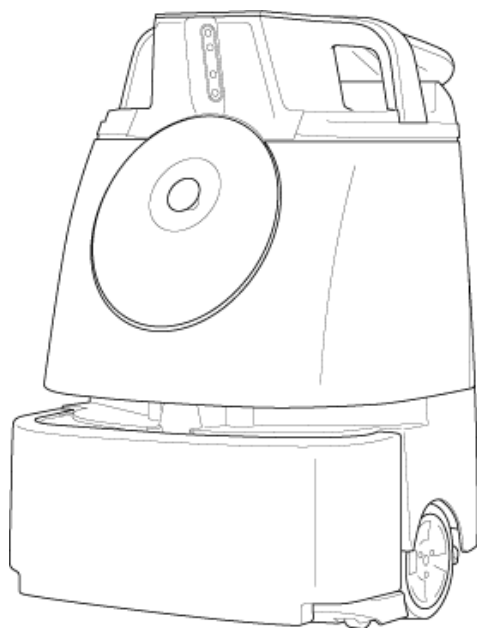


 AI 清掃 PRO  
brain<sup>OS</sup> powered

---

Whiz

Operation Manual



# TABLE OF CONTENTS

---

<b>TABLE OF CONTENTS</b> .....	<b><i>i</i></b>
<b>Introduction</b> .....	<b>1</b>
<b>Safety Precautions</b> .....	<b>2</b>
• About safety Precautions .....	2
• Description of Symbols.....	3
• Description of Pictorial Indications.....	3
• Handling the Machine, Battery Charger, Battery and Notification Pager (Common).....	4
• Handling the Machine .....	5
• Handling the Battery Charger .....	8
• Handling the Notification Pager .....	10
• Handling the Battery .....	11
• Handling near Electronic Medical Devices .....	12
• Lasers and Infrared Light .....	12
• Sensor Detection Range .....	12
• Pictorial Symbols .....	13
• Machine Disposal and Recycling.....	13
<b>Supplied Accessories</b> .....	<b>14</b>
• Items Bundled with the Machine at Delivery .....	14
• Items Bundled Separately at Delivery.....	14
<b>Names of Parts</b> .....	<b>15</b>
<b>Machine Setup and Parts Installation</b> .....	<b>17</b>
• Removing the Machine from Its Packaging.....	17
• Preparing to Use the Machine .....	22
■ Check the Emergency stop button .....	22
■ Check the Dustbag .....	23
■ Check the HEPA Filter .....	25
■ Check the Hopper tray .....	26
■ Installing the brush.....	27
■ Charging the battery and installing it to the machine.....	32
■ Removing the protective film.....	34
■ Turning the notification pager power On.....	35
■ Connecting to Robot Operations Center (ROC).....	36
<b>Operation</b> .....	<b>37</b>
• Main Power Switch.....	37
■ Turning the Power On .....	37
■ Turning the Power Off.....	37

• Secondary battery power button .....	38
• LED Lights .....	42
• Touch Display .....	44
■ Indications on the Touch Display .....	44
• Vacuum Power Button .....	46
• Max Power Mode Button .....	46
• Steering Handle .....	47
■ Using the Steering Handle .....	48
■ Stowing the Steering Handle .....	48
• Notification Pager .....	50
• Autonomous Clean Start/Stop Button .....	51
<b>Inspection before Operating the Machine .....</b>	<b>52</b>
■ Inspecting the Machine .....	52
■ Inspecting the Cleaning Area .....	52
<b>Autonomous Cleaning (Robot) .....</b>	<b>53</b>
• Overview .....	53
• Home Location Codes and Cleaning Routes .....	54
■ Locations for Placing Home Location Codes .....	55
■ Scanning home location code .....	56
■ Cleaning Routes .....	56
• Checking Precautions when Teaching a Cleaning Route .....	57
■ Machine .....	57
■ Cleaning Routes .....	58
■ Robot Operations Center (ROC) .....	58
■ Notification Pager .....	58
• Teaching a New Cleaning Route .....	59
■ Planning a Cleaning Route .....	59
■ Teaching and Saving a Cleaning Route .....	60
• Deleting Cleaning Routes .....	64
• Carrying Out Autonomous Cleaning .....	66
<b>Manual Cleaning .....</b>	<b>69</b>
<b>Notification Pager .....</b>	<b>71</b>
• Notification Pager Functions .....	71
■ Notification Pager Functions & Usage .....	73
■ Alert display and its notification timing .....	74
• Turning the Notification Pager On/Off .....	75
■ Turning the Notification Pager On .....	75
■ Turning the Notification Pager Off .....	76
• Paring the Notification Pager .....	77
• Recharging the Notification Pager .....	79
<b>Battery and Recharging .....</b>	<b>80</b>
• About Battery and Recharging .....	80
• Recharging the Battery .....	81
■ Light .....	85

<b>Maintenance and Safety .....</b>	<b>86</b>
■ About Maintenance and Safety.....	86
■ Brush .....	87
■ HEPA Filters .....	93
■ Dustbag .....	94
■ Hopper Tray.....	99
■ Battery Charger .....	101
■ Sensors .....	102
● <b>Storing the Machine .....</b>	<b>105</b>
■ Packaging the Machine .....	106
<b>Troubleshooting.....</b>	<b>111</b>
■ Stopping/Pausing the Machine .....	111
■ Emergency Stop .....	112
■ Stopping the Machine Urgently in an Emergency.....	112
■ Releasing the Machine from Emergency Stop .....	113
■ Checking Machine Alerts.....	114
<b>Machine Specifications.....</b>	<b>115</b>
<b>Glossary.....</b>	<b>116</b>

# Introduction

---

Whiz is an industrial-purpose robot vacuum machine developed by SoftBank Robotics and which features onboard BrainOS.

It is able to clean in two different modes (autonomous cleaning mode/manual cleaning mode). In autonomous cleaning mode, the machine cleans automatically, controlled by the BrainOS. Simply setting the machine's main power switch on/off allows the machine to use the latest version of its software. You can check the version of the software on the settings menu.

# Safety Precautions

---

## I About safety Precautions




Precautions presented here are intended to prevent harm to the user and other persons as well as damage to property. Always observe them. SoftBank Robotics shall not be liable for any damages incurred by the user or any third person as a result of the malfunctioning, misoperation, trouble, etc. experienced by the machine, notification pager, battery, or battery charger. This manual also gives safety precautions, correct handling procedures, and other regulatory information for using the machine, notification pager, battery, and battery charger. Precautions given herein do not cover all possible situations that may arise. The safety of the operator and of passing and nearby persons is a priority in any situation (the machine is not operating normally, it has fallen over, etc.).

Always observe precautions regarding machine installation and use, and store this manual where it can always be referred to. In the following emergencies, immediately press the emergency stop button and turn off the main power switch.◦

- The machine is in a hazardous state (example: emitting smoke, is inoperable, has fallen over, etc.)
- The machine has come close to inflicting harm on surrounding persons or things
- The machine is operating (behaving) unpredictably or is moving differently than given in this manual.

## I Description of Symbols

The following symbol categories explain the level of harm or damage that will occur if indications are not observed and equipment is used incorrectly. Read the guide after thoroughly understanding the indications.

 <b>DANGER</b>	Indicates a “probability of immediate danger of death or serious injury*1” with incorrect handling.
 <b>WARNING</b>	Indicates a “possibility of death or serious injury*1” with incorrect handling.
 <b>CAUTION</b>	Indicates a “possibility of slight injury*2 and a probability of only physical damage*3” with incorrect handling.





\*1 Serious injury refers to loss of eyesight, injury, burns (high-temperature, low-temperature), electric shock, bone fracture, poisoning, etc. with lasting aftereffects and requiring hospitalization and long-term hospital visits for treatment.

\*2 Slight injury refers to injury, burns, electric shock, etc. although hospitalization and long-term hospital visits for treatment are not required.

\*3 Physical damage refers to damage extending to residence and property as well as livestock and pets.

## I Description of Pictorial Indications

The following pictorial indication categories explain information to be observed. Read this guide after thoroughly understanding the information.

	<b>Prohibited</b> (not allowed) action.		<b>Compulsory</b> action based on instruction (must be performed).
	Must not be used where exposed to water, and must not be splashed with water.		Unplug the power plug from the outlet.

## Handling the Machine, Battery Charger, Battery and Notification Pager (Common)



**Do not use, recharge, or leave in a place subject to high temperature (near sparks or flames, near a heater, where there is direct sunlight, in a car on a hot day, etc.) or in a warm place or where heat collects (under a blanketed kotatsu warm table or electric blanket, in a pocket next to a worn kairo warming patch, etc.). Maintain adequate ventilation and make sure not to cover with any kind of fabric.**

May cause deformation, malfunction, overheating, ignition, fire, electric shock, rupture, or damage to the battery pack in the notification pager as well as the battery to leak. It may also cause a portion of the case to become hot and result in burns.



**Do not drop, break, deform, puncture, gouge, burn, or paint.**

May cause ignition, electric shock, damage, chemical explosion, etc.



**The user is not to carry out repair, such as disassembly (removing parts, etc.), modification, soldering, and replacement of notification pager battery or secondary power battery.**

- May cause an accident such as fire, injury, electric shock, etc. or malfunction. May also cause leakage, overheating, rupture, ignition, etc. of the built-in battery pack.
- Modification of the machine is a violation of the Radio Law, and is subject to penalty.
- Servicing, disassembly, and repair is not possible by persons other than by SoftBank Robotics or service staff approved by SoftBank Robotics and having received prescribed training.



**Use only the special battery charger and battery when recharging the machine.**

May cause leakage, overheating, rupture, or ignition or overheating, ignition, malfunction, etc. of the battery charger.



**Do not touch the battery, notification pager, or battery charger for a long time when recharging the battery or notification pager.**

May cause low-temperature burns.



**Do not get the machine, battery charger, battery, or notification pager wet.**

- They are not water resistant. Be careful not to get them wet.
- Use in an environment with less than 80% humidity. May cause ignition, electric shock, or malfunction. Do not use in a humid place such as in a bathing area or where there is a sink, or where equipment may be exposed to water. Do not use with wet hands.
- Leaving or recharging the equipment while it is still wet after liquid (water, pet urine, etc.) has entered it may cause overheating, electric shock, fire, injury, malfunction, etc. Be careful when using or handling the equipment.



**Do not allow the equipment to fall over or drop when moving or transporting it.**

May cause malfunction or fire.



**Do not expose to warm air from a dryer, etc., bring into a sauna, or splash with hot water with a purpose such as drying equipment.**

May cause overheating, fire, electric shock, smoke, ignition, malfunction, injury, or leakage, overheating, rupture, ignition of the Secondary battery pack.



## WARNING



**Do not allow liquid (tap water, refreshment beverage, seawater, pet urine, etc.) any electric conductive foreign objects (pencil lead, anything metal, metal necklaces or hairpins, etc.) to touch the charging terminals or external connection terminals or to enter the equipment.**

May result in short-circuiting and cause in fire, burns, malfunction, etc.



**Immediately discontinue use if anything unusual is noticed during use, recharging, or storage such as a noise, smoke, odor, etc.**

May cause burns, fire, or electric shock.



**Do not force the battery into the machine or battery charger if it cannot be connected correctly.**

May cause overheating, rupture, or ignition of the machine or battery, or damage or burnout of the external connection terminals, or leakage of the battery.

## **I Handling the Machine**

## DANGER



**Use the equipment within an ambient temperature range of 0°C to 45°C, humidity of 10% to 80%. Also, store in a dry environment with no dust in an ambient temperature range of 0°C to 45°C.**



**The machine is specially for indoor use. Do not use outside such as on a street.**



**Do not use the machine in a stepped location, on an uneven floor (braille blocks), or on a sloped surface.**

- The machine may fall over or drop and damage the machine or floor if travelling where there are steps.
- Travelling on an uneven floor may prevent the sensors from operating normally.



**Do not expose the machine to dust in large amounts, sand, snow, ice, water, humidity, saltwater environments, or brine mist (example: ocean environment, shore environment, etc.).**



**Be careful that dust does not adhere to the LIDAR sensor, camera, or other sensors.**

May interfere with normal machine operation or lead to an accident.



**When using autonomous cleaning mode, make sure that the operator is able to respond immediately to an alert received from a special app or the notification pager.**

Not observing this may lead to an accident involving the user, third persons, surrounding objects, etc.



**When using the machine in an autonomous mode, follow the regular floor cleaning practice and use appropriate signboards (cleaning in process signboard).**



**Use the machine with its wheels always in contact with the floor. When using the machine in manual cleaning mode, avoid abrupt operation except where unavoidable.**



**In areas where the machine is inoperable or unmovable due to power not turning on, move the machine to a safer location.**

 **WARNING**



**Do not use the machine with the grounding chain not in contact with the floor. If the grounding chain breaks or comes off, contact customer support.**



**If the Secondary battery is off/low, do not remove the battery with the main power switch on the machine on.**  
May cause the machine to malfunction.



**Recharge the battery for the machine using only the special battery charger. Recharge the notification pager using only the special charging stand.**



**Use the machine after checking for obstacles in the cleaning route.**

For the range detectable by the machine's sensors, see "Sensor Detection Range".



**Do not cover the machine's sensors.**



**Do not place anything decorative that may hinder the machine's operation or the emergency stop button.**  
May cause poor operation or malfunction.



**When replacing the Dustbag, brush, etc., turn off the main power switch beforehand and remove the battery from the machine.**



**Do not clean the machine with a high-pressure cleaner.**



**The machine is designed to clean indoor carpets and dry floors. Do not use it for any other purpose.**



**Do not perform any operation not given in this manual.**

Machine malfunctioning may directly cause death, personal injury, or significant physical damage or property damage.



**Do not use the machine to collect hazardous or explosive waste.**



**Check that the following are not in the cleaning area.**

If vacuumed, they may cause machine malfunctioning.

- Waste containing liquid or moisture
- Large amounts of sand, dust; string
- Sharp objects (glass, blades, metal fragments, etc.)
- Objects that air cannot pass through easily (food wrap, plastic; wrapping film, etc.)



**Do not block the machine's vents.**

May cause the machine to deform or ignition.



**When carrying out maintenance with the Dustbag, brush, hopper tray, etc., be careful not to get your fingers caught while working.**

May cause injury.



**The Dustbag, brush, battery, HEPA filters, and notification pager are designed specially for the machine. Do not use other products.**

May cause the machine to break or malfunction.



**When installing or removing the battery, be careful not to get your fingers caught while working.**

Not doing so may cause injury.



**When lifting the machine from the floor, always use two persons as a safety precaution.**

- Not doing so may cause injury.
- May cause the machine to malfunction.



**The machine cannot vacuum liquid.**

Operating the machine on a wet (moist) floor may cause malfunction. Only use the machine on a dry floor.

 **CAUTION**



**If the machine has fallen over, press the emergency stop button and then turn off the main power switch on the machine.**



**Do not touch the machine while it is in operation other than in an emergency (except for during manual operation).**



**Do not come close to the machine while it is in operation.**

When cleaning in autonomous cleaning mode, the machine sometimes suddenly turns, stops, or advances; coming close to the machine may cause injury.



**Do not allow feet or hands to come close to the bottom of the machine. Manage the machine so that infants, children, or pets do not touch the machine.**

They may be pulled under the machine, causing injury.



**Do not insert any objects in the machine.**

May cause overheating, fire, malfunction, etc.



**If the machine is not operating normally (unusual sound, odor, smoke, etc.), immediately press the emergency stop button, to stop machine operation, turn off the main power switch, and contact customer support.**



**Do not adhere stickers or tape to the sensors and wheels.**

May cause sensors to not operate normally or malfunction.

## Handling the Battery Charger

### DANGER



Before using the battery charger, receive instruction from SoftBank Robotics or a contracted firm and thoroughly understand the battery charger's guide for correct operation.



Do not use the battery charger at or near a place with dust, salt, corrosive gas, or flammable gas.



Do not insert metal pins, etc. in the air vents in the battery charger.

May cause electric shock.



Use the battery charger in an environment with an ambient temperature of 0°C to 45°C, and humidity of 20% to 85%. When not using the battery charger, store in an environment with an ambient temperature of -10°C to 60°C, and humidity of 20% to 85%.

### WARNING



Only use power cables with labels for your country (country name) of residence. Do not use other power cables.

May cause fire or malfunction.



Do not connect to any battery other than the supplied battery.

May cause malfunction or fire.



The battery charger sometimes becomes hot. Be careful during and immediately after charging.



Make sure not to cover the battery charger with fabric, etc. Maintain conditions that allow adequate heat dissipation, and do not use or leave near a source of heat, or where exposed to water or direct sunlight.



Do not use where subject to vibration, impact, etc.



Check that the supplied voltage is appropriate for the battery charger.

Do not use any power source or voltage other than that specified (AC 100 V to 240 V, 50 Hz to 60 Hz).



When recharging, do not connect any other electric devices to the same outlet.

Lowered voltage may affect the battery charger.



Make sure that dirt or other foreign matter do not adhere to the battery charger.

Do not use in a dusty place. If the plug is dusty, unplug it from the outlet and wipe with a dry cloth.



Do not use the battery charger or power cable if damaged.

May cause ignition, electric shock, malfunction, etc.



The battery charger is designed specially for the machine. Use only the supplied special power cable.

May cause overheating, ignition, electric shock, malfunction with the machine or battery charger. Do not use the power cable with another product.



The battery charger is specifically for being placed sideways. Do not use it placed standing or upside down.



Always unplug the battery charger from the outlet if not using it for a long time or when carrying out maintenance on it.



**If the battery charger is not operating normally, takes a longer time to recharge than normal, or if it produces sparks, smoke, odor, etc., immediately unplug it from the outlet, and contact customer support.**



**If thunder is audible, unplug the battery charger from the outlet.**

Not doing so may damage it.



**Do not step on the power cable or otherwise subject it to excessive force when it is connected to the battery charger.**

May break the terminals on the power cable and cause malfunction or fire.



**Use the battery charger distanced at least 10 cm from a wall so as not to block its air vents.**

Blocked air vents will cause the temperature in the battery charger to rise, and may cause malfunction or fire.

---

 **CAUTION**



**Do not touch the surface of the battery charger for a long time.**

Prolonged skin contact may cause low-temperature burns.



**Make sure the battery charger is where the power plug can connect easily to an outlet. Also position the battery charger so that its charge indicators can be checked visually.**



**Do not drop, step on, or place objects on the battery charger, regardless of if it is connected or not. Do not use it where it may be stepped on.**

The cable may break.



**Always hold the plug body and not the cord when unplugging the power plug.**

---

## I Handling the Notification Pager

### DANGER



**Do not drop or throw.**

Subjecting it to strong impact may cause the battery pack in the notification pager to leak, overheat, rupture, or ignite, and may cause fire, electric shock, malfunction, etc.

### WARNING



**Do not place the notification pager or notification pager charger in a cooking device (microwave oven , etc.) or high-pressure container (pressure cooker, etc.), or on top of an electromagnetic cooking dev ice (IH cooktop).**

May cause the battery pack in the notification pager to leak, overheat, rupture, or ignite, or the notification pager or notification pager charger to overheat, emit smoke, ignite, malfunction, etc.



**Store out of the reach of infants and access of pets.**

May allow accidental swallowing or cause injury, etc.



**If prolonged contact with the notification pager causes skin irritation (itchiness, rash, eczema, etc.), i mmediately discontinue use and consult a doctor.**

## I Handling the Battery

### DANGER



Use the equipment within an ambient temperature range of 0°C to 45°C. Also store in a dry environment with no dust in an ambient temperature range of 0°C to 45°C.



Do not place objects on top of the battery.



Do not smoke in the vicinity of the battery or place objects near it that may be the cause of flames or sparks.

### WARNING



Do not connect the battery terminals with metal, etc.

May cause leakage, overheating, ignition, or rupture.



Do not throw into a fire or heat.

May cause leakage or explosion.



If fluid leaks, do not touch with bare hands.

If fluid enters your eyes, wash well with clean water, and immediately consult a doctor. If fluid gets on your skin or clothes, wash well with water.



Use the battery only in the machine.

Not doing so may cause leakage, overheating, ignition, or rupture.



Do not subject to impact, such as by placing objects on it or letting it fall.

May cause leakage, overheating, ignition, or rupture.

## Handling near Electronic Medical Devices



**If wearing an implanted cardiac pacemaker or implanted defibrillator, maintain a distance of at least 15 cm from the location of the implant.**

Electric signals may affect the operation of the pacemaker or defibrillator.



**Do not use in a healthcare environment or near electronic medical devices.**

\* The machine does not comply with UL or IEC 60601 standards (or equivalent standards).

## Lasers and Infrared Light

- The machine confirms the safety of its surrounding area by laser.
- The machine is outfitted with one Class 1 laser.
- Class 1 laser:  
If within a normal range of operation, no hazard exists by looking directly at the laser beam for a long period, or by using an optical instrument for observation such as a magnifying glass or binoculars to look directly at the laser beam (compliant with JIS C6802). For information on lasers, see “Sensor Detection Range”.






## Sensor Detection Range

- The machine confirms the safety of its surrounding area with several sensors. The machine detects obstacles in a range of about 200° in front of it; do not go near the machine within the range that is not detectable by the sensors (behind it, etc.). It may not be able to detect the user as an obstacle.
- Low obstacles less than 10 cm in height from the floor cannot be avoided with sensor detection; remove them from the cleaning route beforehand.



## I Pictorial Symbols

Refer to the labels on each product (the machine, battery charger, battery).

	<p>Each is compliant with the Japanese Electrical Appliances and Material Safety Act (Spec ified Electrical Appliances and Materials).</p>		<p>Incorporates a specified wireless system as defined by Japanese law (TELEC or JATE-certified).</p>
	<p>Do not short-circuit.</p>		<p>Do not disassemble.</p>
	<p>Do not immerse in water or other liquid.</p>		

## I Machine Disposal and Recycling

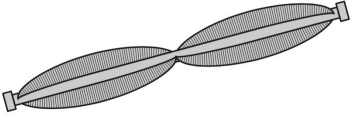
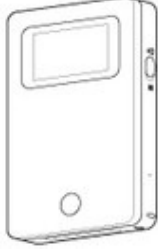
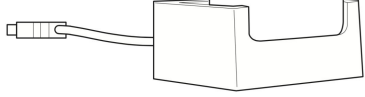
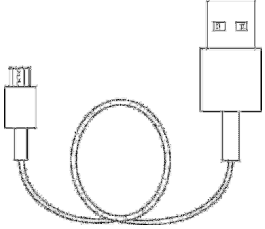
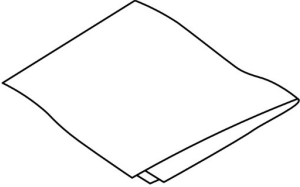

The product you have purchased is designed and manufactured with recyclable, high-quality materials and components. When disposing of the product, check that it is being disposed of properly as industrial waste differentiated from general and business waste according to regional and municipal regulations by request to an industrial waste disposal operator.

