

# HOBOT-198

## Glass Cleaning Robot

### User's Manual

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**CAUTION !!**  
1. Avoid all sharp objects before using this device.  
2. Do not use this device on any surface that is not smooth.  
3. Do not use this device on any surface that is not clean.  
4. Do not use this device on any surface that is not flat.  
5. Do not use this device on any surface that is not dry.

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## Technical support

If any problems occur and this manual cannot provide the solution you need, please contact a local retailer or local authorized dealer.

## Disclaimer

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The user should follow the instructions provided in this user manual, but is ultimately responsible for assessing placement and safety when using this glass cleaning tool.

# Important Safety Precautions

Read all instructions before operating this device.

## WARNING

1. Fasten the safety rope and tie to an indoor fixture before operating the device.
2. Check if the safety rope is broken or the knot is loose before operating the device.
3. A power cord must be used for the HOBOT-188 to function properly.
4. For windows with no balcony, a warning area must be established on the ground below to prevent people from coming near it.
5. The battery must be fully charged (green light ON) before using.
6. Do not use on rainy or humid days.
7. Turn power on before putting device onto glass.
8. When placing the appliance onto glass, make sure it sticks to the surface before removing the supporting hand.
9. Remove the device before turning the power off.
10. Do not use on frameless glass.
11. Make sure to put the cleaning ring onto the cleaning wheel correctly to avoid leakage.
12. Do not spray or pour water onto the appliance.
13. Prohibit children from using this device.
14. Remove any obstructions on the glass. Do not use on cracked glass. Reflective or coated glass may be scratched during operation by dirt on the glass.
15. Keep hair, loose clothing, fingers, and all body parts away from the openings and moving parts.
16. Do not use in areas containing flammable or combustible liquids or gases.

# Product Description

HOBOT-198 is a glass-cleaning robot with a vacuum motor inside that uses suction to stick to glass surfaces. An embedded UPS (Uninterrupted Power System) can prevent the robot from falling off the window even when the power is off.

HOBOT has two specially-design cleaning wheels that can freely move window surfaces, and even walls. The easily-replaceable lint-free cloth is used on both cleaning wheels. Micro-fiber cloth is used to attain superior glass cleaning.

HOBOT has AI Technology that can calculate paths, auto-detect window edges, and auto-clean entire windows. It also features a mode for manual operation.

# Specifications

Product size	295mm x 148mm x 120mm (LWH)
Product weight	940g
Gift box size	320mm x 230mm x 136mm (LWH)
Gift box total weight	2.1Kg

Input Voltage	100~240VAC, 50Hz~60Hz
Adapter output	24V/3.75A
Power consumption	90W
AC power cord length	1.0m
DC power cord length	4.0m
Safety rope length	4.5m
Battery	Li-Po, 14.8V
Battery working time	20 minutes
Battery life	2 years
Cleaning speed	4 min/square meter (Cleaning the entire area twice)
Noise	65.5 dB
Maximum cleaning area	Height: 6 meters Width: 5 meters

## Product and accessories

- Device x 1
- Remote controller x 1
- Adapter (100~240VAC, 50~60Hz) x 1
- AC power cord x 1
- DC power extension cord (4 meters) x 1
- Cleaning cloths x 14
- Cleaning rings x 4
- User manual x 1

