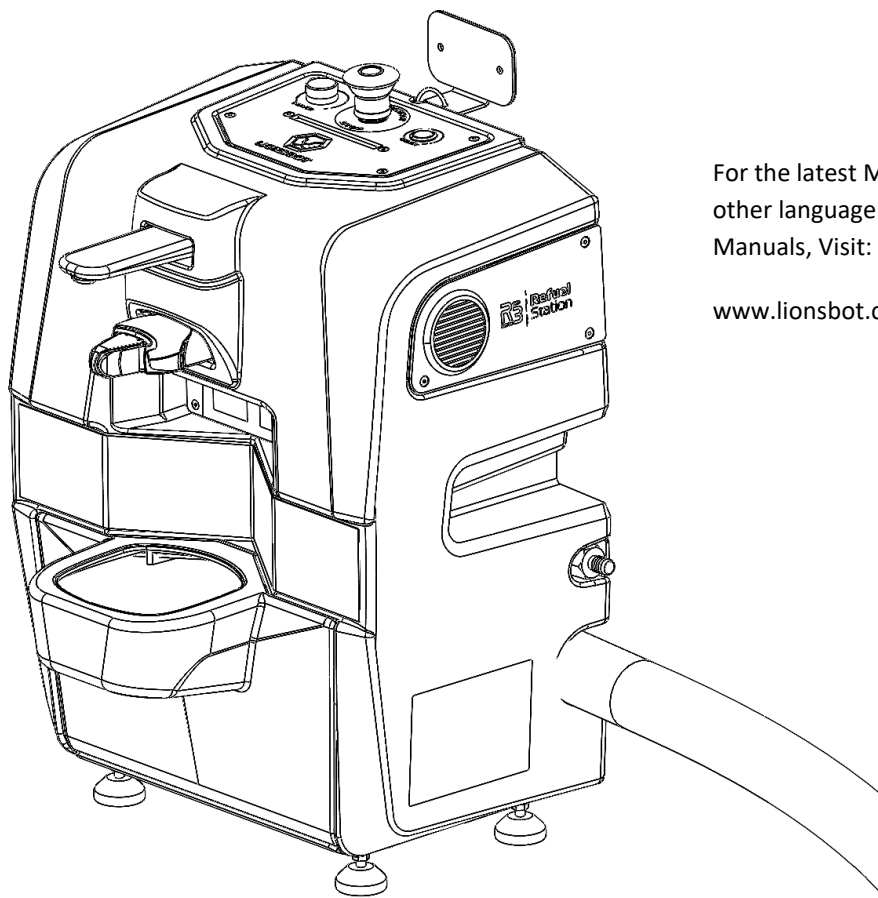


LIONSBOT R3 SCRUB PRO REFUEL STATION

INSTRUCTIONS FOR USE

INSTRUCTIONS FOR USE

ORIGINAL INSTRUCTIONS



For the latest Manuals and other language Operator Manuals, Visit:

www.lionsbot.com/contact-us



WARNING!

The operation of this machine is strictly reserved to trained and qualified operators.

OPERATION MANUAL

Version 1 (11/2023)



ORIGINAL INSTRUCTIONS MANUAL



LIONSBOT

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INTRODUCTION

This manual will guide you through the use of the LionsBot R3 Scrub Pro Refuel Station. Please read it thoroughly before operating the Refuel Station.

NOTE: Bold numbers in parentheses indicate an item illustrated on pages 8 – 13.



WARNING!

The operation of this Refuel Station is strictly reserved to trained and qualified operators.

This Refuel Station is intended exclusively for commercial use, such as in hotels, schools, factories, shops, offices, and rental businesses.