\* If the product is being leased, it cannot be disposed of by yourself. Contact customer support. When disposing of the machine, remove the battery from the machine, and dispose of properly according to regulations for waste disposal in the region you are residing in.

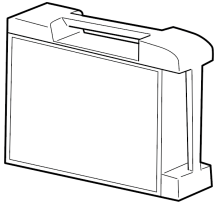
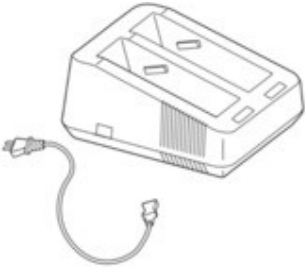

# Supplied Accessories

## Items Bundled with the Machine at Delivery

All accessories beside the brush are stored in the accessory box inside the battery compartment (⇒see "Names of Parts").

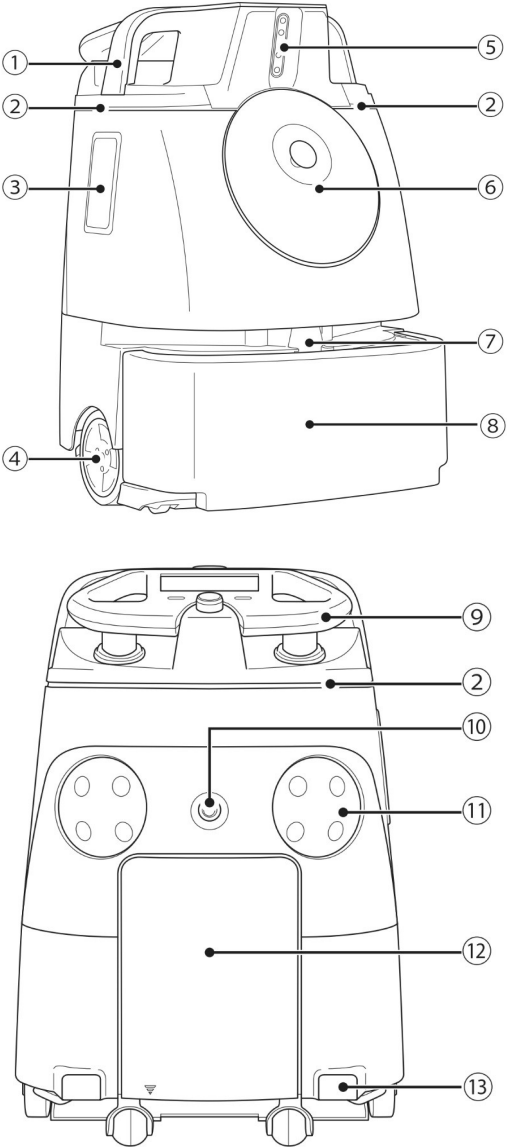
Brush×1	Notification Pager×1	Notification pager Charger×1
		
Micro USB cable×1	Micro-fiber cloth×1	Pin×1
		

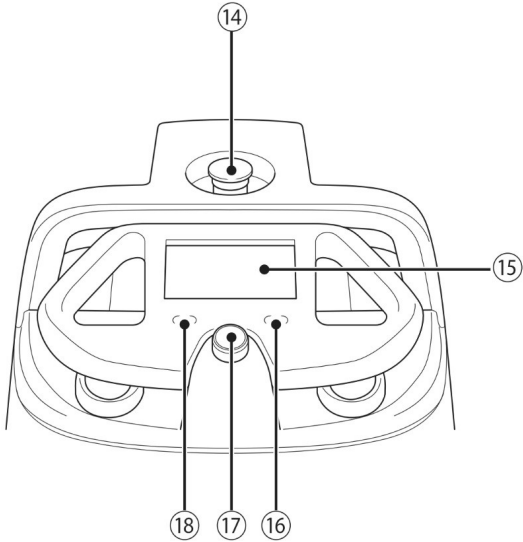
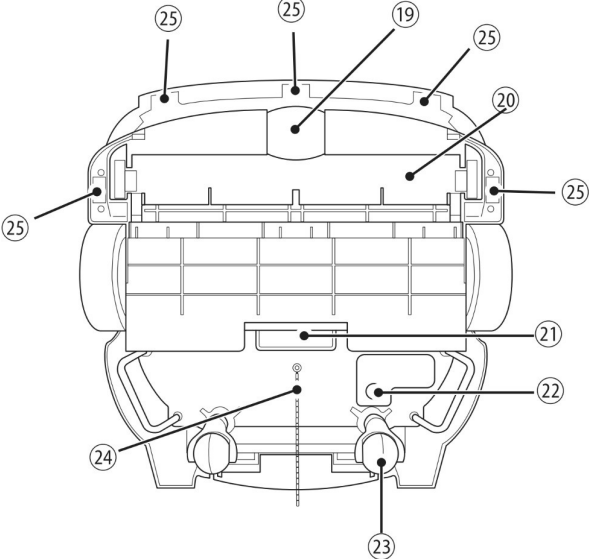
## Items Bundled Separately at Delivery

Battery×1	Battery charger (incl. 3 AC cords with country label)×1	Home Location Codes×10
		

- Depending on your contract details, Home Location Codes may be bundled with the machine.
- A Dustbag, hopper tray, and HEPA filter are pre-installed in the machine at delivery.
- The brush, Dustbag, HEPA filter, battery charger, battery, and Home Location Codes are consumables.

# Names of Parts

Machine Front/Side, Back	No.	Item
 <p>The diagram consists of two line drawings of a small, boxy machine. The top drawing is a front/side view showing a steering handle on the left, a large circular dustbin in the center, and a wheel at the bottom left. The bottom drawing is a back view showing a steering handle at the top, a main power switch in the center, and two circular filter covers on either side. Numbered callouts (1-13) point to various components: 1 (Lift handle), 2 (LED light), 3 (Pager compartment), 4 (Wheel), 5 (2D/3D camera), 6 (Dustbin), 7 (LIDAR sensor), 8 (Bumper), 9 (Steering handle), 10 (Main power switch), 11 (Filter cover), 12 (Battery compartment), and 13 (Rubber pad).</p>	1	Lift handle
	2	LED light
	3	Pager compartment
	4	Wheel
	5	2D/3D camera (sensor)
	6	Dustbin
	7	LIDAR sensor
	8	Bumper
	9	Steering handle
	10	Main power switch
	11	Filter cover
	12	Battery compartment
	13	Rubber pad

Machine Top, Bottom		No.	Item
	14	Emergency stop button	
	15	Touch display	
	16	Max power mode button	
	17	Autonomous clean start/stop button	
	18	Vacuum power button	
	19	Front wheel	
	20	Brush compartment	
	21	Hopper tray	
	22	Secondary battery power button	
	23	Rear caster	
	24	Grounding chain	
25	Cliff sensor		

# Machine Setup and Parts Installation

---

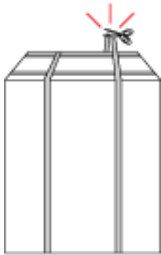
## I Removing the Machine from Its Packaging

Unpack the machine. As a safety precaution, be sure to unpack with at least two persons.

- Check that the packaging box is not damaged; if damaged, immediately contact customer support.
- Do not discard the packaging box or packing material, and store it safely. It will be required when storing the machine out of use for a long period (⇒see “Storing the Machine”).

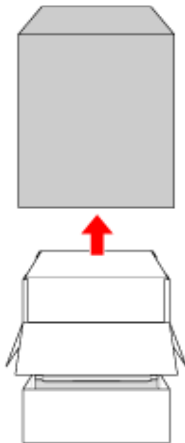
### 1 Open the packaging box

---



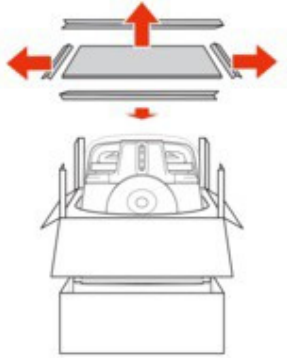
### 2 With two persons, hold the handholds on the outer box, and remove the outer box

---



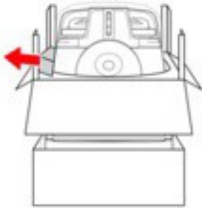
**3** Remove the package cushioning placed on top of the machine.

---



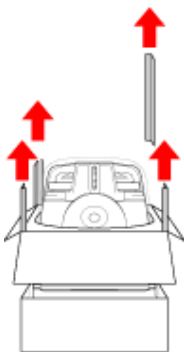
**4** Remove the packaging box containing the brush

---



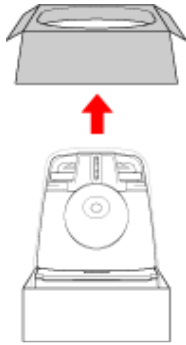
**5** Remove the 4 supports

---



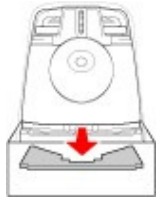
**6** Remove the packaging material in the middle

---



**7** Remove the packaging material at the bottom center

---



**8** Remove the plastic wrap

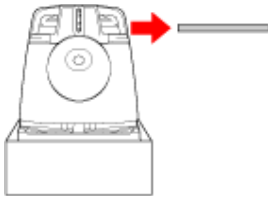
---

- If a plastic bag is stuck in between the machine and the packaging box, hold the lift handle and remove the plastic by lifting the machine.



**9** Remove the polystyrene foam on top of the machine (under the steering handle)

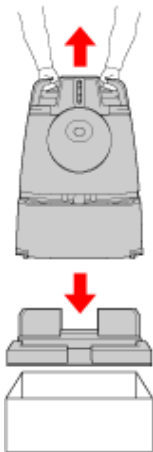
---



**10** With two persons, hold the lift handles, and remove the machine from its packaging box

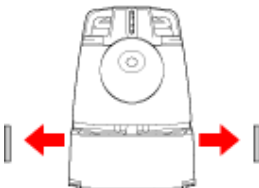
---

- Here, also remove the packaging material at the bottom.



**11** Remove the packaging material on both sides of the machine on its bottom sides

---





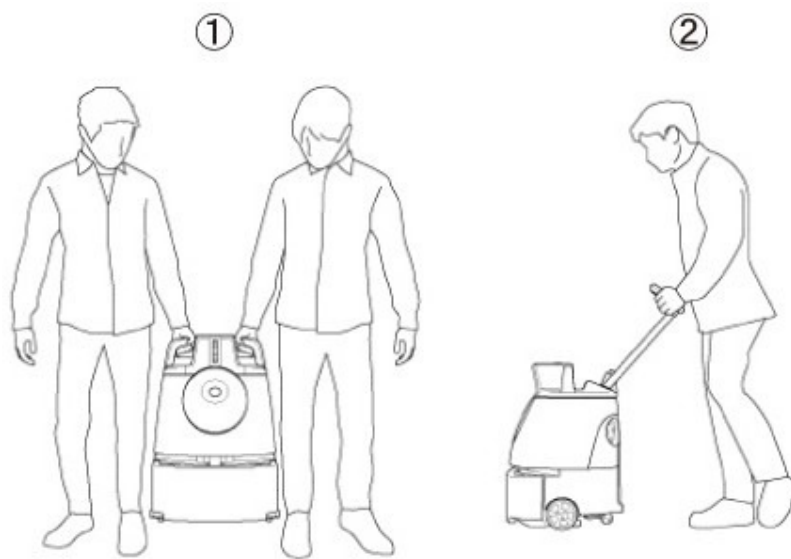
**12** Check that supplied accessories (⇒see “Supplied Accessories”) are all present

---

**13** Holding the machine by the lift handles (1) or using the steering handle (⇒see “Steering Handle”) (2), transport the machine to the cleaning area

---

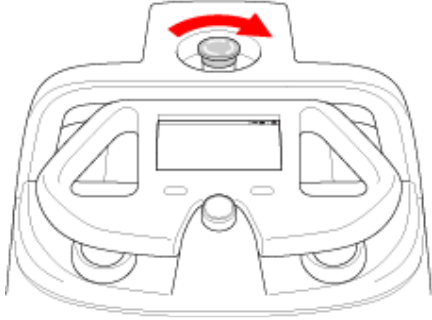
- As a safety precaution if holding the machine by the lift handles, carry with two persons.



## ■ Preparing to Use the Machine

### ■ Check the Emergency stop button

Checking that the Emergency Stop Button is not pressed. If pressed, turn it (red) to the right to release.

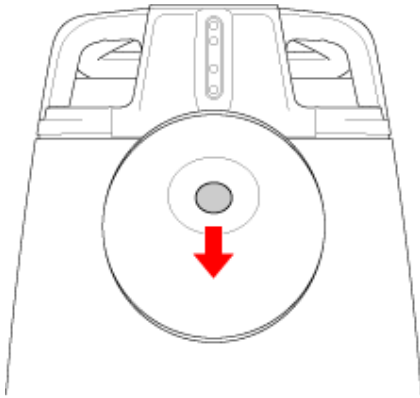


## ■ Check the Dustbag

Be sure to check that the Dustbag is properly attached. If it is not properly installed or if the dustbin does not close, follow the steps for attaching the Dustbag (⇒see “Dustbag”).

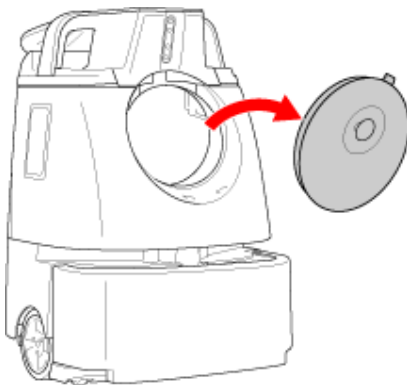
### 1 Hold the dustbin access handle and pull down

---



### 2 Remove the cover towards you

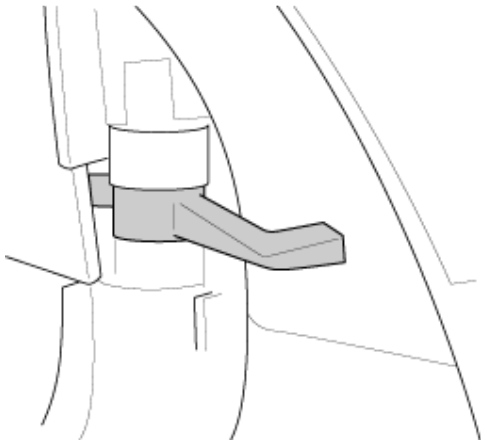
---



### 3 Check that the dustbin pin is afloat

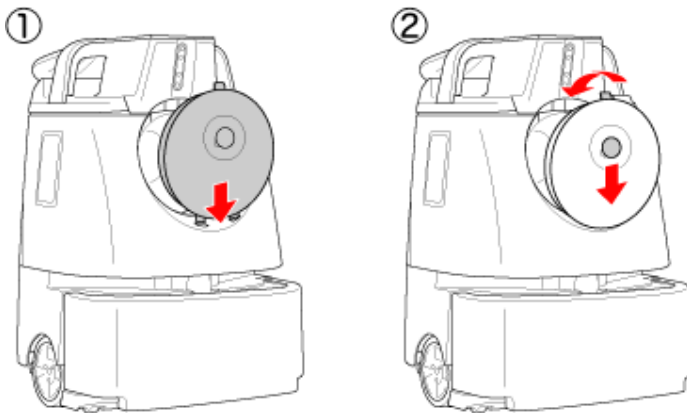
---

- If the Dustbag is correctly set, the pin will float.



### 4 Insert the catches at the bottom of the cover in the bottom of the dustbin ① and close the cover while pushing down on the dustbin access handle ②

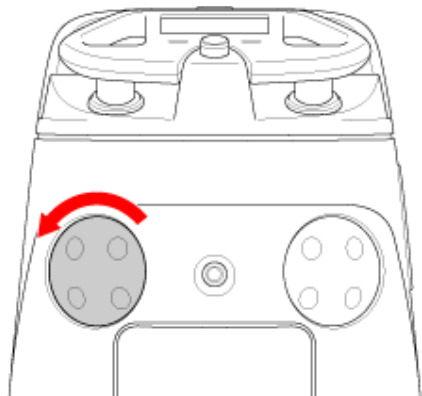
---



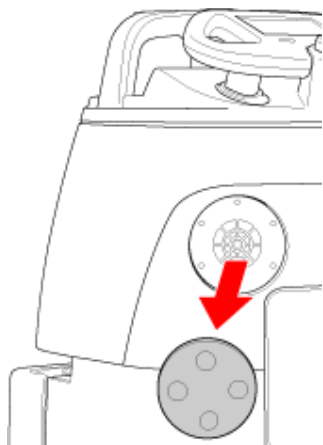
## ■ Check the HEPA Filter

Checking that the HEPA filter is properly installed. If the HEPA filter is not properly installed, follow the steps for installing the filter (⇒see "HEPA Filters").

- 1 With fingers in the holes in the filter cover, turn to the left to remove
- 



- 2 Check that the HEPA filter is properly installed
- 



- 3 Attach the filter cover to the machine, and turn to the right until it clicks to close
- 

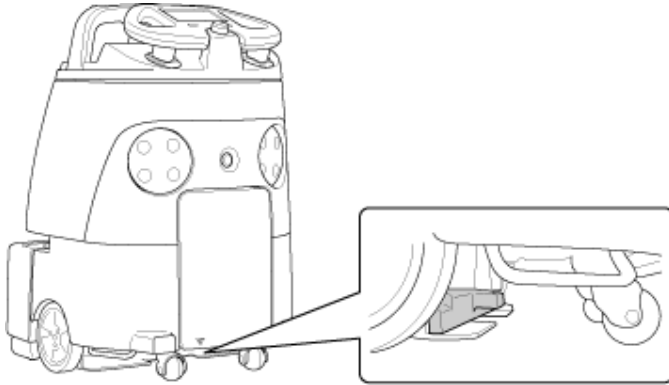
- 4 Check the other HEPA Filter with the same procedure
-

## ■ Check the Hopper tray

Check that the Hopper Tray is correctly installed. If it is not installed correctly, reinstall the Hopper Tray (⇒See 'Hopper Tray').

### 1 From the back of the machine, check if the Hopper tray is installed correctly

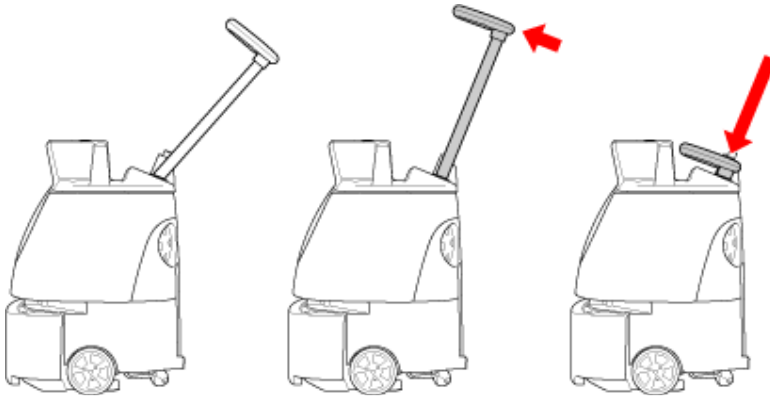
---



## ■ Installing the brush

### 1 Stow the steering handle (⇒see 'Steering handle')

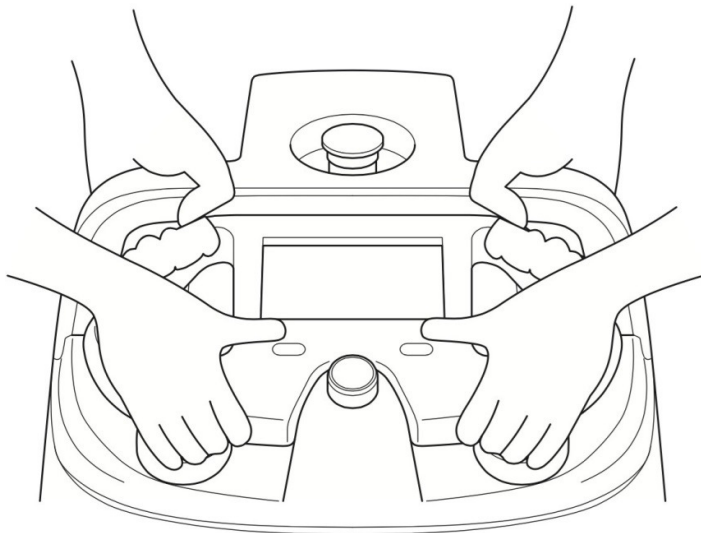
---



### 2 Hold the lift handle with one hand, and hold the handle down with another hand.

---

- Please operate with two people.

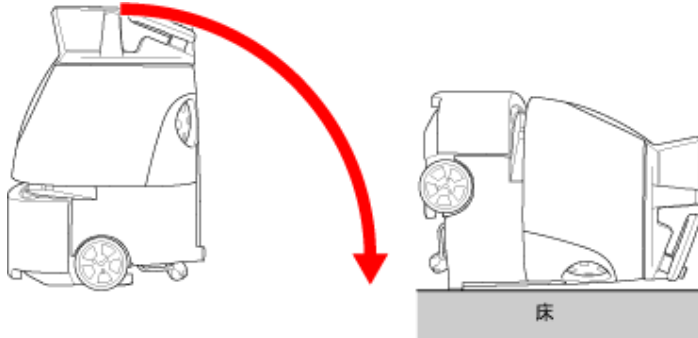


### 3 Gently lay the machine down so that the dustbin faces upward.

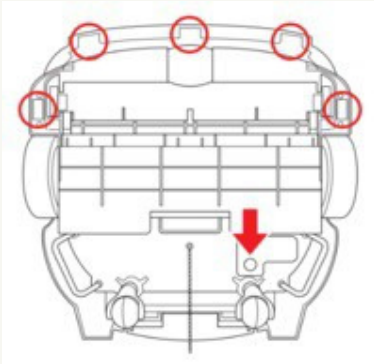
 The Rubber pad will support and stabilize the machine.

