WINDORO



Super Smart cleaning for window!

A joint development with Pohang Institute of Intelligent Robotics (PIRO)



WINDORO User's Manual

Please be sure to read this manual thoroughly before operating WINDORO for the first time. WARNING: Failure to follow all instructions may result in personal injury and/or property damage.

Ilshim Global co., Ltd.

Key Features

WINDORO IS A WINDOW CLEANING ROBOT OPERATED IN TANDEM WITH TWO MODULES: A NAVIGATING MODULE AND CLEANING MODULE USING THE SPINNING MICROFIBER PADS.



Cleaning with single click

Attach two modules on each side of the window. Once WINDORO is attached, press the button on the top of each module. WINDORO will start a cleaning cycle.

Excellent Safety

WINDORO will remain strongly attached to the window whether the power is on/off. The two modules hold together by permanent magnets.

End Signal and Automatic Return

WINDORO will beep indicating end of a cleaning cycle and will return to its initial spot.

Magnetic Force Controller

The magnetic force is controlled by the magnetic sensor, and it cleans windows with a wide range of thickness varying from 5~15mm or 16~28mm.

Perfect Cleaning

The combination of a precise amount of detergent spray and the spinning microfiber pads will clean the windows perfectly.

Convenient Detachable Microfiber Pad

The microfiber pad with Velcro tape can be conveniently detached and re-applied after washing. (For thoroughly cleaning of a dirty window, run two or more cycles after changing pads.)

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Safety Instructions

CAUTION: DO NOT EXPOSE THE ELECTRONICS OF WINDORO, ITS BATTERY, OR THE POWER SUPPLY. THERE ARE NO USERSERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. PLEASE ENSURE VOLTAGE RATING FOR ENCLOSED POWER SUPPLY MATCHES STANDARD OUT! FT VOLTAGE.

READ ALL INSTRUCTIONS BEFORE OPERATING WINDORO, FAILURE TO FOLLOW ALL INSTRUCTIONS BELOW MAY RESULT IN SERIOUS INJURY AND/OR PROPERTY DAMAGE. THIS PRODUCT CONTAINS STRONG PERMANENT MAGNETS WHICH NEED TO BE HANDLED WITH CAUTION.

Take extra caution that children and pets are not near this machine while in operation. It is advisable to keep it out of reach of children and pets.

- * The cleaning robot can excite the curiosity of children and pets.
- * If hands, feet, the lower ends of clothes, and hairs of the user are caught between the bodies, the user can be injured and the Window cleaning robot is in danger of falling down.
- * If the cleaning robot is followed and stopped, the robot can't proceed to clean because it is recognized that there is an obstacle (window frame).



Do not touch the product or detach it from the window while in use.

- * This product contains permanent magnets to be attached to the window.
- * If you touch or detach the navigating module or the cleaning module while the product is running, the navigating module or cleaning module will fall off.
- * Keep children or pets away from this product.



Keep the two modules separated from each other.

- * If you place the two modules close to one another, they could become attached to each other due to their strong magnetic force.
- * When the two modules are attached to each other, it is very difficult to separate them. Also, if you try to separate them by excessive force, it can cause damage to the product.
- * If any part of your body is trapped between the two modules, you can be seriously injured.
- * Keep children away from this product.



Keep the wheels of the two modules clean.

* When dust and foreign substances are formed on the wheels, the vertical movement could not function properly.



Check the bottoms of the two modules regularly.

* Foreign substances such as nails and wires could cause damage to the window.

Safety Instructions

READ ALL INSTRUCTIONS BEFORE OPERATING WINDORO. FAILURE TO FOLLOW ALL INSTRUCTIONS BELOW MAY RESULT IN SERIOUS INJURY AND/OR PROPERTY DAMAGE. THIS PRODUCT CONTAINS STRONG PERMANENT MAGNETS WHICH NEED TO BE HANDLED WITH CAUTION.

A

Warning Failure to follow

Failure to follow all instructions listed below may result in death or serious injury.

0

Notice

Failure to follow all notices listed below may result in some injury, and/or property damage.



Help

Information for the users to help understand the usage of the product.

