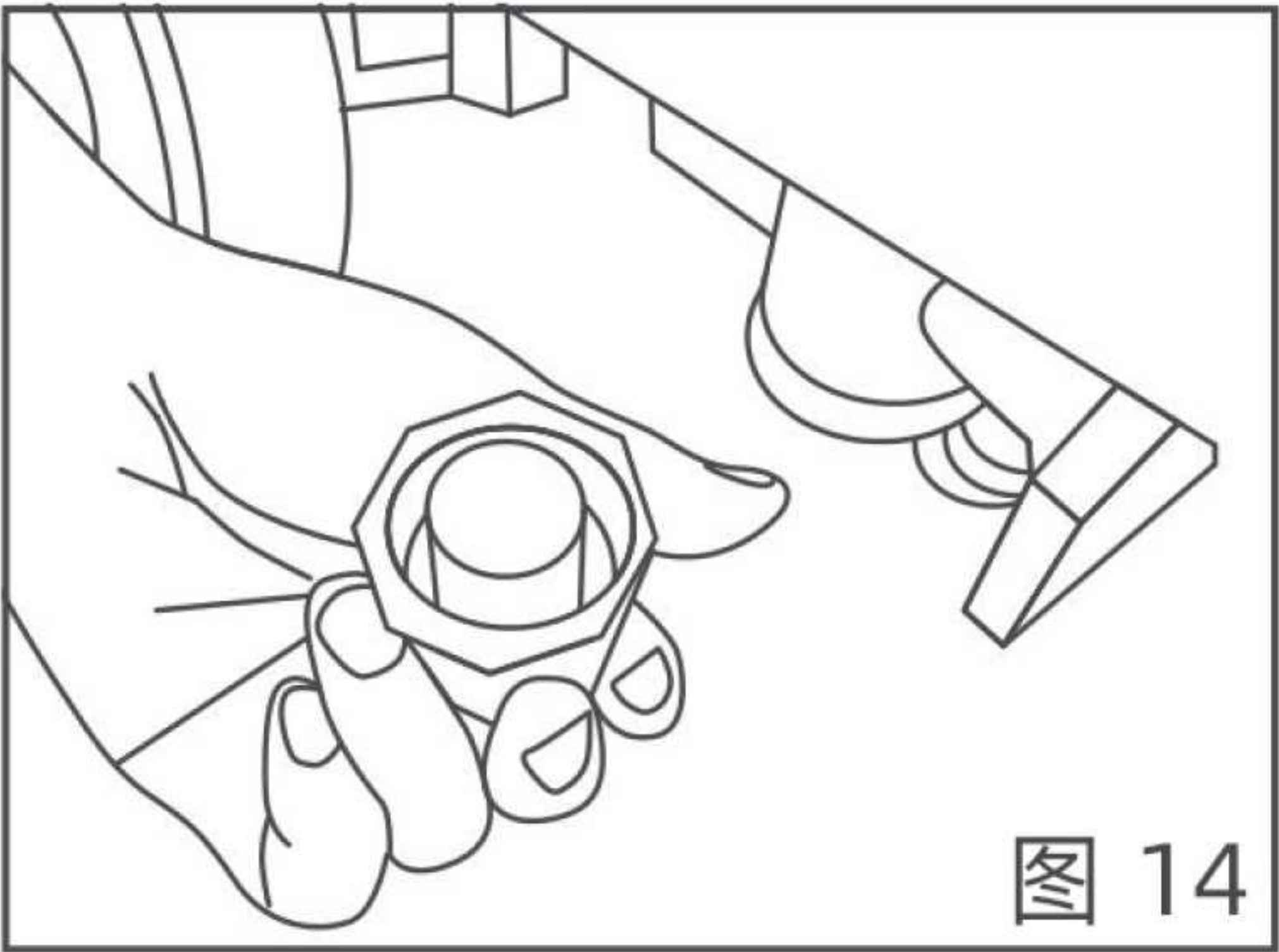
* 注：O = 操作员，T = 接受过专业培训的人员 （*Note: O=Operator, T=Trained professional）

每日维护 (每次使用后)【Daily Maintenance (After Each Use)】

- 将机器推至排水点，取下排水管盖排水（图 13）；用清水冲洗箱内残留污渍。
Push the machine to the drainage point,remove the drain pipe cover to drain water (Figure 13); rinse the residual stains in the tank with clean water.

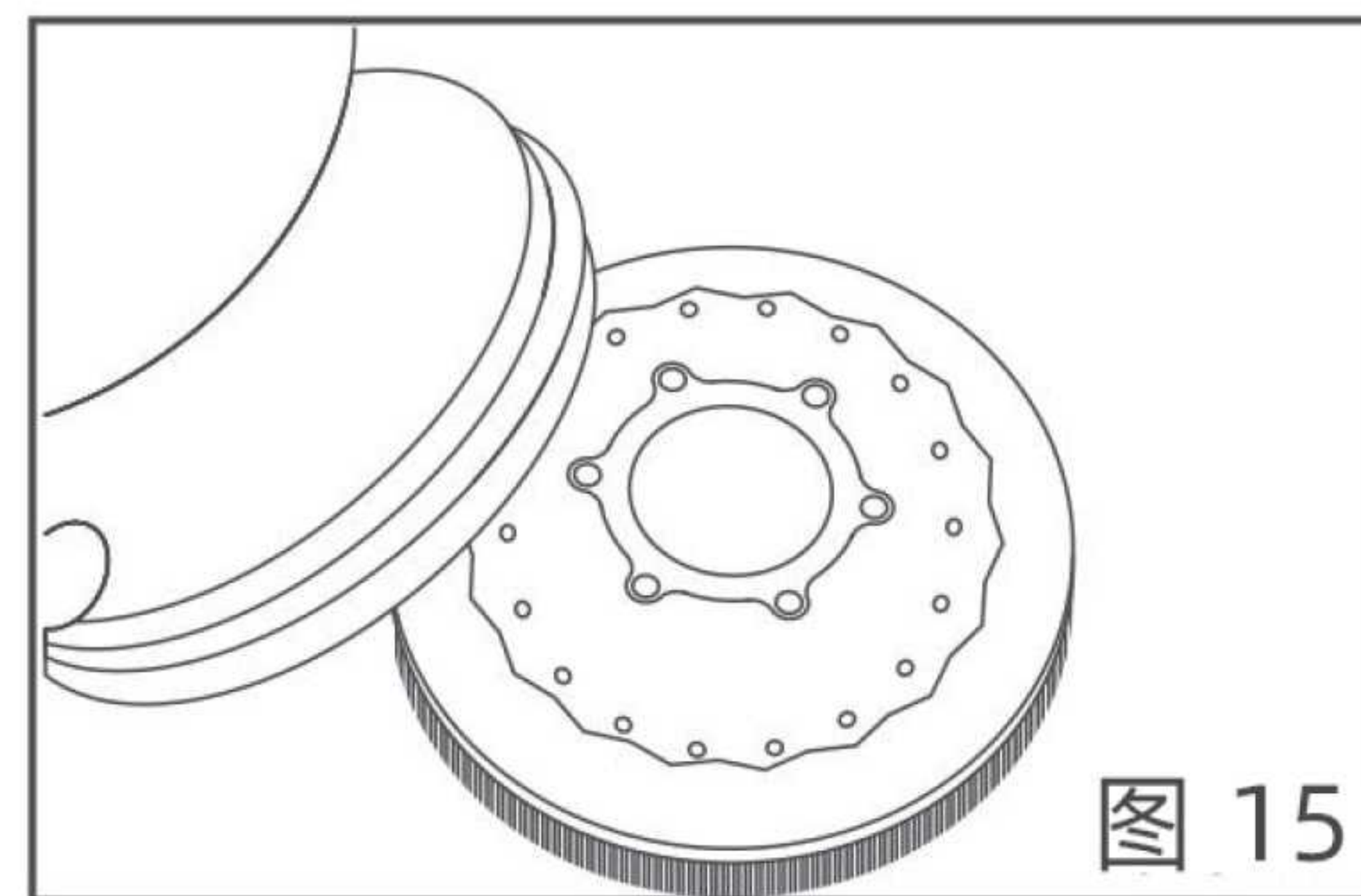


- 排空清水箱后，拆下过滤器（图 14），用清水冲洗滤网杂质，晾干后装回原位。
After emptying the clean water tank,remove the filter (Figure 14),rinse the filter impurities with clean water,and install it back in place after drying.



