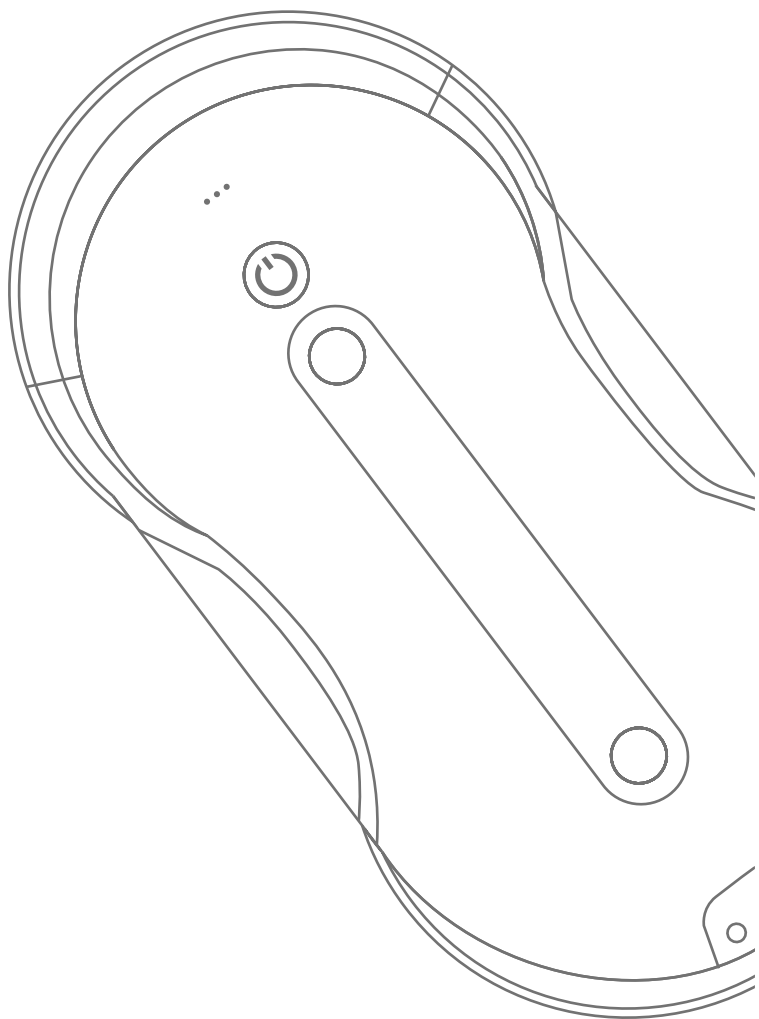


HW281C

Window Cleaning Robot

User Manual



Before using the product, please read the instruction manual carefully and store it properly.

*The actual product takes precedence. Our products are continually being improved, and we reserve the right to update the product.

CONTENTS

● ● Safety Instructions	01
● ● Package Contents	02
● ● Product Introduction	02
● ● Steps for Usage	02
● ● Product Operating	03
● ● Path planning instructions	05
● ● Cleaning and Maintenance	05
● ● Remote Control	06
● ● Specifications	06
● ● Troubleshooting	07
● ● LED Indicators and Problem Description	08
● ● Hazardous Substance Content Status	09
● ● After-sales Service	10


Safety Instructions

Before using this product, please carefully read the following safety instructions and follow all general safety precautions.

1. Be sure to comply with all instructions and warnings related to this product.
 2. When using this robot, Keep power cords, hair, clothing, fingers, and curtains away from openings and rotating parts.
 3. This appliance can be used by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. (FOR CE)
This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance. (FOR CB)
 4. The appliance is not to be used if it has been dropped, if there are visible signs of damage or if it is leaking.
 5. Store in a dry, cool place, away from direct sunlight, high temperatures, humidity, and flammable materials.
 6. Keep the appliance out of reach of children when it is energized or cooling down.
- !!! Do not use on windows with damaged silicone or rubber edges to prevent the robot from losing suction and falling. Users must make safe judgments and use in appropriate settings, accepting responsibility for any possible consequences.



Warnings

1. For glass doors and windows without balconies, a danger warning zone must be set up on the ground below to prevent people from approaching.
2. The product must be connected to the power cord to operate properly.
3. Use only the power supply provided with this product.
4. WARNING: For the purposes of recharging the battery, only use the detachable supply unit (model :RY72C240300M2) provided with this appliance. Detachable power supply unit 
5. Do not direct liquids or steam at equipment containing electrical components.
6. Do not use batteries other than those provided with the robot, as this may cause damage.
7. The filling aperture shall not be opened during use.
8. This appliance contains batteries that are only replaceable by skilled persons.
9. The appliance shall not be left unattended while it is connected to the supply mains.