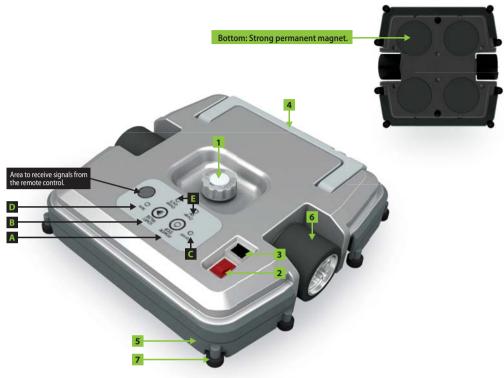
	The Main Power Supply	
Λ	Do not excessively bend the power supply cable or put heavy things on the cable.	Electrical shock hazard.
41	 Wipe off the dust or water on the connection to the main power plug. 	Operation fault and electrical shock hazard.
•	 Do not pull the cable or touch the plug with wet hands. 	Electrical shock hazard and fire hazard.
v	 Use only 100~240V power and do not plug multiple products into one socket. 	Electrical shock hazard and fire hazard.
_	Do not expose the cable to the floor.	
	 The adapter is only for WINDORO. 	Fire hazard and operation fault.
	Do not put metallic substances on the charging port	Operation fault

Before using the product	
Check the window.	Check the thickness of the window and remove any obstructive attachments on the window.
Check the bottoms of the two modules of WINDORO.	Nails and wire can cause damage to the window. The dust and foreign substances on the wheels can cause the product to slip or not operate.
 Do not use the product near flammable materials. 	Do not use the product near lighting or heaters.
 Do not use when the weather could cause the product to fall off. 	Typhoons, strong winds, rain and lightning are hazardous to WINDORO.
 When the product is used in high places, install the secondary safety device. 	Install the safety reel to the outside cleaning module.
 Keep children and pets away from this product. 	Children and pets can be interested in the cleaning robot.
	If any body parts or clothes are squeezed in between the two modules will result in injury or WINDORO could fall.
	If you interrupt WINDORO while its operating, it will regards you as an obstacle (i.e. window frame) and will not continue operating.
	When the emergency switch is turned off, all functions and the main power are blocked. When WINDORO is attached to the window, it will still remain strongly
	attached

	While using the product	
A	Do not touch or detach the navigating module while the product is operating. WINDORO cannot be used for windows beyond the specified standard thicknesses of the window panes. Thin windows may be broken and thick windows may cause the product to fall.	The cleaning module will fall off. Standard thickness of windows: single pane type 5~15mm, double panes type 16~28mm.
	When the product stops out of your reach because of an operation fault, never try to detach it. Call the service center immediately. Places where the product cannot reach such as corners and window frames cannot be cleaned.	The product could fall.
	This product is only for cleaning windows.	
	Only use microfiber pads for WINDORO. Do not press the bumper with excessive force.	Other pads can cause an operation fault. Trouble in the sensor can cause the product to crash into obstacles.
	 Do not allow fingers, clothes or curtains to contact with the wheels while the product is operating. 	Injury or operation fault.
	Turn off the product immediately if you notice a strange sound, scent or smoke.	Fire hazard and operation fault.
	Do not use this product at a low temperature.	Frozen detergent can cause a cleaning failure.
	Do not give a strong impact or drop this product.	Injury or operation fault.
	 Do not hang things on WINDORO. 	Injury or operation fault.

Product Maintenance	
_Do not pour water on the product or wipe it with volatile materials such as benzene, thinner or alcohol.	It can cause the product a serious damage.
Do not press the bumper strongly.	Trouble in the sensor can cause the product to crash into obstacles.
Only qualified technicians can dissemble or alter this product.	It can cause the product a serious damage.
If the power connection is damaged, call the service center to send a qualified technician	Electronic shock hazard or fire hazard.
to replace it.	
Before and after using this product, remove dust and foreign materials from the wheels.	The navigating module could slip.
This product contains strong magnets. Do not put electronic/magnetic devices that can	Strong magnetic force can damage things.
be damaged by magnetic force such as credit cards, mobile phones and watch.	
Call the service center to replace the consumable materials such as :	Unqualified consumables will cause an operation fault.
batteries, running/side/auxiliary wheels, detergent, and microfiber pads	

Part Names and Functions – Navigating Module



A POWER/STOP: ON/OFF button

To turn WINDORO on, press POWER/STOP for 2 seconds. You will hear a beep and WINDORO is on. To turn WINDORO off, press POWER/STOP for 2 seconds. You will hear a beep and WINDORO is off.