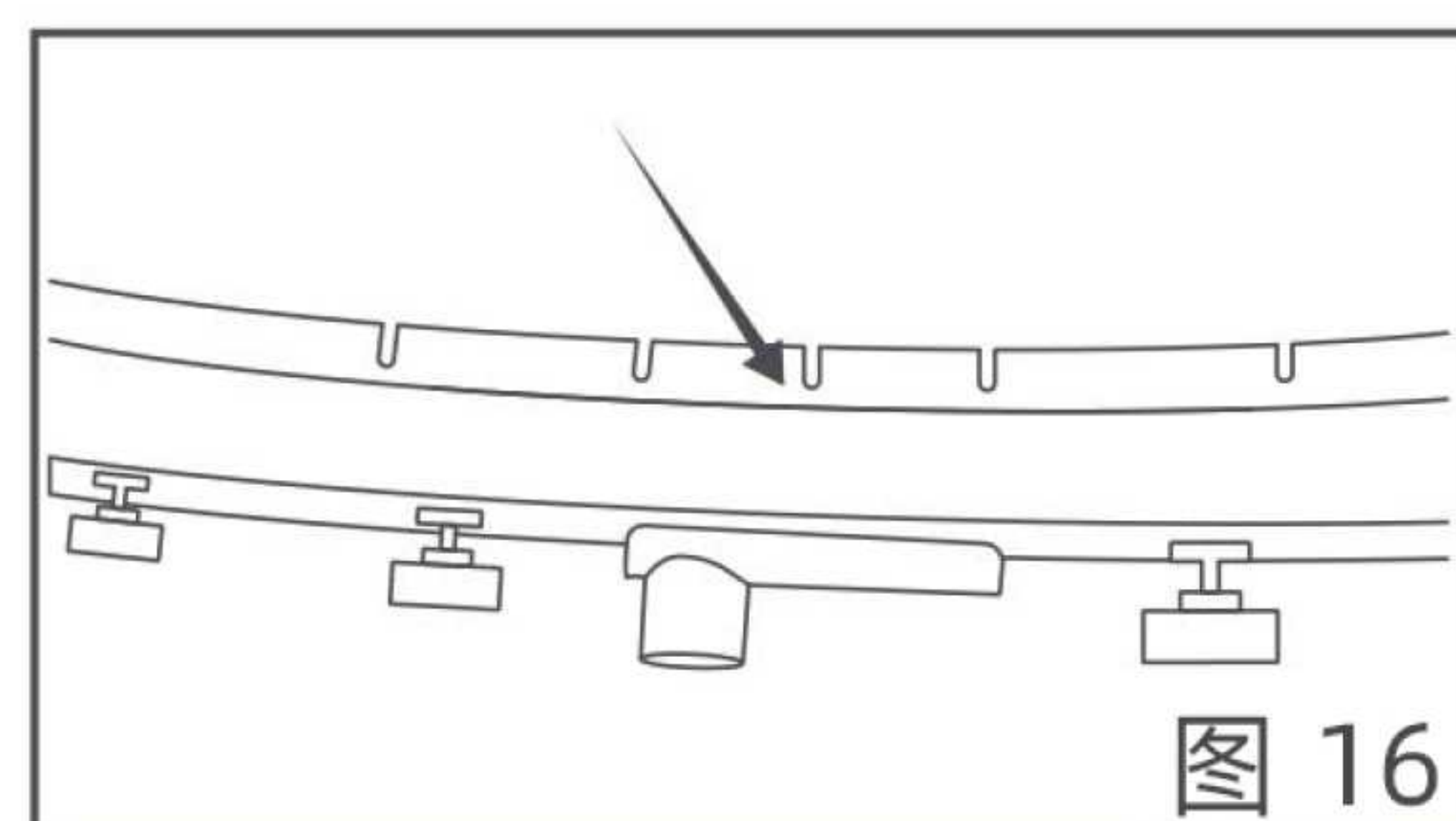
- 拉起防水裙边，查看刷盘刷毛长度（图 15）；若剩余长度 < 10mm 或出现偏磨，立即更换。

Pull up the waterproof skirt to check the bristle length of the brush disc (Figure 15); replace it immediately if the remaining length is <10mm or uneven wear occurs.



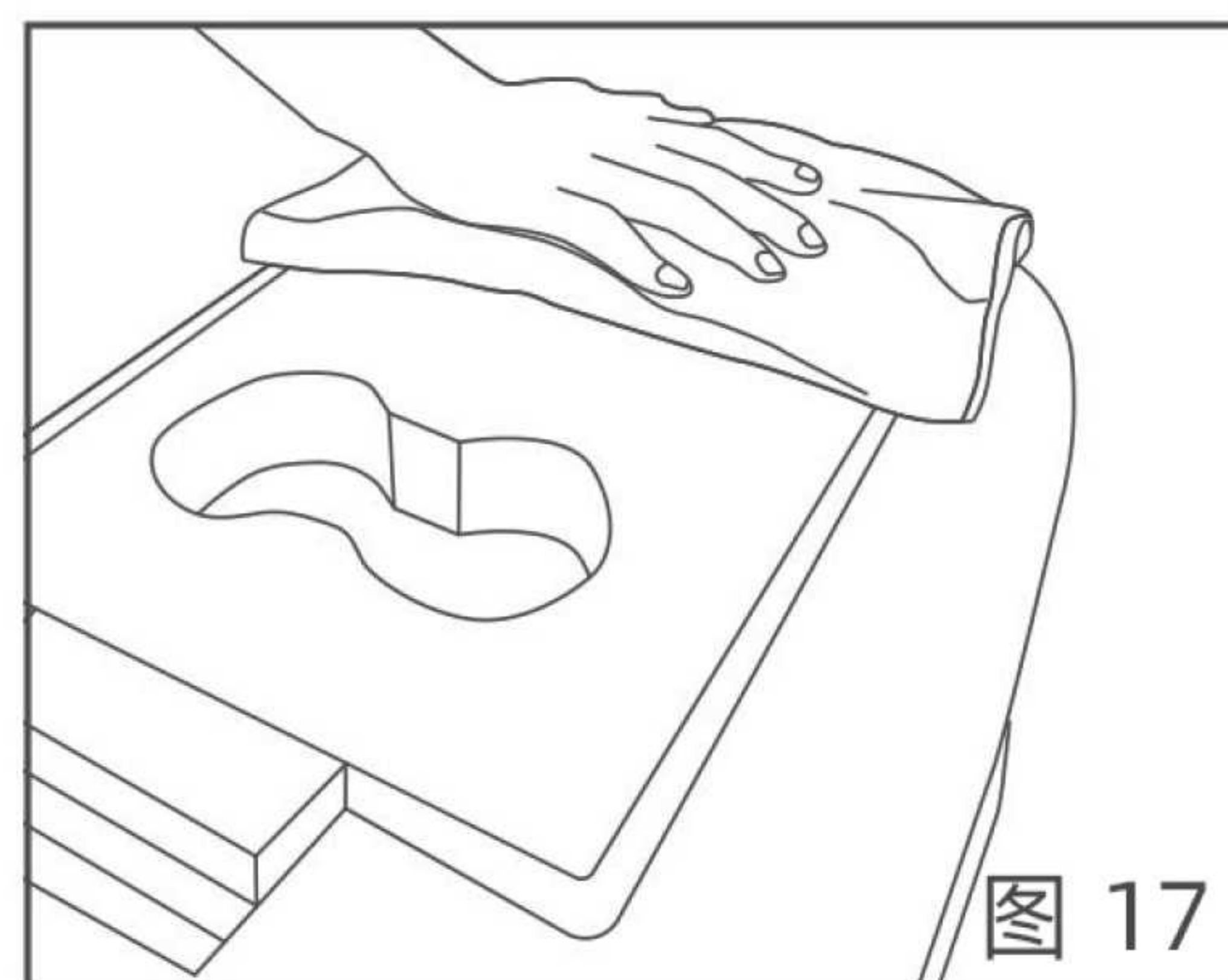
- 检查吸水扒胶条边缘的磨损情况（图 16）。若有耗损，请将胶条两头对调，如四个面均已无法使用，请立刻进行更换。

Check the wear of the edge of the rubber strip of squeegee (Figure 16). If worn, reverse the two ends of the rubber strip; if all four sides are unusable, replace it immediately.



- 用稀释的多用途清洁剂和湿布擦拭机身（图 17），重点清洁操作面板及污水箱周边。

Wipe the machine body with a dilute multi-purpose cleaning agent and a damp cloth (Figure 17), focusing on cleaning the operation panel and the surrounding area of the sewage tank.