- Please be cautious so the handle does not stick out of the machine.

- Take care not to let the machine fall forcefully or to turn.
- A concrete or other hard surface will scratch the machine; place the machine on carpeting or other soft and flat surface.

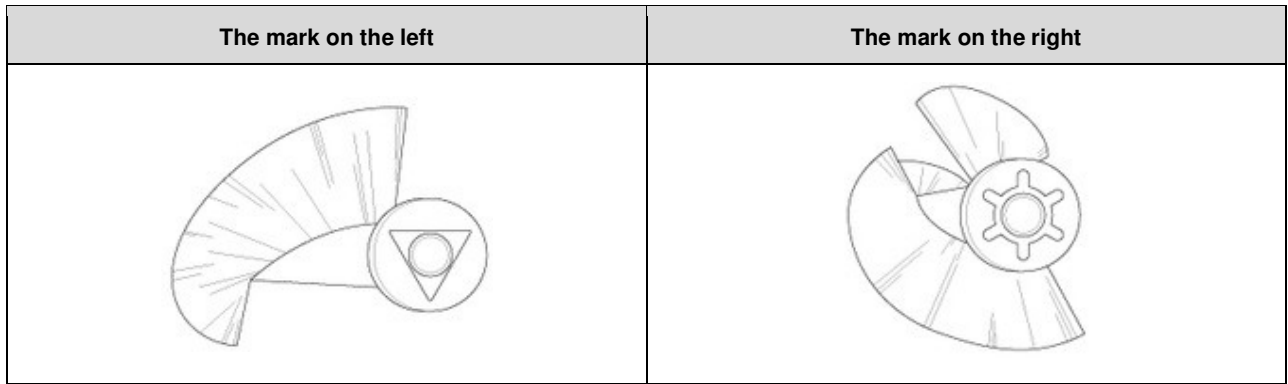


- Please set the Secondary battery power button On (⇒see "Secondary battery power button"). Also, remove the protective film on the Cliff sensor.



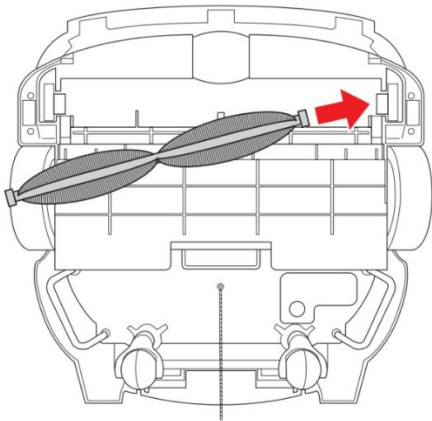


**4 Check the marks on the left and right ends of the new brush**



- When the machine is layed down with the front side facing upwards, you will see the sockets of the Brush compartment, both right and left, have the same marks as the brush.

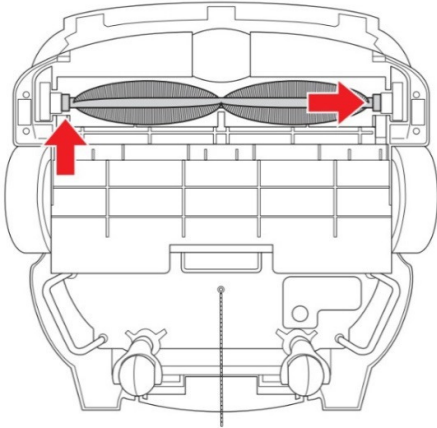
**5 Attach the right end of the brush in the socket with the matching marking in the Brush compartment**



**6 Press the brush to the right, and pull the left end out toward you to remove**

---

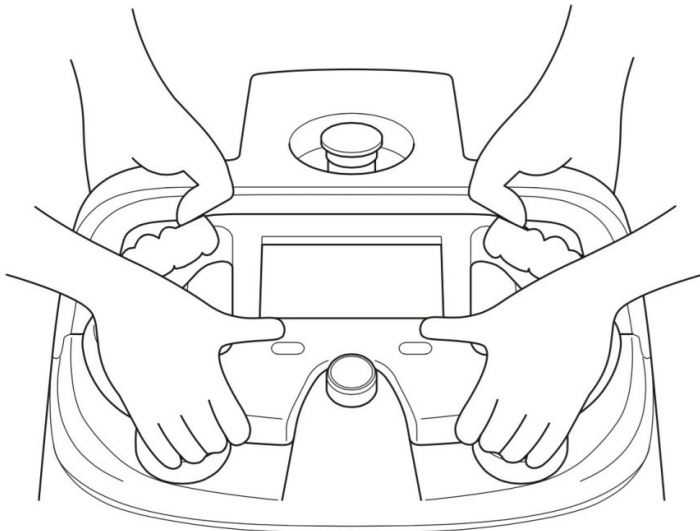
- Spin the brush and check that the marks on the left and right side of the brush are installed correctly in the socket.



**7 Hold the lift handle with one hand, and hold the handle down with another hand.**

---

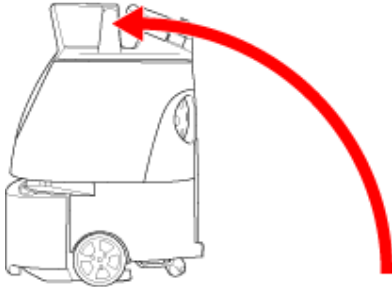
- Please operate with two people.



**8** Holding the lift handles by both hands, gently raise the machine

---

- Please be cautious so the handle does not stick out of the machine.



## ■ Charging the battery and installing it to the machine

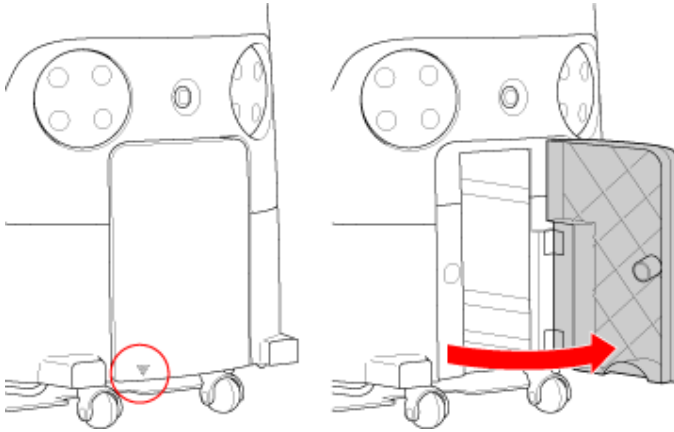
**1** Charge the battery(⇒see "Recharging the Battery")

---

**2** Pull the bottom left of the battery door toward you to open


---

- Remove the accessory box from inside the battery compartment.

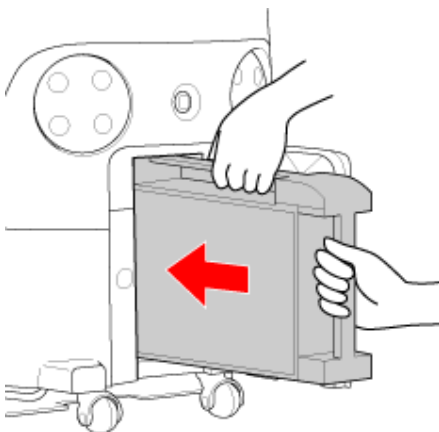


**3** Insert a fully charged battery as far as it can go

---

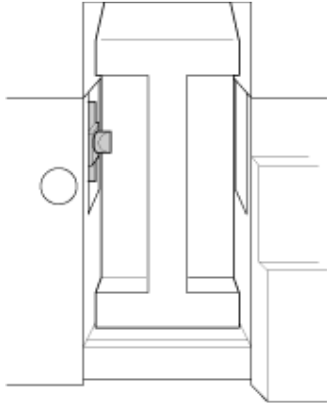
 The battery will lock, and you will hear a click and it will jump out.

- Hold the grips by both hands, and take care not to drop the battery.
- Insert the battery in the battery compartment by its terminal end first.



**4** Check that the battery is locked

---



**5** Close the battery door

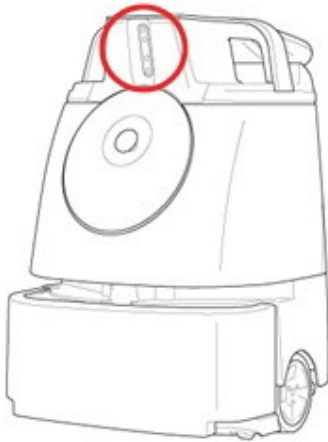
---

## ■ Removing the protective film

### 1 Remove the protective film on 2D/3D Camera (sensor)

---

- Please be careful not to damage the sensor when removing the film.



## ■ Turning the notification pager power On

Before turning the power On, check that the notification pager is fully charged. If the notification pager battery is low, charge the battery fully before using the pager. (⇒See 'Recharging the Notification Pager').

### 1 Turn the notification pager On. (⇒See 'Turning the Notification Pager On/Off')

---


- After turning notification pager On, pair the pager. (⇒See 'Pairing the Notification Pager')

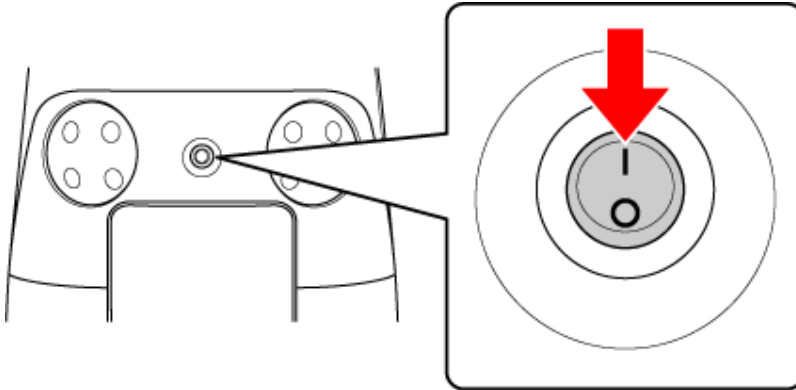
## ■ Connecting to Robot Operations Center (ROC)

Connect the machine to the network in advance when turning the main power switch Off. When turning the main power switch On again, the machine will automatically connect to the network and Robot Operations Center (ROC).

### 1 Press the main power switch (I/O) to set it on (I)

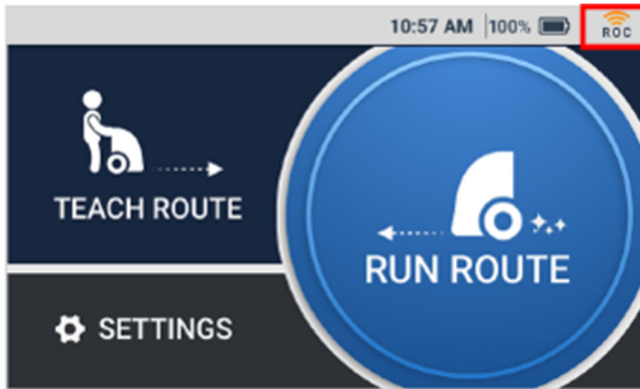
---

 After turning the power on, a screen indicating the machine is loading appears.



### 2 Check the ROC indicator at the top right of the touch display (⇒see “Touch Display”)

---



- If the ROC indicator does not turn orange, move the machine to an area where the network can be connected.




# Operation

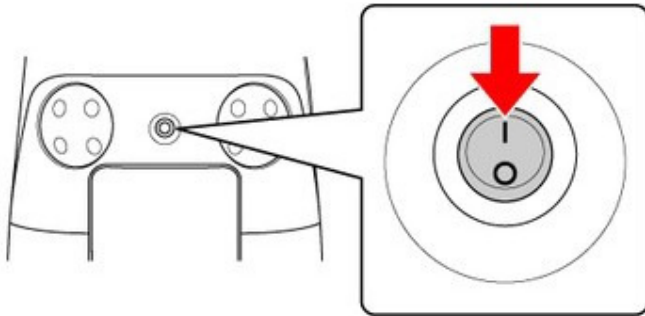
---

## I Main Power Switch

### ■ Turning the Power On

- 1 Press the main power switch (I/O) to set it on (I)
- 

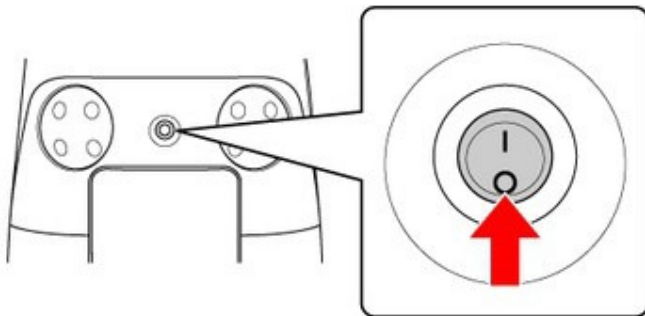
 After turning the power on, a screen indicating the machine is loading appears.



- Home screen will be displayed when the Power button is turned On. Do not turn the power Off until the Home screen is displayed.

### ■ Turning the Power Off

- 1 Press the main power switch (I/O) to set it off (O)
- 



## Secondary battery power Button

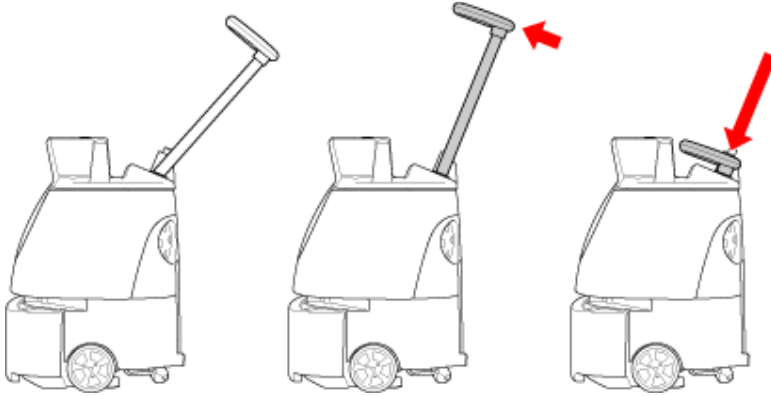
After setting the Secondary battery power button on, you can remove the battery without turning the machine off. When the battery level is low, you can replace the battery with a fully recharged one while the main power switch is still on, allowing you to continue using the machine to teach a cleaning route or carry out autonomous cleaning.

- The first time using the machine, set the Secondary battery power button on.
- If not using the machine for a long period (approx. 2 months), set the button off, and set it on again when resuming use.
- Always check that the Secondary battery power button is on every time you use the machine. If the secondary power is off/ the secondary power level is low, removing the battery with the machine's main power switch on may cause a malfunction.

\* If the secondary power level is low, an error appears on the touch display. Either set the machine's main power switch off, or do not remove the battery from the machine until the error disappears.

**1** Stowing the steering handle(⇒see "Steering Handle")

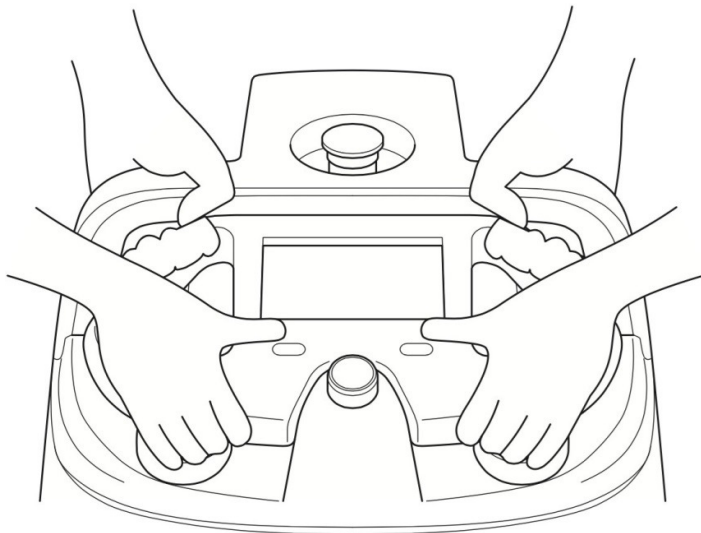
---



**2** Hold the lift handle with one hand, and with another hand, hold down the handle.

---

- Please operate with two persons.



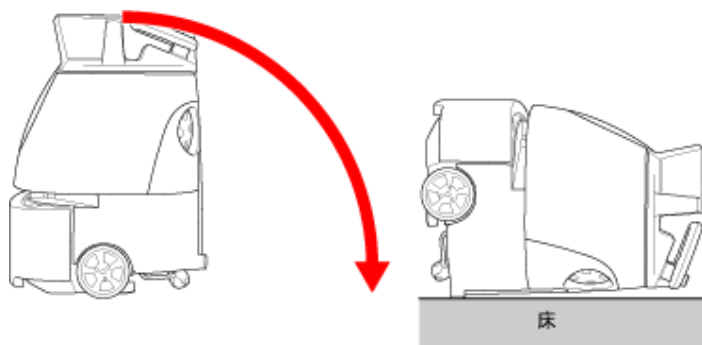
**3 Hold the lift handles with both hands, and gently lay the machine on its side so that the side with the dustbin is up**

---

 The Rubber pad will support and stabilize the machine.

- Please be cautious so the steering handle does not stick out of the machine.

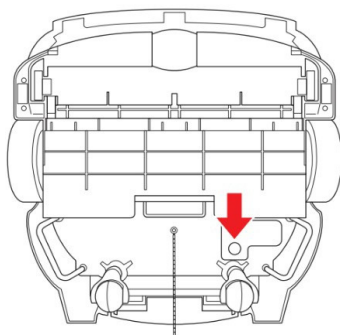
- Take care not to let the machine fall forcefully or to turn.
- A concrete or other hard surface will scratch the machine; place the machine on carpeting or other soft and flat surface.



**4 Press the Secondary battery power button on the bottom of the machine**

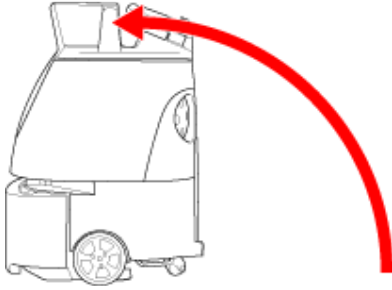
---

- When the Secondary battery power button is on, the button is sunken in the machine.
- When the Secondary battery power button is off, the button projects.



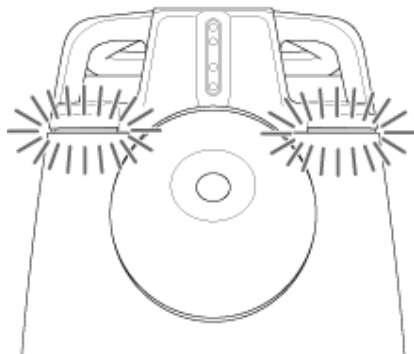
**5** Holding the lift handles by both hands, gently raise the machine

---

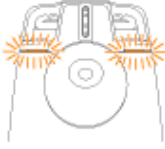






# LED Lights

The LED lights notify you about the state of the machine, error information, etc. The LED lights on the front and back of the machine light in different colors and patterns.



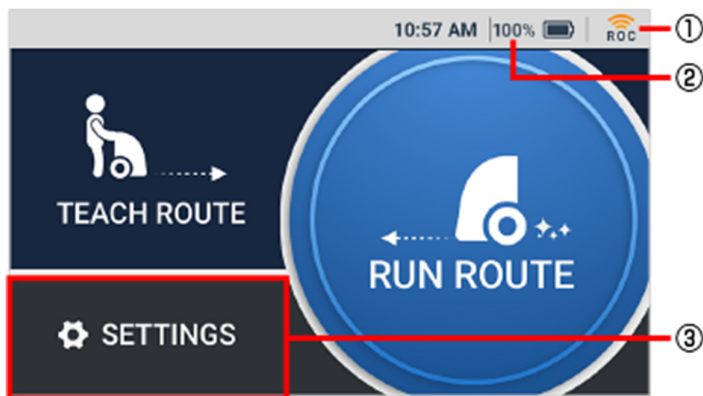
Color and pattern	Appearance	Description
Lighting in each color (blue, green, red, orange, white)		The machine's system is starting up.
Turning around in each color (blue, green, red, orange, white)		The machine is shutting down.
Lit blue		Paused during autonomous cleaning.
Flashing blue rapidly for 3 seconds		Autonomous cleaning starts. Pressing the autonomous clean start/stop button causes the machine to beep.
Flashing blue slowly		Carrying out autonomous cleaning.
The left or right LED light is lit orange		Has detected a person as an obstacle during autonomous cleaning and is paused.

Color and pattern	Appearance	Description
The left or right LED light is flashing orange rapidly		<p>Indicating direction during autonomous cleaning.</p> <p>The machine turns in the direction that the LED light is flashing in.</p> <p>The machine beeps as it turns.</p>
Rear LED light is flashing white		<p>The Cliff sensor was activated during autonomous cleaning, and the machine is going backward (traveling backward).</p>
Flashing bright red rapidly		<p>Emergency stopped.</p>
Flashing red rapidly		<p>An alert has occurred on the machine. (when the machine has been lifted while the system is starting up)</p>
Flashing dark red slowly		<p>An alert has occurred on the machine. (when battery level is low, replacement with a new Dustbags is required, etc.)</p>










# Touch Display

You can check battery level, connection to the Robot Operations Center, error messages, and other information on the touch display. Creation and selection of cleaning routes necessary for performing autonomous cleaning (⇒see “Autonomous Cleaning (Robot)”) are also done from the touch display.

