

用户使用手册

Instruction Manual



产品型号：KR-H90

Product model：KR-H90

使用前请仔细阅读本说明书/请注意保存

Please read this manual carefully before operation/please properly keep it.

KR-H90 驾驶式洗地机
KR-H90 Ride-on Floor Scrubber

引言

Introduction

每个新型号均配备本手册。以提供必需的操作与维护说明。

Each new model is provided with this manual, so as to provide necessary operation and maintenance instructions.

操作或维修机器时，请完整阅读本手册并了解机器。

When operating or repairing the machine, please read this manual completely and understand the machine well.

该机器将提供卓越的服务。然而，若在日常操作中注意以下几点，则能达到事半功倍的效果。

This machine will provide excellent service. However, if you pay attention to the following points in daily operations, you can get twice the result with half the effort.

- 操作机器时非常小心。
- Be very careful when operating the machine.
- 定期维护机器——根据每台机器提供的维护说明。
- Regular maintenance of the machines - according to the maintenance instructions provided by each machine.
- 维护机器时使用提供的部件或同类部件。
- Use supplied components or similar components when maintaining the machine.

请在安装时填写，以供将来参考。

Please complete the following at the time of installation for future reference.

机型号码- Model number- _____
 机器序号- Machine serial number- _____
 机器选件- Machine option- _____
 销售代表- Sales representative- _____
 销售代表电话- Sales representative's Tel- _____
 客户编号-Customer number- _____
 安装日期-Installation date- _____

用途

Use

KR-H90 是一款驾驶式工业、商业机器，可以擦洗粗糙和光滑的硬质表面，例如混凝土、瓷砖、石头和合成材料等。典型的应用场合包括学校、医院、卫生保建设施、办公楼以及商场，禁止在土地、草地、人造草皮或铺设地毯的地面上使用本机器，本机器只能用于室内。本机器不能用于公路上。请勿进行本操作员手册说明以外的其他操作。

KR-H90 is a ride-on industrial and commercial machine that can scrub rough and smooth hard surfaces such as concrete, ceramic tiles, stone and synthetic materials. Typical applications include schools, hospitals, health care facilities, office buildings and shopping malls. It is forbidden to use this machine on soil, grassland, artificial turf or carpeted ground. This machine can only be used indoors. This machine cannot be used on highways. Please do not do anything other than the instructions in this operator's manual.

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重要安全说明——妥善保存这些说明

Important safety instructions - Keep these instructions properly!

下列为本手册中使用的符号与相关说明：

The following are symbols used in this manual and related descriptions:



警告：用于警告会导致严重人员伤亡或死亡的风险或不安全操作

Warning: warn of risks or unsafe operations that may result in serious personal injury or death.

为安全起见：



指出使用机器时所必须遵守的事项以保障安全。

For Safety Consideration: matters that must be observed when using the machine so as to ensure health and safety.

以下信息标识可能对操作员构成危险，了解何时可能出现这些情况，找出机器上的所有安全隐患，立刻报告机器损坏或故障操作。

The following information signs may pose a danger to the operators, so please know when these situations may occur, find out all potential safety hazards on the machine, and immediately report the damage or faulty operation of the machine.



警告：易燃物质可能会引起爆炸或火灾，请勿在槽中使用易燃物质。

Warning: flammable substances may cause explosion or fire. Please do not use flammable substances in the tank.



警告：易燃物质或活性金属可能会引起爆炸或火灾，请勿拾取。

Warning: Flammable substances or active metals may cause explosion or fire. Please do not pick them up.

出于安全考虑：

For safety considerations:

1. 在下列情况下，不要操作机器：
 - 未经培训和授权。
——Without training and authorization.
 - 未阅读并理解操作员手册。
——Do not read and understand the operator manual.
 - 摄入酒精或药物后。
——After taking alcohol or drugs.
 - 正在使用手机或其他类型的电子设备时。
——When using mobile phones or other types of electronic equipment.

——未处于适当的工作状态

——Not in proper working condition.

——位于存在可燃蒸气、液体或易燃尘埃的地区。

——It is located in an area with flammable vapor, liquid or flammable dust.

——位于黑暗且不能安全地查看控制装置或操作机器的地区，除非正在操作或已经打开照明灯。

——It is located in a dark area where the control device or operating machine cannot be viewed safely, unless the illuminating lamp is being operated or has been turned on.

——可能有跌落物体的区域，除非装有顶棚。

——Areas where objects may fall, unless there is a shed.

2. 操作机器时：

2. When operating the machine:

——检查机器是否有液体泄漏的情况。

——Check the machine for liquid leakage.

——使火花和明火远离燃料补给区域。

——Keep sparks and open flames away from refueling areas.

——确保所有安全设备就位并且正常工作。

——Ensure all safety equipment is in place and working properly.

3. 使用机器时：

3. When using the machine:

——只能根据本手册中的说明使用。

——Use the machine only according to the instructions in this manual.

——在斜坡和光滑表面上慢行。

——Walk slowly on slopes and smooth surfaces.

——转弯时减速。

——Slow down when making a turn.

——机器运行时要保证操作员整个身体都在操作合内。

——When the machine is running, make sure the whole body of the operator is within the operation table.

——机器倒车时要特别小心。

——Be especially careful when reversing the machine.

——禁止儿童在机器上或附近玩耍。

——Children are forbidden to play on or near machine.

——机器上不要搭载乘客。

——Do not allow the machine to carry passengers.

——始终遵守安全和交通规则。

——Always observe safety and traffic regulations.

——立刻报告机器损坏或故障操作。

- Immediately report machine damage or faulty operation.
 - 遵守化学品容器上的混合、处理和废弃说明。
 - Observe the mixing, handling and disposal instructions on chemical containers.
 - 遵守有关湿地板的安全指南。
 - Observe safety guidelines for wet floors.
 - 遵守有关湿地板的现场安全指南。
 - Observe the site safety guidelines for wet floors.
4. 离开或维修器时:
4. When leaving or repairing the machine:
- 在水平表面上停放。
 - Park the machine on a horizontal surface.
 - 关闭机器并取下钥匙。
 - Turn off the machine and remove the key.
5. 维修机器时
5. When repairing the machine
- 所有工作必须在照明条件好、能见度高的环境下进行。
 - All work must be carried out in an environment with good lighting condition and high visibility.
 - 避免移动部件，不要穿着宽松的衣服或佩戴首饰，将长发束起扎好。
 - Avoid moving parts, do not wear loose clothes or jewelry, and tie up your long hair.
 - 不要在电气元件附近对喷雾通电或用水管冲洗机器。
 - Do not energize the spray or flush the machine with water pipes near electrical components.
 - 运作机器要断开电瓶接头。
 - Disconnect the battery connector when operating the machine.
 - 必须由受过训练的人员安装电瓶。
 - The battery must be installed by trained personnel.
 - 必须由训练有素的服务技师进行所有的维修工作。
 - All maintenance work must be carried out by trained service technicians.
 - 不要对机器进行任何不同于原始设计的改装。
 - Do not modify the machine in any way different from the original design.
 - 使用提供的或批准的更换部件。
 - Use replacing parts provided or approved.
 - 穿戴所需的和本手册中推荐的个人防护装备。
 - Wear the personal protective equipment required and recommended in this manual.
- 出于安全考虑：佩戴听力保护装置。
- For safety consideration: wear hearing protection devices.