B START/PAUSE: Button to start cleaning cycle or pause

To start WINDORO, press START/PAUSE for 2 seconds. WINDORO will start a cleaning cycle. To pause WINDORO, press START/PAUSE for 2 seconds. WINDORO will pause a cleaning cycle.

CONTROL: Optimum magnetic force lights

When two modules attached to a window.

RED Indicates the magnetic force is too strong or tooweak to work. Adjust the controller onto WEAK or STRONG.

GREEN Indicates the magnetic force is ready to work. to work. Adjust the controller onto WEAK or STRONG.



D STATE: Signal lamp

STATE light turns green when both modules are on. If STATE lamp does not turn green, Please wait for 15 seconds after restarting the device. Communication will be reset automatically.

CHARGE (IN/OUT) : Embedded battery lamp

WINDORO uses the battery light to indicate status of charge. Once WINDORO used 80% of battery capacity, it will automatically return to the initial spot and stop.

Green - Fully Charged or 80%, Yellow - 70% or below, Red - 20% or Battery empty.

1 Magnetic force controller

Knob adjuster for optimum magnetic force, monitor LED light if force is too strong or weak.

2 Power switch

Main POWER switch.

Magnetic force remains regardless of the main POWER switch is ON or OFF.

3 Charging Port

Charge the device only by using WINDORO power adaptor, device will not charge unless POWER switch is OFF.

4 Handle

ONLY use the HANDLE to attach the modules on window. DO NOT ATTACH the device holding other parts of the module, it may result in personal injury and/or property damage.

5 Bumper

When bumper sensors reach windowsill, WINDORO will move in the opposite direction. * Strong pressure on the bumpers can cause an operation fault.

6 Running Wheels

Before using this device, always clean dusts and foreign substances.

7 Side Wheels

Before using this device, always clean dusts and foreign substances.

Part Names and Functions – Cleaning Module



A POWER/STOP: ON/OFF button

To turn WINDORO on, press POWER/STOP for 2 seconds. You will hear a beep and WINDORO is on. To turn WINDORO off, press POWER/STOP for 2 seconds. You will hear a beep and WINDORO is off.

1 WINDORO Detergent Inlet

DO NOT overfill. Refill as needed. Maximum detergent capacity is 40 ml.

2 Power switch

Main POWER switch.

* Magnetic force remains regardless of the main POWER switch is ON or OFF.

3 Charging Port

Charge the device only by using WINDORO power adaptor, device will not charge unless POWER switch is OFF.

4 Handle

ONLY use the HANDLE to attach the modules on window. DO NOT ATTACH the device holding other parts of the module, it may result in personal injury and/or property damage.

5 Bumper

When bumper sensors reach windowsill, WINDORO will move in the opposite direction. \star Strong pressure on the bumpers can cause an operation fault.

6 Auxiliary Wheels

Before using this device, always clean dusts and foreign substances.

7 Side Wheels

Before using this device, always clean dusts and foreign substances.

E CHARGE (OUT): Embedded battery lamp

WINDORO uses the battery light to indicate status of charge. Once WINDORO used 80% of battery capacity, it will automatically return to the initial spot and stop. Green - Fully Charged or 80%, Yellow - 70% or below, Red - 20% or Battery empty.

Part Names and Functions – Remote Controller



1 Automatic Mode

START: To start a cleaning cycle. STOP: To stop a cleaning cycle. PAUSE: To pause a cleaning cycle.

2 Home

WINDORO will return to initial spot of attachment.

3 Manual Mode

UP/DOWN: Directional button for manual mode, WINDORO will move horizontally. LEFT/RIGHT: Directional button for manual mode, WINDORO will move vertically.

A SPEED - moving speed

High: To increase speed, maximum speed is 10cm/sec. Normal: To decrease speed, minimum speed is 6cm/sec.

B SPACE – cleaning space

Dense: The robot cleans densely, the maximum value is 3. Normal: The robot cleans lightly, the minimum value is -3.