## ■ Indications on the Touch Display



Main menu screen

No.	Item	Description								
1	ROC indicator	<p>A few minutes after turning the power on, the machine automatically connects to the Robot Operations Center. If the machine has connected successfully, the ROC indicator appears lit orange.</p> <table border="1"> <thead> <tr> <th>ROC indicator display</th> <th>obot Operations Center (ROC) connect ion status</th> </tr> </thead> <tbody> <tr> <td></td> <td>It is connected to Robot Operations Cente r (ROC)</td> </tr> <tr> <td></td> <td>It is waiting to be connected (standing by) to Robot Operations Center (ROC)</td> </tr> <tr> <td></td> <td>It is not connected to Robot Operations Ce nter (ROC)</td> </tr> </tbody> </table> <p>* To connect to the Robot Operations Center, use the machine within a communic ations service area for mobile phones.</p>	ROC indicator display	obot Operations Center (ROC) connect ion status		It is connected to Robot Operations Cente r (ROC)		It is waiting to be connected (standing by) to Robot Operations Center (ROC)		It is not connected to Robot Operations Ce nter (ROC)
ROC indicator display	obot Operations Center (ROC) connect ion status									
	It is connected to Robot Operations Cente r (ROC)									
	It is waiting to be connected (standing by) to Robot Operations Center (ROC)									
	It is not connected to Robot Operations Ce nter (ROC)									
2	Battery indicator	Indicates battery level.								
3	Settings menu	Check settings and routes for carrying out autonomous cleaning.								



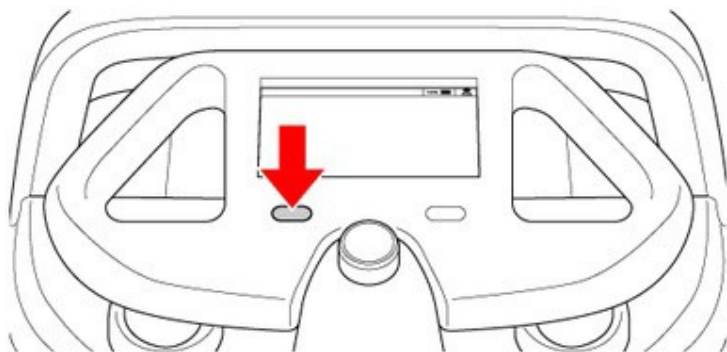


Error message screen

No.	Item	Description
4	Notification	Appears at upper left of the touch display. For alerts concerning machine components, follow instructions on the touch display to remedy problems.
5	Alert screen	Touching the notification described at "4" causes an alert to appear, allowing you to check alerts such as while charging. If there are several alerts, tap ">" to view the next alert. To delete the currently displayed alert, tap "x". The alert shown in "5" appears when the machine's battery level is 15% or less.

## Vacuum Power Button

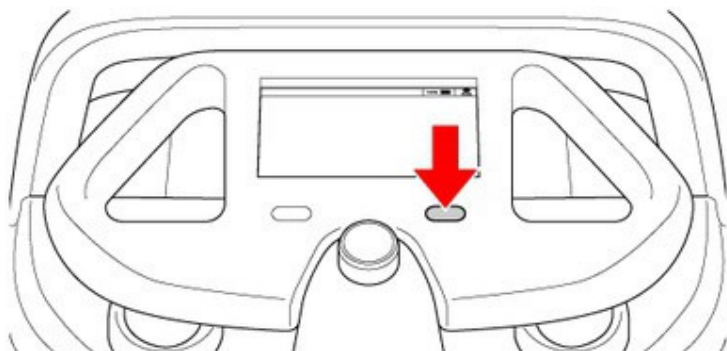
Press the vacuum power button to start vacuuming. Press the button again to stop vacuuming. Pressing the vacuum power button stops vacuuming in either normal mode or max power mode.



## Max Power Mode Button

Press the max power mode button to change the cleaning mode from normal mode to max power mode. To clean in max power mode, check that the vacuum power button is on, and press the max power mode button. Press again to change to normal mode.

- Use max power mode for especially dirty floors.
- Max power mode uses up much more battery than normal mode. Consider cleaning time and how long the battery will be used before using this mode.
- Either mode can be used in both autonomous cleaning/manual cleaning.



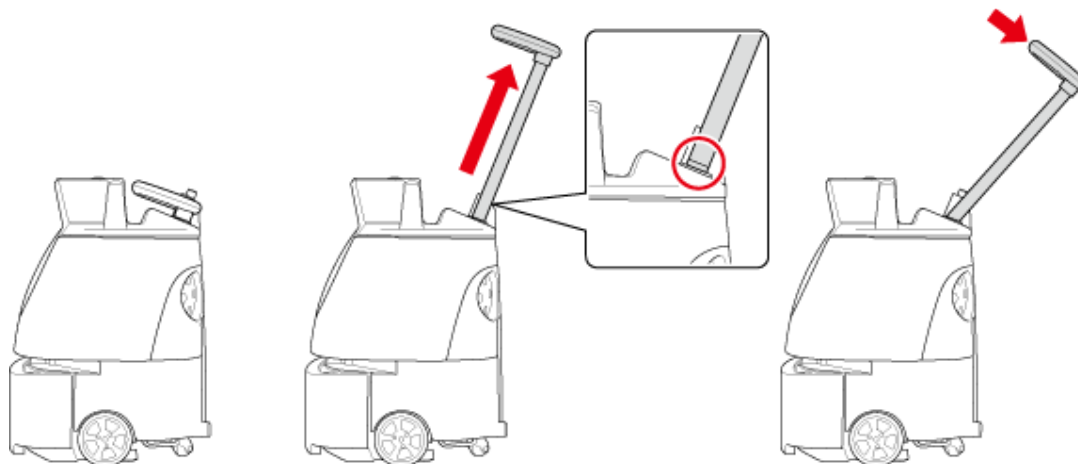
## Steering Handle

Use the steering handle to move and change the direction of the machine during manual cleaning, to teach cleaning routes, and to transport the machine. Observe the following when using the steering handle.

- Check if the steering handle is unstable (not firmly attached).
- Avoid abruptly turning with the steering handle.
- Do not lift the machine by the steering handle.
- The steering handle can be extended to move the machine even when the main power switch is off.
- Be careful not to pinch your fingers in the steering handle.
- Stow the steering handle before starting autonomous cleaning.
  - \* Stowing the steering handle causes the wheels to lock. Pull the steering handle out to unlock the wheels

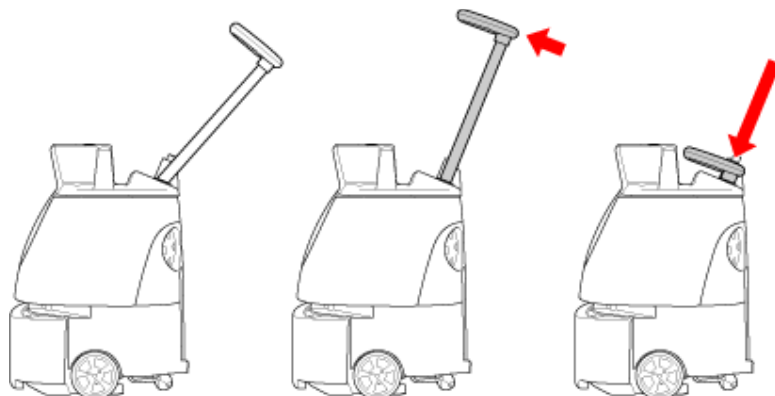
## ■ Using the Steering Handle

- Extend the steering handle to move the machine forward and to change directions. To extend the steering handle, hold by both hands and pull it straight up. Once the joint at the base of the steering handle is visible, lower the steering handle toward you.



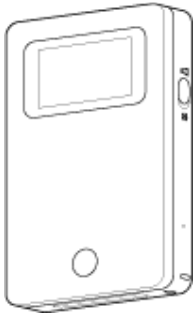
## ■ Stowing the Steering Handle

- To stow the steering handle, hold by both hands and raise it forward at an angle, and push it in to its original position.
- Stow the steering handle when the machine is put away or is unused for a long time.



## I Notification Pager

If the machine stops operating during autonomous cleaning or the battery becomes low, the notification pager (⇒see “Notification Pager”) is alerted by the machine, and the notification pager emits an alert and vibrates to notify the operator.




## Autonomous Clean Start/Stop Button

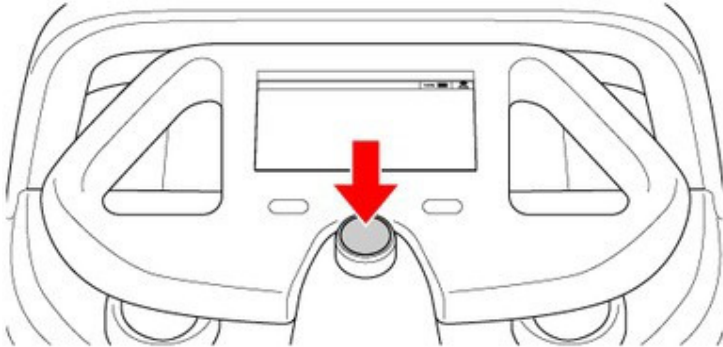
Press the autonomous clean start/stop button to start autonomous cleaning mode (⇒see “Autonomous Cleaning (Robot)” ), pause the machine, or restart cleaning.

- The autonomous clean start/stop button is used only in autonomous cleaning mode.

### 1 Press the autonomous clean start/stop button


---

 Autonomous cleaning starts.




### 2 During autonomous cleaning, press the autonomous clean start/stop button

---

 The machine pauses traveling/vacuumping, and a message appears on the touch display (⇒see “Touch Display”) indicating the machine is temporarily paused.

### 3 Press the autonomous clean start/stop button again

---

 The machine unpauses, and autonomous cleaning resumes.

# Inspection before Operating the Machine

---

Before starting manual cleaning mode/autonomous cleaning mode, be sure to perform the following inspection.

## ■ Inspecting the Machine

- Check that the emergency stop button is not pressed
- Check that the grounding chain on the bottom of the machine is in contact with the floor
- Check that the Secondary battery power button on the bottom of the machine is on (⇒see “Secondary battery power button”)
- Check the HEPA filters, and replace with new HEPA filters if especially dirty (⇒see “HEPA Filters”)
- Check the hopper tray and empty it (⇒see “Hopper Tray”)
- Check that there is no dust or dirt on the 2D/3D camera (sensor), LIDAR sensor, or Cliff sensors and wipe as required (⇒see “Sensors”)
  - Use the micro-fiber cloth to wipe away any dust or dirt.
  - \* Do not wet any of the above sensors or the micro-fiber cloth with water
  - Do not place any objects near the sensors.
- Check the brush for caught dust and hair, and remove as required (⇒see “Brush”)
- Check that the brush is attached properly
  - If the brush is damaged/broken, replace with a new brush.
- Check that the dustbin cover, filter cover, and battery door are closed firmly

## ■ Inspecting the Cleaning Area

- Check that the cleaning area is an environment where cleaning is possible
  - The machine is not water resistant. Use the machine in a dry location.

# Autonomous Cleaning (Robot)

---

## Overview

The machine is capable of automatically cleaning on a saved cleaning route (autonomous cleaning mode). To clean in autonomous cleaning mode, you must first teach a cleaning route (⇒see “Teaching a New Cleaning Route”) and with the machine read a Home Location Code (⇒see “Home Location Codes and Cleaning Routes”). Select a cleaning route you teachd to start autonomous cleaning.

- Before carrying out autonomous cleaning, always check the inspection items before operating the machine (⇒see “Inspection before Operating the Machine”) and precautions when teaching cleaning routes (⇒see “Checkin g Precautions when Teaching a Cleaning Route”).



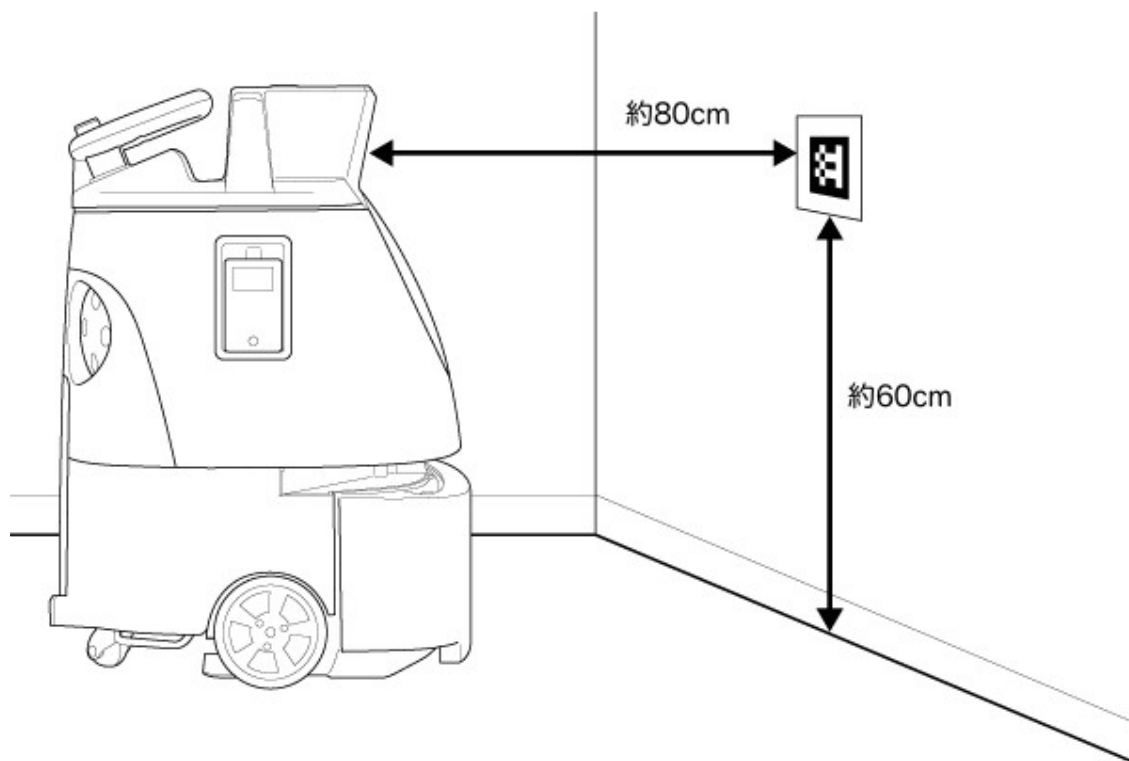
## I Home Location Codes and Cleaning Routes

Home Location Codes are markers indicating where cleaning routes start and stop. They are used for establishing the machine's home location, and according to the size of the cleaning area, one or several Home Location Codes are used (6 cleaning routes can be saved for 1 Home Location Code). In a building with several floors, a Home Location Code specific to each floor must be placed.



## ■ Locations for Placing Home Location Codes

■ Place Home Location Codes on walls, columns, etc. in a bright location and distanced approximately 60 cm from the floor and approximately 80 cm from the machine.



- Do not place Home Location Codes where they may be hidden, such as walls behind furniture or shelves.
- Do not let Home Location Codes lean or turn; set the home location code horizontally and a little below the camera, placed in front of the machine.
- Do not place Home Location Codes in a sleeve or cover, and do not copy on them or laminate them. The machine may not be able to read the Home Location Codes.
- Avoid locations exposed to sunlight or strong light, and set them where brightness is even.
- Leave Home Location Codes always set out. If unable to leave Home Location Codes always set out, you must place them accurately in the same positions each time you clean. If the set locations of Home Location Codes are even slightly shifted, cleaning will not be done correctly.
- The back of Home Location Codes is sticky, allowing them to be placed directly on walls, etc. Replace with new Home Location Codes if they have lost their stickiness. Depending on the wall material, the coating may peel where Home Location Codes are placed. Consult with the building manager and place Home Location Codes in appropriate locations. Do not place on walls with rough surfaces.

## ■ Scanning home location code

Home Location Codes are read with the camera on the front of the machine (⇒see “Names of Parts”).

- Move the machine to where the distance between the camera and a Home Location Code is approximately 80 cm, and stop the machine so that the Home Location Code and machine are parallel. If the machine is not positioned properly, it cannot read the Home Location Code.
- Once the machine has read the Home Location Code, a screen for selecting cleaning routes appears on the touch display.

## ■ Cleaning Routes

- The machine is constantly in communication with the Robot Operations Center, and teachd cleaning routes are saved to the cloud.
- If managing several machines, you can create groups through the Whiz Connect Portal\* to assign each machine to. You can also assign a name to each group.
- Machines in the same group can share cleaning routes, and a same cleaning route can be displayed regardless of which machine read the Home Location Codes.
- Deleting cleaning routes also deletes them from the cloud, and the routes will no longer be displayed even if another machine in the same group read the Home Location Codes.
- With the Whiz Connect Portal\*, machines are assigned to one group by default per purchasing customer. If you have purchased several machines, they can share the same route. Use the Whiz Connect Portal\* to complete settings for assigning machines to groups.
- To use the same Home Location Code number with several cleaning areas, it is recommended to divide the machines into groups. Since cleaning routes are created for the machines that include the surrounding environment, machines cannot carry out autonomous cleaning by reading the cleaning route created for another area. Dividing the machines into groups allows 6 cleaning routes each to be saved for the same Home Location Code number. For details, see the help file for the Whiz Connect Portal\*.

\* The Whiz Connect Portal is a portal site from where you can manage current machine activity and alerts, download activity reports, etc. Each machine saves particular cleaning routes, and created cleaning routes are backed up to the Robot Operations Center. (\*Currently, group function cannot be used.)

## Checking Precautions when Teaching a Cleaning Route

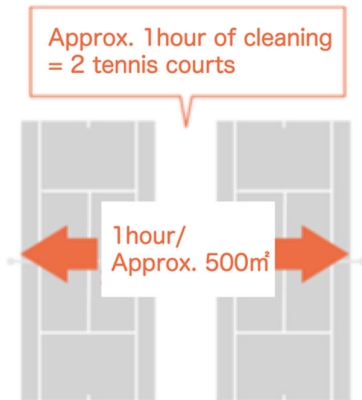
Be sure to check the following before teaching a cleaning route.

### ■ Machine

- Always carry out an inspection before operating the machine (⇒see “Inspection before Operating the Machine”). Do not bring the machine too close to a wall when teaching a cleaning route.
- As the machine may detect nearby persons as objects, do not stand in front of the sensor, and teach cleaning routes at a time when few persons are around.
- Do not use the machine where there is direct sunlight, where there is strong lighting, or near devices that emit infrared light (heaters, etc.). Doing so may affect its autonomous cleaning function.
- When teaching a cleaning route, move the machine forward. \*Reverse movement will not be recognised as a cleaning route.
- The machine will push against thin mats that slide easily, and may damage the mat or brush. Remove any mats before teaching a cleaning route.
- Floors with an uneven, rough surface cannot be detected during auto cleaning. As bumpy floors may be recognized as obstacles, avoid cleaning rough-surface floors.
- A passageway of more than 80cm in width is needed in order for Whiz to operate autonomously at an optimum speed. \*If the width of the passageway is below 80cm, the machine may recognize as an obstacle and the speed may decrease or the machine may stop.
- When operating several machines, their sensors may cross-interfere with each other.

## ■ Cleaning Routes

- When teaching a cleaning route, divide the area into zones using floor material and stepped portions as boundaries.
- The recommended cleaning route area per one cleaning is about 500 m<sup>2</sup>. A cleaning route of over 500 m<sup>2</sup> may have obstacles that could cause the machine to stop during autonomous cleaning or that could prevent the machine from saving the cleaning route.



- Remove any obstacles, cables, etc. from the cleaning route that could be a hindrance to cleaning. If the machine detects an obstacle during autonomous cleaning and slows down/stops, it may be unable to completely clean away all dirt.
- When teaching a cleaning route, do not include steps or angled surfaces such as slopes in the cleaning route areas higher than 1.5 cm (eg. grooves between floors, drainage lids (gratings), elevators and escalators, braille blocks or thick rugs).
- If the cleaning area is exposed to direct sunlight or strong light, close curtains and blinds to block out light.
- Use manual cleaning in the vicinity of automatic doors, window glass, and reflective products such as mirrors. \* An error may occur if autonomous cleaning is used.
- Some objects laying on a floor may not be detected as obstacles depending on their size (slippers, cords, retracting electrical outlets). Remove any such objects before teaching a cleaning route.
- Since the machine may not be able to avoid places where people suddenly pop out in front of the machine (such as kids area), decorations hung from a wall, handrails, etc., please do not include it in the cleaning route or remove them from the route beforehand.
- Also see "Sensor Detection Range".

## ■ Robot Operations Center (ROC)

- Before using the machine, please make sure of the user's connection. The machine will not be able to connect to ROC in an environment with no LTE connection.

## ■ Notification Pager

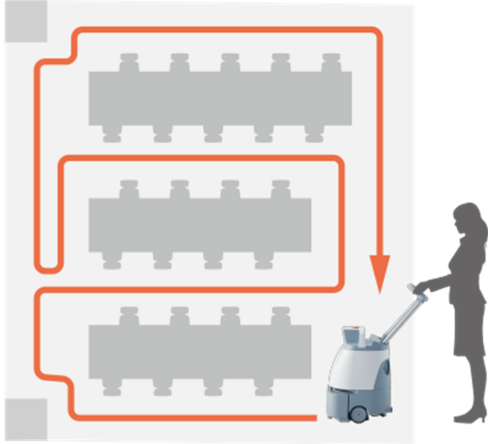
- To allow the notification pager to receive alert messages from the machine, perform pairing with the notification pager (⇒see "Notification Pager").

## Teaching a New Cleaning Route

### ■ Planning a Cleaning Route

Teach a route that will allow the cleaning area to be cleaned the most optimally and efficiently, taking into consideration its layout and size (area).

- During autonomous cleaning, the machine will operate at a relatively low speed for safety.
- Time from start to completion of autonomous cleaning will be longer than the time required to teach the cleaning route. Consider how long the battery will last when teaching a cleaning route.



### ■ Planning the Space and Frequency

It is also important to consider the environment of the cleaning area when planning a cleaning route. For example, teaching cleaning routes individually for an area that is cleaned every day (entrance or lobby to a building, corridor where people are always walking) and for a low-cleaning-frequency area only cleaned several times a month allows more effective cleaning.

When planning cleaning for a long route, check that the battery is fully charged beforehand, and take into consideration how long the machine will operate.