出于安全考虑：佩戴保护手套。

For safety consideration: wear protective gloves.

出于安全考虑：佩戴眼睛保护装置。

For safety consideration: wear eye protection device.

6. 将机器装载到卡车或拖车上或从卡车或拖车上卸载机器时：

6. When loading or unloading the machine to or from a truck or trailer:

——装载机器时排空水箱。

——Drain the water tank when loading the machine.

——关闭机器时先将洗地刷盘和吸水扒收起。

——When shutting down the machine, put away the floor washing brush disc and suction rake first.

——关闭机器并取下钥匙。

——Turn off the machine and remove the key.

——使用能够支撑机器和操作人员重量的斜坡、卡车或拖车。

——Use slopes, trucks or trailers that can support the weight of the machine and the operator.

——使用托盘，除非装载高度离地小于 380mm(15in.)，不要将机器推到卡车或拖车、从卡车或拖车上推下机器。

——Use pallets. Do not push the machine to or from the truck or trailer unless the loading height is less than 380mm(15in.) from the ground.

——卡住机器轮胎。

——Lock the tire of the machine.

——将机器固定在卡车或拖车上

——Fix the machine on a truck or trailer

机器组件

Machine components



- 1.方向盘
Steering wheel
- 2.座椅
Seat
- 3.警示灯
Warning lights
- 4.污水箱盖
Bilge tank cover
- 5.污水箱
Bilge tank
- 6.清水箱
Clear water tank
- 7.吸扒组件
Pickle Assembly
- 8.后驱动轮
Rear drive wheel
- 9.刷盘组件
Brush disc assembly
- 10.操作面板
Operation panel
- 11.脚踏开关
Foot switch
- 12.吸污管
Suction pipe
- 13.排污管
Drainage pipe
- 14.驱动电机
Drive motor

- 1.主电源按钮
Main power switch
- 2.故障指示灯
Fault indicator lamp
- 3.电池电量表
Battery meter
- 4.过载复位开关
Overload reset switch
- 5.刷盘升降开关
Brush disc button
- 6.吸扒升降开关
Suction lift switch
- 7.前进后退开关
Forward and backward switch
- 8.调速开关
Speed-regulating switch
- 9.前照灯开关
Headlamps switch

机器工作原理

Working principle of machine



机器的清洗部件为：一个清水箱、污水箱、刷盘、针座或百洁垫，一支吸水扒组件，合吸水马达和驱动电机。

The cleaning components of the machine comprise a clean water tank, a sewage tank, a brush disc, a needle holder or a scouring pad, a suction rake assembly, a suction motor and a driving motor.

控制面板上的按钮可控制机器的刷洗功能。放下刷盘升降摇臂和吸水扒升降摇臂，把前进、后退开关放在“前进”的位置，调整好速度开关(根据不同的地面，调整到适合的速度和出水量)，踩下脚踏开关，开始清洗。

The button on the control panel can control the brushing function of the machine. Lower down the rocker arm of the brush disc and the rocker arm of the suction rake, place the forward/backward switch in the "Forward" position, adjust the speed switch (to the appropriate speed and water output according to different floors), press the foot switch and start cleaning.

说明：污垢的多少和类型会决定使用刷头或百洁垫的类型。若需特殊建议，请参阅本手册《刷子和百洁垫信息》一节，或联系售后。

Note: The amount and type of dirt will determine the type of brush head or scouring pad to be used. For special suggestions, please refer to the section "Brush and Scouring Pad Information" in this manual, or contact after sales service.

洗地方式

Floor washing method

清水箱中的水和清洁剂通过电磁阀流到刷盘及地面，利用清洁剂和水混合的溶液，通过刷头旋转洗刷地面。在机器前进的同时，吸水扒将地面上的污水通过吸污管被吸水马达吸入污水箱内。

The water and detergent in the clean water tank will flow to the brush disc and the floor through the solenoid valve, and the mixed solution of the detergent and the water will be used for scrubbing the floor by rotating the brush disc. While the machine is moving forward, the suction rake will suck the sewage on the floor into the sewage tank through the suction pipe with the help of the suction motor .

刷子和百洁垫信息

Brush and Scouring pad information

为确保获得最佳效果，清洁时请使用类型适宜的刷子。

In order to ensure the best efficiency, please use a brush of the appropriate type when cleaning.

建议使用的刷子和百洁垫如下：

The recommended brushes and scouring pads are as follows:

针座：360mm 13"针座

Needle holder: 360mm 13" needle holder

刷盘：360mm 13"洗地刷

Brush disc: 360mm 13" floor brush

磨光垫(白)-用于维护高度亮滑或抛光的地面，并先放水，后清洗，以防擦花地面。

Polishing pad (white) - used for maintaining a highly slippery or polished floor; water the floor first, then clean, so as to prevent the floor from being scratched.

缓冲垫(红)-用于擦洗轻微污垢而不伤地面。

Cushion pad (red) - used for cleaning off slight dirt without damaging the floor.

擦洗垫(蓝)用于擦洗中度至重度污垢。拭除脏污、渍迹和磨痕，使地面表面洁净以便重新涂层。

Scrubbing pad (blue) - used for scrubbing off moderate to severe dirt. Wipe off dirt, stains and grinding marks to clean the floor surface for recoating.

打磨垫(棕)-用于清除地面表面的涂层，以便重新涂层。

Folding pad (brown) - used for removing the coating from the ground surface for recoating.

重力打磨垫(黑)-用于强力去除厚重涂层或基底，或者进行超强力擦洗。

Gravity folding pad (black) - used for removing heavy coating or substrate or scrubbing with strong force.

机器设定

Machine settings

安装吸水扒组件

Installation of suction rake assembly

1. 将机器停放在平稳的地面上。
1. Park the machine on a smooth floor.
2. 请将机器钥匙开关关闭。出于安全考虑：离开或维修机器时，在水平表面上停车、关闭机器并拔出钥匙。
2. Please turn off the machine's key switch. For safety consideration: when leaving or repairing the machine, or parking the machine on a horizontal surface, shut down the machine and pull out the key.
3. 将吸水扒安装到吸水扒支架上，并拧紧两个螺母，连接吸污管和吸水扒。
3. Install the suction rake onto the suction rake bracket and tighten the two nuts to connect the sewage suction pipe and suction rake.