C LIQUID - the volume of detergent

Strong: The volume increases. Normal: The volume decreases.

Product Features and Components

PLEASE BE AWARE OF THE FEATURES AND COMPONENTS OF THIS PRODUCT. THIS PRODUCT CONTAINS STRONG PERMANENT MAGNETS WHICH NEEDS TO HANDLED WITH CAUTION. FAILURE TO FOLLOW INSTRUCTIONS OR KNOWING ALL COMONENTS MAY RESULT IN SERIOUS INJURY, MALFUNCTION OF THIS DEVICE, AND/OR PROPERTY DAMAGE.

	WINDORO for Single Panes	WINDORO for Double Panes
Thickness Criteria	thickness 5~15mm	thickness 16~28mm
Weight	2.9kg (IN: 1.6kg, OUT: 1.3 kg)	3.2kg (IN: 1.8kg, OUT: 1.4 kg)
Size	[IN] 218x211x51mm, [OUT] 210x208x47mm	
Moving speed	ving speed 8 centimeters per second	
Voltage	Less than 25 Watts	
Adapter	Rated voltage AC 110/220v, voltage DC 15v, 1.6A	
Battery	Li-ion body(11.1v 2200mAh), out (7.4v 1800mAh)	
Charging time	time Around 150 minutes	
Usage time	Around 90 minutes	
Remote control	ontrol IR receiver system	
Cleaning mode	le Zigzag	
Noise	Less than 60dB	



A WINDORO navigating/cleaning module

WINDORO consists of navigating module and cleaning module.

B One Remote Controller

After attaching WINDORO on window, you can use the remote controller to operate WINDORO safely and conveniently.

C The WINDORO Adapter

ONLY USE WINDORO Y-ADAPTER TO CHARGE WINDORO. The Y-type adapter is only for WINDORO. Use it to charge the navigating and cleaning module at the same time.

D WINDORO Detergent

Pour it into the inlet of the cleaning module to a maximum capacity is 40 ml. FOR MAXIMUM PERFORMANCE, ONLY USE WINDORO DETERGENT.

If other detergents are used, it may cause imperfect cleaning or operation faults.

E WINDORO Microfiber pads

There are 12 microfiber detachable pads included in the box. After using them, thoroughly wash them for reuse.

USE WINDORO PADS ONLY.

The magnetic force of the product is adjusted to the thickness of the WINDORO pads, hence if you use other pads, it may cause imperfect cleaning, operation faults, or the device may fall.

F WINDORO Edge cleaning kit

Edge pad+Fix plate. The Edge cleaning kit is used for cleaning the edge of the window, attach edge pads to the cleaning module. EDGE CLEANING KIT IS ONLY FOR WINDORO.

Usage – Communication setting of the device

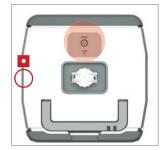
THIS PRODUCT CONTAINS STRONG PERMANENT MAGNETS WHICH CAN DISTURB INITIAL SETTING OF THE DEVICE.

If The State LED does not turn Green after turning on the Power of navigating and cleaning module. Wait for 15 seconds. Communication will be reset automatically.

(If it does not turn green within 15 seconds. Reset the communication following instruction below)

If you like, Please refer to the YouTube clip.
[communication setting] http://www.youtube.com/watch?v=IDbjM7F3544

- 1 Press the POWER button on the cleaning module.
- 2 Press the POWER button for 4 seconds until it beeps twice.





- **3** Press the POWER/STOP button on the navigating module.
- 4 Press the START/PAUSE button for 6 seconds until it beep three times.





If it does not turn green within 5 seconds, contact service center.

Usage – Vertical or Horizontal Initialization of the product

THIS PRODUCT CONTAINS STRONG PERMANENT MAGNETS WHICH CAN DISTURB INITIAL SETTING OF THE DEVICE

If WINDORO is operating diagonally after detecting the window frame size, reset the vertical and horizontal values.

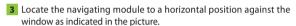
WINDORO has a sensor to detect its position vertically and horizontally by measuring where to locate itself for a correct operation. However, a sudden change in temperature and a strong magnetic force can influence the sensor and measurement values. When WINDORO is operated distortedly more than 30°, initialize the product vertically and horizontally as follows.