### ■ Several Areas of Differing Types

In some instances, such as in offices and schools, it is not possible to easily divide a space into cleaning zones. You should therefore check the entire cleaning area beforehand, and plan a route so that the machine can easily complete cleaning in a logical and predictable sequence.

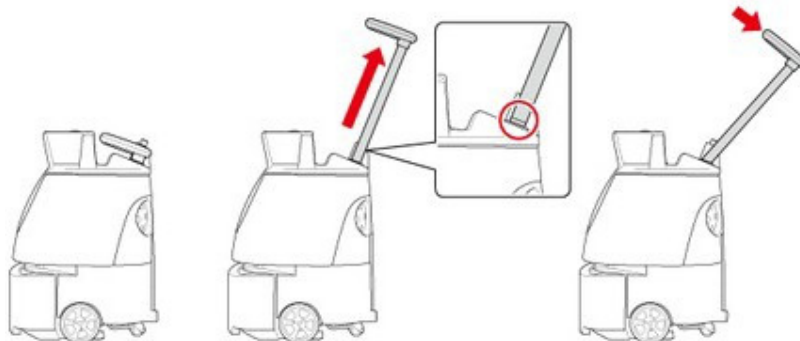
For example, in an instance where there are several buildings to be cleaned or where there are several structures to one building (college campus, etc.), using a different Home Location Code for each floor and each structure will allow a machine to start/stop near a space where cleaning is carried out, and enable long traverses to be avoided. It is recommended to divide a cleaning area into smaller zones for easier cleaning and management where locations are spacious or have a special layout.

## ■ Teaching and Saving a Cleaning Route

- Before teaching a cleaning route, check “Checking Precautions when Teaching a Cleaning Route”.

### 1 Pull the steering handle up as far as it will go, and lower it toward you

---



### 2 Move the machine to the Home Location Code where cleaning is to be carried out (⇒see “Home Location Codes and Cleaning Routes”)

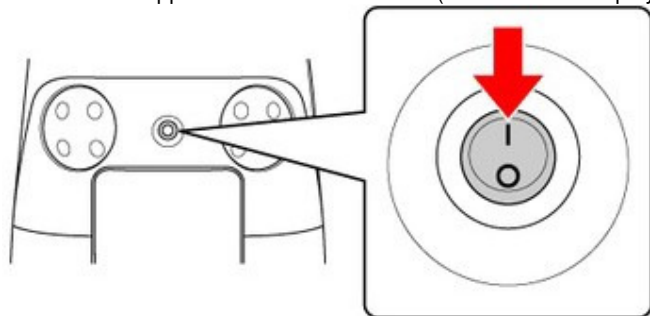
---



### 3 Press the main power switch (I/O) to set it on (I)


---

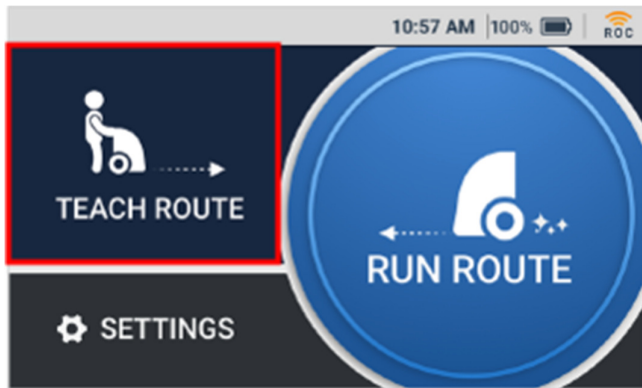
- A screen appears on the touch screen (⇒see “Touch Display”) for selecting “TEACH ROUTE/RUN ROUTE/SETTINGS”.



**4** On the touch display, tap “TEACH ROUTE”

---

 A screen for reading a Home Location Code (⇒see “Home Location Codes and Cleaning Routes”) appears.



**5** Place the machine so that the machine’s sensor and the Home Location Code are parallel, and read the Home Location Code

---



- When the machine has read the Home Location Code correctly, a green frame appears. Otherwise, a red frame appears. Check that the Home Location Code is placed in the correct location (⇒see “Home Location Codes and Cleaning Routes”), or that the Home Location Code and machine are distanced about 80 cm apart.

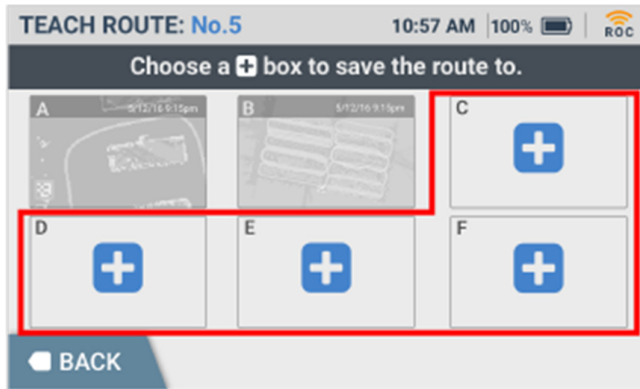


## 6 Select for where to save cleaning route

---

 The selected spot is assigned to the new cleaning route.

- Once the number of saved routes has reached the limit, either delete existing cleaning routes (⇒see “Deleting Cleaning Routes”), or read a different Home Location Code.



## 7 Press the vacuum power button (⇒see “Vacuum Power Button”)

---

## 8 Use the steering handle to move the machine, and clean the entire cleaning route (teaching route)

---

- Changing between normal mode and max power mode (⇒see “Max Power Mode Button”) is also learned in a cleaning route.
- Teaching a cleaning route with few detours allows the machine to travel with fewer decreases in speed for more efficient cleaning.
- The speed at which the machine travels as you are cleaning along the cleaning route (teaching route) has no effect on automatic travel. Clean at your own pace, stopping to check the cleaning route, etc. as needed.
- Be sure to move the machine forward. Backward movement is not learned in a cleaning route. Do not lift the machine up from the floor while teaching a cleaning route.
- Do not abruptly stop other than for an emergency. Suddenly turning the machine or changing directions while teaching a cleaning route may affect creation of the cleaning route. Make sure the machine travels in as straight a direction as possible.
- To cancel cleaning route creation, pause the machine, and on the touch display, tap “CANCEL ROUTE”→“YES - CANCEL”.

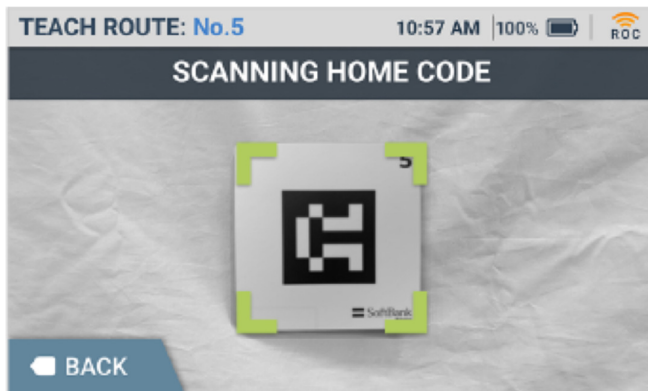


## 9 Return to the Home Location Code that was read at step 5

---

## 10 Read the Home Location Code again

---



## 11 On the touch display, tap “SCAN/SAVE”

---




The cleaning route is saved.

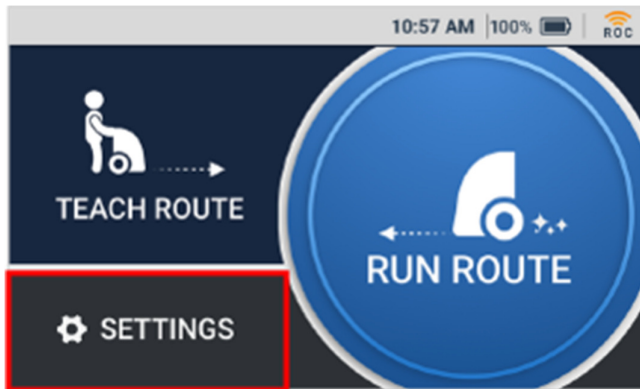
- The saved route appears in the “RUN ROUTE” menu.

# Deleting Cleaning Routes

## 1 On the touch display, tap “SETTINGS”


---

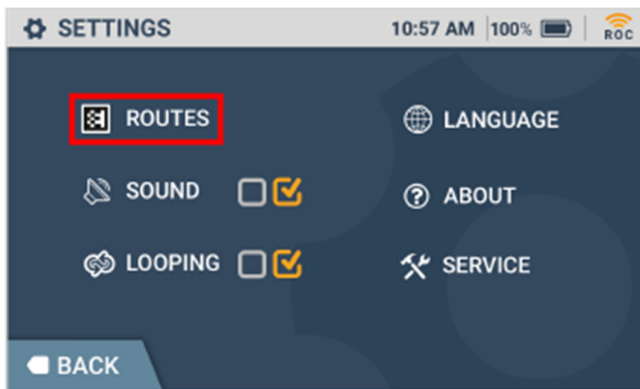
 The settings menu appears.



## 2 Tap “ROUTES”


---

 A list of saved Home Location Codes appears.



## 3 Select the Home Location Code with the routes to delete

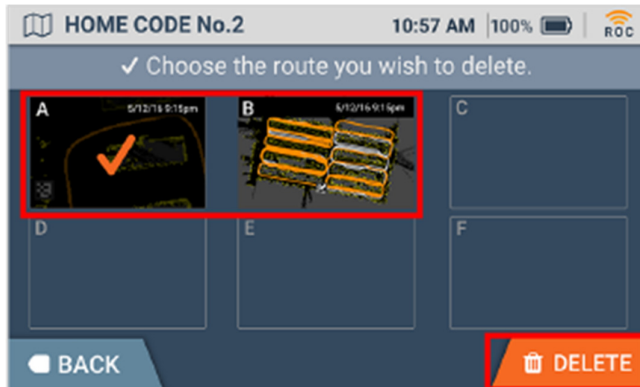
---

 A list of cleaning routes appears.

#### 4 Tap "DELETE"



The selected cleaning routes are deleted.



# 1 Carrying Out Autonomous Cleaning

Select a cleaning route that has already been created (⇒see “Teaching a New Cleaning Route”) and carry out autonomous cleaning. Before carrying out autonomous cleaning, always make an inspection (⇒see “Inspection before Operating the Machine”).

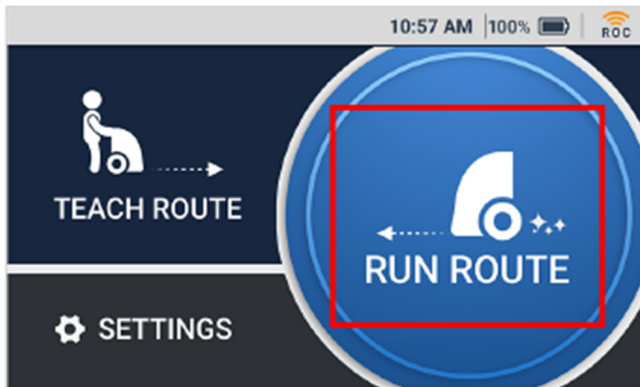
- Carry out autonomous cleaning at a time with the fewest number of persons passing through and the least number of objects nearby.
- To allow the notification pager to receive alert messages from the machine, perform pairing with the notification pager beforehand (⇒see “Notification Pager”).
  - \* Pairing is not required at every startup.
- In order to keep a safe distance from the wheel, the machine will operate a slightly far from the wall. When cleaning areas close to the wall, please operate manually. (⇒ see "Manual Cleaning")

## 1 Move the machine to a Home Location Code (⇒see “Home Location Codes and Cleaning Routes”)



## 2 On the touch display (⇒see “Touch Display”), tap “RUN ROUTE”

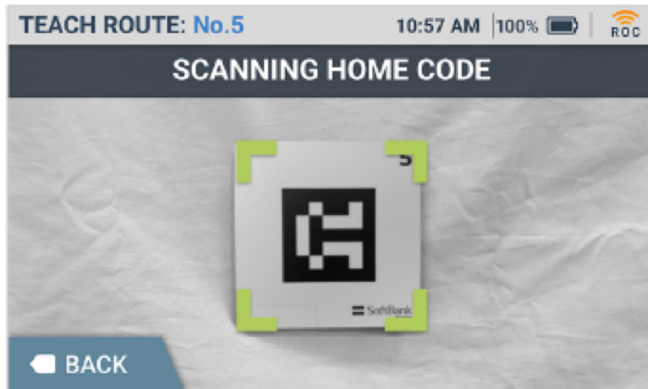
 Home Location Code reading screen will be displayed.



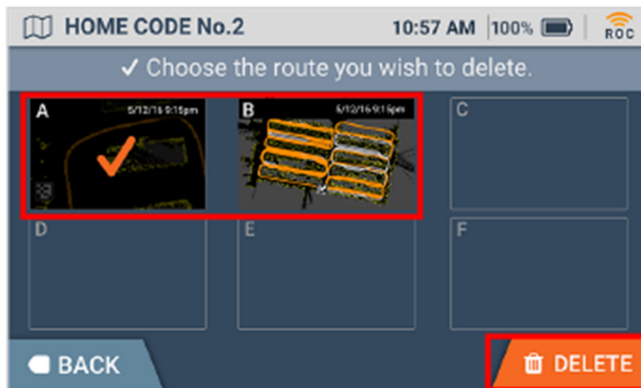
### 3 Read the Home Location Code



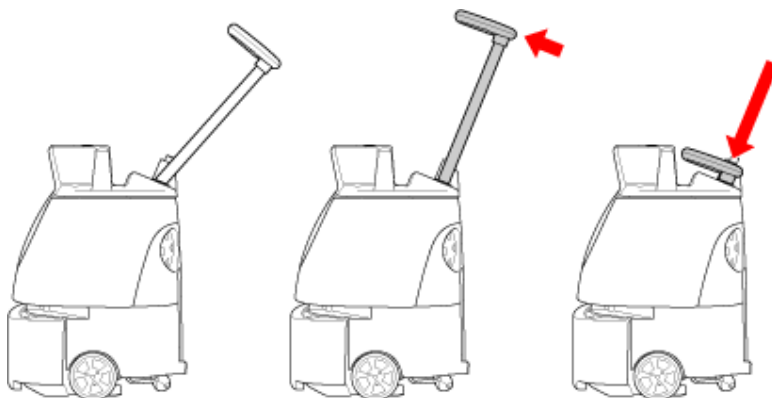
The Home Location Code turns green when the machine recognizes it correctly, and a screen for selecting a route appears on the touch display.



### 4 On the touch display, select the cleaning route



### 5 Stow the steering handle




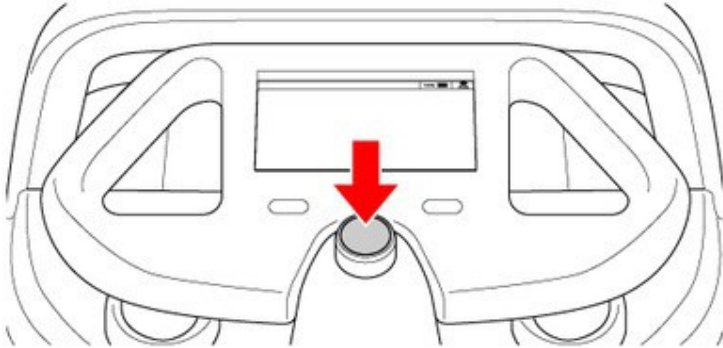
## 6 Remove the notification pager from the machine (⇒see “Notification Pager”)

---

## 7 Press the autonomous clean start/stop button (⇒see “Autonomous Clean Start/Stop Button”)

---

 Autonomous cleaning begins.



- Remove the notification pager (⇒see “Notification Pager”) from the machine and carry it with you. During autonomous cleaning, the LED light indicating the direction the machine is moving in flashes orange 2 times (example: when the machine is going to detour right, the right LED light will light). During autonomous cleaning, the machine travels somewhat away from the edges of walls at a certain distance so as not to scratch walls, etc. Use manual cleaning to clean the edges of walls (⇒see “Manual Cleaning”). During autonomous cleaning, do not stand in front of the LIDAR sensor.

## 8 Check that all functions are operating properly

---

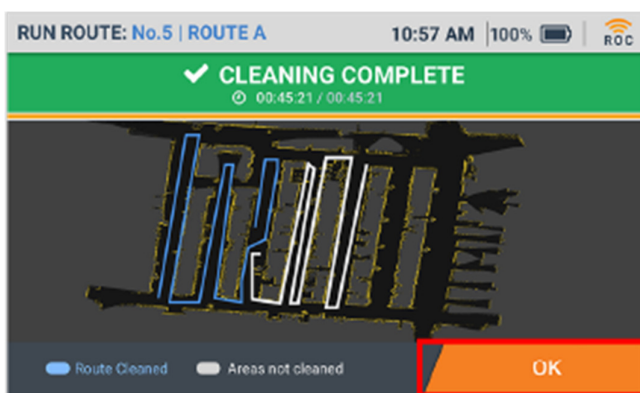
- Once autonomous cleaning completes, the machine returns to the Home Location Code, and notification arrives on the notification pager.

## 9 Check the notification that cleaning is completed with the notification pager

---

## 10 Tap “OK”

---



- Routes that have completed cleaning is shown in blue and routes that have not completed cleaning is shown in white.
- For maintenance and storage after use, see “Maintenance and Safety”.

# Manual Cleaning

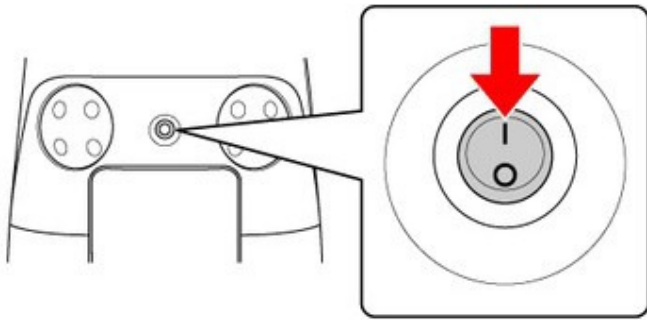
---

Clean by operating manually. In areas along a wall or the like, that cannot be cleaned autonomously, clean in manual mode.

- Before carrying out manual cleaning, be sure to check “Inspection before Operating the Machine”

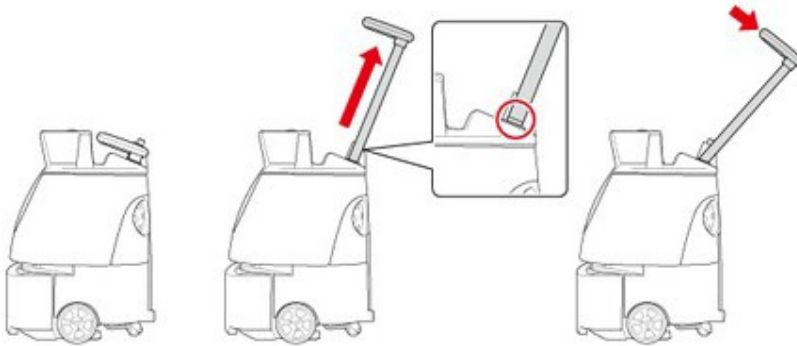
## 1 Press the main power switch (I/O) to turn it on (I)

---



## 2 Pull the steering handle up as far as it will go, and lower it toward you

---





**3 Use the vacuum power button and max power mode button to start cleaning (⇒see “Vacuum Power Button”, “Max Power Mode Button”)**

---



- The machine is designed to be moved forward to clean floors; do not move the machine backward.
- During cleaning, do not bring the machine near slopes, platforms, elevators/escalators, or other obstacles.
- Contact the administrator immediately if the machine is damaged or is operating abnormally (such as vacuum failure or a sound of an air leak).

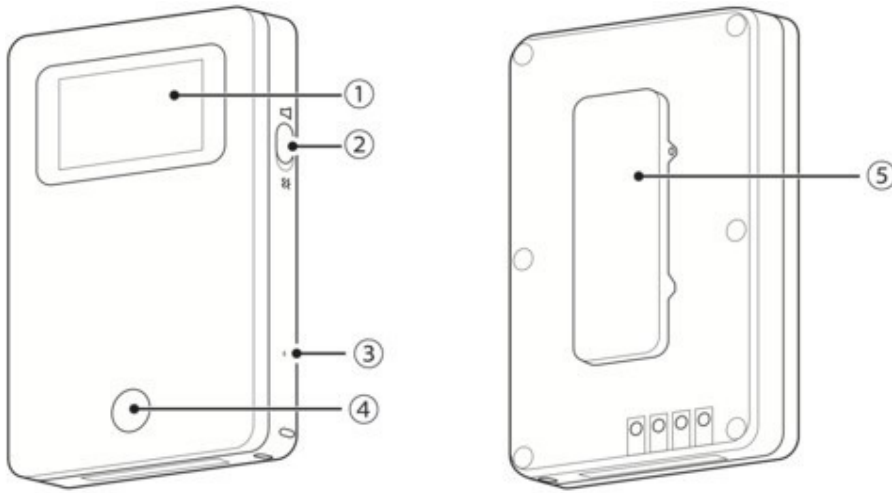
# Notification Pager

---

## Notification Pager Functions

Notification pager will notify the operator (Sound/Vibration) when irregular occur during autonomous cleaning or when the machine encounters obstacles. When using the notification pager for the first time, please take the pager out of the battery box and charge the pager. (⇒see "Recharging the Notification Pager").

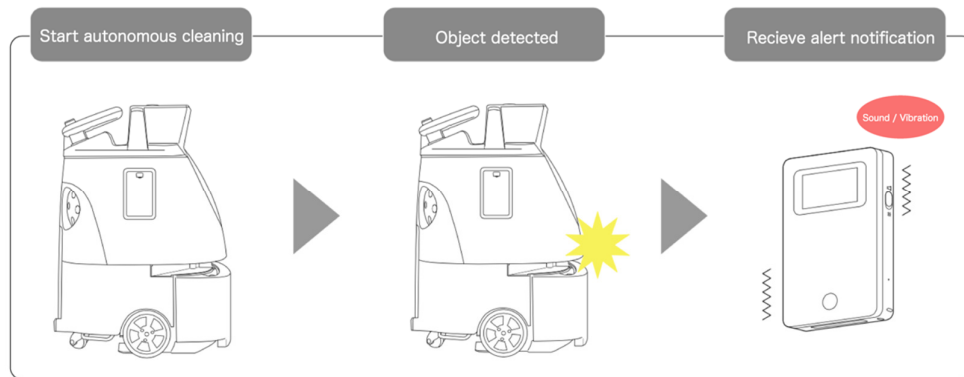
- Notification pager can only be used during autonomous cleaning.