注入清水至清水箱

Injection of clean water into clean water tank

出于安全考虑：离开或维修机器时，在水平表面上停车、关闭机器并拔出钥匙。

For safety consideration: when leaving or repairing the machine, or parking the machine on a horizontal surface, shut down the machine and pull out the key.

机器后方设有清水箱清水注入孔。

There is a clean water injection hole for the clean water tank behind the machine.



警告：易燃物质可能会引起爆炸或火灾。请勿在水箱中使用易燃物质。

Warning: Flammable substances may cause explosion or fire. Please do not use flammable substances in the water tank.

洗地方式：打开清水箱注入孔，并注入温水(请勿超过 60 摄氏度)。依据清洁剂的混合比例说明，将所需使用的清洁剂倒入清水箱，然后再将温水注入清水箱，同时，污水箱内要加上消泡剂(比例请参照消泡剂上的说明)。

Washing method: open the injection hole of the clean water tank and feed warm water (which shall not exceed 60 °C). According to the description of the mixing ratio of detergent, pour the required detergent into the clean water tank, and then feed warm water into the clean water tank. At the same time, a defoaming agent shall be added into the sewage tank (refer to the description of defoaming agent for the ratio).

出于安全考虑：使用机器时，请遵守化学容器上的混合比例与处理说明。

For safety consideration: please observe the mixing ratio and handling instructions on the chemical container when using the machine.

说明：如果用水桶将清水注入清水箱，请确定水桶是干净的；请勿使用同一个水桶注入清水并排放污水。

Note: If use a bucket to feed clean water into the clean water tank, please make sure the bucket is clean. Do not use the same bucket to feed clean water and discharge sewage.

注意：请一律使用建议的清洁剂，切记清水箱不能使用带颗粒状的清洁剂以防堵住清水过滤网和清水管道，例如洗衣粉，如因清洁剂使用不当造成机器损坏，制造厂商不承担担保的责任。

Note: Please always use the recommended detergent, and always remember that the clean water tank cannot accept granular detergent so as to prevent blocking the clean water filter screen and the clean water pipe, such as washing powder. If the machine is damaged due to improper use of detergent, the manufacturer is not responsible for warranty.

机器操作

Machine operation

操作前检查

Pre-operation check

- 检查机器是否有液体泄漏的情况。
- Check the machine for liquid leakage.
- 检查污水箱盖密封圈是否受损或有异物。
- Check whether the sealing ring of the sewage tank cover is damaged or sees foreign matters.
- 检查污水过滤网是否堵住。
- Check whether the sewage filter screen is blocked.
- 检查刷子状况，移除刷子周围的线团、绑带、铁丝、塑胶包装或其他碎屑。
- Check the condition of the brush and remove the clews, binding bands, iron wires, plastic packaging or other debris around the brush.
- 检查吸水扒是否磨损或脏污，或需要调整吸水扒的角度。
- Check whether the suction rake is worn or dirty, or the angle of the suction rake needed.
- 检查吸污管和吸水扒的吸污口是否有脏污阻塞或污水管是否破裂。
- Check whether the suction ports of the sewage suction pipe and suction rake are blocked with dirt or whether the sewage pipes are broken.
- 排干并清理污水箱。
- Drain and clean the sewage tank.
- 检查电磁刹车和方向盘是否能正常操作。
- Check whether the electromagnetic brake and steering wheel can operate normally.
- 检查喇叭、倒车灯是否正常。
- Check whether the horn and back-up light are normal.
- 检查维修记录，以决定是否需要进行机器维护。
- Check the maintenance records to determine whether maintenance of machine is needed.

操作之前

Before operation

在洗净之前，请先清除大型碎屑和可能缠绕在刷子周围的金属线、线团、细绳等。

Before cleaning, remove large debris and wires, clews, strings, etc. that may be wound around the brush.

请事先计划清洗方式，请尽量做长期规划安排，将停机和开机次数降至最低。事先擦净机器以防斑纹产生。

Please plan the cleaning method in advance and make long-term planning insofar as possible to minimize the number of downtime and startup. Wipe the machine clean in advance to prevent speckle growth.

洗地

Washing the floor

出于安全考虑：尚未阅读并理解操作手册前，请勿操作机器。

For safety consideration: Do not operate the machine until you have read and understood the operation manual.

1. 请将开关钥匙开启
1. Please turn on the switch key.
2. 请接照需要移动机器的方向来设定方向开关(前进或后退)。
2. Please set the direction switch (forward or backward) by moving the machine as required.

说明 1：机器前进与后退开关打在“前进”方向，是正常洗地。

Note 1: When the forward/backward switch of the machine is set in the "Forward" direction, it is for normal floor washing.



说明 2：机器前进与后退开关打在“后退”方向，要用吸水扒升降摇臂抬起吸水扒，吸水马达自动关闭，同时用刷盘升降摇臂抬起刷盘，手动倒车灯亮起，以表警示。

Note 2: When the forward/backward switch of the machine is set in the "Backward" direction, the suction rake shall be lifted by the suction rake rocker arm, and the suction motor will automatically turn off; at the same time, the brush disc shall be lifted by the brush disc rocker arm, and the manual back-up light will be lit to give a warning.

3. 按下操作按钮吸水扒组件和刷盘组件，打开水阀开关，调整好出水量，再调整好适当的速度，踩下踏板，开始洗地。
4. 松开脚踏开关，机器自动刹车，用吸水扒升降摇臂升起吸水扒，用刷盘升降摇臂升起刷盘，关闭电源，停止清洗。
4. Release the pedal switch, the machine will automatically brake; lift the suction rake with the suction rake rocker arm, lift the brush disc with the brush disc rocker arm, and turn off the power to stop washing.



警告：易燃物质或活性金属可能会引起爆炸或火灾，请勿拾取。

Warning: Flammable substances or active metals may cause explosion or fire. Please do not pick them up.

5. 断电自动刹车功能：松开脚踏开关，机器会自动刹车，较其他机器便捷，减少操作步骤。
5. Power-off automatic braking function: release the foot switch, the machine will automatically brake, which is more convenient than other machines and will reduce the operation steps.
6. 若想挪动机器，把电磁刹车手柄往上推一下，解除电磁刹车功能，可以轻松推动，如下图。(如果打开电源，面板故障显示灯快闪3次，稍停后再快闪2次，机器仍不能行走，此现象说明自动刹车未复位；将电磁刹车手柄往下拉动一次，自动刹车将复位，机器可以正常使用)
6. If you want to move the machine, push the electromagnetic brake handle upwards to release the electromagnetic braking function; actually, it can be easily pushed, as shown in the following figure. (If the power supply is turned on, the panel fault indicator will flash for three times, then stop for a while, and then flash twice. If the machine still cannot walk, this indicates that the automatic brake has not been reset; pulled down the electromagnetic brake handle once, the automatic brake will be reset and the machine will be able to work normally).