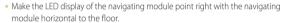
Vertical/horizontal initialization is set in navigating module.

If you like, Please refer to the YouTube clip.

[The vertical and Horizontal initialization] http://www.youtube.com/watch?v=XqE82-uvu0E

- 1 Turn on the Power of the Inside navigation device.
- Press the START/PAUSE button on the navigating module for 5 seconds until it makes a beeping sound.
 - * Check if Charge (OUT) LED blinks in green.
 - * WINDORO will enter the vertical/horizontal initialization mode.





* Use the corner of the window or the wall.











- 4 Press the START/PAUSE button on the navigating module for a short time.
 - * The X-axis is set with a beeping sound. Check if Charge (OUT) LED blinks red light.







- 5 Locate the navigating module at a vertical position against the window as indicated in the figure.
 - Make the LED display of the navigating module point to the top, and the navigating module to the floor.
 - * Use the corner of the window or the wall.





- 6 Press the START/PAUSE button on the navigating module for a short time.
 - * The Y-axis is set with a beeping sound. Check if Charge (OUT) LED light is red, not blinking.
 - (The light will vary to green, yellow or red lights according to its state of charge.)
 - * Vertical/horizontal initialization is completed.







Usage

THIS PRODUCT CONTAINS STRONG PERMANENT MAGNETS WHICH NEEDS TO HANDLED WITH CAUTION, FAILURE TO FOLLOW INSTRUCTIONS OR KNOWING ALL COMONENTS MAY RESULT IN SERIOUS INJURY, MAI FUNCTION OF THIS DEVICE, AND/OR PROPERTY DAMAGE.

1 Check the navigating and cleaning module of WINDORO before using the product.









- *Clean the wheels of the moth modules. Dust and foreign substances formed on the wheels may cause the product to slip or will not operate properly.
- *Check the bottoms of the both modules. Foreign substances such as nails or wires may cause damage on window.
- * Refill the WINDORO detergent into the inlet of the cleaning module to a maximum of 40ml.
- * Attach the pads on the bottom of the cleaning module.

Tip If the window is excessively dirty, put a little amount of the detergent onto the pads, or run 2 or more cycle replacing pads for maximum results.

2 Edge cleaning kit installation.

- * Edge cleaning kit : Edge pad + Fix plate
- * The Edge cleaning kit is to clean edge of the window, attached to the edge of the cleaning module.
- * Edge cleaning kit ONLY for WINDORO.



① [Figure A] Find where the Edge cleaning kit should be placed.





② [Figure B] Fix the Edge pad to the plate.





③ [Figure C] Put the Edge cleaning kit the bumper of the cleaning module.
*Make sure that the Edge cleaning kit remains the height of about 1/10 of an inch





User's Tip/ Note. Before using Windoro, It would be better to wet the pad with the Windoro detergent.

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When the Charge status light is red, recharge WINDORO. Follow the instructions below when recharging WINDORO.



- * Charge the device with WINDORO adapter.
- * Turn off the power switch of both navigating and cleaning module. WINDORO will not charge if neither switch is ON.
- * The Charging light is red during charging, and it turns green when the charging process is completed.
- * If CHARGE(IN/OUT) light doesn't come on, check all switches and connections. Turn on the Power switch and Turn it off again.

3 Turn on the inside and outside devices.





* Turn on the power switch on the top of the inside device and on the side of the outside device.





- *Turn on the power for the inside and outside devices by pressing the buttons on the top of the devices.
- Inside device: press the POWER/STOP button for more than 2 seconds, and the lamp light will be turned on with a beeping sound.
- Outside device: press the POWER button for more than 2 seconds, and the lamp light will be turned on with a beeping sound.

4 Attaching the product.







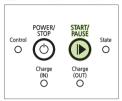


- * Adjust magnetic force controller onto weak position.
- * Attach the navigating and cleaning module with the handles pointing in the same direction. If the modules attaches in different directions, the product cannot be attached or can be attached incorrectly because of the differences of the magnetic N-S forces.
- * Attach the device above 2 inches from the windowsill.
- * After attaching the product, check the Control LED of the navigating module for the state of the magnetic force. The product works only when the Control LED is green.
- * Adjust magnetic force controller as needed.
- RED: The magnetic force is too strong or weak. Adjust controller onto WEAK or STRONG.
- GREEN: the magnetic force is ready to work. However, the magnetic force can be a little weak depending on the situation. Adjust the controller as needed.