## Product features

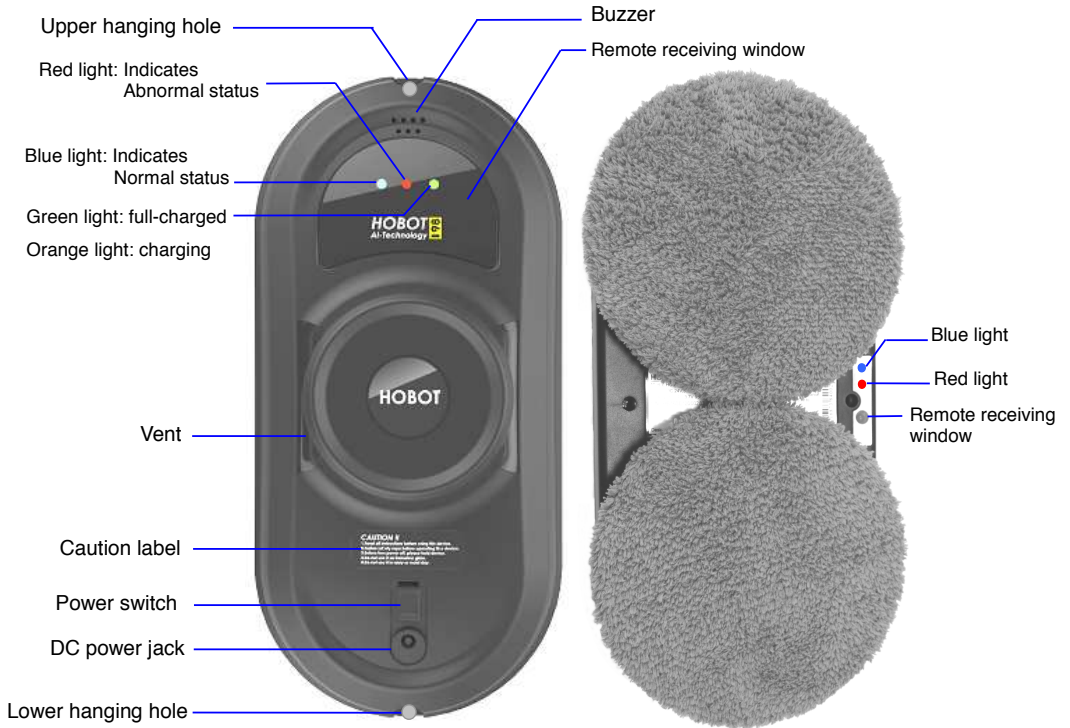
- Designed for any thickness glass
- AI Technology V2.1
- Rotating speed: 70RPM
- Cleaning speed: 4 min/m<sup>2</sup>.
- 3 kinds of automatic operation modes for cleaning the entire window
- Stops automatically upon completion of cleaning.
- Embedded UPS (Uninterrupted Power System)
- Anti-falling control algorithm
- Auto-detects edges of window
- High sensitivity pressure sensor
- Micro-fiber cloth
- High-strength safety rope (tensile strength 150Kgf) and buckle
- Remote control
- Mobile phone control
- Table cleaning mode
- Power consumption : 90W
- Input voltage: 100~240VAC, 50~60Hz

## Cleaning cloth laundry instructions

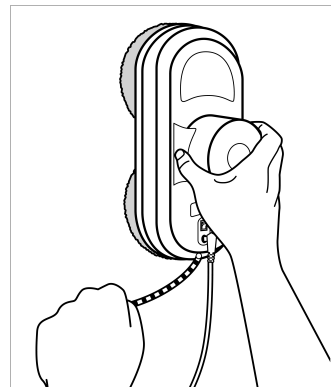
- Washing under 40°C (104°F) ◦
- Do not bleach.
- Do not tumble-dry.
- Do not iron.
- Do not dry clean.



# Getting to know the device



Safety rope & buckle



## Step 1. Preparing

- (1) Don't use the device on rainy or high humidity days, otherwise it will produce white streaks.
- (2) For windows with no balcony, a warning area must be established on the

ground below to prevent people from coming near it.

- (3) Check if the safety rope is broken or the knot is loose before operating the device.
- (4) Fasten the safety rope and tie to an indoor fixture before operating the device.
- (5) Do not use on frameless glass.

**Step2.** Assemble adaptor, DC power cord, AC power cord before plugging L-shape connector into DC power jack on the device and then plugging AC power cord into the socket.

**Step 3.** Make sure the battery is fully charged (green light ON) before use:









- (1) Turn off the power switch on the device and then plug it into a power source. Orange light ON means charging.
- (2) Green light ON means the battery is fully charged.

**Step 4.** Refer to the illustrations below. Make sure cleaning ring is perfectly covered by cleaning cloth and put the cleaning ring onto the cleaning wheel correctly to avoid leakage.

**Step 5.** How to put the device onto glass.

- (1) Turn power switch on. Make sure fan is running.
- (2) Put the device onto glass and keep 10cm away from the frame of window.
- (3) Check if the device is sticking to the glass before releasing it.

**Step 6.** Auto mode and Manual mode operation.

- (1) Press  or  or , the device automatically cleans whole window.
- (2) Press  to stop the device running.
- (3) Press     to manually control the device moving.

**Step 7.** Finish and remove the device from glass.

- (1) While the device is running, hold the safety rope with one hand and take the device down from glass with the other hand.
- (2) Remove the device to a safe area, then turn it off.