7. 此款机器小巧玲珑，底盘低，爬坡性能强能爬15%；单刷盘洗地面积大等特性。
7. This machine is small and exquisite, with a low chassis and a strong climbing performance, i.e., 15%. Its single brush disc can serve a large floor-washing area.

操作机器期间

During operation of the machine

请尽量直线前进，免撞到柱子或刮到机器两侧，将清洗路线重叠5cm。

Please move straight forward insofar as possible to avoid bumping into pillars or scraping both sides of the machine, and please overlap the cleaning routes by 5cm.

在清洗时，根据需要调整机器速度和清水流量，尽可能用中等速度和最低

清水流量。

During cleaning, please adjust the machine speed and clean water flow as required, using medium speed and minimum

清水流量。

clean water flow insofar as possible.

使机器持续行进以避免损伤地面。

Keep the machine moving so as not to damage the floor.

如果发现清洗效果不好，请停止清洗并参阅《机器故障排除》。

If it is found that the cleaning effect is not good, please stop cleaning and refer to the "Machine Troubleshooting".

洗地方式

Floor washing method

如果泡沫过多，建议使用消泡剂注入污水箱，否则泡沫吸入吸水马达，损坏吸水马达。

If there is too much foam, it is recommended to feed defoamer into the sewage tank, otherwise foam will be sucked into the suction motor and damage the suction motor.

根据需要更换针座或百洁垫来清洗。

Replace the needle holder or scouring pad as required in cleaning.

请注意电池电量指示灯，以确定有足够的电量进行机器运作。

Please pay attention to the battery level indicator to ensure that there is enough power to operate the machine.

请注意清水箱指示透明管，确保清水箱不是空的。

Please pay attention to the clean water tank's viewing tube to ensure that the clean water tank is not empty.

在离开机器前，请先取下钥匙。

Please remove the key before leaving the machine.

清洗完毕后，进行每日维护程序。(请参阅《维护表》)

After cleaning, please follow the daily maintenance procedures. (See the Maintenance Table)

在斜坡上缓慢驾驶机器：下坡时使用调速开关调慢机器速度，在机器上坡而非下坡时进行洗地。

Driving the machine slowly on a slope: use the speed control switch to slow down the speed of the machine when going downslope, and wash the floor when the machine goes upslope instead of downslope.

出于安全考虑：使用机器时，在斜坡和光滑表面上慢行。

For safety consideration: when using the machine, walk slowly on slopes and smooth surfaces.

不得在环境温度超过 43°C(110°F)的区域操作机器。不得在环境温度低于 0°C(32°F)的区域开启洗地功能。

Do not operate the machine in an area where the ambient temperature exceeds 43°C (110 F). Do not turn on the floor washing function in areas where the ambient temperature is lower than 0°C (32 F).

水位透视管

Water level transparent pipe

清水箱水位管可以简单明了地标明实时水位，方便机器操作，确保机器正

The water level tube of the clean water tank can simply and clearly indicate the real-time water level, which is convenient for machine operation and can ensure that the machine is in good condition.

常使用(建议清水箱内水位显示在透明管一半以上位置，以保持水压，同时也保证出水量)。

(it is recommended that the water level in the clean water tank is above half of the viewing tube so as to maintain the water pressure and ensure the water yield at the same time).



污水箱污水感应器

Sewage tank's sewage sensor

当污水箱已满时，污水箱污水感应器会切断吸水马达电源，但不会停止其他功能，请及时排除污水箱污水，以便正常继续使用。

When the sewage tank is full, the sewage sensor of the sewage tank will cut off the power supply of the suction motor, but will not stop other functions. Please discharge the sewage of the sewage tank in time so as to continue to use it normally.



电瓶电量表

Battery meter

电瓶电量表显示电瓶的电量。当电瓶充满电时，所有指示灯均亮起。随着电量耗用，指示灯会从右至左依次熄灭。

The battery meter shows the level of electricity in the battery. When the battery is fully charged, all indicator lights are on. As the power is consumed, the indicator lights will turn off from right to left.

说明：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。

Note: In order to prolong the service life of the battery, please charge the battery in time after use of the machine.

当用电量达到第一个黄色指示灯时，请停止清洗并将电瓶充电。如果在超过第一个黄色指示灯后继续操作机器，当最后一个黄色指示灯开始闪烁时，清洗功能将自动关闭，这可防止电瓶电量完全耗尽。请立即将机器推到充电区对电瓶进行充电。

When the power consumption reaches the first yellow indicator, please stop cleaning work and charge the battery. If the machine continues to operate exceeding the first yellow indicator, the cleaning function will be automatically turned off when the last yellow indicator starts flashing, which can prevent the battery from completely running out. Please immediately push the machine to the charging area for charging the battery.



过载复位开关

Overload reset switch

本机器配有一个可复位的过载复位开关，以避免电门锁损坏。过载复位开关按钮位于控制面板上。

This machine is equipped with a resettable overload reset switch to prevent damage to the electric door lock. The overload reset switch's button is located on the control panel.

本机器控制面板上有一个复位开关，以避免刷盘电机马达损坏。

There is a reset switch on the control panel of this machine, which is used to avoid damage to the brush disc motor.

当过载复位开关触发跳电时，请判断跳电原因并让马达冷却后，然后再以手动方式按下过载复位开关按钮。

When the overload reset switch triggers, please judge the cause of the trigger and let the motor cool down, then press the overload reset switch button manually.

机器如需维修，请与授权的服务中心联系。

If a machine needs repair, please contact the authorized service center.



计时器 Timer

计时器会记录开机工作的总时数。请使用计时器来判定何时应执行建议的维护程序并记录维修历史。

The timer will records the total number of hours of the machine operation. Please use the timer to determine when the recommended maintenance procedure should be performed and record the maintenance history.



排干并清洗污水箱 Drain and clean the sewage tank

在清理完或当污水箱污水感应器切断吸水马达电源时，请排干并清理污水箱。然后填满清水箱，就可以进行清洗工作。

Please drain and clean the sewage tank after cleaning work is completed or when the sewage sensor of the sewage tank cuts off the power supply of the suction motor. Then fill the clean water tank and then start the cleaning work.

1. 请立即将机器推到排放沟。
1. Please push the machine to the drain immediately.
2. 请将机器钥匙开关关闭。出于安全考虑离开或维修机器时，在水平表面上停车、关闭机器并拔出钥匙。
2. Please turn off the machine's key switch. For safety consideration: when leaving or repairing the machine, or parking the machine on a horizontal surface, shut down the machine and pull out the key.
3. 移除污水箱排水管。将排水管向上握住，打开排水管的上盖，两手放在如图所示的位置，弯曲排水管，将排水管移到下水道或水槽等容器，再慢慢松开右手，使排水管不再弯曲，开始排污水。
3. Remove the drain pipe of the sewage tank . Hold the drain pipe upward, open the upper cover of the drain pipe, place both hands in the position shown in the figure, bend the drain pipe, move the drain pipe to a container such as a sewer or a sink, then slowly loosen the right hand so that the drain pipe will not bend any more and begin to drain the sewage.