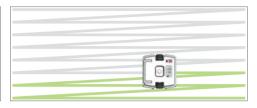
Usage

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5 Cleaning, Starting and Pausing.

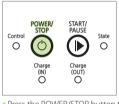




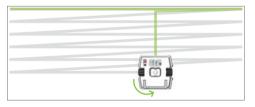


- * Press the START/PAUSE button to start a cleaning cycle.
- * Press the START button on the remote controller to start a cleaning cycle.
- * Press the PAUSE button to pause.

6 Stop







- * Press the POWER/STOP button to stop cleaning.
- * Press the STOP button on the remote controller to stop cleaning
- *When the device restarts, it will start a new cleaning cycle.

7 Cleaning









- $*\,WINDORO\,\,moves\,from\,top\,to\,\,bottom\,\,and\,\,from\,\,left\,to\,\,right\,to\,\,check\,the\,\,width\,\,of\,\,the\,\,window\,\,to\,\,be\,\,cleaned.$
- * When the width of the window is less than 6 feet, the product will clean the window in single mode.
- * When the width of the window is more than 6 feet, the product will clean the window in double mode.
- * After the cleaning cycle, the product stops in the initial spot and will make a beeping sound three times.

 (The position where the device stops can be different from the initial spot if there is dust on the window.)

Frequently Asked Questions (FAQ)

The questions below are often asked. When the product is malfunctioning, check the questions below for solutions.



What should be done if the product does not work?

- A Check the display.
 When none of the lamps on the display are lit, check if the power is turned on. (See pages 6,7,and 13)
- A Check if the IN/OUT Charge LED in the LED display on the inside tool light is green. If the lamp is red, charge the product. (See page 6,7,and 13)
- A Check if the Control LED in the LED display on the inside tool light is green. If the lamp is red, the product does not work. (See page 13)
- A Check the State LED of inside tool.

 If the light was off[out], the product does not work. Set the communication. (See page 10)



Q What causes the inside navigation to slip?

- A Even though the control LED display light is green, the magnetic force can be malfunctioning. Turn the magnetic force controller onto strong. (See page 13)
 - A Check if there is dust or foreign substances on the wheels of the inside navigation and the inside of the window. Always clean the wheels before using the product.



• What can be done when the WINDORO sticks on the window frame and does not move?

A It can happen if the product does not have enough space when it starts cleaning. Attach the WINDORO above 10cm from the window frame before it starts working.



O How can the product be detached from the window when it is out of reach?

- A You are available the remote control after inside tool is on.
- A Pull the inside navigation in the direction that the wheels are rolling pointing until the outside device comes within reach. Make sure that the outside device is moving in unison with the inside device. If you move the product in the opposite direction of the wheels, it can fall.
- A When the inside and outside devices come within reach, grab the handle and detach the product from the window.
- A When the product stops out of reach, do not try to detach it from the window. If you do that, the product can fall. Contact the service center.



What is the reason for using the WINDORO detergent and WINDORO pads?

- A Like the wheels and other components, the microfiber pads influence the optimum magnetic force of WINDORO. If you use other pads, the optimum magnetic force cannot be adjusted.
- A Other detergents can block the nozzles. Use the WINDORO detergent only.
- A The spray volume of the outside cleaning tool is set for the WINDORO detergent. Other detergents can cause imperfect cleaning and stains on the window.

Troubleshooting

WINDORO WILL BEEP OR LED LIGHT WILL ALSO BLINK TO TELL YOU IT HAS AN OPERATION FAULT. REFER TO THE CHART BELOW TO RESOLVE WINDORO'S PROBLEM.