Beware of Risk of Electric Shock

1. The appliance has to be unplugged after use and before carrying out user maintenance on the appliance.
2. Connect to the correct power supply as per the adapter's voltage requirements. Do not repair the high-voltage adapter; contact the retailer or local dealer for replacements if damaged.
3. Do not attempt to repair the product yourself. Only authorized service centers should perform electrical repairs.
4. Ensure good ventilation around the product and adapter. Do not cover the adapter.
5. Do not operate the robot if the robot or power cord is damaged.
6. The product and adapter are not waterproof. Do not spray or immerse in water.
7. Ensure the power cord is not damaged or twisted. Do not place heavy objects on the adapter and power cord to avoid damage, fire, or electric shock.
8. Do not use the product in strong magnetic fields, humid, or high-temperature environments.



Battery Safety Warning

- 1 Do not disassemble the built-in battery. Contact customer service for replacement.
- 2 Do not crush, strike, or dispose of the battery in fire to avoid explosion.
- 3 Before discarding, remove the battery after unplugging and dispose of it according to regulations.



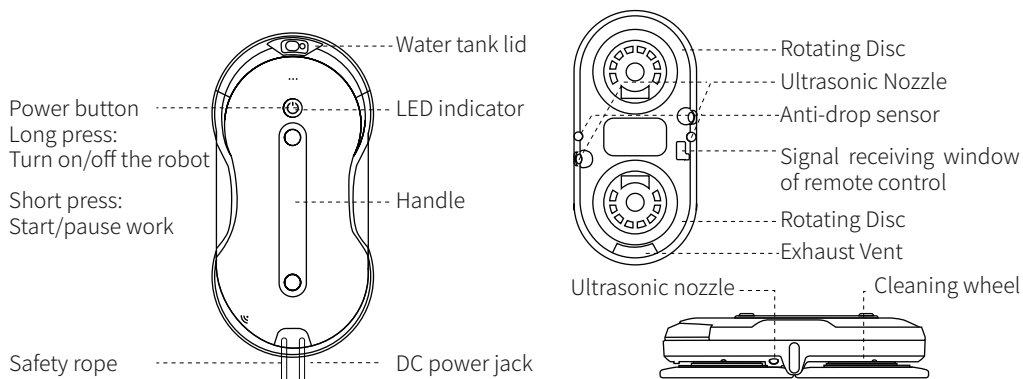
Battery Disposal Instruction

The battery markings, instructions, and packaging indicate it must not be disposed of with household waste. Symbols Hg, Cd, or Pb show it contains mercury, cadmium, or lead exceeding EC Directive 2006/66 standards. For disposal, follow the relevant waste recycling instructions to properly dispose of this product and its battery.

Package Contents

Product and Accessories	The robot	Adapter	AC power cord	DC extension cord	Cleaning rings	Cleaning pad
	Window detergent	Safety rope	Water injection bottle	Remote control	User manual	Quick guide

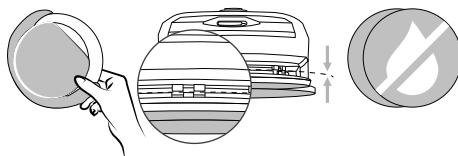
Product Introduction



Steps for Usage

Installing the Cleaning pads and Cleaning Rings

1. Ensure that the cleaning ring is completely covered by the cleaning pad, and properly align and fasten the buckle of the cleaning ring onto the cleaning wheel.
2. The pads should remain flat and not overly wet.

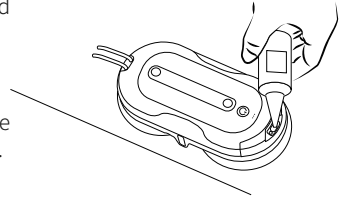


Warning

Ensure the cleaning pad is smoothly attached to the cleaning ring to prevent air leaks.

Window Detergent Instructions

Place the main unit horizontally, open the water tank cover, use the filling tool to add purified water or provided detergent, and close the cover tightly.



Fill the Water Tank

Place the main unit horizontally, open the water tank cover, use the filling tool to add purified water, and close the cover tightly.