4. 箱内污水排尽后，将污水箱盖抬起，用清水冲洗污水箱内部。
4. After the sewage in the tank is completely drained, lift the sewage tank cover and flush the inside of the sewage tank with clean water.



警告：易燃物质可能会引起爆炸或火灾。请勿在水箱中使用易燃物质。

Warning: Flammable substances may cause explosion or fire. Please do not use flammable substances in the water tank.

请勿使用蒸汽清理水箱，高热会损坏水箱及组件。

Please do not use steam to clean the water tank, because the high heat will damage the water tank and components.

5. 用清水冲洗污水箱内部的污水感应罩。
5. Flush the sewage sensing cover inside the sewage tank with clean water.
6. 在污水箱排干后，盖好排污管盖，并将排水管装回原位。
6. After the sewage tank is completely drained, cover the drain pipe and put the drain pipe back in place.



7. 逆时针拧下污水过滤网，如果它变脏，请使用湿布或毛刷轻轻洗刷。请等到滤网干燥后，再将它装回机器，切忌用水枪对着过滤网冲洗，如箭头所示。
7. Unscrew the sewage filter counterclockwise. If it becomes dirty, please use wet cloth or brush to clean it gently. Please wait until the filter screen is dry before putting it back into the machine. Do not flush the filter screen with a water gun, as shown by the arrow.



8. 盖上污水箱盖子，保证四周无其他异物，如下图。
8. Cover the sewage tank to ensure that there are no other foreign matters around, as shown in the following figure.



9. 从后面打开清水箱盖注入清水，来清洗水箱。
9. Open the clean water tank cover from the back and feed clean water to clean the water tank.



问题 Problem	原因 Cause	解决方法 Solution
KR-H90	OPERATOR MANUAL	操作手册
吸力不足 Suction is insufficient.	吸水马达已关闭 The suction motor has been turned off.	打开吸水马达 Turn on the suction motor.
	吸水扒胶条磨损 Wear of suction rake strip	调转方向或更换吸水扒胶条 Turn the direction or replace the suction rake strip.
	吸水扒移位 The suction rake is displaced.	调节吸水扒 Adjust the suction rake.
	吸污管堵塞 The suction rake is blocked.	清除堵塞 Remove the blockage.
	污水过滤网变脏 The sewage filter becomes dirty.	清洁过滤器 Clean the filter.
	吸水扒上有碎屑 Debris on the suction rake	移除垃圾 Remove the garbage.
	连接至吸水扒上的吸污管未接上或已破损 The sewage suction pipe connected to the suction rake is not connected or is damaged.	重新连接或更换吸污管 Reconnect or replace the suction pipe.
	污水箱盖或排污管盖未盖紧 The sewage tank cover or the sewage pipe cover is not tightened.	检查是否有阻塞物并盖好盖子 Check for obstructions and close the cover.
吸水马达不工作 The suction motor does not work.	吸水马达开关已关闭 The suction motor switch has been turned off.	打开吸水马达开关 Turn on the suction motor switch.
	污水箱满 Sewage tank is full.	排干污水箱 Drain the sewage tank.
	泡沫填满污水箱 Sewage tank is filled with foam.	清空污水箱 Empty the sewage tank.
		减少清洁剂使用或在污水箱内加入适量消泡剂 Reduce the use of detergent or add a proper amount of defoaming agent into the sewage tank.
污水箱感应器变脏、损坏或阻住 The sewage tank sensor becomes dirty, damaged or blocked.	清洁或更换感应器 Clean or replace the sensor.	
刷盘出水量少或不出水 The brush disc sees little or no water yield.	清水箱是空的 The clean water tank is empty.	加满清水箱 Fill up the clean water tank.
	关闭了水阀 The water valve is closed.	打开水阀 Open the water valve.
	电磁阀损坏 Solenoid valve is damaged.	更换电磁阀 Replace the solenoid valve.
	清水箱滤网堵塞 The filter screen of the clean water tank is blocked.	排干清水箱，取出清水箱滤网进行清理然后装回 Drain the clean water tank, take out the filter screen of the clean water tank for cleaning and then put it back.
洗地效果不佳 The floor washing effect is not good.	使用不合适的清洁剂或刷子 Inappropriate detergents or brushes are used.	联系维护人员 Contact the maintenance personnel.
	污水箱满 Sewage tank is full.	清空污水箱 Empty the sewage tank.
	清水箱空 The clean water tank is empty.	清水箱加水 Add water to the clean water tank.
	针座或百洁垫上有碎屑 Debris on the needle holder or the scouring pad.	移除垃圾 Remove the garbage.
	洗地刷磨损 The floor-washing brush is worn out.	更换刷子 Replace the brush.
	电池电量低 Low battery	对电池充电直到充电器关闭 Charge the battery until the charger is turned off.
停机时，放水阀处于开放状态水流不停	电磁阀进杂质 Impurities in the solenoid valve.	清水箱加满水，水阀开至最大，启动机器，利用水压将电磁阀中的杂质冲洗干净【此步骤重复几次即可】 Fill the clean water tank is with water, open the water valve to the maximum, the start the machine, and flush off the

When the machine is stopped, the drain valve is in an open position, and the water flow does not stop.		impurities in the solenoid valve by water pressure [this step can be repeated for several times]
	电磁阀损坏 Solenoid valve is damaged.	更换电磁阀 Replace the solenoid valve.

维护表

Maintenance Table

下表指出了每一程序的责任人

The following table indicates who is responsible for each procedure.

O=操作员

O = operator

T=接受过专门培训的人员

T = specially trained personnel

间隔周期 Interval period	责任人 Responsible person	说明 Description	程序 Procedure
每日 Daily	O	刷盘/针座百洁垫 Brush disc/needle holder scouring pad	检查刷盘/针座的高度 Check the height of brush disc/needle holder
	O	污水箱 Sewage tank	检查损坏和磨损或有碎屑 Check for damage and wear or debris.
100 小时 100 hours	T	污水箱密封圈 Sealing ring of the sewage tank	检查损坏和磨损 Check for damage and wear.
200 小时 200 hours	T	免维护电池电极和接线 Maintenance-free battery electrode and wiring	检查并清洁 Check and clean
500 小时 500 hours	T	真空马达 Vacuum motor	检查马达刷子(首次运行 500 小时检查后每 100 小时检查一次) Check the motor brush (check every 100 hours after the first 500-hour check)
	T	刷盘马达 Brush disc motor	检查马达刷子(首次运行 500 小时检查后每 100 小时检查一次) Check the motor brush (check every 100 hours after the first 500-hour check)
	T	驱动马达 Drive motor	检查马达刷子(首次运行 500 小时检查后每 100 小时检查一次) Check the motor brush (check every 100 hours after the first 500-hour check)
	T	大脚轮 Big caster	检查损坏和磨损 Check for damage and wear.