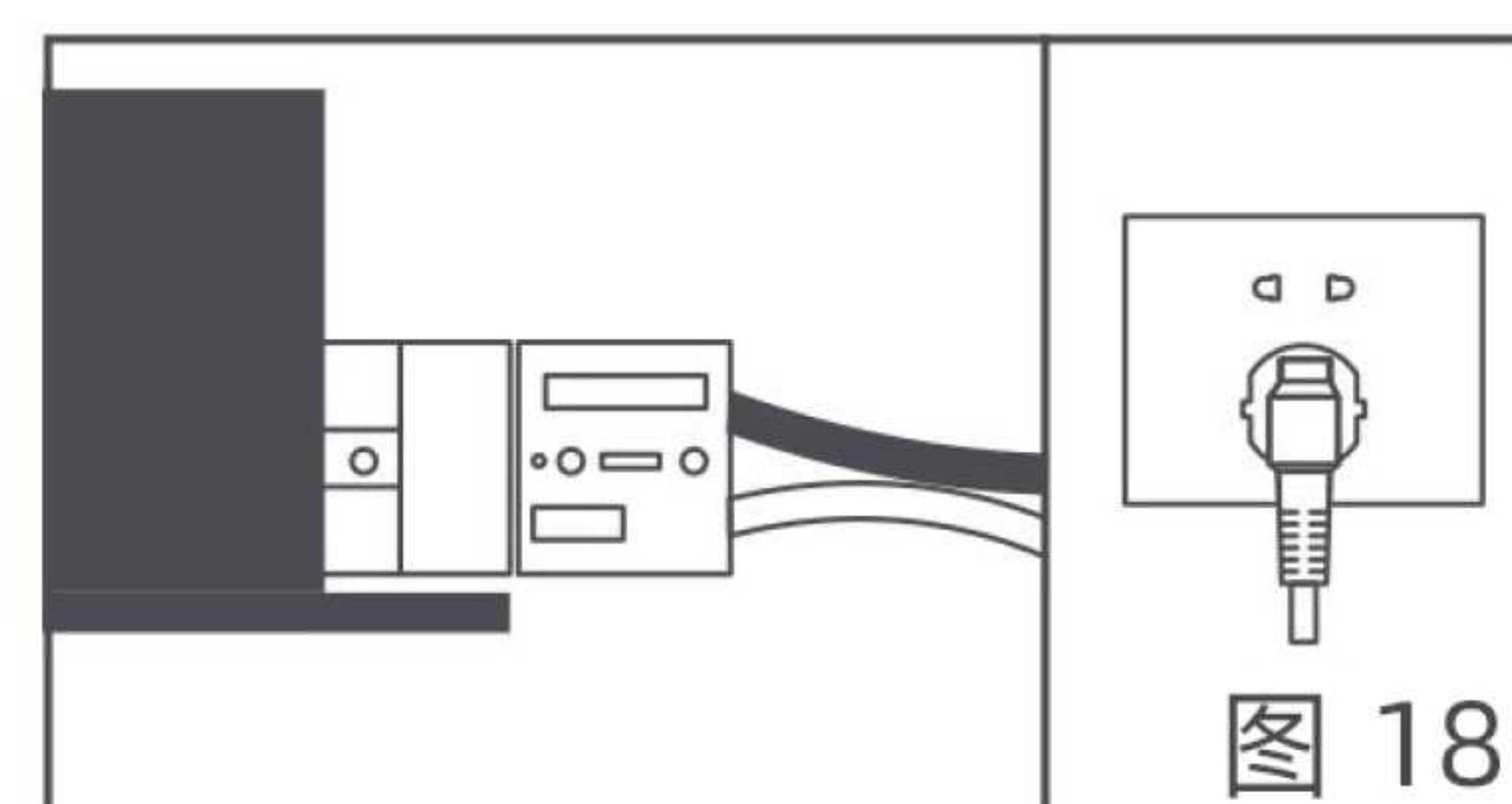


- ⚠ **注意：** 禁止用高压水枪或水管冲洗机器，以免电气系统进水短路。

Note: Do not clean the machine with a high-pressure water gun or water pipe to avoid short circuit of the electrical system due to water ingress.

- 为延长电瓶的寿命，请务必于机器使用完毕后及时对电瓶进行充电（图 18），以防亏电损坏电瓶。

To extend the service life of the battery, be sure to charge the battery in time after using the machine (Figure 18) to prevent damage caused by under-voltage.



每周维护【Weekly Maintenance】

- 先排空清水箱内所有液体，从机器下方拆下清水过滤器（图 19）并清洗。

First empty all liquid in the clean water tank, remove the clean water filter from under the machine (Figure 19) and clean it.

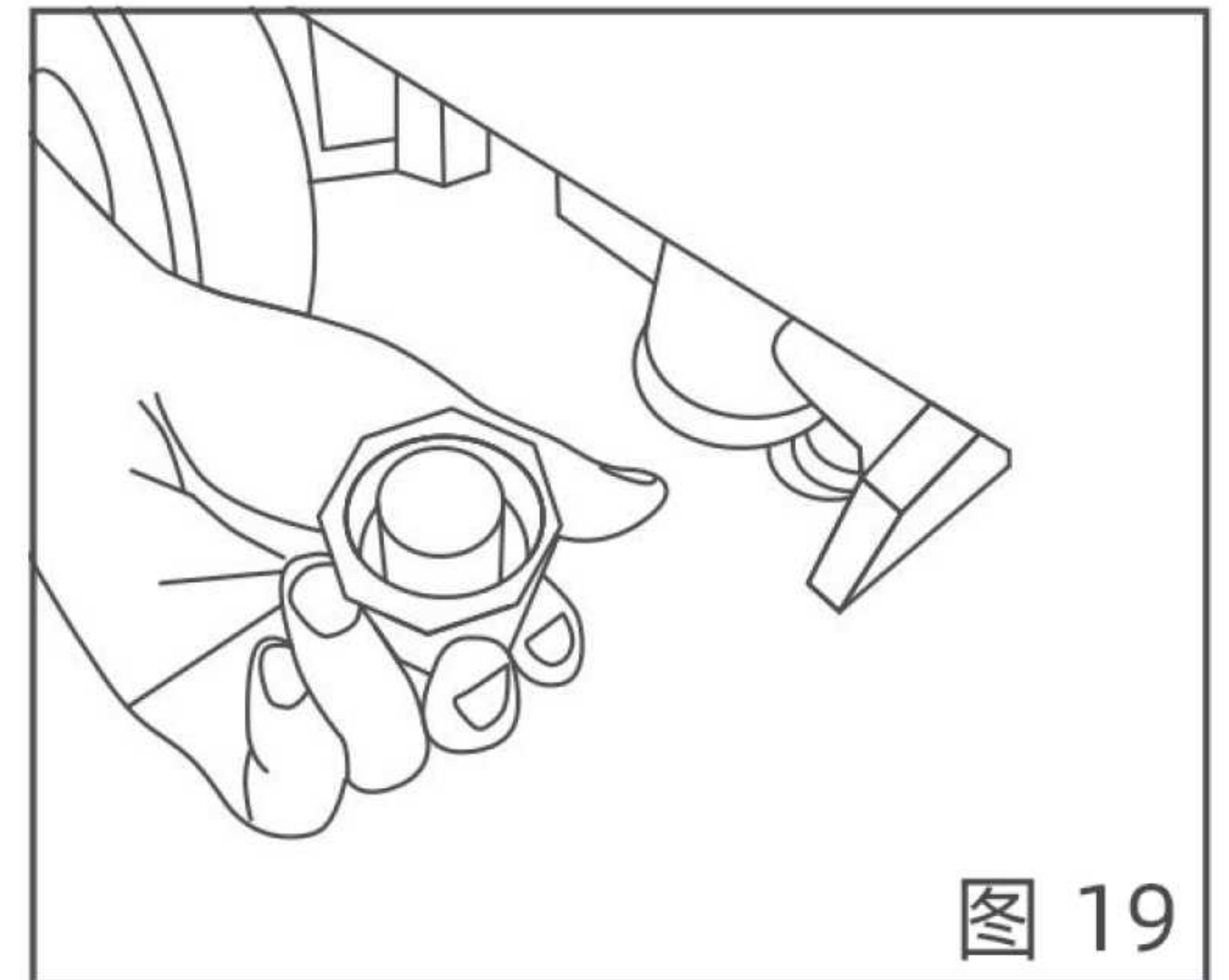


图 19

- 用干燥抹布擦拭电瓶顶端，清除灰尘、油污及电解液结晶，并检查电瓶正负极接线端子是否松动（图 20）。

Wipe the top of the battery with a dry cloth to remove dust, oil and electrolyte crystals, and check if the positive and negative terminals of the battery are loose (Figure 20).