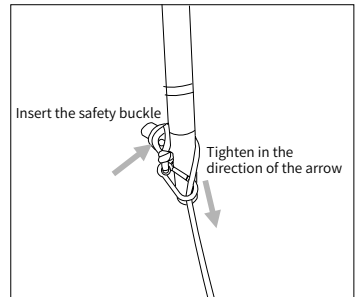
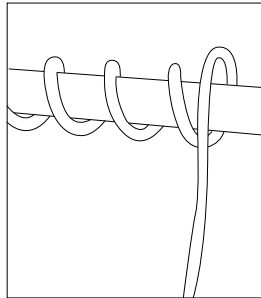


Note

If the tank runs out during cleaning, press and hold "Start/Pause" for 3 seconds to turn off the fan, remove the cleaner, and refill with purified water or provided detergent. Do not add other cleaning detergent to the water tank.

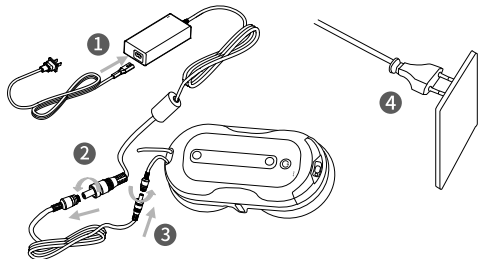
Safety Rope Installation Instructions

- 1.Ensure the safety rope is undamaged and securely locked to prevent falls.
- 2.Attach the metal end of the rope to the robot's fixed nut and tie the other end to a stable indoor object.
- 3.Allow enough length in the safety rope for the robot to operate.



Power Connection

- 1.Connect the adapter to the AC power cord .
- 2.Connect the adapter to the DC extension cord and tighten it.
- 3.Insert the DC power jack into DC extension cord and tighten it.
- 4.Plug the DC extension cord into the outlet.



Product Operating

Charging

The product has a built-in lithium battery with minimal factory charge, so you need to charge immediately upon receiving. The initial charge should be between 2 to 3.5 hours.

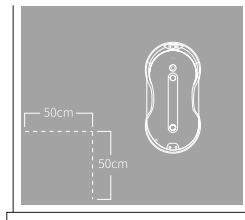
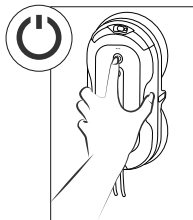
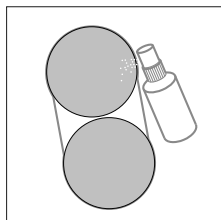
1.First, connect the power supply.

2.1 When charging while the robot is off, the LED indicator light is off.

2.2 When charging while the robot is on, the blue light will breathe (pulse) if the battery level is below 40%. If the battery level is above 40%, the blue light will remain solid.

Put robot onto the glass

1. Manually spray water on two mops 3-4 times by spray bottle during first use.
2. Press and hold the power button for 3 seconds to enter standby mode.
3. Briefly press the power button to start up the engine and place the robot on the glass.
4. When placing the robot on glass, ensure it adheres before letting it go.



Note

Please use on glass with an area $\geq 50\text{cm} \times 50\text{cm}$.

On slightly tilted windows, the robot may not operate correctly. Assist as needed.

Do not use on rainy or humid days. Condensation on the glass surface prevents effective cleaning.

Remove glass obstacles like stickers; do not use on cracked glass. Be cautious with reflective and coated glass to avoid scratching from wind or sand.

It is not suggested to use the product on window with gap.

Cleaning Tips

1. Dust & stain removal, Wet Wiping

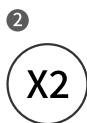
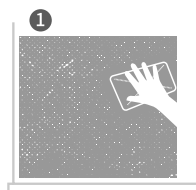
If the glass has a lot of sand or dust, first clean an area the size of the robot to avoid scratches. Add the original Window detergent to the water tank, and replace the cleaning pads after use.

2. Remaining stains

Use the deep cleaning mode (X2) to clean the glass twice and remove stubborn stains.

3. Remaining water stains

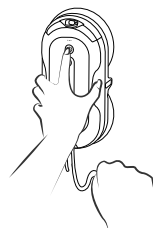
Wipe with the dry wipe function, just use the remote control to turn off the automatic spraying.



Finish and Remove Robot from Glass

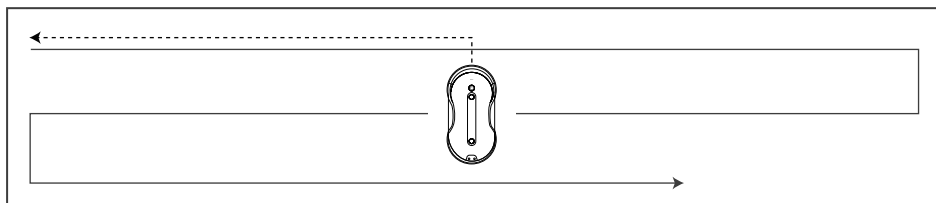
1. One hand holds the safety rope, while the other hand presses and holds the power button for 3 seconds to turn off the engine and firmly grasp it to remove it from one glass to another to continue cleaning.