注意：在多尘的极端条件下可能要更加频繁的维护。

Note: More frequent maintenance may be required under extremely dusty conditions.

电瓶充电

Battery charging

重要信息：充电时，请确保已根据电瓶类型对充电器进行了适当的设置。

Important information: When charging the battery, please ensure that the charger is properly set up according to the battery type.

1. 将机器推往平坦干燥的地面。
1. Push the machine to a flat and dry ground.

说明：请确定该区域通风状况良好。

Note: Please make sure that the ventilation in that area is good.

2. 将机器钥匙开关关闭。
2. Turn off the machine's key switch.

出于安全考虑离开或维修机器时，在水平表面上停车、关闭机器并拔出钥匙。

When leaving or repairing the machine for safety consideration, park the machine on a horizontal surface, turn off the machine and pull out the key.

3. 将充电器接头插入电瓶充电接口。
3. Insert the charger connector into the battery's charging interface.

注意：充电器充电期间，请勿将充电器的 DC 线从机器上的插座中拔出以免产生弧光放电。若在充电期间必须暂停充电，请先拔掉 AC 电源线

Note: During charging of the charger, do not pull the DC line of the charger out of the socket on the machine so as to avoid arc discharge. If charging must be suspended during the charging process, unplug the AC power cord first.

电瓶的安装、使用注意事项

Precautions for installation and use of battery

1. 电瓶使用前检查各只电瓶有无破损、是否清洁、标记是否清晰，并用干布清洁电瓶表面；检查电瓶开路电压，正负极是否鲜明标出，有无反极。
1. Before using the battery, check whether each battery is damaged, clean and marked clearly, and clean the battery surface with dry cloth; Check the open-circuit voltage of the battery, whether the positive and negative poles are clearly marked, and whether there is any reversal.
2. 按图纸要求将电瓶正立安装，不得倒置，相邻蓄电池之间间距至少大于 5mm。安装完毕后，检查安装图要求，检查每只电瓶的正负极是否正确，再将各只电瓶用线进行整组连接。
2. The battery shall be installed upright according to the requirements of the drawings and shall not be inverted. The spacing between adjacent batteries shall be at least more than 5 mm. After the installation is completed, check whether the positive and negative poles of each battery are correct according to the requirements of the installation drawings, and then connect each battery as a whole group with wires.
3. 电瓶全部安装完毕后，检查连接部分有无松动，拧紧连接处，切忌用力过大，损坏极柱，一般要求扭力不大于 15N·m
3. After all batteries are installed, check whether the connection parts are loose, and tighten them as required. Avoid excessive force that may damage the poles. Generally, the torque force shall not be more than 15N·m.
4. 整车电瓶安装时，要调整电瓶间的塞块，使电池处于正立式，并且电池间要紧固，防止电瓶摇

晃碰撞。

4. When installing the batteries as a whole, adjust the pads between the batteries to make the batteries upright, and tighten the batteries to prevent the them from shaking and colliding.
5. 电门锁、保险座等容易产生火花的器件必须与电瓶隔离。
5. Electric door locks, safety seats and other devices where sparks are easily to be produced must be isolated from the battery.
6. 电瓶荷电状态出厂，通常用户可直接装车使用，如搁置时间较长(超过 3 个月)，使用之前按充电方法进行充电。
6. The batteries will leave factory in state-of-charge. Usually, the user can directly load the battery for use. For example, if the battery is left idle for a long time (more than 3 months), it shall be recharged according to the charging method before use.
7. 蓄电池不可靠近火源、热源，炎热夏季严禁在阳光下直接暴晒，应避免电瓶剧烈震动、碰撞和正负极短路。
7. The battery shall not be close to fire sources or heat sources. Direct exposure in the sunlight is strictly prohibited in hot summer. Severe vibration, collision and short circuit of positive and negative poles of the battery shall be avoided.
8. 电瓶容量以环境温度 25℃ 为标准，温度每下降 1℃，则电瓶容量约下降 1%，在使用中应考虑温度的影响因素，同时尽量避免在 -10℃ 以下的环境下使用。
8. The battery capacity is subject to an ambient temperature of 25℃. For every 1℃ drop in temperature, the battery capacity will drop by about 1%. The influence factors of temperature shall be taken into account in use, and the use under -10℃ environment shall be avoided insofar as possible.
9. 电瓶不得随意拆解，以免发生危险。
9. Batteries shall not be disassembled without authorization so as to avoid danger.
10. 废旧电瓶必须回收利用，不得随意丢弃，影响环境。
10. Waste batteries must be recycled and must not discarded at will, which may affect the environment.
11. 充电时应注意电瓶温度变化，防止过热损坏电瓶，发生危险。
11. Pay attention to the battery temperature changes during charging so as to prevent overheating from damaging the battery and causing danger.
12. 电瓶严禁在长时间亏电的情况下使用机器，一定要一次性把电瓶充满，方可使用。(如若不按此操作，电瓶冲鼓后果自负)
12. The machine is strictly prohibited in use with the battery of a long-time power loss. It must be fully charged at one time before use. (If you don't follow this instruction, you will be responsible for the consequences of battery damage thus caused.)

安装刷盘和百洁垫

Installation of brush disc and scouring pad

更换刷盘、针座和百洁垫

Replacement of brush disc, needle holder and scouring pad

1. 将机器停放在平坦的表面，确定刷盘电机在升起的位置。
1. Park the machine on a flat surface and make sure the brush disc motor is in the raised position.

2. 将机器钥匙开关打开，按下拆/装刷盘开关，刷盘卸下。

2. Turn on the key switch of the machine, press the switch for dismantling/mounting the brush disc, and remove the brush disc.

出于安全考虑：离开或维修机器时，在水平表面上停车、关闭机器并拔出钥匙。

For safety consideration: when leaving or repairing the machine, or parking the machine on a horizontal surface, shut down the machine and pull out the key.

3. 每日检查刷盘和驱动轮上是否有线团缠绕住。另外，也应该检查刷盘是否有损坏和磨损。

3. Check whether the brush disc and the drive wheel are wrapped with clews every day. In addition, the brush disc shall also be checked for damage and wear.



吸扒胶条

Suction rake strip

吸水扒胶条是导入污水，让吸水马达通过吸污管吸入污水箱内。

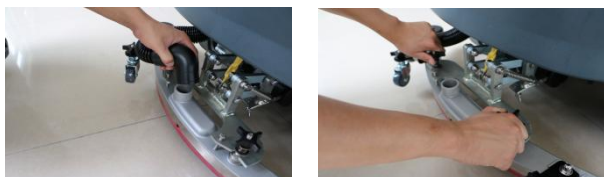
The suction rake strip is used for introducing sewage and allowing the suction motor to suck sewage into the sewage tank through the suction pipe.