No.	Item	Description
1	Display	<p>The battery level icon and mute icon appear at the left of the display, and alerts appear at the right of the display.(⇒see "Alert display and its notification timing")</p>
2	Pager mute switch	To set the notification pager only to vibrate for alert notifications, set the pager mute switch on.
3	Power button	Use the given pin to turn the power On for the Notification Pager.
4	Pager main button	To stop the alert and vibration, press the pager main button.
5	Clip	Use the clip when placing the notification pager in your pocket, etc.









## ■ Notification Pager Functions & Usage

- When the machine detects danger or detects an obstacle, an alert will be displayed on the notification pager(⇒see "Alert display and its notification timing")and it notifies the operator by emitting an alert and vibrating. It emits an alert and vibrates for 15 seconds then stops for 5 seconds, which it repeats for 10 minutes. After the error with the machine has been resolved, the notification pager sounds for 1 second and its display indicates standby.
- To receive alert notifications, pair the machine and the notification pager. (⇒see "Pairing the Notification Pager") Once the display on the notification pager indicates communication, place it in the pager compartment to complete pairing.



- During autonomous cleaning, always carry the notification pager on you. Alerts cannot be received while the notification pager is in the pager compartment.
- The range in which the notification pager can communicate with the machine is a direct line up to 300 m (2 floors above and below).
  - \* Range of communication depends on the environment. Communication may not be possible such as where there are walls with metal.
- After using the notification pager, place it in the notification pager charger (⇒see "Recharging the Notification Pager").
- If the notification pager won't be used for a long period of time (approx. 2 months) turn the switch Off (⇒see "Turning the Notification Pager On/Off")

■ Alert display and its notification timing

Appearing on display	Description	Appearing on display	Description
	Standby (within the communication range/paired)		Autonomous cleaning complete
	Machine battery level low		No machine battery remaining
	Dustbag full		Connected for wireless communication
	Connection for wireless communication not possible (outside communication range/not paired)		Error alert <ul style="list-style-type: none"> <li>· When danger has been detected near obstacles or steps</li> <li>· When the emergency stop button has been pressed</li> <li>· When the machine goes off path during the operation</li> </ul>

## I Turning the Notification Pager On/Off


When using the notification pager for the first time, use the supplied pin to turn the power On.

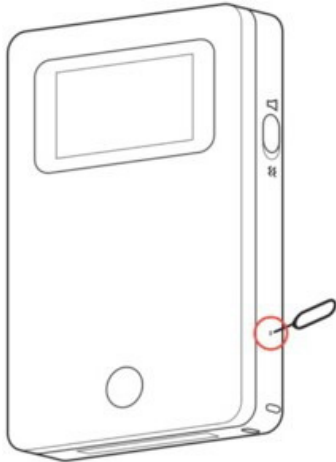
### ■ Turning the Notification Pager On

#### 1 Insert the supplied pin in the power button on the side of the notification pager

---

Keep the inserted pin pressed until the notification pager vibrates.

 An icon appears on the display.

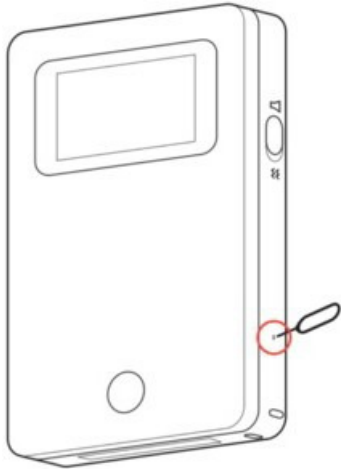


## ■ Turning the Notification Pager Off

**1** Insert the supplied pin in the power button on the side of the notification pager

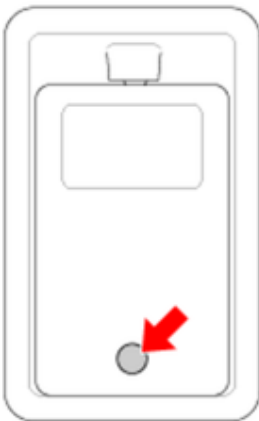
---

 The display goes out.



**2** Press the pager main button, and check that nothing appears on the display

---

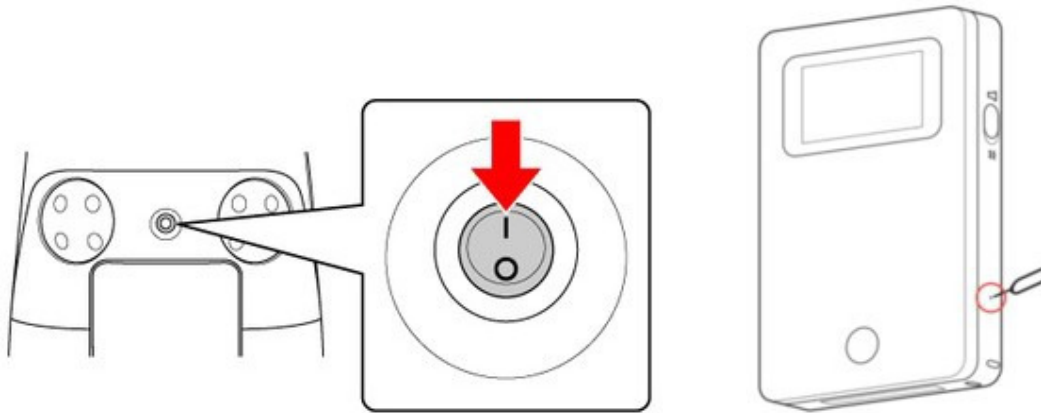


## 1 Pairing the Notification Pager

In order to receive the alert on the notification pager, the pager must be paired with the machine itself.

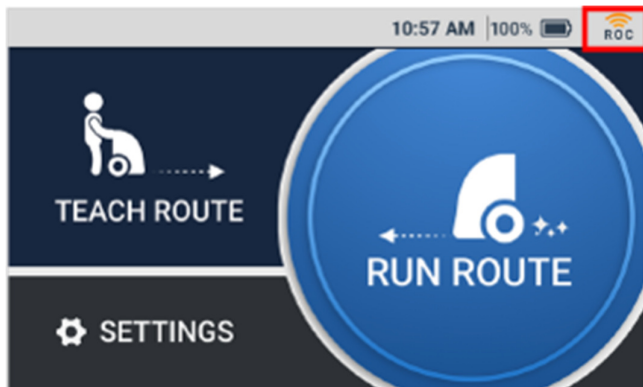
### 1 Turn On the notification pager and the machine

---



### 2 Check if the machine is connected to the Robot Operations Center (ROC)

---



- Please check your mobile phone cellular connection in advance. Robot Operations Center (ROC) will not be connected to LTE in an area where there is no signal.
- The connection status to the ROC will be shown by the ROC indicator on the display (⇒see "Touch Display")



**3 Press the button on the notification pager for at least 5 seconds**

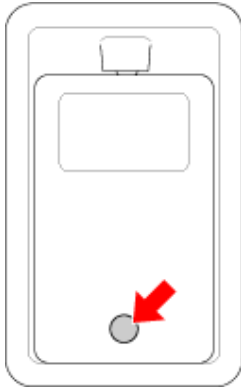
---



The message "Wireless connection in process"



will be shown on the pager's display.



**4 Attach the pager on to the pager holder on the side of the machine**

---



- Carry out autonomous cleaning and check if you will receive the alerts (⇒see "Carrying Out Autonomous Cleaning").

## Recharging the Notification Pager

If notification pager battery is running low, charge the pager fully before using it.

**1** Insert the Micro USB plug on the cable in the terminal on the back of the notification pager charger

---

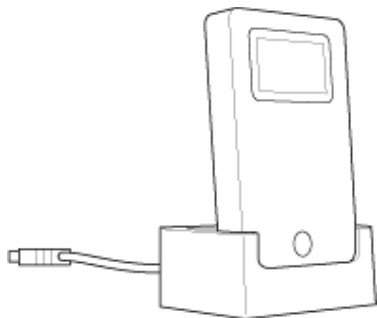
**2** Connect the USB plug on the cable in the USB AC adapter, and plug the adapter into an outlet


---

- The customer must purchase a USB AC adapter themselves.

**3** Place the notification pager in its charger

---



- An AC adapter is not included in the product package. The customer must use their own AC adapter.
- Press the pager main button, and if the fully charged mark  appears on the display, it has complete d charging.
- About 2.5 hours are required to fully recharge.

# Battery and Recharging

---

## About Battery and Recharging

- The battery operates for about 3 hours when cleaning in normal mode.
- About 4 hours are required for the battery to fully recharge.
- Use only batteries designed for the machine.
- Use only a power cable with a country label (country name) for Japan. Do not use any other power cable.

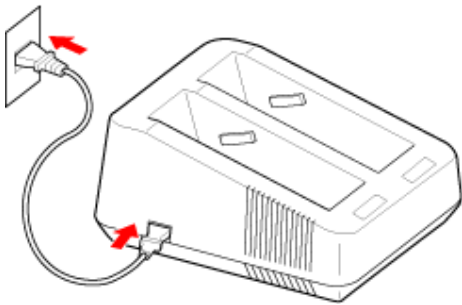
## 1 Recharging the Battery

Before using the machine, set the main power switch on the machine off, remove the battery, and recharge the battery in the charger.

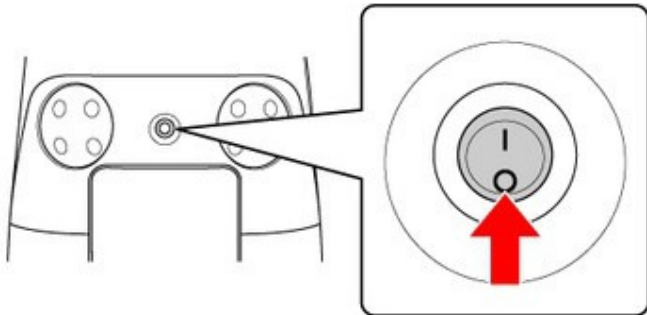
When replacing with a fully charged battery, check that the Secondary battery power button (⇒see “Secondary battery power button”) is off, and that no error for low battery level appears on the touch display (⇒see “Touch Display”).

- As a safety precaution, always use both hands when removing/installing the battery or inserting/removing it from the charger. Doing so with only one hand may allow it to drop, which is very dangerous.

### 1 Connect the power cable for the charger to the charger, and connect the power plug to an outlet

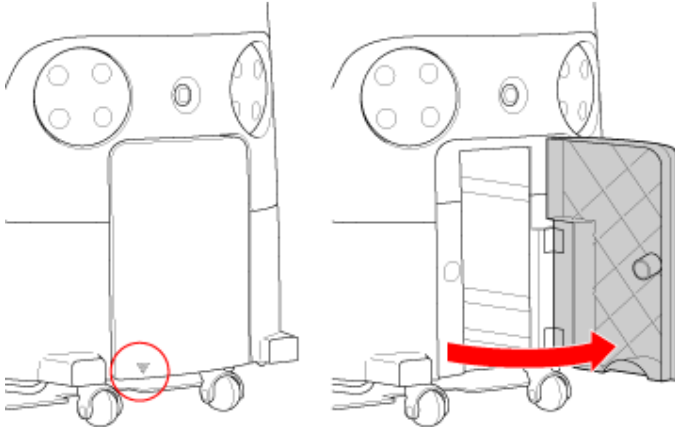


### 2 Press the main power switch (I/O) to set it off (O)



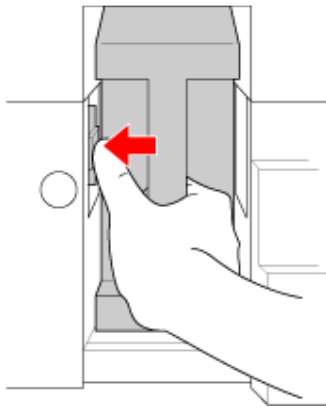
**3** Open the battery door by pulling its bottom left toward you

---



**4** Hold the grip on the battery in your right hand, and press the battery lock with your thumb

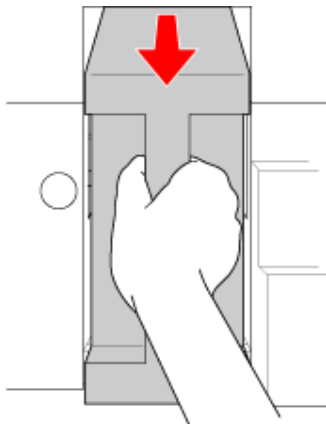
---



**5** Pull the battery out toward you as you release your thumb from the lock

---

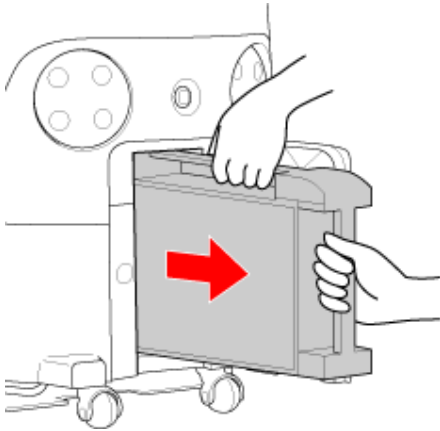
- Be careful not to let your thumb get caught.



## 6 Hold the grips, and pull the battery out

---

- Be sure to hold the grips with both hands when pulling the battery out.

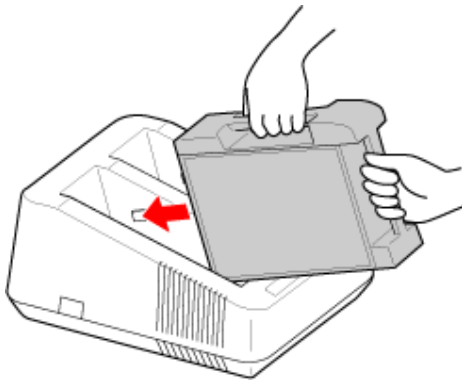


## 7 Insert the battery straight into the charger all the way

---

- Recharging starts when the battery is properly inserted in the charger.

- Slide the battery gently into the charging slot. Inserting it from above may damage the charging terminal.
- After inserting the battery, check that the terminals on the battery and the charger are connected firmly.



## 8 After recharging the battery, check that the charging status light is flashing in green

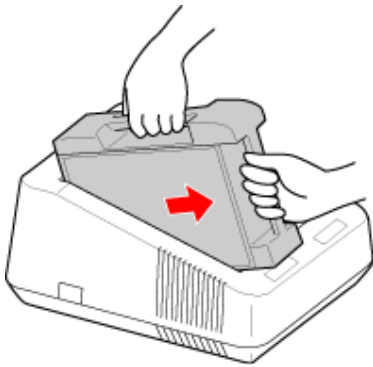
---



**9** Once the battery is recharged, pull it straight out of the charger and then lift it up

---

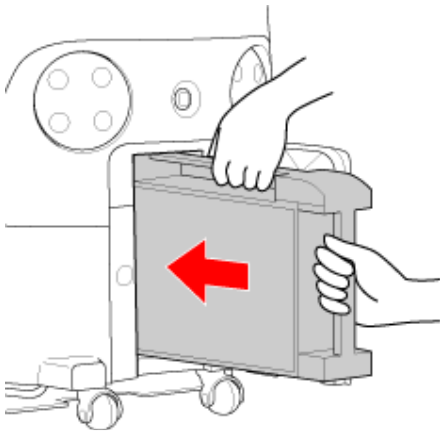
- Slide the battery out of the charging slot.
- Be sure to hold the grips with both hands when pulling the battery out.



**10** Insert the battery all the way in the battery compartment, and close the battery door

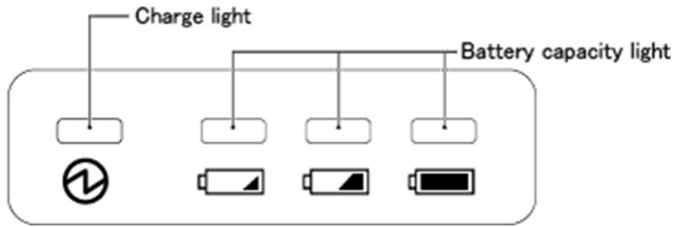
---

- Insert the battery in the battery compartment by its terminal first.
- Once the battery is properly inserted, the battery lock in the battery compartment projects toward you with a click.



## ■ Light

Charging status is indicated by the light on the charger.



Status		Charge light	Battery capacity light
Recharging	Battery capacity: less than 5%	Lit orange	One lit green
	Battery capacity: 5 to 95%	Lit orange	Two lit green
	Battery capacity: more than 95%	Lit orange	Three lit green
Recharged		Flashing green	Not lit
Charging standby		Flashing orange	Not lit
Not normal		Flashing red/lit red	Not lit



# Maintenance and Safety

---

## ■ About Maintenance and Safety

After completing cleaning, carry out maintenance on the following parts every day. Before carrying out maintenance, make sure to turn off the main power switch on the machine (⇒see “Main Power Switch”).

- Brush (⇒see “Brush”)
- HEPA filter (⇒see “HEPA Filters”)
- Hopper tray (⇒see “Hopper Tray”)

- Machine repair should only be carried out by technical staff approved by SoftBank Robotics.

## ■ Brush

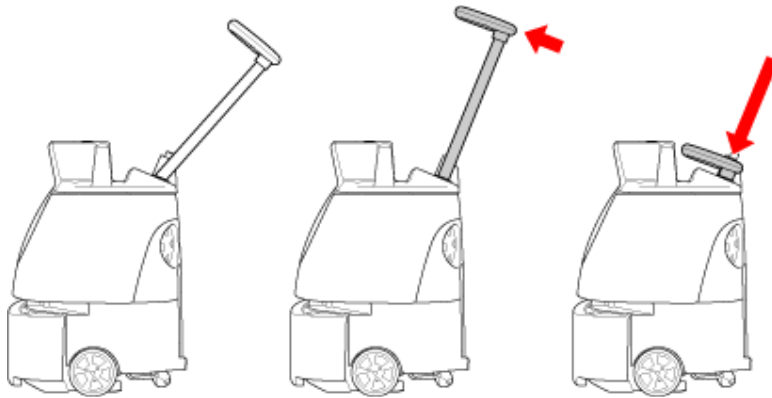
Remove the brush, and remove any dirt or hair caught in it as necessary. If the brush is damaged, replace with a new brush following the steps below.

- When cleaning the brush, do not pull the brush forcefully. Doing so may damage the brush.
- If the bottom of the machine is dirty, wipe with a dry cloth.

## ■ Removing the brush

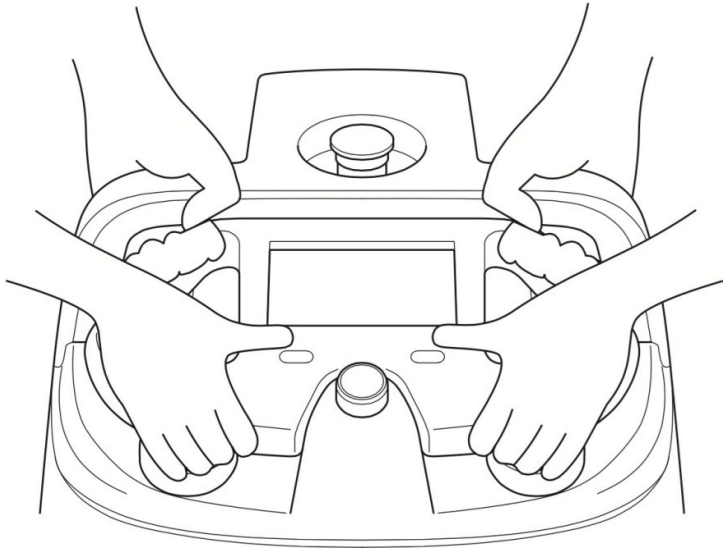
### 1 Stow the steering handle (⇒see 'Steering handle')

---



**2 Hold the lift handle with one hand, and hold the handle down with another hand.**

- Please operate with two people.

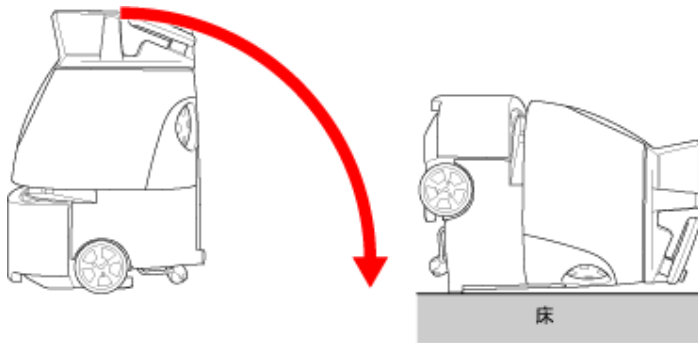


**3 Gently lay the machine down so that the dustbin faces upward.**

- ▣ Rubber pad will support and stabilize the machine.

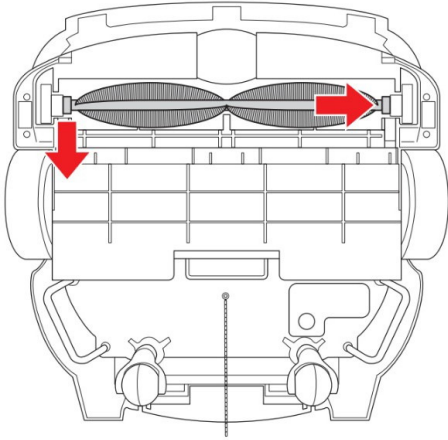
- Please be cautious so the handle does not stick out of the machine.

- Take care not to let the machine fall forcefully or to turn.
- A concrete or other hard surface will scratch the machine; place the machine on carpeting or other soft and flat surface.