	Troubleshooting	Check Lists
□ 1	WINDORO does not work.	Check the display status. (See page 6,7) (communication/magnetic force/power supply)
		Check if the power is turned ON.
		 Check if the IN/OUT Charge light is green. If the IN/OUT charge light is red, WINDORO needs to be
		charged. (See page 13)
_ 2	The navigating module slips.	Clean the wheels of the navigating module.
		Even if the CONTROL light is green, the magnetic force can still be malfunctioning.
		Adjust the magnetic force controller as needed. (See page 13)
3	WINDORO attached to the window frame and does	• WINDORO bumper sensors can work sensitively according to the silicon of the window frame or
	not move.	the shape of the corner.
		Remove foreign substances (dusts, obstacles) from the window and the window frame.
		Clean the side wheels.
		Operate WINDORO in manual mode with remote controller.
4	After sensing the width of the window, the working	Remove dusts from the driving wheels.
	direction is not correct.	Reset WINDORO's software.
<u> </u>	The detergent sprayer does not work.	The detergent sprayer works after any air inside it is dispelled. Wait for a while.
		- If WINDORO cleaned the window without spray, turn it off and restart.
		Then detergent spray will work from the beginning.
□ 6	WINDORO does not perfectly clean the top of the	Adjust the magnetic force to the optimum magnetic force as needed.
	window and the window frame.	Partial cleaning is possible in the manual mode.
□ 7	Excessively dirty window is not cleaned well with	Apply some detergent on the microfiber pads and run WINDORO for 2 or 3 cycles.
	one cleaning cycle.	- If the window is excessively dirty, apply some detergent on the pads before first cleaning cycle.
□ 8	WINDORO is shaken when it moves up and down	WINDORO moves in a zigzag pattern, so it can change its path on the top or bottom of the window
	and the direction is not correct.	according to the type of window frame, but WINDORO moves straight after a bumper senses the
	and the direction is not conect.	window frame.
		Remove obstacles from the window before using the product.
□ 9	WINDORO stopped out of reach.	Operate WINDORO in manual mode with remote controller.
_ ,	WINDONO Stopped out of reach.	Attach the safety reel to WINDORO when you use the device in dangerous places.
□ 10	What is the reason for using the WINDORO detergent	 Manually move the navigating module on the window slowly. WINDORO sprays a small amount of detergent. If you do not use WINDORO detergent, the nozzle
□ 10	and WINDORO pads?	
	and windono paus:	can be clogged.
		WINDORO pads are designed to maximize the cleaning.
	WINDORO de se estate de la companya del companya de la companya del companya de la companya de l	If the pads are too thick or too thin, the cleaning may not be perfect or the pads may not spin.
11	WINDORO does not touch the window frame.	WINDORO moves according to the bumper sensor.
	Land and the state of the state	Remove the obstacles. (thick stickers, picture frames etc.)
12		Magnetic force influences the cleaning time. Adjust the cleaning space with the remote controller
	same area repeatedly.	Adjust the magnetic force to the optimum magnetic force.
13		Check the battery charge status light. Always charge WINDORO before using it. Check both the inside
	cleaning cycle.	and outside devices and charge them at the same time. (for more than two hours)
		If WINDORO senses obstacles during beginning of a cleaning cycle, it will return to the initial spot
		of attachment. Remove the obstacles.
14	The remote controller does not work.	Turn on the power switch of the navigating and cleaning module.
		Replace remote controller batteries.
15	Pad traces remains on the window after cleaning.	Use only WINDORO detergent.
		Check if the window is stained with oil.
		Use clean pads.
		Control the detergent sprayer to use less detergent or force.
<u> </u>	WINDORO moves slowly in some sections.	 WINDORO detects obstacles using its bumper sensors. After it senses the size of the window frame
		it decreases its speed where it sensed an obstacle, to change its direction.
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Problem while using and Solution

THIS PRODUCT CONTAINS STRONG PERMANENT MAGNETS WHICH TO HANDLED WITH CAUTION. FAILURE TO FOLLOW INSTRUCTIONS OR KNOWING ALL COMPONENTS MAY RESULT IN SERIOUS INJURY, MALFUNCTION OF THIS DEVICE, AND/OR PROPERTY DAMAGE. IF TWO MODULES ARE ATTACHED. FOLLOW INSTRUCTIONS BELOW TO DETACH THEM.



- * NEVER place bottoms of two modules close to each other. [figure A]
- * Strong magnets will attract each other and two modules could be attached, and this could result in serious injury.