每日检查吸水扒胶条的磨损情况。如果吸水扒胶条磨损一半，调转方向或更换胶条。

Check the wear of the suction rake strip every day. If the suction rake strip is half worn, please turn the direction or replace the strip.

吸水扒组件在运输机器时可从吸水扒支架上拆下，防止损坏。

The suction rake assembly can be removed from the suction rake bracket when transporting the machine so as to prevent damage.



安装吸水扒时，看看吸水扒胶条是否磨损，若一面磨损，请更换成另面安装，如果两面均磨损，请更换新的吸水扒胶条。更换新胶条时，胶条边有缺口的放在吸水扒组件前，没有缺口的放在吸水扒组件后。先放好前胶条，装上吸水扒组件底板，放好后胶条。注意后吸水扒胶条上的孔对准吸水扒组件上的凸缘，放好吸水扒压条，拧紧卡扣，再拧紧吸水扒组件底板螺母。

When installing the suction rake, check whether the suction rake strip is worn. If one side is worn, please change to the other side. If both sides are worn, please replace it with a new suction rake strip. When replacing with a new strip, the strip with a notch on the edge will be placed in front of the suction rake assembly, and the strip without a notch will be placed behind the suction rake assembly. First place the front strip, install the bottom plate of the suction rake assembly, and then place the strip. Note that the holes on the rear suction rake strip are aligned with the flange on the suction rake strip assembly, place the suction rake's pressing piece, tighten the buckle, and then tighten the bottom plate nut of the suction strip assembly.

将吸水扒装回吸水扒支架上，并装好吸污管。

Install the suction rake back to the suction rake bracket and install the suction pipe.

推动或拖曳机器

Push or drag the machine

如果关闭了机器，您可将它向前或向后推动，但不能从侧面拖曳它。

If the machine is turned off, you can push it forward or backward, but you cannot drag it from the side.

出于安全考虑:不要在停用刹车时操作机器。

For safety consideration: do not operate the machine when braking is disabled.

仅能在平坦表面上推动或拖曳机器。请勿超过 3.2kph(2mph)，请勿尝试在高速推动或拖曳机器。

Only push or drag the machine on a flat surface. Do not exceed 3.2kph(2mph). Do not attempt to push or drag the machine at a high speed.

立刻推动或拖运机器，请推动手动刹车手柄，解除电磁刹车功能，可以轻松移动机器。

Push or haul the machine immediately. Please push the manual brake handle to release the electromagnetic brake, and then the machine can be easily moved.

运输机器

Transportation of machine

使用卡车或拖车搬运机器时，请务必遵循下列程序

When using a truck or trailer to transport machines, be sure to observe the following procedures:

1. 升起吸水扒组件和刷盘电机。

1. Raise the suction rake assembly and brush disc motor.

出于安全考虑：将机器装载到卡车或拖车上或从卡车或拖车上卸载机器时，装载机器之前，必须先
将水箱清空。

For safety consideration: when loading or unloading the machine on or from a truck or trailer, the water tank must be emptied before loading the machine.

2. 使用建议的装卸坪装卸机器。出于安全考虑:运输机器时，请使用建议的装卸坪从卡车或托车上
装卸机器。

2. Use the suggested loading/unloading platform for loading and unloading machine. For safety consideration: when transporting the machine, please use the recommended loading/unloading ground to load and unload the machine from truck or trailer.

3. 将机器正面紧靠在卡车或拖车的前方部位。

3. Place the front of the machine close to the front of the truck or trailer.

4. 在每个驱动轮的后方放置障碍物，以防止机器滑动。

4. Place an obstacle behind each drive wheel to prevent the machine from sliding.

5. 用绳索捆绑住机器的货架，再捆绑至拖车或卡车，以防止机器倾斜。

5. Tie the machine's shelf with ropes and then tie it to the trailer or truck so as to prevent the machine from tilting.

出于安全考虑:运输机器时，用绳索将机器固定在车板上。

For safety consideration: when transporting the machine, use ropes to fix the machine to the vehicle deck.

存放机器

Machine storage

在长时间存放机器时，请采取下列步骤。

When storing the machine for a long time, please take the following steps:

1. 排干并清理清水箱和污水箱，打开污水箱以通风。
1. Drain and clean the clean water tank and sewage tank, and open the sewage tank for ventilation.
2. 将机器停放在阴凉干燥的区域，请勿将机器受雨淋，室内存放。
2. Park the machine in a cool and dry area. Do not expose the machine to rain. Store the machine indoors.
3. 将电瓶取出，或每 3 个月为电瓶充电一次(一定要充满)。
3. Take out the battery or charge the battery once every 3 months (be sure to have it fully charged).

防冻保护

Anti-freezing protection

出于安全考虑:离开或维修机器时，在水平表面上停止并关闭机器。

For safety consideration: when leaving or repairing the machine, park the machine on a horizontal surface, and turn off the machine.

1. 排空清水箱和污水箱中的水。
1. Drain the water from the clean water tank and sewage tank.
2. 将 2 加仑(8 升)防冻剂全部倒入水箱中，不要稀释。
2. Pour 2 gallons (8 liters) of antifreezing agent into the water tank without dilution.
3. 对机器通电，然后操作溶液流动系统，防冻剂出现在擦洗头时关闭机器。
3. Power on the machine, then operate the solution flow system, and turn off the machine when the antifreezing agent appears on the scrubbing head.

电瓶充电器故障代码

Battery charger fault codes

代码 Code	故障 Fault	解决方法 Solution
LED2 亮绿 灯并且闪烁 LED2 green light on and blinks	电瓶电压低于 22V The battery voltage is lower than 22V. 电瓶倒格、冲不到 22.4V The battery level is inverted and cannot reach 22.4V.	采用 24V、15—25Ah 充电半小时再用智能 充电器进行日常充电。 Charge for half an hour at 24V, 15-25AH, and then use the intelligent charger for daily charging.
LED2 亮红 灯 LED2 red light on.	电瓶电压低于 22V The battery voltage is lower than 22V.	电瓶接头没有接好；电瓶线路问题 The battery connector is not connected properly; The battery circuit fails.
备注 Remarks	<ol style="list-style-type: none"> 加液型的充电器不能充电免维护电瓶，容易烧坏充电器 1. The charger of liquid adding type cannot charge maintenance-free batteries, which may easily burn out the charger. 免维护型充电器可以对加液型电瓶进行充电，但是无法充满 2. Maintenance-free chargers can charge the batteries of liquid adding type, but the batteries cannot be fully charged. 电压低于 22V，智能充电器就无法工作 3. If the voltage is lower than 22V, the intelligent charger cannot work. 电瓶电压低于 23V，电瓶会发出充电警告，请及时充电 4. If the battery voltage is lower than 23V, the battery will give a warning for charging. Please charge it in time. 以上故障都针对新电瓶，若旧电瓶就要更换维护 5. The above faults are all from new batteries. For old batteries, they need to be maintained and replaced. 一般情况下，电瓶电量不足，机器操作界面电量指示表会警示，请及时充电，若长时间没有充电，则会出现上述的故障 6. Under normal circumstances, when the battery level is low, the power indicator on the machine operation interface will give a warning. Please charge it in time. If it is not charged for a long time, the above-mentioned faults will occur. 	