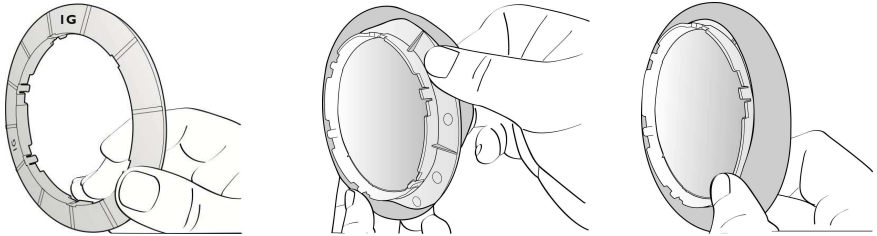
● **UPS (Uninterrupted Power System) function:**

- (1) The UPS function will be enabled automatically when no electric power is supplied. The backup time of this UPS is 20 minutes.

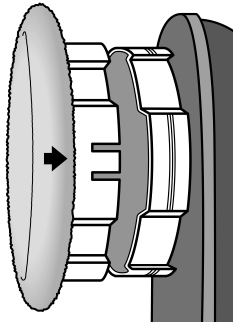
- (2) If no electric power is supplied, the device will stop automatically, sound an alert, and flash a red light. The user should take the device down from the glass as soon as possible.
- (3) The safety rope can be used to pull the device back. Gently pull the safety rope at an angle close to the glass to prevent it from falling.

## Using the cleaning ring and the cleaning cloth

1. Cover cleaning ring with cleaning cloth.



2. Put cleaning ring onto cleaning wheel correctly (snap the 6 latches) to avoid leakage.



## Setting up the device with the HOBOT App.

- Step 1: Scan QR code or search "HOBOT" on the App Store or Google Play to download HOBOT app on your smart phone or tablet.



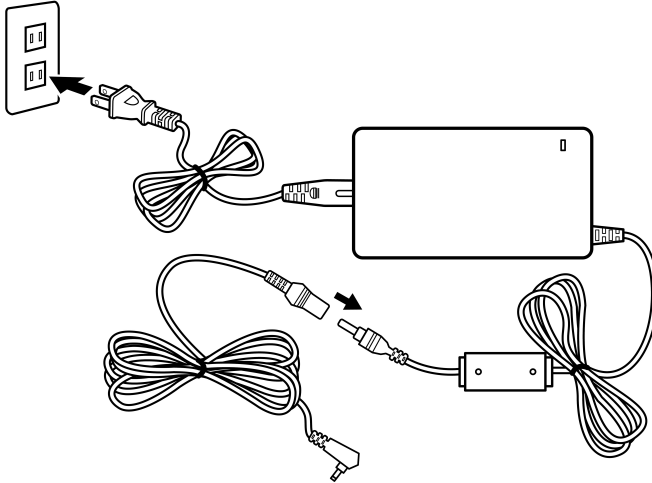


Step2. Turn on Bluetooth and click HOBOT App.

Step3. Turn on the device and wait for “Connected” shown on HOBOT App.

Make sure both HOBOT App and the device are on, so you can use your iOS or Android smart device to operate the device.

## Power adapter/DC extension cable



## How to clean the glass

Step I: “Dry Clean” first

Use a clean and dry cleaning cloth to clean dust and dirt from the glass.

- If there is water or detergent on the cloth or glass, the water or detergent will mix together with the dust or dirt to become mud, making cleaning results bad.
- **Using HOBOT on sunny days or days with low humidity for best results.**
- **Don't use HOBOT on rainy or high humidity days, otherwise it will produce white streaks.** The white streaks are water molecules. This is the same thing that can happen when manually cleaning with a cloth.

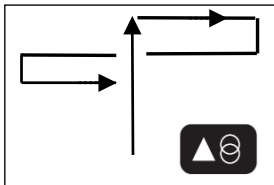
Step II: Use a clean and dry cleaning cloth. Keep the cleaning cloth on the upper wheel clean and dry. Spray a little detergent (1~2 sprays) on the lower wheel's cleaning cloth, but not too much (if too wet, the machine can't move well), then clean the glass again.

# Remote controller

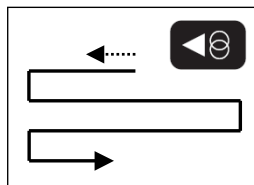
The device can be remote controlled from the front and back sides.