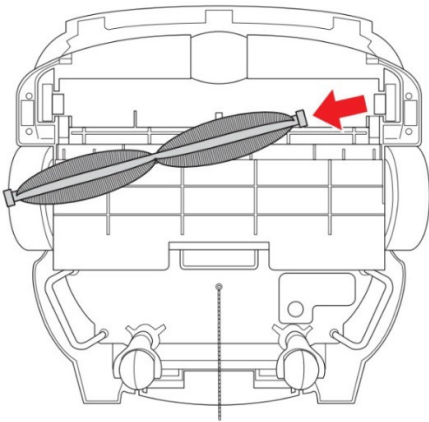
**4** Press the brush to the right, and pull the left end out toward you to remove

---



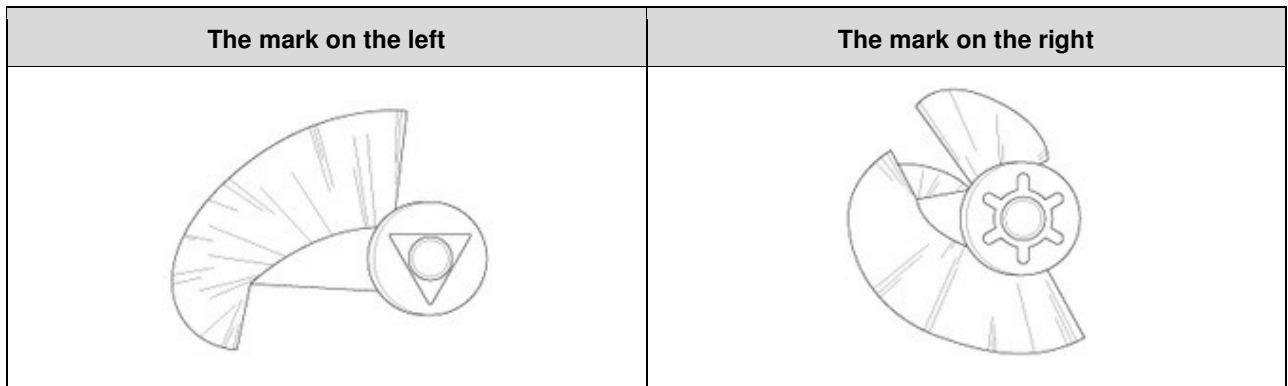
**5** Remove the right end of the brush

---



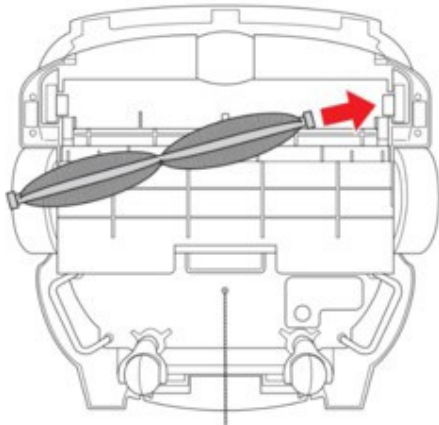
■ **Mounting a new brush**

**1** Check the marks on the left and right ends of the new brush



- When the machine is layed down with the front side facing upwards, you will see the sockets of the Brush compartment, both right and left, have the same marks as the brush.

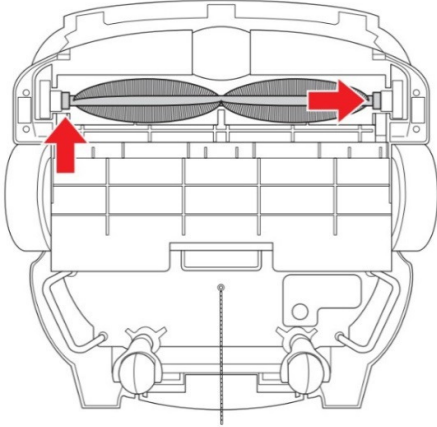
**2** Attach the right end of the brush in the socket with the matching marking in the Brush compartment



**3 Push the brush in on the right, and attach the left end of the brush in the socket with the matching marking**

---

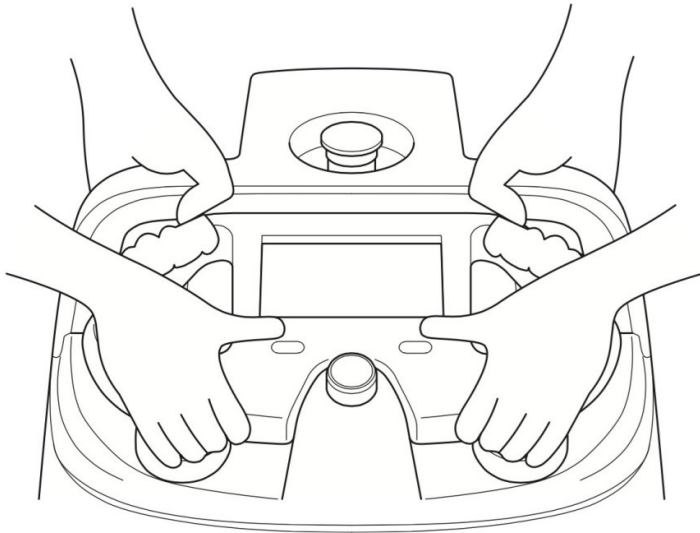
- Turn the brush, and check that both ends of the brush are securely attached in the sockets.



**4 Hold the lift handle with one hand, and hold the handle down with another hand.**

---

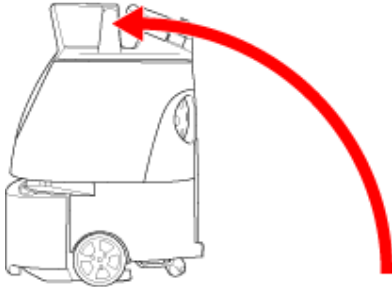
- Please operate with two people.



**5** Holding the lift handles by both hands, gently raise the machine

---

- Please be cautious so the handle does not stick out of the machine.



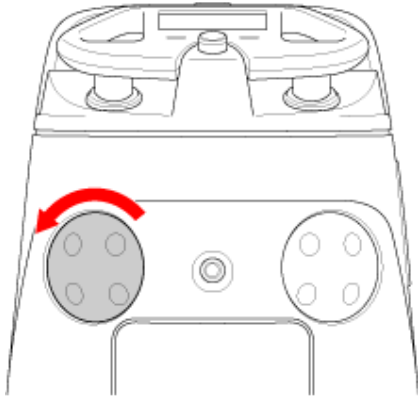
## ■ HEPA Filters

Check that dirt has not accumulated in the HEPA filters and that they are not damaged. If dirt has collected or they are damaged, replace them with new filters following the steps below.

- Do not wash the HEPA filters with water.

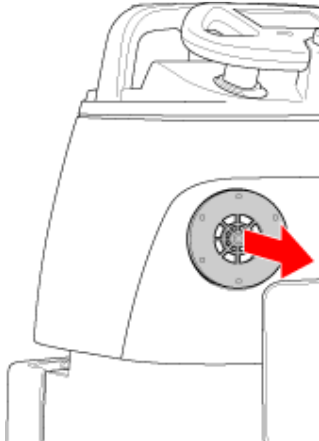
### 1 With fingers in the holes in the filter cover, turn to the left to remove

---



### 2 Hold the HEPA filter by the tab in the middle and remove

---



### 3 Install the new HEPA filter, replace the filter cover, and turn to the right to close

---

- Replace the other HEPA filter also as required.



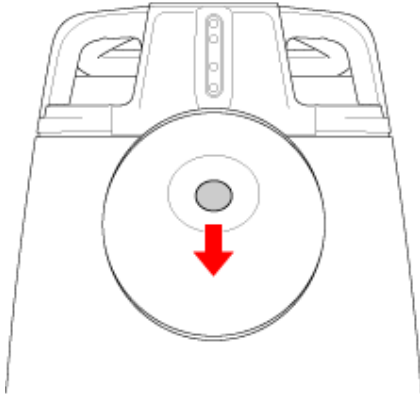
## ■ Dustbag

Replace with a new Dustbag when it gets full.

### ■ Remove the Dustbag

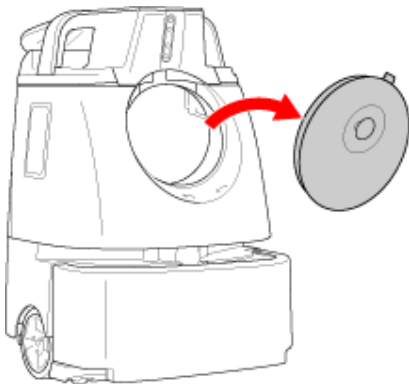
**1** Hold by the dustbin access handle and pull down

---



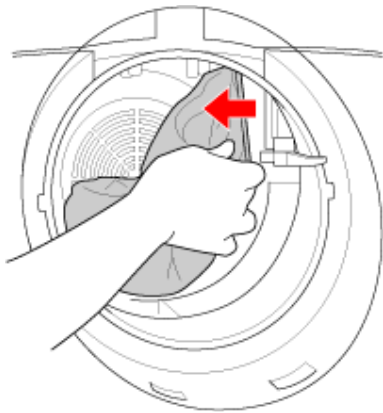
**2** Pull the cover toward you to remove

---



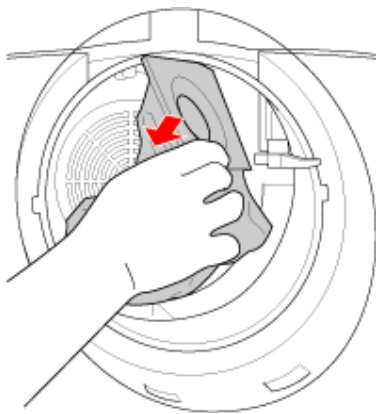
**3** Pull out the attachment sheet for the Dustbag inside the dustbin

---



**4** Remove the used Dustbag from the dustbin

---



■ **Attach the new Dustbag**

**1** Spread the new Dustbag out and inflate

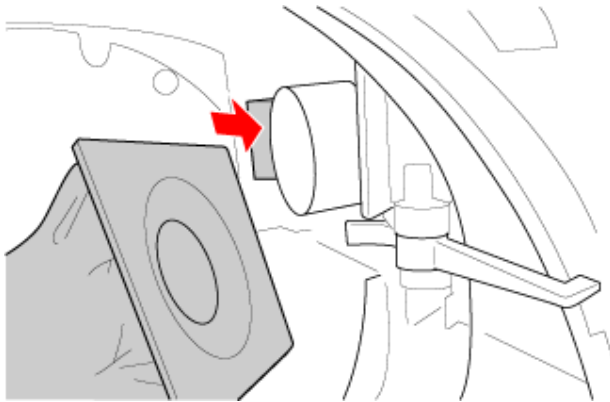
---

- Please be careful not to rip the Dustbag.

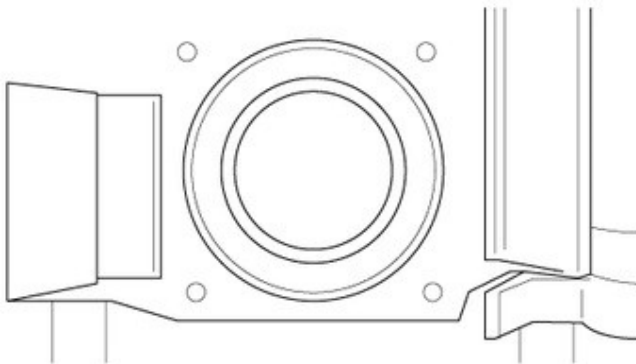
**2** Hook the left of the attachment sheet for the new Dustbag on the catch on the left of the suction duct

---

- Follow the illustration on the Dustbag and make sure that the side of the illustration faces upwards.



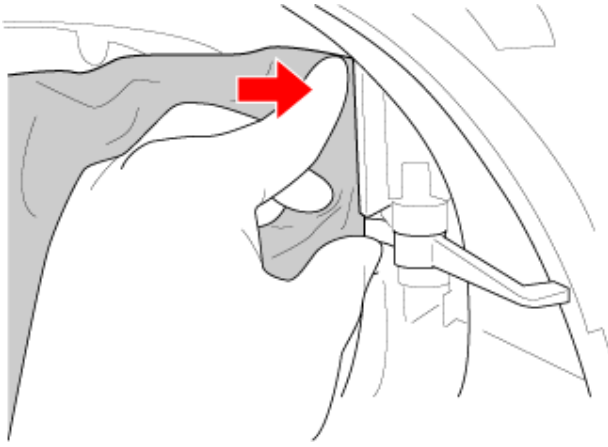
- The suction duct inside the dustbin appears as below when viewed from the front. The catch is visible on the left.



**3** Align the opening in the attachment sheet with the suction duct, and push the right of the attachment sheet in firmly

---

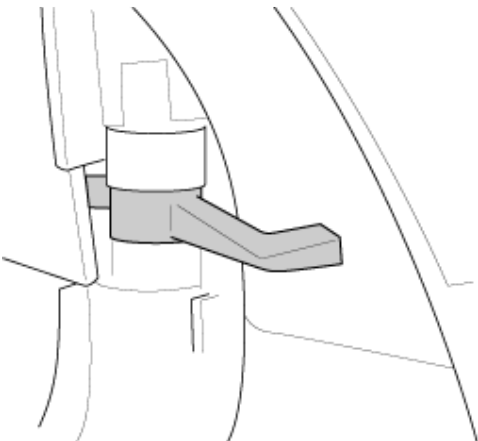
- Be careful not to pinch your fingers.



**4** Check that the dustbin pin is afloat

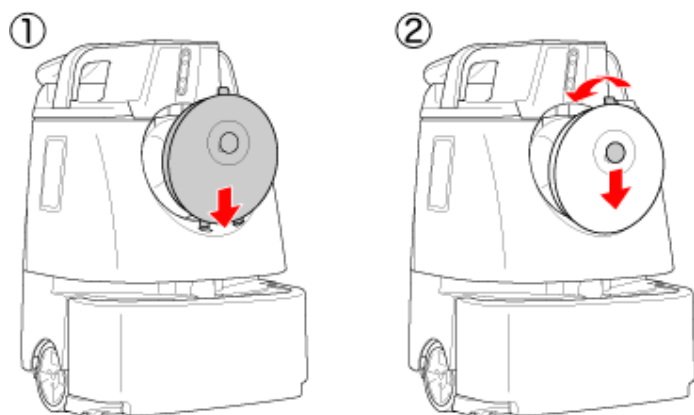
---

- If the Dustbag is attached properly, the stopper in the dustbin is raised away as shown below. If the paper bag is not attached properly, the stopper will prevent the dustbin cover from being closed. Closing the cover force fully may cause damage.



**5** Insert the catches at the bottom of the cover in the bottom of the dustbin (1), and close the cover while holding the dustbin access handle down (2)

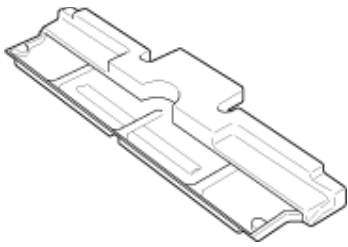
---



## ■ Hopper Tray

Empty the hopper tray after every cleaning. Remove and replace the hopper tray following the steps below.

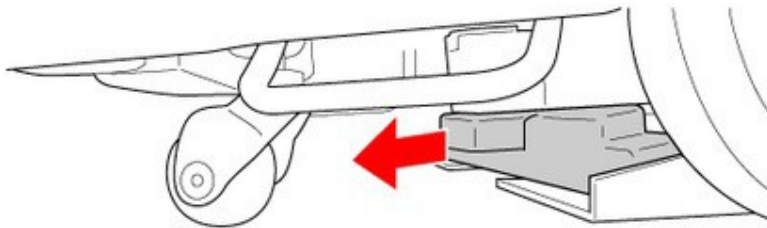
- The hopper tray is shaped as below, and is located on the bottom of the machine (⇒see “Names of Parts”).



- Do not remove the hopper tray while the machine is laying on its side. Doing so will allow dirt in the hopper tray to scatter.
- Be careful not to injure yourself when removing the hopper tray.

### 1 Pull the hopper tray out by its handle

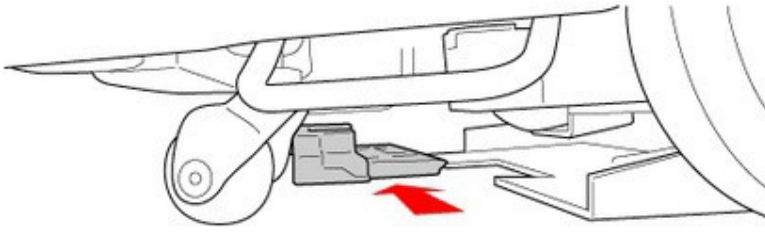
---



## 2 Pull the hopper tray out on the left (direction of arrow)

---

- The hopper tray cannot be pulled out on the right.
- To ensure adequate space for pulling the hopper tray out, orient the rear caster backward as shown.



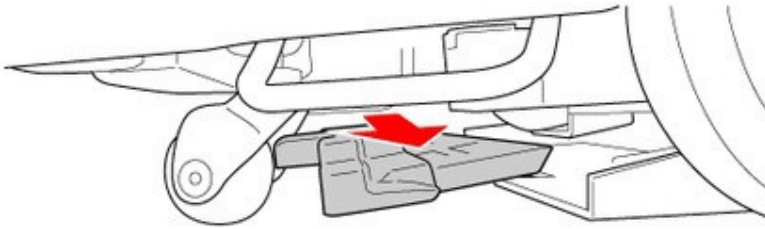
## 3 Discard any dirt in the hopper tray

---

- Wash the hopper tray with water if soiled. After washing, wipe away any water with a dry cloth and allow to dry well.

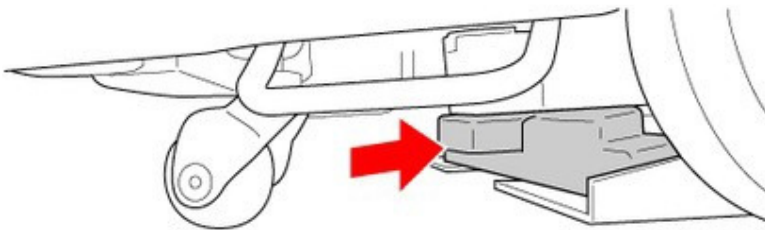
## 4 Slide the hopper tray into the bottom of the machine from the left

---



## 5 Press the hopper tray all the way in

---

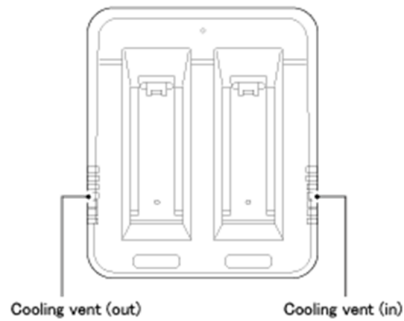


## ■ Battery Charger

Before recharging the battery, check that no dust or dirt is present in the air vents on the charger.

### 1 Remove any dust or dirt from the air vents

---



- Check visually for anything abnormal (discoloration, corrosion) and for any abnormal sound, etc. from inside the charger



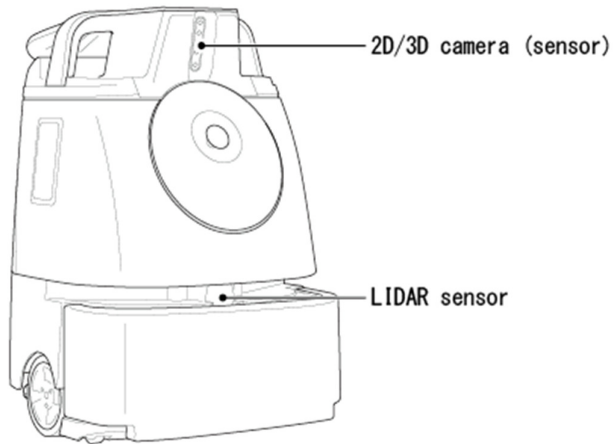
## ■ Sensors

If dust or dirt is on the sensor, remove by using a micro-fiber cloth.

### ■ 2D/3D Camera (sensor), LIDAR sensor

#### 1 Wipe the 2D/3D camera (sensor) and LIDAR sensor with the micro-fiber cloth

---



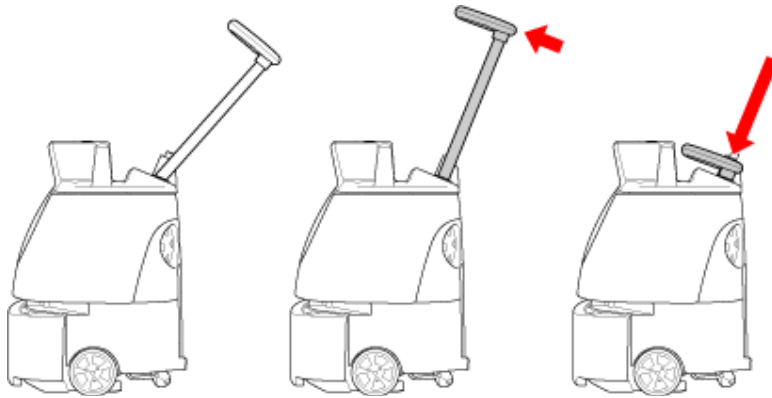
#### 2 Check that nothing is caught in the gaps around the bumper, and that the machine moves back several centimeters when the bumper is pushed slightly

---

■ Cliff sensor

**1** Stow the steering handle(⇒see "Steering Handle")

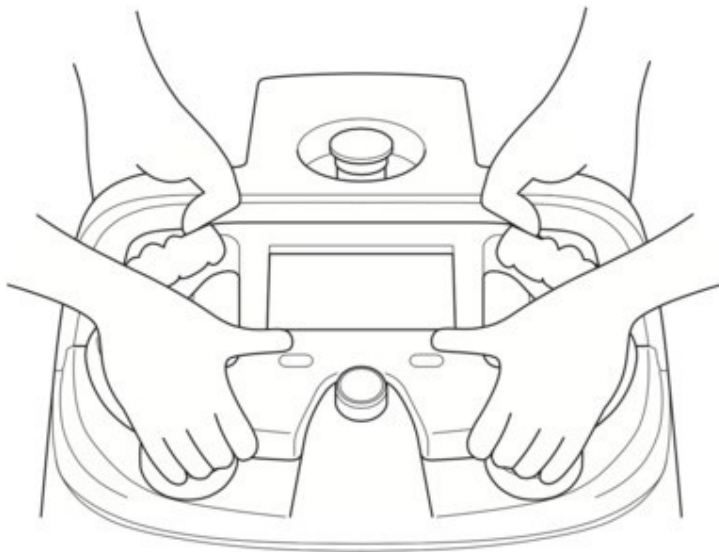
---



**2** Hold the lift handle with one hand, and hold the handle down with another hand


---

■ Please operate with two persons.