智能充电器的 LED 灯指示工作状态

Working status of LED indicator of intelligent charger

LED 灯 LED lamp	指示状态 Indication status	工作状态 Working state
LED1.LED2 LED1.LED2	闪亮、风扇不转 Twinkling, fan not turning	预充状态【充电时间：3 小时】 Pre-charging status [charging time: 3 hours]
LED1LED2 LED1LED2	亮红灯、风扇转 Red light on, fan turning	恒流状态【充电时间：7—8 小时】 Constant current status [charging time: 7-8 hours]
LED1.LED2 LED1.LED2	亮红灯、风扇转 Red light on, fan turning	恒压状态【充电时间：4.5 小时】 Constant voltage status [charging time: 4.5 hours]
LED1.LED2 LED1.LED2	LED1 亮红灯、LED2 亮绿灯、风扇不转 LED1 red light on, LED2 green light on, fan not turning.	小恒流状态【充电时间：4.5 小时】 Small constant current status [charging time: 4.5 hours]
LED1.LED2 LED1.LED2	LED1 灯灭、LED2 亮绿灯、风扇不转 LED1 light off, LED2 green light on, fan not turning.	充电完成 Charging completed
备注 Remarks		
LED2 亮红灯 Several cases of LED2 red light on 的几种情况	1、负载短路 1. Short circuit of load	
	2、电线接反 2. The wires are connected reversely.	
	3、电瓶线短路 3. Short circuit of battery wire	
	4、过温—LED2 亮橙灯 4. Overtemperature - LED2 orange light on	

一般机器尺寸/容量

General machine dimensions/capacity

项目 Item	尺寸/容量 Dimensions/capacity
型号 Model	KR-H90
长度 Length	1400mm
高度 Height	1170mm
宽度 / 框架 Width/frame	760mm
宽度/后吸水扒 Width/rear suction rake	780mm
刷子直径 Brush diameter	360mm
刷洗路径宽度 Brushed path width	720mm
清水箱容量 Clean water tank capacity	85L
污水箱容量 Sewage tank capacity	95L
重量 / 含标准电池组件 Weight/Standard battery pack included	221KG

类型 Type

类型 Type	数量 Quantity	电压 Voltage	额定电流 Rated current
电池 (标准) Battery (standard)	2	12V	120Ah 3hr

类型 Type	用途 Use	VDC	KW (hp)
电动马达 Electric motor	刷盘电机 Suction disc motor	24	0.55
	驱动电机 Drive motor	24	0.65
	吸水电机 Suction motor	24	0.50

类型 Type	VDC	安培 Ampere	赫兹 Hertz	VAC
充电器 (智能型) Charger (Intelligent type)	24	15	50	220

产品保修证（主卡）

Product Warranty Certificate (Main Card)

（本保修卡为保修服务的主要凭证，请妥善保管）

(This warranty card is the main certificate of warranty service, please keep it properly.)

保修条例：

Warranty regulations:

在保修期间内，按使用说明书进行正常使用的状况下产生的故障，予以免费修理。请把修理商品听本保修证及发票拿到购买单位要求免费修理。

During the warranty period, faults arising from normal use according to the instruction manual will be repaired free of charge. Please send the product to be repaired with this warranty certificate and invoice to the seller for repair free of charge.

在保修期间，如发生以下情况之一，必须作为收费修理，请多谅解。

Please kindly understand that, in any one of the following cases during the warranty period, the repair shall be a paid repair.

1、不能够提供本保修证原件以及有效发票。

1. The original warranty certificate and valid invoice cannot be provided.

2、错误的使用以及自行不当的修理或改造而产生的故障或损坏。

2. Faults or damages are caused by wrong use and improper repair or modification.

3、买入后由运送、搬运或跌落造成的故障损坏。

3. Failures or damages are caused by transportation, handling or falling after purchase.

4、使用指定以外的电源（电压、频率等）或不正常电压造成的故障或损坏。
4. Failures or damages are caused by using power sources other than those specified (voltage, frequency, etc.) or abnormal voltages.

5、机器外观、尘隔、滤芯、电线以及软管钢管等附件。

5. Machine appearance, or accessories such as dust-proof piece, filter element, electric wire, hose and steel pipe, etc.

在本保修规定期限内，按以上约定条件进行免费修理，由于故障所造成的其他损失，概不承担相关责任。

During the period stipulated in this warranty, repair will be provided free of charge according to the above agreed conditions. The warranty does not extend to other losses caused by the failures.

用户名称： _____

User's name: _____

地址： _____

Add: _____

发票号码： _____

Invoice number: _____

购买日期： _____

Date of purchase: _____

售机单位： _____

Seller: _____

地 址： _____

Address: _____

产品保修证（副卡）

Product Warranty Certificate (Secondary Card)

1、产品信息：

1. Product information:

产品型号与名称：_____

Product model and name: _____

出厂编号：_____

Factory number: _____

2、用户信息：

2. User information:

最终用户单位：_____ 电话：_____

End user: _____ Tel: _____

地址：_____ 传真：_____

Address: _____ Fax: _____

E-mail: _____ 邮编：_____

E-mail: _____ Postal code: _____

3、销售单位信息：

3. Seller information:

销售单位名称：（盖章有效）

Seller's name: (valid with seal)

地址：_____

Add: _____

联系人：_____ 电话：_____

Contact: _____ Tel: _____

邮编：_____ 销售日期：_____

Postal code: _____ Sale Date: _____

为了实现本公司的服务承诺，以优良的服务解除用户的后顾之忧，本公司将在客户服务电脑系统中建立用户的信息档案。

In order to honor the Company's service commitments and relieve worries of users with excellent service, the Company will establish user information files in the Customer Service Computer System.

1、请用户务必把保修证主卡和副卡尽快填好，并于购机后1个月内交保修证副卡寄回公司客户服务部备案，通信地址如下：

1. Please be sure to complete the main card and the secondary card of the warranty certificate as soon as possible, and return the secondary card to the Customer Service Department of the Company for filing within 1 month of the purchase of the machine. The mailing address is as follows:

2、如保修证主卡或购机凭证遗失，可查询本公司用户信息档案以保证得到应有的服务。

2. If the main card of the warranty certificate or the voucher of purchase of the machine is lost, you may check the Company's User Information Files for all services available.