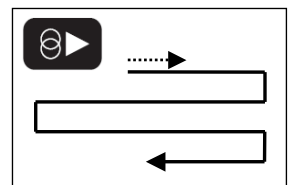
	Automatically move up then down
	Automatically move left then down
	Automatically move right then down
	Manually move UP 、 DOWN 、 RIGHT 、 LEFT
	Stop
	Clean twice



Auto up then down



Auto left then down



Auto right then down

※ If you have to replace the battery, just pull down the battery cover.

# LED indication

Situation	LED indication
1. Battery charging	Orange LED is ON
2. Battery charged	Green LED is ON
3. No electrical power	Red LED flashing Repeated beeping sound
4. Hardware error	Red-LED flashing Blue-LED flashing with "error number"
5. Friction factor check error at start-up.	Red-LED flashes once, Beep
6. Vacuum pressure too low	Red-LED flashes once, Beep
7. Air leakage while operating	Red-LED flashes once, Beep




# Frequently asked questions (FAQ)


Q1: When the power switch is turned on, the FAN does not rotate, and no alarm sounds.

Case	LED signal	Situation
1	Blue: flash Orange: on Red: off No alarm	It means battery charge is too low. Wait for battery to fully charge (green light is lit). If machine still can't be used after charging for 8 hours, the battery should be changed.
2	Blue: flash Red: flash No alarm	Machine hardware failure. Please contact a local retailer or local authorized dealer for repairs.

Q2: HOBOT can't start up and it sounds an alert at the beginning of the self-test.


Ans: It means that there is too much or too little friction. Please check:

- (6) Whether the cleaning cloth is too dirty.
- (7) Glass stickers and window film have a friction factor that is too low.
- (8) If the window is cleaned many times, the glass surface will become very slippery.
- (9) The glass surface will become slippery if cleaned several times in a low humidity environment such as in air-conditioned room.
- (10) When starting up the device (pressing , or  or ), keep it 10cm or more away from the window frame to prevent the device from making an incorrect assessment.

Q3: The HOBOT slips and cannot detect the upper frame of window in "Auto Up then Down" ( ) mode.

Ans: Press  key and switch to  or  auto mode.

Q4: HOBOT cannot finish cleaning the whole window and stops in the middle area.




Ans: Press  or  auto mode to continue cleaning.

Q5: HOBOT slips and can not climb up to the window frame.

Ans: (1) The friction factor is too low and may be caused by glass stickers or window film on the glass.

(2) The cleaning cloth might be too wet.

(3) If the window is cleaned many times, the glass surface will become very slippery.

- (4) The glass surface will become slippery if cleaned several times in a low humidity environment such as in air-conditioned room.
- (5) When starting up (press , or  or  ), keep the device 10cm or more away from the window frame to prevent it from making an incorrect assessment.

Q6: HOBOT does not move smoothly, or it moves irregularly.

Ans: (1) Cleaning cloth is too dirty. Please change out the cleaning cloth for a clean one.

(2) Glass surface has different friction factor areas due to glass stickers, window film, and so on. Please limit use the HOBOT to certain areas of the window.

(3) The screw of the cleaning wheel might have become loose. Just tighten it.

Q7: After cleaning, a circular mark is left on the glass.

Ans: Cleaning cloth is too dirty. Please change out the cleaning cloth out for a clean one and clean again.

Q8: What to do if HOBOT stops due to a power outage?

Ans: (1) User can pull HOBOT back with safety rope. Gently pull the safety rope at an angle close to the glass to prevent it from falling off the glass.

(2) Switch the power switch to “off”.

(3) Check whether there is a poor connection or broken cord.

Q9: What to do if HOBOT unexpectedly stops and the red light is flashing, with no alarm sounding?

Ans:(1) User can move HOBOT to safe area by remote control, or pull HOBOT back with safety rope. Gently pull the safety rope at an angle close to the glass to prevent it from falling off the glass.

(2) Switch the power switch to “off”.

(3) Check whether there is air leakage caused by a gap or uneven window frame.

Q10: What to do if circular marks are still left on cleaned glass when the lights are on in the evening?


Ans: Step 1: use a clean and dry cleaning cloth to clean dust and dirt from the glass.

Setp 2: Change cleaning cloth from used to new or clean.