2. If you finished all cleanings, you can press and hold power button for 3 seconds again to completely turn off the robot.



Path planning instructions

1. Place the machine on the glass, press the power button to move it to the top left corner.
2. Clean in a zigzag pattern from top to bottom.
3. After cleaning, the machine returns to the starting point and adheres to the glass.



Cleaning and Maintenance

1. After use, the cleaning cloth should be washed, wrung out, and air-dried to prevent bacterial growth.
2. Empty the water tank after each use to avoid odors or bacterial buildup caused by standing water.
3. Wipe off any water on the machine surface after use before storing the device properly.

Washing instructions for the cleaning cloth:

- Washing temperature should be lower than 60°C (140°F)
- Do not use fabric softener
- Do not iron
- Do not use bleach
- Do not tumble dry
- Do not dry clean

Maintenance frequency: After each use



Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

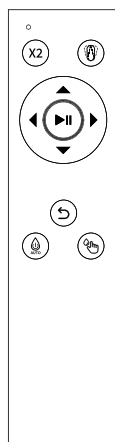


Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- _ Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Remote Control



◀	Manually move left	/
▶	Manually move right	/
▲	Manually move up	/
▼	Manually move down	/
▶	Start/Pause	/
X2	Deep cleaning	Clean Twice
👤	Spot cleaning	Manually move the robot to the spot, press the spot cleaning button, and the upper and lower wheels will clean 5 times alternately.
↶	Return	The robot terminates the current cleaning and returns to the starting position.
💧	Spray Water: on/off	Press once to turn off the spray; press again to turn on the spray.
👉	Manually Spray	Press the manual spray switch each time, spray water once.



Note

Install batteries before use. Remove batteries if remote control is unused for a long time.

To prevent accidental operation, press the Start/Pause button between commands.

Specifications

Component	Contents	Paramete
Remote control	Rated output voltage (V)	3V==
Adapter model: RY72C240300M2	Input voltage (V)	100-240V~50/60HZ 2.0A Max.
	Output voltage (V)	24V==3A
Main unit model: HW281A	Net weight	1.2kg
	Product size	L295*W145*H65 mm
	Input voltage (V)	AC 100-240V, 50/60Hz
	Rated voltage (V)	24V ==
	Rated power (W)	65W
	Battery capacity	500mAh
	Water tank capacity	60 ml

Troubleshooting

S/N	Problem Description	Solutions
1	Robot slides downward during work	<p>Whether the glass surface become slippery or not after several times cleaning.</p> <p>If the cleaning pad is too dry, it can slip on glass with a low coefficient of friction. Spray water on the cleaning pad, and continue cleaning the glass.</p>
2	Unexpected power outage	<p>The UPS supplies power during power outage. The backup time of the UPS is 30 mins and trigger the alarm.</p> <p>Please remove the robot or restore power as soon as possible.</p>
3	After cleaning, remained circle mark on the glass surface	<p>Cleaning cloth is too dirty, please change the cleaning cloth and clean for the glass second time.</p> <p>For heavily soiled glass, spray a small amount of window detergent evenly on the glass surface.</p>
4	What to do if robot stopped at higher area, it alerts and flash red?	<p>Check for a loose power connection, reconnect, and press the remote's start button to restart the robot.</p> <p>Slightly pull the safety rope at an angle close to the glass to prevent dropping.</p> <p>Check whether electric poor-contact, or cable broken.</p>
5	After holding the power button to turn on, the machine will self-check. If it doesn't run smoothly and emits a warning after a short press of the start button...	<p>If the issue persists after restarting and pressing the start button, please contact customer service.</p>
6	When the robot is turned on and cleaning starts, it completes the cleaning process but does not return to the original starting point.	<p>After the robot finishes its work, it will return to the area near the starting point within a range of $R < 30$ CM. You can use the remote control's directional buttons to assist the robot in returning to the starting point.</p>
5	The robot is not spraying water	<p>1.First-time use: The internal water pipes may not be fully filled, causing temporary spray failure. This is normal and should resolve after a few spray cycles.</p> <p>2.Water tank is empty: Please remove the robot from the window and refill the tank with clean water.</p> <p>3.Ultrasonic nozzle blocked by water film: A thin water film may form on the nozzle, temporarily blocking the spray. This is a common and natural occurrence. The film will usually break after several spray cycles. You can also gently poke the nozzle area with your finger to help restore spraying faster.</p>

**Note:**

1. Using the remote control without power or adequate suction poses risks. Ensure supervision nearby.
2. Not suitable for heavily soiled glass cleaning.
3. When using the remote control for assistance, ensure the device operates within a safe range, keeping the robot at least 50 cm away from the window edge. Be mindful of the robot's movement and avoid obstacles.