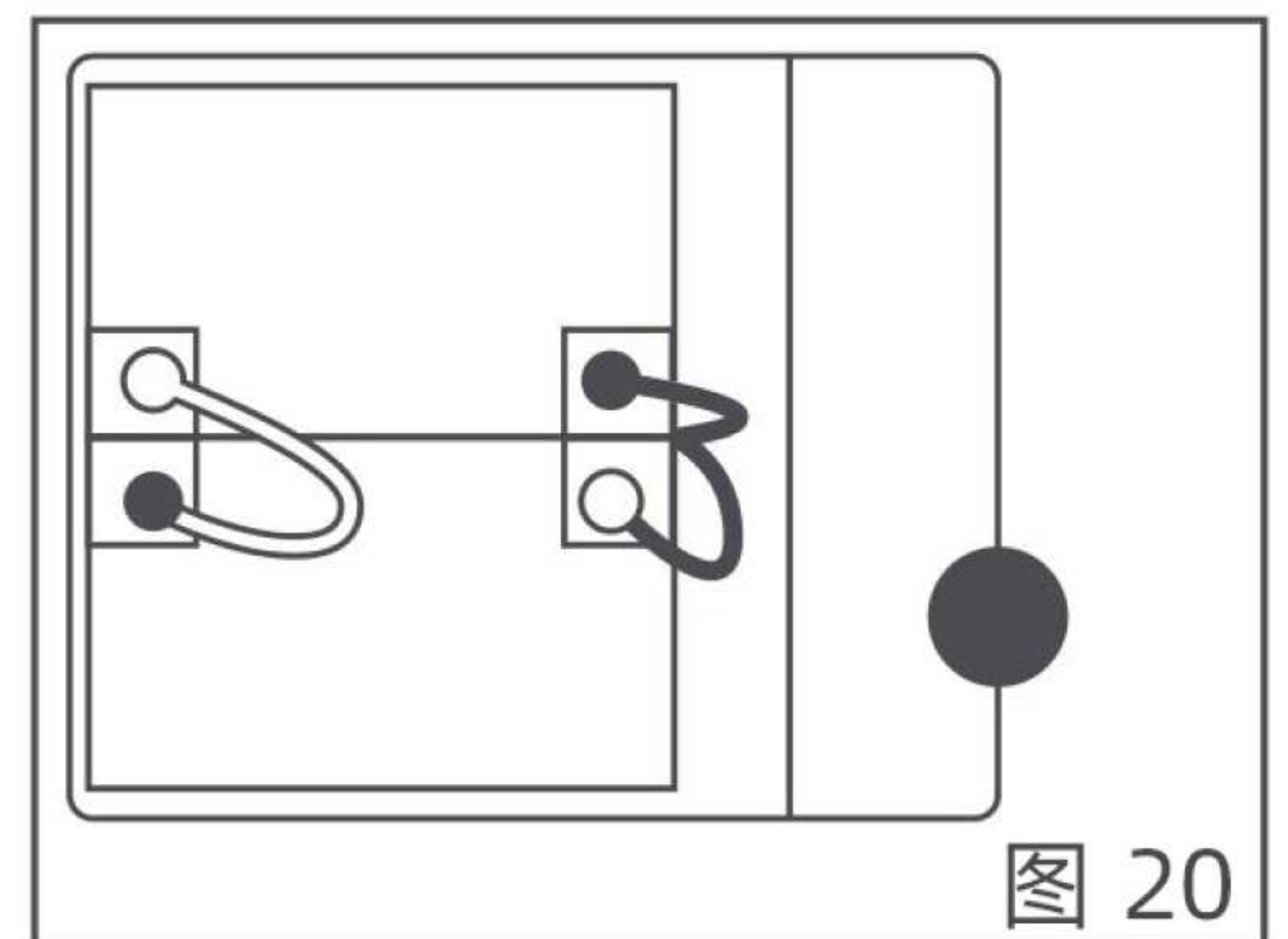


图 20

每半年维护：电路系统检测【Semi-annual Maintenance: Circuit System Inspection】

1. 关闭电源，取下钥匙，断开电瓶连接线（先拆负极）。

Turn off the power, take out the key, and disconnect the battery connection line (disconnect the negative pole first).

2. 查看电缆有无破损、接头是否松动，线束卡扣是否牢固。

Check if the cable is damaged, the connector is loose, and the wire harness clip is firm.

3. 插拔连接器，用干布擦除触点氧化层。

Plug and unplug the connector, and wipe off the oxide layer on the contacts with a dry cloth.

4. 重新接好电瓶（先接正极），通电后检查刷盘、吸水等是否正常工作。

Reconnect the battery (connect the positive pole first), and check if the brush disc, water suction and other functions work normally after power-on.

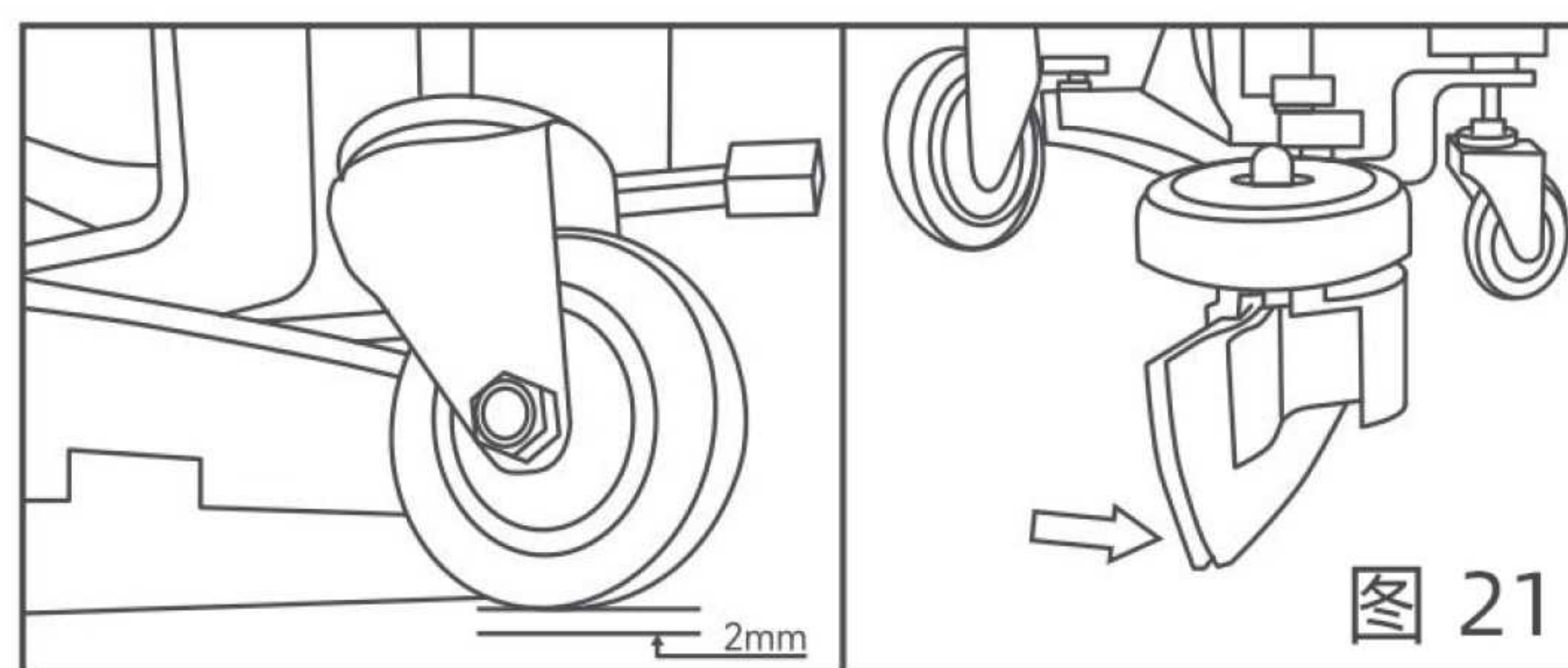
吸水扒胶条调整【Squeegee Rubber Strip Adjustment】

吸水扒胶条高度及倾斜度为出厂预设，正常使用无需调整。仅当吸水扒移位时需校准：

The height and inclination of squeegee rubber strip are preset at the factory and do not need to be adjusted during normal use. Calibration is only required when the squeegee is displaced:

1. 确保胶条与地面完全接触，脚轮与地面距离应为 2 毫米左右，运行时胶条呈（图 21）箭头所示弯折状态。

Ensure the rubber strip is in full contact with the ground, the distance between the caster wheel and the ground should be about 2 mm, and the rubber strip is bent in the direction shown by the arrow in Figure 21 during operation.