- * If two modules are attached, NEVER try to pull against each other as shown in [figure B], It could damage the device, and you could get seriously injured.
- * Follow instructions below.



ALWAYS lay down WINDORO on the ground and follow instructions below.

- * Lay down attached modules on the ground with Navigating module FACING UP.
- * Turn magnetic force controller to WEAK position [figure C].
- * Due to a strong magnetic force, controller knob will be tightened.
- * DO NOT FORCE the knob, turn only what you can without force.



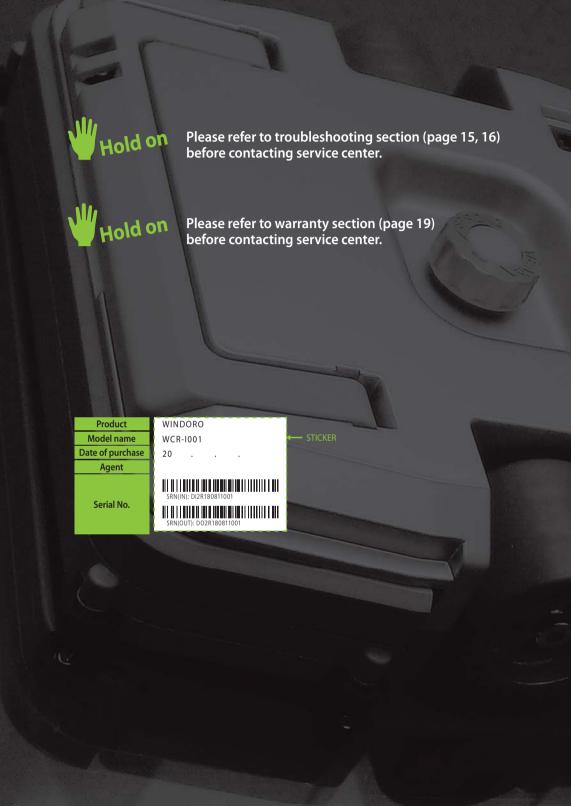
ALWAYS lay down WINDORO on the ground and follow instructions below.

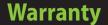
* Stand WINDORO sideways, then try sliding two modules from each other with force [figure D].



ALWAYS lay down WINDORO on the ground and follow instructions below.

* Once magnetic force is released, two modules will be separated [figure E].





PLEASE READ THE FOLLOWING FOR WARRANTY AND FREE SERVICE INFORMATION BEFORE CONTACTING SERVICE CENTER.

Service Description

According to the notice from the Fair Trade Commission on consumer disputes resolutions by product, ILSHIM GLOBAL Co., LTD. guarantees the product as follows:

ILSHIM GLOBAL Co., LTD. or other partners will provide services when you apply for services during the warranty period.

The compensation, acceptance and notification of services to be performed will be indicated within ____ days from the request, and the compensation will be provided within ____ days from the customer notification.

The terms of guarantee of WINDORO (WCR-1001) is one year, and the related parts will be available for five years.

Free Services

We will repair, without charge, any defects due to faulty parts or malfunction for one year from the date of purchase.

- * This warranty does not cover part failure due to abuse or by negligence or natural disasters.
- * If this device is used for commercial use, the terms of warranty will be reduced by 50%.
- *Warranty period for batteries are six months.

Service Charges will be Required in the Following Circumstances

- * Repairs caused by any sign of abuse, disassembling or repairs of the WINDORO by unauthorized service center.
- * Repairs caused by injecting the wrong substances into the device.
- * Repairs or damage caused by dropping the device.
- * Repairs caused by using wrong voltage and/or wrong power adapter.
- * Disfigurement or deformation from organic solutions such as thinner or benzene.
- * Repairs caused by using other consumable materials (adapters, batteries, pads, detergent and cleaning kit) and optional materials (safety reels and stands), instead of materials created exclusively for the product.
- * Repairs caused by natural disasters such as: lightning, fire, typhoons or floods.
- * Replacement of consumable materials (running wheels, auxiliary wheels, microfiber pads and WINDORO detergent, WINDORO cleaning kit)
- * When the "safety instructions" in the user's manual have been ignored.



Service Center

++82 53 852 5237

Provide service center with model and serial number, cause of the fault, contact information and our staff will kindly consult your questions.



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