LED Indicators and Problem Description

LED indicator	Problem Description	Solutions
Red light and blue light flashing alternately	The firmware is being updated, please wait.	The firmware is being updated, please wait.
Red light flashing	Adapter power off error during working	Check whether the power socket and wiring port are normal or loose. Whether the adaptation indicator light is on or not
	Low pressure	<ol style="list-style-type: none"> 1. Check if the cleaning pad is installed properly and install it correctly according to the instructions; 2. Check if there are any protrusions on the surface of the glass: The surface on which the machine is placed should be smooth without any protrusions; 3. Check if the glass is curved, as there may be air leakage when cleaning the curved glass; 4. Check if there are any gaps in the glass, as these gaps can cause the machine to leak air; 5. Check if the suction port is blocked
	Fan abnormality	Remove the window cleaning robot and unplug the adapter, please contact our customer service staff
	Wheel motor overload	Remove dirt from cleaning wheel. Check whether there are stickers or other attachments on the glass
	Anti-drop sensor abnormality	<ol style="list-style-type: none"> 1. Check whether the cleaning pad is installed correctly and does not block the two anti-drop sensors of the robot. 2. Check whether there is any dirt stuck on the anti-drop sensors at the both sides of the robot. 3. Remove the robot and unplug the adapter and restart the robot. If it cannot be restored to normal, please contact our customer service staff.
	Battery abnormality	Restart the machine. If it cannot return to normal, please contact our customer service staff.

Hazardous Substance Content Status

Part name	Substances or elements in ROHS					
	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBBs)	(PBDEs)
Electronic Circuits	X	O	O	O	O	O
Adapter	X	O	O	O	O	O
Battery Pack	O	O	O	O	O	O
Air Duct Motor Components	O	O	O	O	O	O
Wheel Motor Assembly	O	O	O	O	O	O
Main Unit Body Components	O	O	O	O	O	O
Top cover assembly	O	O	O	O	O	O
Water Pump	O	O	O	O	O	O
Ultrasonic atomizer	O	O	O	O	O	O

Note: This form is prepared in accordance with the provisions of SJ/T 11364

O: It indicates that the content of the hazardous substance in all homogeneous materials of this part is below the limit requirements specified in the current effective version of GB/T26572 (IEC62321).

X: It indicates that the content of the hazardous substance in at least one homogeneous material of the component exceeds the limit requirements stipulated in the currently effective version of GB/T26572, and there is currently no mature alternative in the industry that complies with the EU's ROHS directive environmental requirements.



years under normal use.

The environmental protection service life refers to the period during which toxic and harmful substances or elements contained in electronic and electrical products will not leak or suddenly mutate to the outside, and users of electronic and electrical products will not cause serious pollution to the environment or cause serious damage to human health and property when using the products. According to the "Regulations on the Management of Recycling and Disposal of Waste Electrical and Electronic Products", in order to better care for and protect the earth, if the product is discarded, please comply with relevant laws and regulations on the recycling and disposal of waste electrical and electronic products in the country, and hand it over to a local manufacturer with nationally recognized recycling and disposal qualifications for recycling and disposal.

AFTER-SALES SERVICE CARD

Nationwide
Joint Warranty

Model No.	Purchase Date	Name
Address:		
Tel:		
Maintenance Records:		
<p>Product after-sales service instructions</p> <p>All goods purchased by cardholders are entitled to the three guarantees policy stipulated by the state.</p> <p>The cardholder is not allowed to transfer this card to others for use</p> <p>Cardholders enjoy nationwide joint warranty services</p> <p>Please keep this card properly so that we can serve you better</p> <p>National unified customer service hotline:</p>		

Service Hotline: 0755-83435131

Website: <https://www.hctrobot.com/>

Manufacturer: Shenzhen Haocheng Intelligent Technology Co., Ltd

Address: Room 503, Main Building, No.1 Square, Overseas Chinese Town, No.2 Shenyun-Road, Gaofa Community, Shahe Street, Nanshan District, Shenzhen, China.