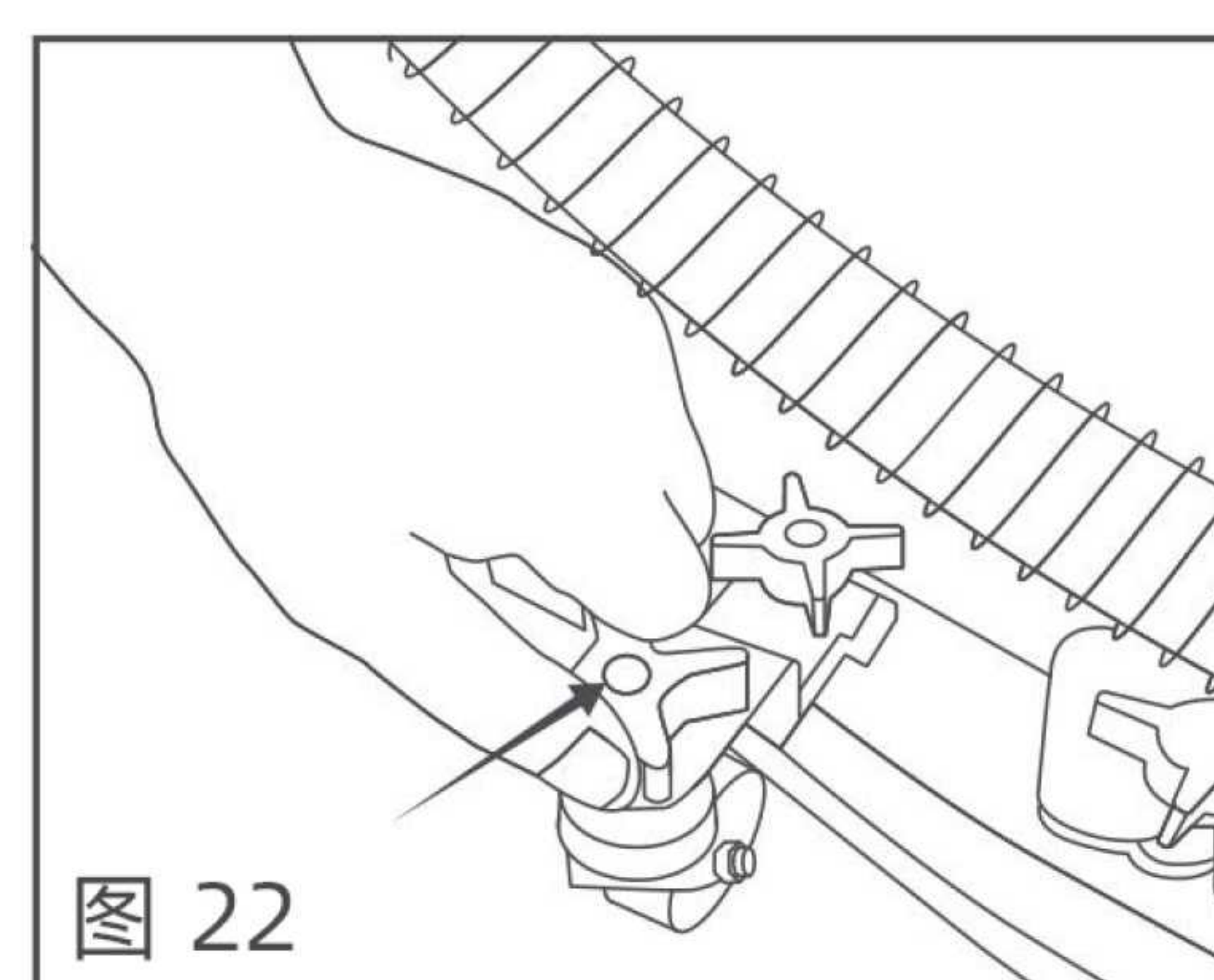


2. 若胶条单边与地面有缝隙：

If there is a gap between one side of the rubber strip and the ground:

- 找到吸水扒调整螺母（图 22）；
Find the squeegee adjusting nut (Figure 22);
- 顺时针旋转：左侧胶条上升；逆时针旋转：左侧胶条下降与地面接触；

Rotate clockwise: the left rubber strip rises; rotate counterclockwise: the left rubber strip descends to contact the ground;



- 根据实际需求调整至最佳贴合状态。

Adjust to the best fitting state according to actual needs.

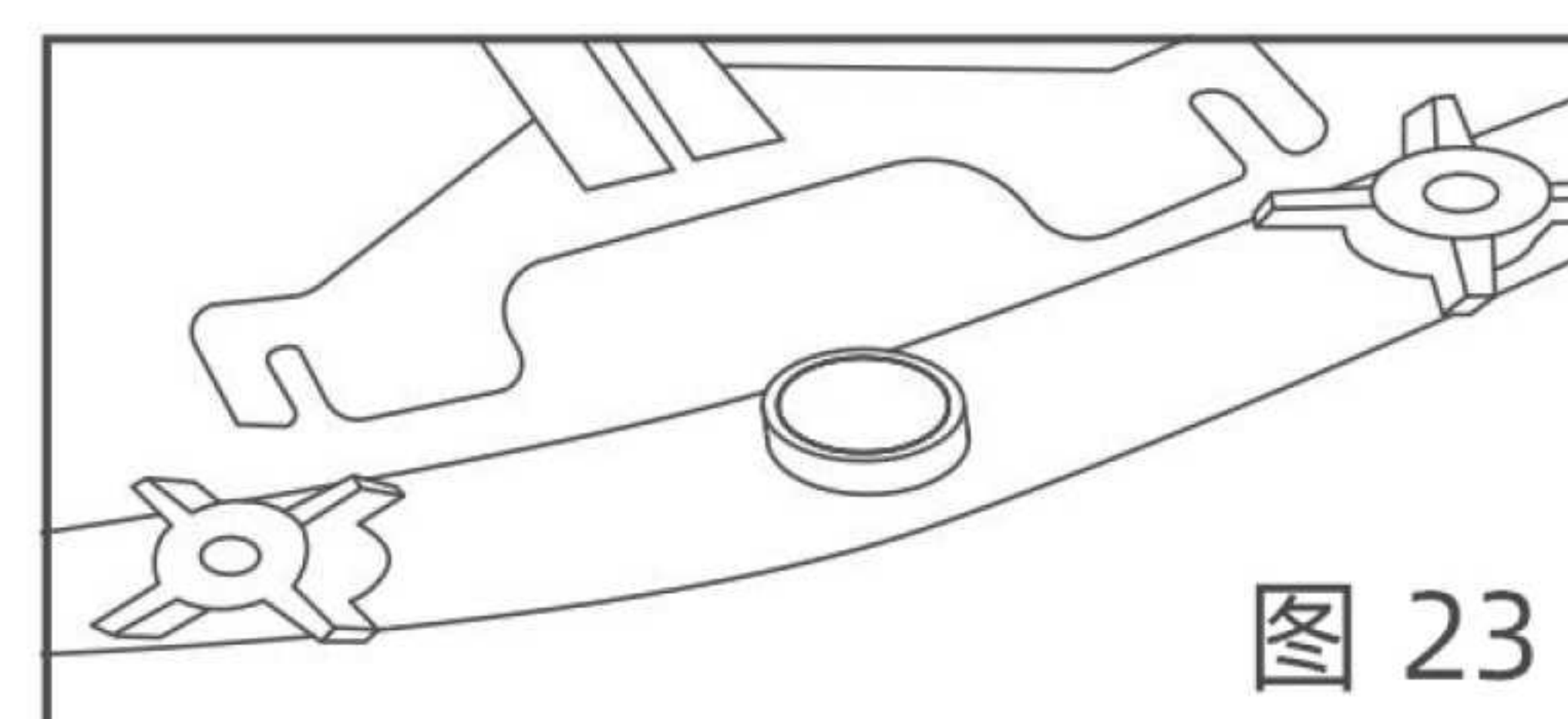
吸水扒胶条更换【Squeegee Rubber Strip Replacement】

每个吸水扒胶条设计为四面可用，如当前接触面磨损（表现为刮水残留或边缘起毛），可通过调换胶条两端使用新面，无需立即更换；如四个面均已磨损，请立即更换胶条：

Each squeegee rubber strip is designed to be used on four sides. If the current contact surface is worn (manifested as water scraping residue or frayed edges), the new surface can be used by reversing the two ends of the rubber strip without immediate replacement; if all four sides are worn, replace the rubber strip immediately:

