



# Robots for Cleaning Windows WINDOWMATE



- 11 Selected as IP R &D performing companies
- 12 Applied for windowmate Trademark
- **Q1** Applied for 3 patents related on Window cleaning devices

2015

03 Recognized research institute (No. 2015111074)

Selected as participating companies at Create the Future Part KIC in Silicon Valley Startup Residence Program

05 Windowmate released

KC certification

06 Japan TELEC certification acquisition

Participation Silicon Valley business exchange and cooperation projects

07 Real Robot Show Participation

Kyungpook National University, advanced sensors manpower demand business enterprise agreements

**08** Participation at World Consumer Electronics Show brands

NIPA subjective Stanford K-Global Entrepreneurship Certificate Program

O9 Selected as Small Business Administration R &D project support project organizers windowmate China Trademark Application

10 ISO 9001/14001 certified

Applied for 2 patents related for Cleaning the exterior wall system

Dubai '2015 GITEX' exhibition

China SRRC certification

11 Participated at International Robot Show Content

Applied for patents Robot-mounted mini gun-related for mounted whiteboard type Selected as VIP ASIA AWARDS 100 brands for the 2015 Asia

12 Selected as Create the Future Part promising ICT sector enterprises (K-Global 300)

Participation at Daegu Middle East trade mission

2016

2015

05 Selected as Small Business Administration academic-industrial collaborative technology development projects for support agencies

Participation at European business cooperation

Participation at Singapore Telecommunications Fair

O6 Venture company certification (No. 20160401058)

Participation at Korean products fair in Vietnam

Selected as product development process improvement

by technology support organizations

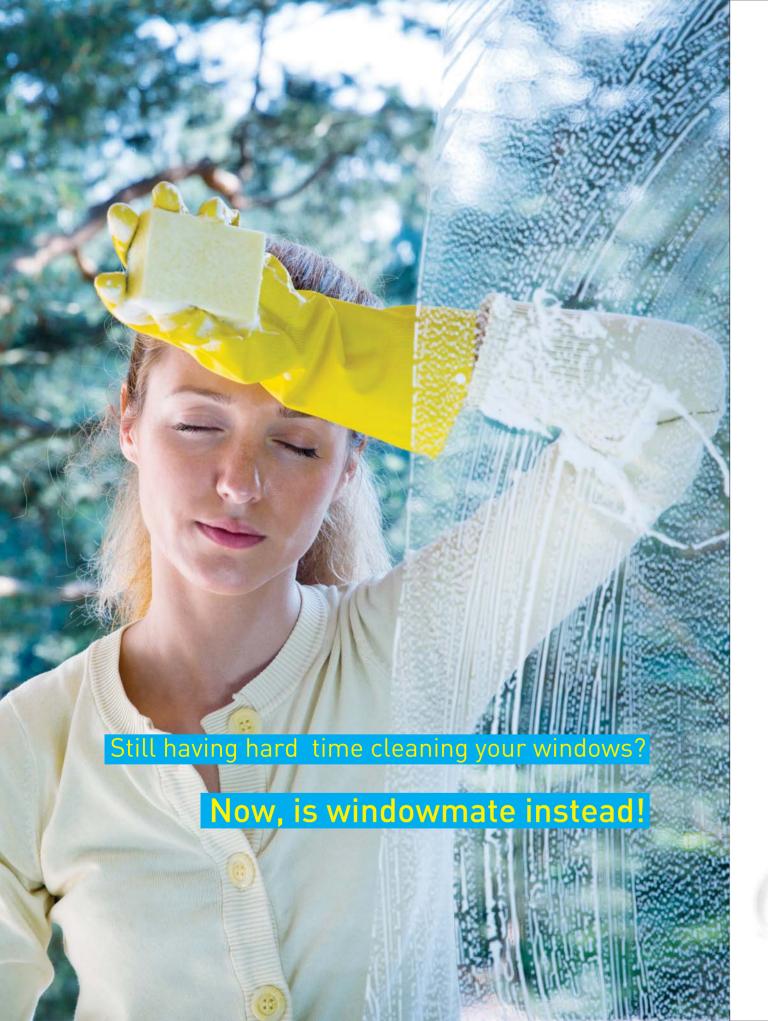
 ${\bf Selected\ as\ HIT500\ Business\ support\ Small\ and\ Medium\ Business\ Administration}$ 