PARTS AND SERVICE

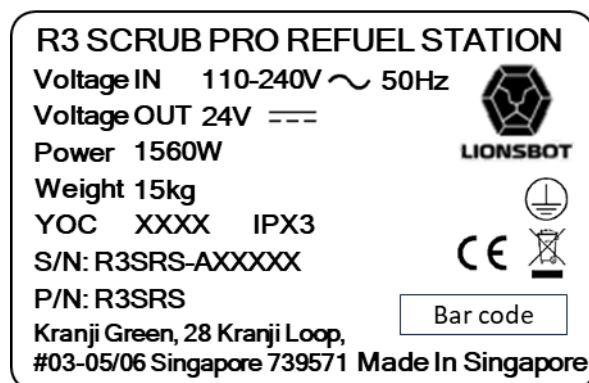
Repairs, when required, should be performed by LionsBot International Pte Ltd or an Authorized Distributor, who employs factory trained service personnel, and maintains an inventory of LionsBot original replacement parts and accessories. Call LionsBot International Pte Ltd for repair parts or service. Please specify the Model and Serial Number when you are enquiring about parts and service.

MODIFICATIONS

Modifications and additions to the Refuel Station which affect safe operation shall not be performed by the customer or user without prior written approval from LionsBot International Pte Ltd. Unapproved modifications will void the Refuel Station warranty and make the customer liable for any resulting accidents.

NAME PLATE

You can find the Name Plate (18) on the rear left of the station. Please provide this serial number when requesting assistance, servicing, or purchasing spare parts.



The Serial Number is formatted as follows:

1. First five alphabets (R3SRS) denote the product type.
2. Next six characters (AXXXXX) encode the factory (A) and sequential number of the product.
3. Part Number (R3SRS) denote the product type.

SERIAL NO. _____

UNCRATE THE REFUEL STATION

Upon delivery of the Refuel Station, perform a thorough inspection of both the shipping packaging and the Refuel Station itself for any signs of damage. If any damage is apparent, ensure to retain the shipping carton (if applicable) so that it can be properly examined. In case of damage, promptly get in touch with the LionsBot Customer Service Department to initiate the process of filing a freight damage claim.

TRANSPORTING THE REFUEL STATION



CAUTION!

Before transporting the Refuel Station on a truck or trailer, make sure the following are carried out

- All tubes and hoses are dry.
- Drain and dry basin.
- Refuel station is correctly placed back in the crate and strapped down.



WARNING!

During loading / unloading, the user is at risk of tipping over the Refuel Station and subjected to crush hazards. The spotter is responsible for identifying and mitigating loading/ unloading hazards and taking safety precautions.

CAUTIONS AND WARNINGS

SYMBOLS

LionsBot uses the symbols below to signal potentially dangerous conditions. Always read this information carefully and take the necessary steps to protect personnel and property.



CAUTION!

Indicates a situation which, if not avoided, could result in major damage to the equipment.



DANGER!

Indicates an imminent hazardous situation which, if not avoided, could result in serious injury or death.



WARNING!

Indicates a potentially hazardous situation which, if not avoided, could result in injury or major damage to the equipment.



Read all instructions before using.

GENERAL SAFETY INSTRUCTIONS

Specific Cautions and Warnings are included to warn you of the potential danger of Refuel Station damage or bodily harm. This Refuel Station is intended exclusively for commercial use, such as in hotels, schools, factories, shops, offices, and rental businesses.



WARNING!

- This Refuel Station shall be used only by properly trained, qualified and authorized operators.
- This Refuel Station is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.
- Observe the weight of the Refuel Station when loading, pushing, lifting or supporting the Refuel Station.
- Charge batteries only in well-ventilated areas, away from open flame. Do not smoke while charging the batteries.
- Remove all jewellery when working near electrical components.
- Turn the Refuel Station power OFF and disconnect before servicing electrical components.
- Do not dispense flammable cleaning agents, operate the Refuel Station on or near these agents, or operate in areas where flammable liquids exist.
- Do not clean this Refuel Station with a pressure washer.



CAUTION!

- This Refuel Station is not approved for outdoor use.
- When operating this Refuel Station, ensure that third parties, particularly children, are not endangered.
- Before performing any service function, carefully read all instructions pertaining to that service task.
- Use caution when moving this machine in below freezing temperature conditions. Any water in the tubes or in the hose lines could freeze, causing damage to valves, pumps and fittings.
- All covers are to be positioned as indicated in the instruction manual before using the machine.
- This Refuel Station should only be used and stored indoors.
- Do not spray this machine with pressurized water.
- To avoid any damage or injury, only use the original crating to secure the Refuel Station during transport.
- Do not operate the machine in an environment exceeding 104°F (40°C).