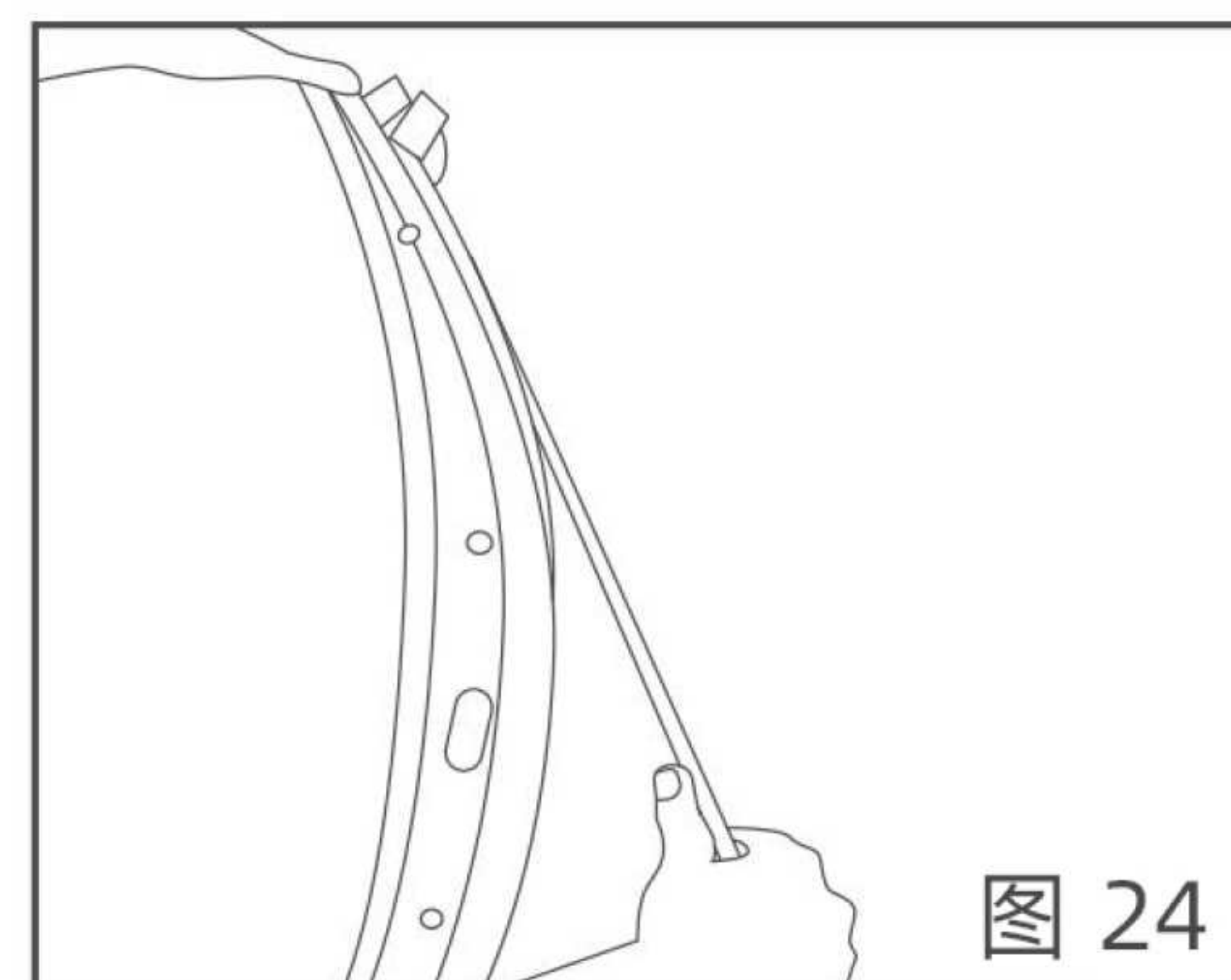
1. 握住吸水扒两端手柄，向上提起并脱离机器连接卡扣（图 23）。

Hold the handles at both ends of the squeegee, lift it up and separate it from the machine connection buckle (Figure 23).



2. 松开吸水扒底部的月牙板卡扣和不锈钢压条（图 24），
抽出旧胶条，检查四个面的磨损情况。

Loosen the crescent plate buckle and stainless steel pressing strip at the bottom of the squeegee (Figure 24), pull out the old rubber strip, and check the wear of the four sides.



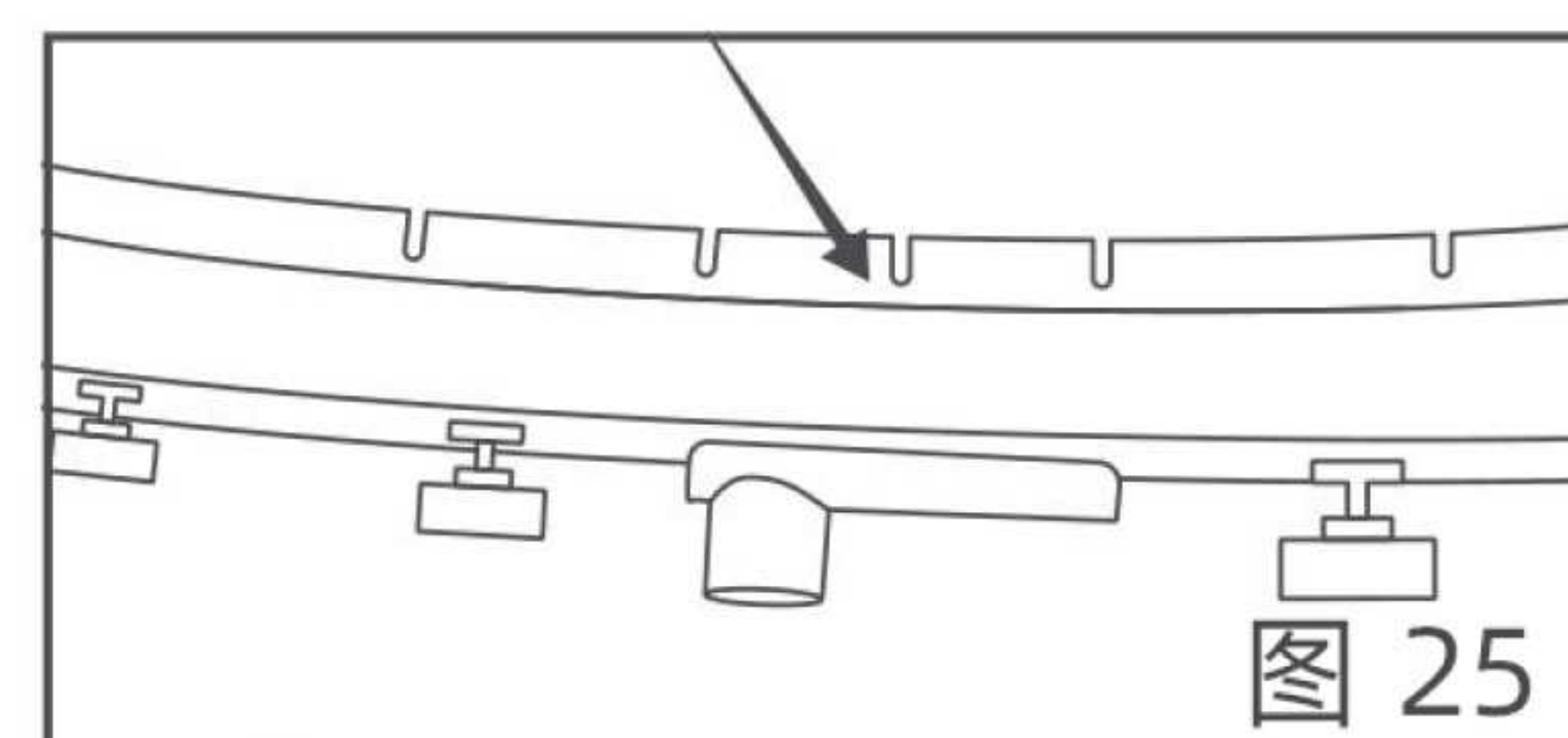
3. 翻面 / 更换胶条: Reverse/Replace the rubber strip:

- 翻面复用: 将胶条旋转 180°, 使未磨损面朝下;

Reuse by reversing: Rotate the rubber strip 180° to make the unworn side face down;

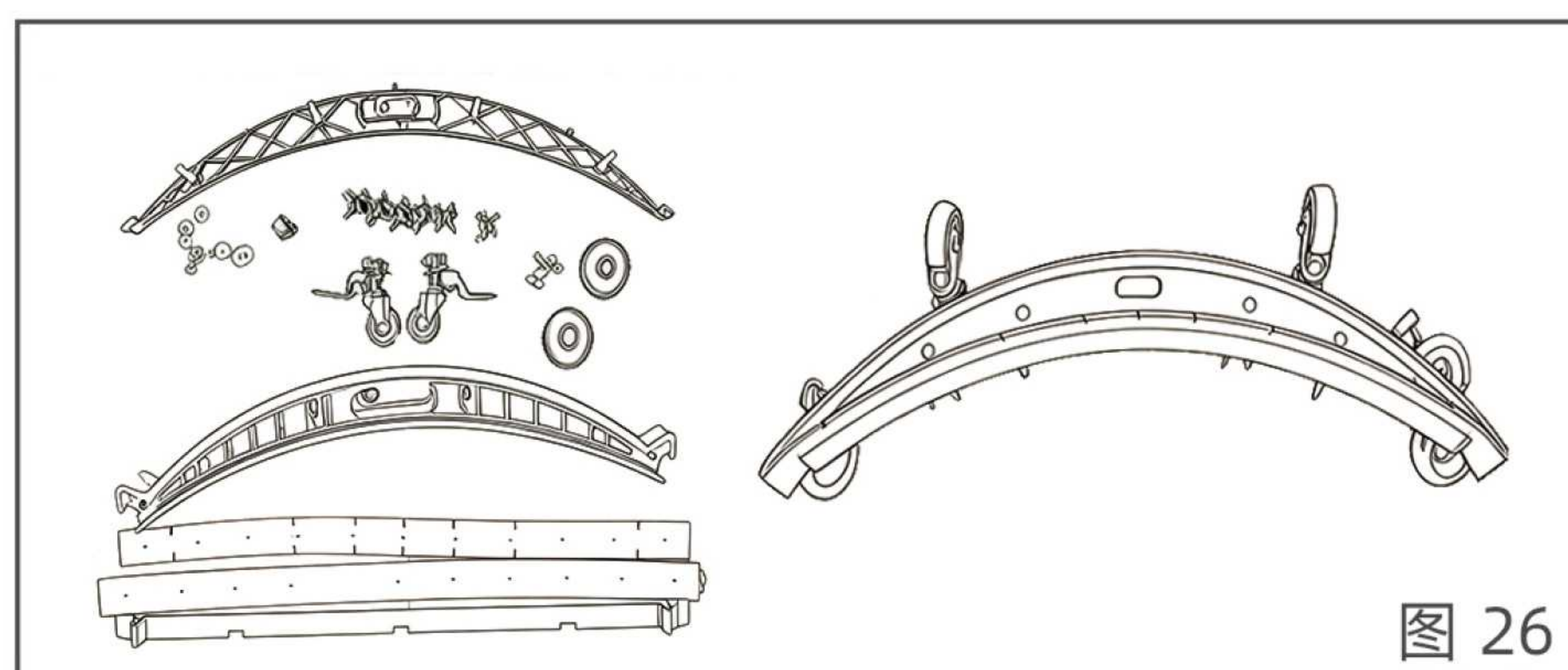
- 全新更换: 若四面均磨损，装入新胶条，确保带凹口的一端朝下安装（图 25）。

New replacement: If all four sides are worn, install a new rubber strip and ensure the end with the notch is installed facing down (Figure 25).