**07** Chinese mythology network selection, The top product Korea TOP3

Participation at South Korea Good Products Show, China (Jinan)

International Robot Exhibition (CIROS 2016), China (Shanghai)

Selected "Product of the Month" by Small Business Administration



### **Robots for Cleaning Windows WINDOWMATE**

Smart

Just push a button to operate!

Auto recognition on the width and height of

window autonomous moving & cleaning

## Simple

User friendly Attach Pad - Attach the robot on the window - Push the button Easy Battery Replacement Easy Removable Pads



Strong Neodymium magnets for non-dropping in any situation. (battery discharge, malfunction, etc)

## Clean

Ultra pure micro-fiber pads with 35,000 strands per 1cm<sup>2</sup> remove the dirt on the glass surface perfectly and efficiently.



#### Just push one button after attaching it on both sides of the windows, it can precisely recognize the width and heigh+t of the window and automatically plan and clean the window.

#### Postion recognition powered by 4 Sensors

Ultrasonic Sensor, Accelerometer Sensor, Magnetic Sensor and Contact Sensor enhance cleaning performance without leaving any missing part of the window.

Perfect finishing!

Edge cleaning mode cleans the edges once again.

Auto returning to initial position

After finishing cleaning work, it returns at the initial position.





#### **Advertisement Kit**

Window cleaning robot moves in a vertical plane that is easy to attract attention. By attaching a promotional kit on the window cleaning robot Outer Unit Clean the windows and publicity effect











System to clean the top floor in large windows in the building using the winch cleaning system in which passes over obstacles caused by frames or marbles.



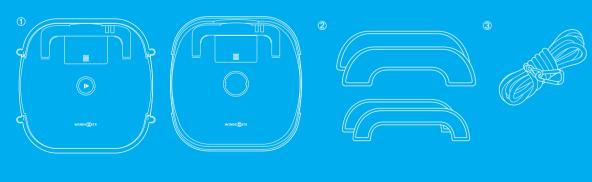
#### Specifications

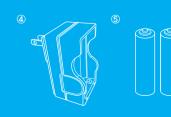
CLASSIFICATION	INNER	OUTER
Method of Attachment	Neodymium Magnets(Anti-Falling)	
Pad Material	Special Micro-Fiber	
Cleaning Performance	0.25m²/sec, Speed:8cm/sec	
Recharging Time	150 min.	150 min.
Operating Time	90 min.	150 min.(use of advertisement kit)
Weight	1.7 kg	0.9 kg
Dimension	258 x 250 x 56 (mm)	250 x 250 x 50 (mm)
Battery	Li-ion 3.7V/2,600mA(2pcs)	Li-ion 3.7V/2,600mA(1pcs)

#### Colors



#### Components

















#### Windowmate!

Even refreshes your mind.

Secure windows for light and views!

All windows are exposed to the outside and likely to be contaminated with dust, pollution, etc. Contaminated windows are hard to the original function.

But everyone wants clean windows and contaminated windows are very difficult to clean and also a very dangerous task.

RF Co., Ltd utilizes a robot at home, offices, cafes and restaurants.

It aims to provide solutions to clean the outside windows so that we stay true to the original space and anywhere windows views are exposed by natural lighting.

World's first commercially available, based on the successful development of the window cleaning robot by using of magnets.

And developing a system for the outside window cleaning (curtain wall system), Further ahead, we concentrate on developing service robots for quick and convenient clean windows.

Hard and difficult window cleaning, now is windowmate instead.