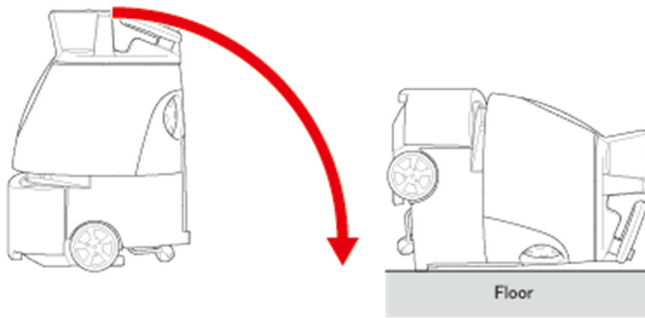
**3** Holding the lift handles with both of your hands, gently lay the machine on its side so that the side with the dustbin is up

---

 When the machine is laying on its side, it is supported stably by the Rubber pad.

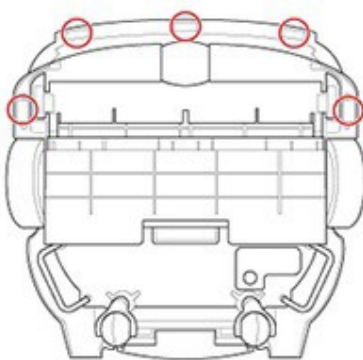
- Please be cautious so the handle does not stick out of the machine.

- Take care not to let the machine fall forcefully, and lay it down slowly.
- A concrete or other hard surface will scratch the machine; place the machine on carpeting or other soft and flat surface.



**4** Wipe the Cliff sensors with the micro-fiber cloth

---



## **I Storing the Machine**

Once cleaning completes, move the machine manually to its predetermined place of storage.

- When not using the machine, store it with its power turned off.
- If not using the machine for a long period (approx. 2 months), set the Secondary battery power button (⇒see “Secondary battery power button”) off.
- Store the machine where it will not be a hindrance to fire doors, stairs, or firefighting equipment.
- Always store in a dry indoor location free of humidity.
- After use, always turn the machine off and recharge its battery.

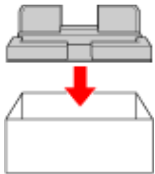
## ■ Packaging the Machine

If not using the machine for a long time, follow the steps below to pack the machine. As a safety precaution, always work with at least two persons.

- Before packing the machine, be sure to remove the battery (⇒see “Battery and Recharging”).
- Pack the notification pager and brush in the special packaging box.

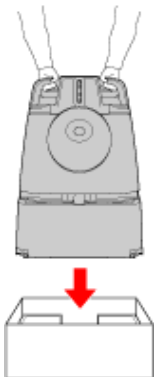
### 1 Attach the lower-portion packaging material in the lower-portion box.

---



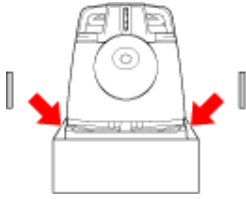
### 2 Hold the lift handles with two persons, and insert the machine in the lower-portion box

---



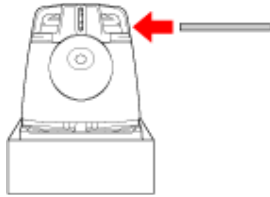
**3** Insert packaging material at both sides of the machine on its bottom

---



**4** Insert polystyrene foam at the top of the machine (under the steering handle)

---



**5** Wrap the machine in plastic

---



**6** Insert the front packaging material

---



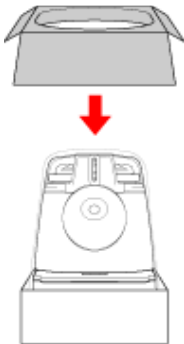
**7** Stuff extra plastic into the top of the machine

---



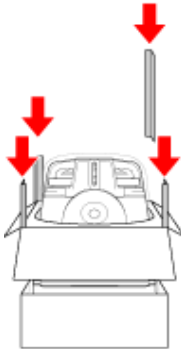
**8** Place the middle packaging material

---



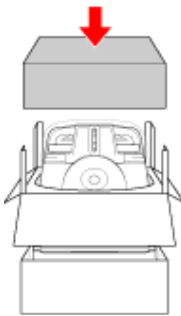
**9** Insert the 4 supports

---



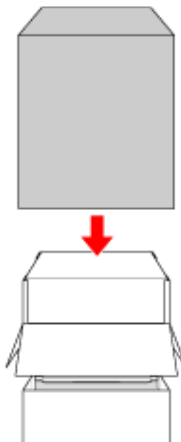
**10** Place the top packaging material

---



**11** With two persons, place the outer box

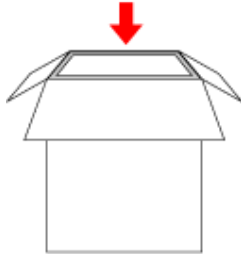
---





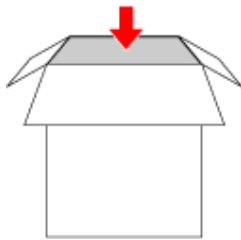
**12** Open the top of the box, and insert the corrugated cardboard sleeve

---



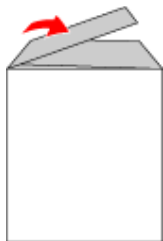
**13** Insert the white packaging material

---



**14** Close the box

---




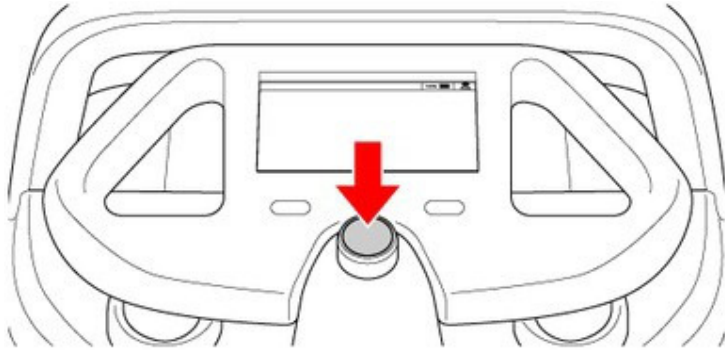
# Troubleshooting

---

## ■ Stopping/Pausing the Machine

- 1 On the back of the machine, press the autonomous clean start/stop button
- 

 The machine stops.



- To restart machine operation, press the autonomous clean start/stop button again.
- To stop auto cleaning, tap "CANCEL ROUTE" on the touch display.

## ■ Emergency Stop

If an emergency occurs, press the emergency stop button and immediately stop the machine.

- Only use the emergency stop button in an emergency.
- To pause the machine during autonomous cleaning, use the autonomous clean start/stop button (⇒see “Autonomous Clean Start/Stop Button”).

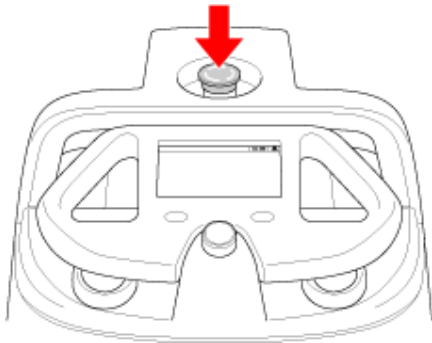
## ■ Stopping the Machine Urgently in an Emergency

### 1 Press the emergency stop button

---



The machine will stop and an alert will be notified on the notification pager(⇒See "Notification pager").



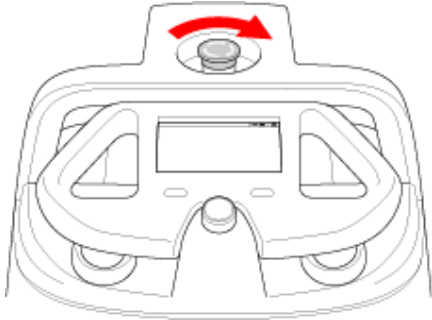
- The machine is stopped, but the power is not turned off.

## ■ Releasing the Machine from Emergency Stop

- Check the safety of the machine and surrounding area before releasing the machine from emergency stop.

### 1 Turn the emergency stop button to the right


---

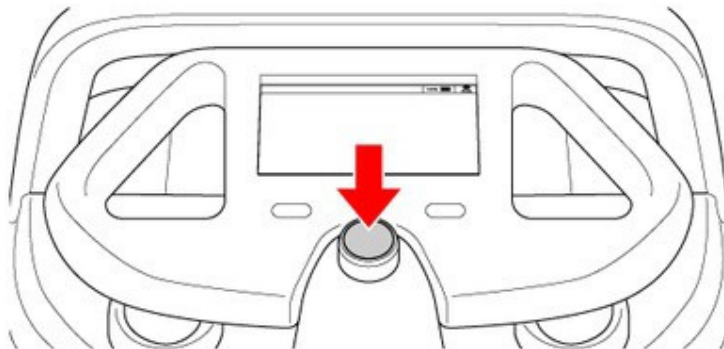


- Check that the button springs up.

### 2 Press the autonomous clean start/stop button

---

-  Autonomous cleaning resumes.



- To stop autonomous cleaning, tap "CANCEL ROUTE" on the touch display.

## ■ Checking Machine Alerts

During an autonomous cleaning, if the machine encounters an obstacle and senses danger or if the battery is low, an alert will be notified on the touch display (⇒see “Touch Display”). If an alert is displayed, please follow the instructions on the touch display.

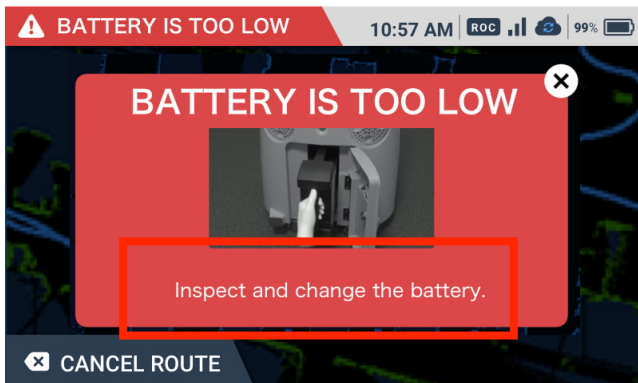
### 1 Tap the alert appearing at the upper left of the touch display

---



### 2 Follow the instructions on the screen

---



- If the machine stops moving and notifies the operator with an alert at the same location several times, check the problematic cleaning area, Home Location Code, and cleaning route, and contact customer support.
- If a problem cannot be remedied, contact customer support. The RIN (the machine's serial number) is required when inquiring with customer support. The RIN appears on a sticker located on the inside of the battery door on the machine.

# Machine Specifications

---

Machine size (length × width × height)	474mm × 455mm × 653mm
Machine weight	Approx. 30 kg
Machine weight (battery installed)	35 kg
Cleaning width	360 mm
Maximum inclination	0% (during auto cleaning)
Battery	Lithium-ion battery
Battery output voltage	25.2 V
Battery rated capacity	23.7 Ah
Operating temperature range (charger/battery)	0°C to 45°C
Battery size (length × width × height)	290 mm × 215 mm × 79 mm
Battery weight	Approx. 5 kg
Operating time	Approx.3hours (normal mode)/approx.1.5hours (max power mode)
Time to fully recharge	4 hours
Charger size (length × height × width)	410 mm × 350 mm × 185 mm
Charger weight (incl. power cable)	4.2 kg
Charger power source	100 to 240 V AC
Charger rated output voltage	29.4 V DC/8 A × 2

# Glossary

	Terminology	Description
A	Accessory box	The box includes notification pager, notification pager charger, pin and micro-fiber cloth. Upon arrival, accessory box will be stored inside the battery box.
	Autonomous clean start/stop button	Use to start autonomous cleaning mode or to pause/resume autonomous cleaning. The autonomous clean start/stop button (⇒see “Autonomous Clean Start/Stop Button”) can only be used in autonomous cleaning mode.
	Autonomous cleaning	The operator teaches a cleaning route on the machine beforehand (⇒see “Teaching a New Cleaning Route”) so that the machine can clean by itself without the operator cleaning with it manually. When using autonomous cleaning, stow the steering handle in the main unit beforehand as a safety precaution. (⇒see “Autonomous Cleaning (Robot)”)
	Secondary battery power button	If not using the machine for a long period of time (approx. 2 months), turn the Secondary battery power button Off. (⇒See "Secondary battery power button")
B	Battery	Battery in the machine. Use the special charger for recharging the battery. (⇒see “Battery and Recharging”)
	Battery charger	Charger for recharging the machine’s battery. (⇒see “Recharging the Battery”)
	Battery Compartment	Box where the machine’s battery is inserted.
	BrainOS	Innovative artificial intelligence (AI) technology developed by Brain Corp. for allowing a unit to clean on its own.
	Brush	Rotating brush that collects dirt and dust into the hopper tray, and also aids efficient vacuuming. (⇒see “Brush”)
	Bumper	Shock absorber for impact or vibration if the machine contacts obstacles, etc.
C	Teach route	Use Home Location Codes to teach cleaning routes in autonomous cleaning mode. (⇒see “Teaching a New Cleaning Route”)
D	Display (notification pager)	The screen is for checking the notification pager’s battery level, Robot Operations Center(ROC) connection status, alerts, etc. (⇒see "Notification Pager Functions")
	Dustbin	Box in which the Dustbag (⇒see “Dustbag”) is attached.
	Dustbin access handle	Knob on the dustbin cover for opening and closing the dustbin.
	Dustbin cover	Cover on the dustbin. Before closing the dustbin cover, check that the Dustbag (⇒see “Dustbag”) inside the dustbin is attached properly.
E	Emergency stop button	Button used in an emergency. Pressing the emergency stop button immediately brakes the machine and all functioning stops. (⇒see “Emergency Stop”) To resume autonomous cleaning after an emergency stop, turn the emergency stop button to the right to release the emergency stop and press the autonomous clean start/stop button. ( ⇒see “Autonomous Clean Start/Stop Button”)
G	Grounding chain	Chain for channeling the machine’s electrical charge (static electricity) to the ground. Before using the machine, check that the earth chain is in contact with the floor.

	<b>Terminology</b>	<b>Description</b>
H	HEPA filters	High-performance exhaust filters located at the exhaust of the machine for removing dirt and particles. (⇒see “HEPA Filters”)
	HEPA filter covers	Removable covers on the machine’s exhaust. (⇒see “HEPA Filters”)
	Home Location Code	Code used for having the machine learn where cleaning start/end points are in autonomous cleaning mode. One code can be used for the machine to learn six routes. (⇒see “Home Location Codes and Cleaning Routes”)
	Hopper tray	Tray for holding dirt collected by the brush. Discard any dirt in the tray after every cleaning. (⇒ see “Hopper Tray”)
I	Secondary battery power button	If not using the machine for a long period of time (approx. 2 months), turn the Secondary battery power button Off. (⇒See "Secondary battery Power Button")
L	LED lights	LED lights for indicating machine status, safety, and errors. LED lights are located at positions from the front of the machine to its back, and light in different colors and patterns. (⇒see “LED Lights”)
	Lift handles	Used when lifting the machine from the floor. Be sure to use two persons as a safety precaution when lifting the machine.
M	Main power switch	Switch for turning on/off the machine. Press “I” to turn the machine on, and “O” to turn the machine off. (⇒see “Main Power Switch”)
	Manual cleaning	Use the handle for making the machine travel through and clean a cleaning area manually. (⇒ see “Manual Cleaning”)
	Max power mode	Mode with more vacuum power than normal mode. Cleaning in max power mode is recommended for cleaning especially dirty locations. (⇒see “Max Power Mode Button”)
	Max power mode button	Button for switching from normal mode to max power mode. (⇒see “Max Power Mode Button”)
	Micro-fiber cloth	Cloth used during maintenance of the 2D/3D camera, LIDAR sensor, and cliff sensor.
N	Normal mode	The usual mode for cleaning. (⇒see “Max Power Mode Button”)
	Notification pager charger	Used for recharging the notification pager. Use a Micro USB cable to recharge the notification pager. (⇒see “Recharging the Notification Pager”)
	Notification pager	Receives alert messages when the machine encounters an obstacle or the emergency stop button is pressed during autonomous cleaning mode. When an alert message is received, it notifies the operator by sound and vibrating (⇒see “Notification Pager”). To recharge the notification pager, use the special charger.
	Notification	Low battery level and errors are reported as notifications. Notifications appear at the upper left of the machine’s touch display. (⇒see “Touch Display”)
O	Operator	The person who operates and manages the machine.
P	Pager compartment	Used for attaching the notification pager on the machine.
	Pager main button	Button for turning the notification pager (⇒see “Notification Pager”) on/off.
	Pager mute switch	Switches the alert on/off that sounds when the notification pager receives an alert message. (⇒see “Notification Pager”)



	Terminology	Description
R	RIN	The machine's serial number. The RIN is indicated on a sticker located on the inside of the battery door on the machine.
	Robot Operations Center	The Robot Operations Center is Brain Corp.'s cloud-based robotics center. Via LTE connection, it provides remote monitoring and managed usage of the machine, and automatically sends reports on daily use and cleaning results, software updates, and messages indicating the occurrence of any abnormalities to the operator.
	ROC indicator	When the machine is connected normally to the Robot Operations Center, this lights orange on the machine's touch display. (⇒see "Touch Display")
S	Steering handle	Handle for: moving the machine while it is standing on its wheels, using for manual cleaning, and when teaching a cleaning route. When carrying out autonomous cleaning, stow the steering handle in the main unit beforehand as a safety precaution. (⇒see "Steering Handle")
T	Teaching route	Having the machine learn a cleaning route beforehand to use during autonomous cleaning. (⇒ see "Teaching a New Cleaning Route")
	Touch display	Screen for checking the machine's battery level and operating time, connection to the Robot Operations Center, error messages, etc. Cleaning routes are also taught and selected by tapping the touch display. (⇒see "Touch Display")
V	Vacuum bag	Vacuum bag for collecting vacuumed dirt and dust. (⇒see "Vacuum Bag")
	Vacuum power button	Button for starting/ending vacuuming. (⇒see "Vacuum Power Button")
W	Whiz Connect app	App for managing current robot operation and alerts.
	Whiz Connect Portal	Portal site allowing management of current robot operation and alerts as well as downloading of operation reports.

## FCC Compliance

This product complies with section 15 of FCC Regulations. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be collocated or operating in conjunction with any other antenna or transmitter.

The portable device is designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA). 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.

FCC ID: 2AT19-P00000401A01

## IC Compliance

This device complies with Innovation, Science and Economic Development Canada S licence-exempt RSSs Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

#### Body worn operation

The device complies with RSS 102, RF specifications when used near your ear or at a distance of 20 cm from your body (20 cm RF exposure safety distance). Ensure that the device accessories, such as a device case and device holster, are not composed of metal components.

#### Conformité à la réglementation canadienne

Le présent appareil est conforme aux CNR Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage;
2. l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

#### Opération du corps porté

L'appareil est conforme à la norme RSS 102, RF, lorsqu'il est utilisé près de votre oreille ou à une distance de 20 cm de votre corps (distance de sécurité d'exposition RF de 20 cm). Assurez-vous que les accessoires de l'appareil, tels que son boîtier et son étui, ne sont pas composés de composants métalliques.

#### CAN ICES-3 (B)/NMB-3(B)

IC: 25110-P000401A01

### SAFETY PRECAUTIONS

Please read the safety precautions carefully to ensure the correct use of your translator.

Do not disassemble, modify or repair the device or the battery by yourself, otherwise the warranty will be invalid.

Do not crush, throw, or puncture your device. Avoid dropping, squeezing, or bending your device.

Do not use your device in a moist environment.

The operating temperature should be  $-10^{\circ}\text{C}$ – $+45^{\circ}\text{C}$ .

Do not expose your device to areas with flammables and explosives.

Do not turn on your device when it is prohibited to use.

For driving safety, the driver cannot operate the device when the car is in motion.

Use a dry soft cloth to clean the device; do not use water, alcohol, detergent or any chemicals.

Keep the device battery and charger out of the reach of children to prevent them from swallowing it or injuring themselves by accident. Children should only use the device with adult supervision.

Observe all rules and regulations applicable to mobile products in hospitals and health care facilities.

Only use the battery included with the product.

#### SAR information

This device complies with the RE Directive (2014/53/EU). A minimum separation distance must be maintained between the user's body and the device, including the antenna during body-worn operation, to comply with RF exposure requirements.

CE Head SAR (0mm)  $\leq 2.0\text{W/kg}$  (10g)

CE Body SAR (5mm)  $\leq 2.0\text{W/kg}$  (10g)

Limbs SAR (0mm)  $\leq 4.0\text{W/kg}$  (10g)

The Specific Absorption Rate (SAR) is the unit of measurement for the amount of radio frequency energy absorbed by the body when using a device. This device meets guidelines for exposure to radio waves, and is designed not to exceed those limits.



Do not dispose of used device in a household rubbish bin.

The device connected to a USB interface of version USB2.0.

This equipment is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

Frequency bands and power		
Bands	Frequency	Max.Power Limit (dBm)
Lora	865-868MHz	$\leq 14$
WCDMA B1	1920MHz-2170MHz	$23 \pm 2$
WCDMA B3	1710MHz-1880MHz	$23 \pm 2$

WCDMA B8	880MHz-960MHz	23±2
FDD B1	1920MHz -2170MHz	23±2
FDD B3	1710MHz -1880MHz	23±2
FDD B7	2500MHz -2690MHz	23±2
FDD B8	880MHz -960MHz	23±2
FDD B20	830MHz -860MHz	23±2
TDD B28	703MHz -748MHz	23±2

This product can be used across EU member states.

	AT	BE	BG	HR	CY	CZ	DK
	EE	FI	FR	DE	EL	HU	IE
	IT	LV	LT	LU	MT	NL	PL
	PT	RO	SK	SI	ES	SE	UK

**Softbank Robotics corp.**