4. 按（图 26）所示结构，依次装回不锈钢压条、扣紧月牙板，最后将吸水扒组件卡回机器原位。

Assemble the stainless steel pressing strip and fasten the crescent plate in turn according to the structure shown in (Figure 26,) and finally clip the squeegee assembly back to the original position of the machine.



6 搬运与存放【Handling & Storage】

6.1 搬运机器【Handling the Machine】

使用卡车或拖车搬运机器时，请务必遵循以下捆扎程序：

When transporting the machine by truck or trailer, the following strapping procedures must be followed:

准备工作【Preparation】

- 将吸水扒和刷头完全升起，确保底部无突出部件接触地面。

Fully raise the squeegee and brush head to ensure no protruding parts at the bottom touch the ground.

- 将吸水扒和刷头完全升起，确保底部无突出部件接触地面。

Use a loading platform that meets the load-bearing requirements to load the machine.

定位与固定【Positioning and Fixing】

- 将机器正面紧靠卡车 / 拖车前方，放置平稳后降下刷头和吸水扒（作为辅助支撑）。

Lean the front of the machine against the front of the truck/trailer, lower the brush head and squeegee after placing it stably (as an auxiliary support).

- 在每个驱动轮后方放置楔形障碍物（如橡胶止滑块），防止运输中滑动。

Place wedge-shaped obstacles (e.g., rubber chocks) behind each drive wheel to prevent sliding during transportation.

- 使用高强度绳索（建议承重 $\geq 500\text{kg}$ ）固定机器顶端，绳索需连接至卡车 / 拖车的专用托架（禁止直接绑在塑料部件上）。

Fix the top of the machine with high-strength ropes (recommended load capacity $\geq 500\text{ kg}$); the ropes must be connected to the special bracket of the truck/trailer (do not tie directly to plastic parts).

⚠ **注意：**必须通过装卸坪装卸，禁止人工抬运或使用叉车直接叉取机身。

Note: Loading and unloading must be carried out through the loading platform; manual lifting or direct forklift picking of the machine body is prohibited.

⚠ **注意：**运输过程中确保绳索无松弛，机器倾斜角度不得超过 15° （参考 ISO12100 安全标准）。

Note: Ensure the ropes are not loose during transportation, and the tilting angle of the machine shall not exceed 15° (refer to ISO12100 safety standard).

6.2 存放机器【Storing the Machine】

1. 存放前充满电瓶电量，禁止亏电存放；长期存放（超过 1 个月）需每 2~3 个月补充充电一次，防止电瓶硫化。

Fully charge the battery before storage; do not store it under low voltage; for long-term

storage (more than 1 month),make up the charge every 2~3 months to prevent battery sulfation.

2. 排空清水箱和污水箱，并用清水彻底冲洗内壁，避免残留污垢滋生细菌。

Empty the clean water tank and sewage tank,and rinse the inner wall thoroughly with clean water to avoid residual dirt breeding bacteria.

3. 选择干燥室内存放环境，避免雨淋或潮湿；升起吸水扒和刷盘，保持底部部件悬空（防止胶条 / 刷毛长期受压变形），并打开污水箱盖通风，防止异味积聚。

Choose a dry indoor storage environment to avoid rain or moisture; raise the squeegee and brush disc to keep the bottom parts suspended (to prevent deformation of rubber strips/brush bristles due to long-term pressure),and open the sewage tank cover for ventilation to prevent odor accumulation.

低温防冻措施 (环境温度 0°C 时)

Low Temperature Anti freeze Measures (When the ambient temperature is 0°C)

向清水箱中直接倒入 4 升纯防冻剂（无需稀释），启动机器并运行 30 秒，确保防冻剂进入管路系统。

Pour 4 liters of pure antifreeze directly into the clean water tank (no dilution required), start the machine and run it for 30 seconds to ensure the antifreeze enters the pipeline system.

- ⚠ **注意：**操作时必须佩戴防护眼镜，避免防冻剂接触皮肤或眼睛。

Note: Wear protective goggles during operation to avoid antifreeze contact with skin or eyes.

- ⚠ **注意：**下次使用前需彻底冲洗清水箱，确保无防冻剂残留。

Note: The clean water tank must be thoroughly rinsed before the next use to ensure no antifreeze residue.

7 故障排除【Troubleshooting】

故障/异常 【Malfunction/ Abnormality】	可能原因 【Possible Cause】	解决方案 【Solution】
机器无法正常工作 Machine fails to work normally	开关未开或损坏 Switch not turned on or damaged	插入钥匙并打开主开关；若开关无反应 联系售后更换 Insert the key and turn on the main switch; contact after-sales service for replacement if the switch has no response.
	刷盘电机按钮未开或损坏 Brush disc motor button not turned on or damaged	按下刷盘启动按钮（检查按钮指示灯是 否亮起）；损坏时更换按钮模块 Press the brush disc start button (check if the button indicator light is on); replace the button module if damaged.
	吸水电机按钮未开或损坏 Vacuum motor button not turned on or damaged	按下吸水启动按钮；若按钮卡滞，拆卸 面板后清洁触点或更换 Press the suction start button; if the button is stuck, clean the contacts or replace it after removing the panel.
	电机开关手柄失灵 Motor switch handle malfunction	调整手柄下方微动开关位置（确保触发 行程 ≥2mm）；失效时直接更换微动开 关 Adjust the position of the microswitch under the handle (ensure the actuation stroke >2mm); replace the microswitch directly if it fails.the micro switch directly if it fails.
	电瓶没电或损坏 Battery dead or damaged	使用原装充电器 充满电，若充电后仍无 法启动，检测电瓶寿命并更换 Fully charge with the original charger test the battery life and replace if the machine still cannot start after charging.

故障/异常 【Malfunction/ Abnormality】	可能原因 【Possible Cause】	解决方案 【Solution】
机器无法正常工作 Machine fails to work normally	过载保护器跳开 Overload protector tripped	排查电机短路故障（如线路破皮），排除后按下过载保护器复位按钮（红色凸起键）。 Troubleshoot motor short-circuit faults (e.g., wire insulation damage), press the overload protector reset button (red raised key) after troubleshooting.
充电器无法正常工作 Charger fails to work normally	插头未与电源相连 Plug not connected to power supply	检查充电器插头与插座接触是否良好，更换插座测试。 Check if the charger plug is in good contact with the socket, replace the socket for testing.
	正负极连接线接错 Positive/negative connection wires reversed	交换电瓶接线（红色接正极，黑色接负极），确保极性对应。 Swap the battery wires (red to positive, black to negative) to ensure correct polarity.
	充电器故障 Charger malfunction	查看充电器显示屏故障代码，并根据代码排查。 Check the fault code on the charger display and troubleshoot according to the code.
刷盘电机没法工作 Brush disc motor fails to work normally	刷盘升离地面或刷盘电机按钮损坏 Brush disc raised off the ground or brush disc motor button damaged	确认刷盘已降下；若按钮无反应，更换刷盘电机按钮。 Confirm the brush disc is lowered; replace the brush disc motor button if the button has no response.
	电机开关损坏 Motor switch damaged	更换电机微动开关。 Replace the motor microswitch.