Keep the cleaning cloth on the upper wheel clean and dry. Spray a

little detergent or alcohol (1~2 sprays) on the lower wheel's cleaning cloth, but not too much (if too wet, the machine can't move well), then clean the glass again to wipe circular marks.

Q11: If HOBOT can't auto-stop at bottom of window when it finishes cleaning.

Ans: Press  key to stop machine.

Q12: Smart device cannot connect to the robot.

Ans: Make sure bluetooth is turned ON and restart HOBOT App.

Q13: The robot cannot be controlled by smart device.

Ans: Make sure HOBOT App is connected or restart App.

## **Safety information about power adapter/battery**

- Use only the power adapter supplied with this device. Use of other types of power adapters will result in malfunction and/or danger.
- Please use a proper electrical outlet and make sure no heavy objects are placed on the power adapter or the power cord.
- Allow adequate ventilation around the adapter when using it to operate the device. Do not cover the power adapter with objects that will reduce ventilation and cooling.
- Do not use the adapter in a humid environment. Never handle the adapter with wet hands.
- Connect the adapter to a proper power source. The voltage requirements are listed on the adapter.
- Do not use a broken adapter, power cord, or plug.
- Do not attempt to service the adapter. There are no service parts included. Replace the whole unit if it is damaged or exposed to high moisture. Consult your HOBOT dealer for help and maintenance.
- The battery used in this device may present a risk of fire or chemical burn if mistreated. Do not disassemble, short the contacts, heat above 60°C (140°F), or incinerate.
- If you have to dispose of old equipment, please take it to the local recycling center for recycling electrical and electronic parts.

## General safety information

- Retain the safety and operating instructions for future reference.
- Follow all operating and use instructions.
- Do not expose your device to rain or excess humidity, and keep it away from liquids (such as beverages, faucets, and so on).
- Avoid exposing your device to direct sunlight or sources of intense light, and keep it away from sources of heat (such as radiators, space heaters, stoves, and so on).
- Do not place the device in the vicinity of strong magnetic fields.
- Keep the device and accessories away from children.
- Product operating temperatures: 0°C~40°C (32°F~104°F) °
- Product storage temperatures: -10°C~50°C (14°F~122°F) °

## Limited warranty

If there are defects in your HOBOT glass-cleaning robot due to faulty materials, poor workmanship, or malfunction within the warranty period from the date of purchase or delivery, please contact a local retailer or local authorized dealer for repairs or replacement.

## Not covered by warranty

- Normal wear and tear (e.g. cleaning cloth, safety rope, etc).
- Reduction in battery discharge time due to battery age or use.
- Damage caused by assembly or installation that is not in accordance with the instructions included with the HOBOT.
- Damage caused by using the HOBOT glass cleaning robot for anything other than normal domestic household purposes.
- Damage caused by using parts and accessories which are not specified by HOBOT.
- Damage caused by accidents, abuse, or misuse.

# CE Declaration

## CE Declaration of Conformity

We herewith confirm the following designated products to comply with the requirements set out in the Council Directive on the approximation of the laws of the Member States relating to Electromagnetic Compatibility Directive (2014/30/EU) with applicable standards listed below.

Product : Glass Cleaning Robot  
Trade name : HOBOT  
Model Number : HOBOT-198  
Applicable Harmonized : EN 55014-1: 2006+A2: 2011  
Standards under Directive : EN 55014-2: 2015  
2014/30/EU : EN 61000-3-2: 2014  
EN 61000-3-3: 2013  
IEC 61000-4-2 Ed. 2.0: 2008  
IEC 61000-4-3 Ed. 3.2: 2010  
IEC 61000-4-4 Ed. 3.0: 2012  
IEC 61000-4-5 Ed. 3.0: 2014  
IEC 61000-4-6 Ed. 4.0: 2013  
IEC 61000-4-11 Ed. 2.0: 2004  
ERP Directive : Lot 7(278/2009) of (2009/125/EC)  
Low Voltage Directive : 2006/95/EC and 2014/35/EU  
RoHS 2.0(2011)/EU  
Safety : IEC 60950-1: 2005+A1: 2009+A2: 2013  
EN 60950-1: 2006+A11: 2009+A1: 2010+A12: 2011+A2: 2013

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Person in responsible for marking this declaration:

George Chao  
Name (Full Name)

2016.9.22  
Date

Manager  
Title/Department

George Chao  
Legal Signature





Hobot Technology Inc.

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