故障/异常 【Malfunction/ Abnormality】	可能原因 【Possible Cause】	解决方案 【Solution】
刷盘电机没法工作 Brush disc motor fails to work normally	过载保护器跳开 Overload protector tripped	排查电机短路故障（如线路缠绕），排除后按下过载保护器复位按钮（红色凸起键）。 Troubleshoot motor short-circuit faults (e.g.,wire entanglement),press the overload protector reset button (red raised key) after troubleshooting.
	刷盘电机接头松动 Brush disc motor connector loose	打开机器侧盖，重新插拔并紧固电机插头（需断电操作）。 Open the machine side cover,re-plug and fasten the motor plug (operate with power disconnected).
	刷盘电机损坏 Brush disc motor damaged	检测电机绕组电阻（正常应 $\geq 50\Omega$ ），异常时更换同型号电机。 Test the motor winding resistance (should be $>50\Omega$ normally),replace with the same model motor if abnormal.
机器无法推进 Machine cannot be pushed forward	方向轮损坏 Caster wheel damaged	拆卸前轮轴销，更换方向轮（建议使用原厂橡胶轮） Remove the front wheel axle pin and replace the caster wheel (original rubber wheel is recommended).
	驱动轮损坏 Drive wheel damaged	松开轮轴螺母，更换磨损的驱动轮（注意安装方向）。 Loosen the wheel axle nut and replace the worn drive wheel (pay attention to the installation direction).
	刷盘调整螺母松动 Brush disc adjusting nut loose	重新调节刷盘高度螺母。 Readjust the brush disc height nut.

故障/异常 【Malfunction/ Abnormality】	可能原因 【Possible Cause】	解决方案 【Solution】
吸水马达无法正常工作 Vacuum motor fails to work normally	微动开关损坏 Micro-switch damaged	更换吸水马达微开关。 Replace the vacuum motor microswitch.
	微动开关线头脱落 Micro-switch wire terminal detached	重新插紧开关线束插头。 Re-plug the switch harness plug tightly.
	污水箱已满 Sewage tank full	排空污水箱并清洗 Empty and clean the sewage tank (refer to the Sewage Tank Draining section on Page 8 for details).
	吸水马达损坏 Vacuum motor damaged	测量马达电源电压（应为电瓶额定电压 ±5%），无电压时更换马达。 Measure the motor power supply voltage (should be ±5% of the rated battery voltage),replace the motor if there is no voltage.
水量少或者无水流出 Insufficient or no water flow discharge	清水箱过滤网堵塞 Clean water tank filter screen clogged	取出滤网用清水冲洗至无杂质（每周维 护必须项）。 Remove the filter screen and rinse with clean water until free of impurities (a mandatory weekly maintenance item).
	水阀开关损坏 Water valve switch damaged	更换水阀开关。 Replace the water valve switch.
	电磁阀损坏 Solenoid valve damaged	若电磁阀卡滞，先冲洗杂质，无效则更 换电磁阀。 Flush impurities first if the solenoid valve is stuck; replace the solenoid valve if ineffective.

故障/异常 【Malfunction/ Abnormality】	可能原因 【Possible Cause】	解决方案 【Solution】
放水阀关闭时水流不停 Water keeps flowing when the drain valve is closed	电磁阀进杂质 Impurities in the solenoid valve	清水箱加满水→开大水阀→启动机器→利用水压冲洗电磁阀（重复3次，每次运行30秒）。 Fill the clean water tank → fully open the water valve → start the machine → flush the solenoid valve with water pressure (repeat 3 times,30 seconds each run).
	电磁阀损坏 Solenoid valve damaged	更换电磁阀（需匹配机器型号）。 Replace the solenoid valve (must match the machine model).
机器吸力不足 Insufficient machine suction	污水箱已满或吸污管破损 Sewage tank full or vacuum hose damaged	排空污水箱;检查吸污管有无裂缝，破损时更换同规格软管(直径50mm)。 Empty the sewage tank; check the vacuum hose for cracks,replace with a hose of the same specification (50mm diameter) if damaged.
	排污管盖不密封/密封处有异物 Sewage drain pipe cover not sealed / foreign objects on the sealing surface	清除密封面上的杂质(如毛发、碎屑)，重新旋紧排污管盖至听到“咔嗒”锁止声。 Remove impurities (e.g.,hair,debris) from the sealing surface,retighten the sewage drain pipe cover until a "click" lock sound is heard.
	污水箱内过滤网阻塞 Filter screen in the sewage tank clogged	取出污水箱内的过滤网，用清水冲洗至无堵塞(建议每次排空污水箱后检查)。 Remove the filter screen from the sewage tank and rinse with clean water until unclogged (recommended to check after each emptying of the sewage tank).
	吸水扒胶条磨损 Squeegee rubber strip worn	调换胶条未磨损面或更换新胶条。 Reverse the unworn side of the rubber strip or replace with a new one.

故障/异常 【Malfunction/ Abnormality】	可能原因 【Possible Cause】	解决方案 【Solution】
机器吸力不足 Insufficient machine suction	吸水扒胶条无法适当弯折 Squeegee rubber strip cannot bend properly	按"吸水扒调整" 步骤校准胶条高度(脚轮离地2mm) Calibrate the rubber strip height according to the Squeegee Adjustment steps (caster wheels 2mm off the ground).
	吸水马达损坏 Vacuum motor damaged	检测马达运行声音(异常噪音需更换)。 Check the motor operation sound (replace if abnormal noise occurs).
	污水导向罩有异物 Foreign objects in the sewage guide hood	打开污水箱盖，清除导向罩内的杂物(如纸巾、小石块)。 Open the sewage tank cover and remove debris (e.g., paper towels, small stones) from the guide hood.
	电瓶电量不足 Insufficient battery power	给电瓶充满电 Fully charge the battery
机器运行时间缩短 Shortened running time	电瓶电量不足 Insufficient battery power	给电瓶充满电 Fully charge the battery
	电瓶出现故障 Battery malfunction	若续航 < 标准时间的70%，更换新电瓶。 Replace with a new battery if the battery life is <70% of the standard time.
	电瓶需要保护 Battery needs protection	严格遵守“每周维护”中的电瓶保养步骤（清洁电极、检查接线）。 Strictly follow the battery maintenance steps in Weekly Maintenance (clean electrodes, check wiring).
	电瓶充电器故障 Battery charger malfunction	维修或更换原厂充电器（非兼容充电器可能导致充电不完全）。 Repair or replace the original charger (incompatible chargers may cause incomplete charging).

8 规格参数【Specifications】

项目【Item】	规格参数【Specification 】
产品型号（Product Model）	V5 手推式洗地机 V5 Walk-behind Floor Scrubber
清洁效率（Cleaning Efficiency）	3000 m²/h
清洁宽度（Cleaning Width）	560 MM
吸扒宽度（Squeegee Width）	790 MM
清水箱容量（Clean Water Tank Capacity）	60 L
污水箱容量（Sewage Tank Capacity）	65 L
刷盘电机（Brush Disc Motor）	550 W
吸水电机（Vacuum Motor）	550 W
工作时间（Working Time）	3-4 H
电瓶配置（Battery Configuration）	24V
整机重量（Machine Weight）	154 KG
机器尺寸（Machine Dimensions）	1300×790×1060 MM

保修卡【Warranty Card】

保修政策【Warranty Policy】

- 产品自购买之日起保修一年。请参考当地法律法规，了解适用于您所在地区的具体保修期限。
The product warranty period is one year from the date of purchase. Please refer to local laws and regulations for the specific warranty period applicable in your region.
- 本保修仅适用于从授权的史沃斯零售商处进行的原始购买。
This warranty applies only to original purchases from authorized Shiwosi retailers.
- 保修期可能因国家 / 地区而异，并受当地法律法规的约束。
The warranty period may vary by country/region and is subject to local laws and regulations.

保修免责条款【Warranty Exclusions】

在保修期内，以下情况不在保修范围内：

During the warranty period, the following situations are not covered by the warranty:

1. 消费者因使用（未遵守产品说明书中“安全规范”“警告”使用）、维护、保管不当等人为原因（包括操作失误、划伤、搬运、磕碰、输入不合适的电压等）导致的产品故障或损坏；
Product malfunctions or damage caused by human factors such as improper use (failure to comply with "Safety Regulations" and "Warnings" in the product manual), maintenance, or storage (including operational errors, scratches, handling, collisions, input of inappropriate voltage, etc.).
2. 无有效凭证、原始收据或有效发票的；
No valid warranty certificate, original receipt, or valid invoice is provided.
3. 正常使用引起的产品老化、磨损等（随着使用而正常磨损的部件和物品，比如尘隔、滤芯、电线以及软管钢管等附件）；
Product aging and wear caused by normal use (parts and items that wear normally with use, such as dust covers, filters, wires, hoses, and other accessories).
4. 由未经授权的维修中心进行维修或个人未经史沃斯许可擅自篡改产品而导致的故障；
Malfunctions caused by repairs performed by unauthorized service centers or unauthorized product modifications by individuals without Shiwosi's permission.
5. 实际装机容量以实物为准。
The actual battery capacity installed shall prevail.

注：史沃斯保留修订这些条款的权利，并保留对保修解释的最终决定权，但需遵守适用法律。

Note: Shiwosi reserves the right to revise these terms and reserves the final right to interpret the warranty, subject to applicable laws.

合格证 【Certificate of Conformity】

检验员 (Inspector) : _____



如需了解更多保修信息，请访问史沃斯官方网站：shiwosi.com

(For more warranty information, please visit the official website of shiwosi.com)

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