SAVE THIS INSTRUCTIONS

REGULATORY

This product contains radio equipment operating in the frequency bands and with max TX power as indicated below:

Frequency range [MHz]	Max TX pwr [dBm]
2400-2500	18

KNOW YOUR REFUEL STATION

As you read this manual, you will occasionally run across a bold number or letter in parentheses – for example: **(2)**. These numbers refer to an item shown on these pages unless otherwise noted. Refer back to these pages whenever necessary to pinpoint the location of an item mentioned in the text.

- | | |
|------------------------|--------------------------------|
| 1. Clean Water Tap | 14. ON/OFF Indicator Light |
| 2. Charging Contacts | 15. Status LED |
| 3. Fiducial Tag | 16. Clean Water Valve |
| 4. Reflective Sticker | 17. Power Port |
| 5. Drain Basin | 18. Name Plate |
| 6. Adjustable Foot (4) | 19. Charging Indicator |
| 7. Drain Hose | 20. Access Panel |
| 8. Clean Water Inlet | 21. Access Panel Lock |
| 9. Grip Handles (2) | 22. Pair Button |
| 10. Vents | 23. Circuit Breaker |
| 11. Anti-Tipping Tab | 24. Manual Charging Power Cord |
| 12. Reset Button | 25. USB Port |
| 13. Emergency Stop | |

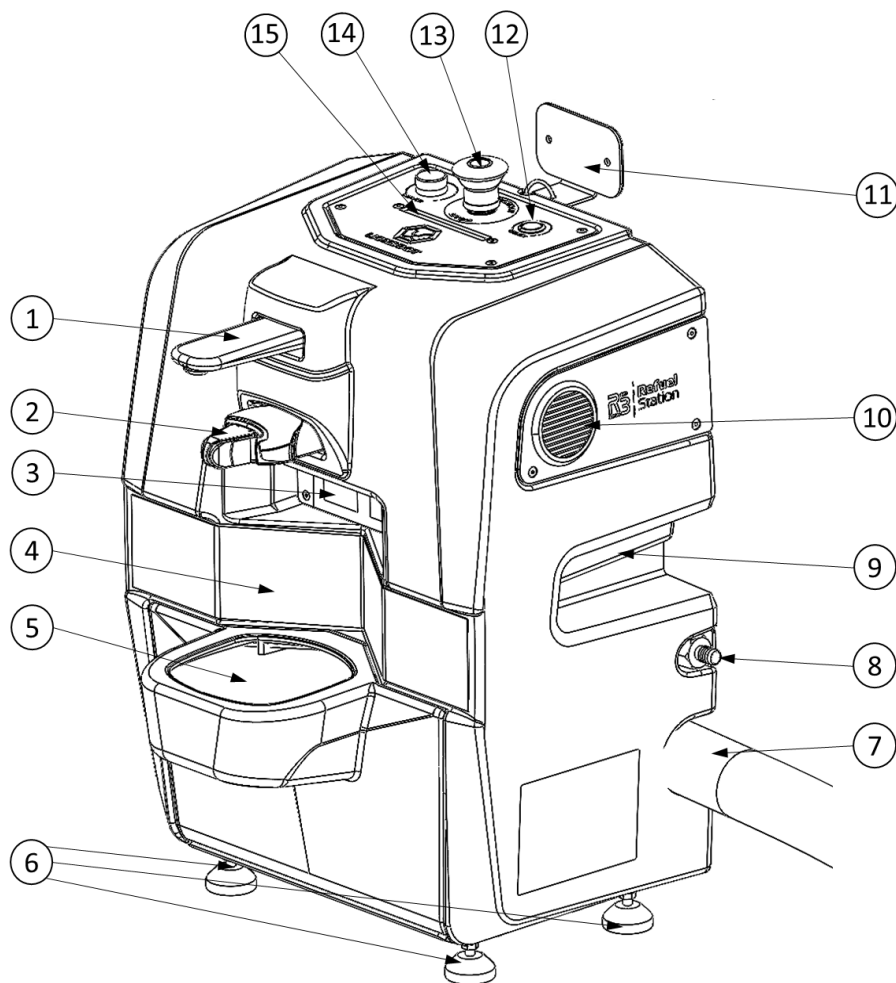
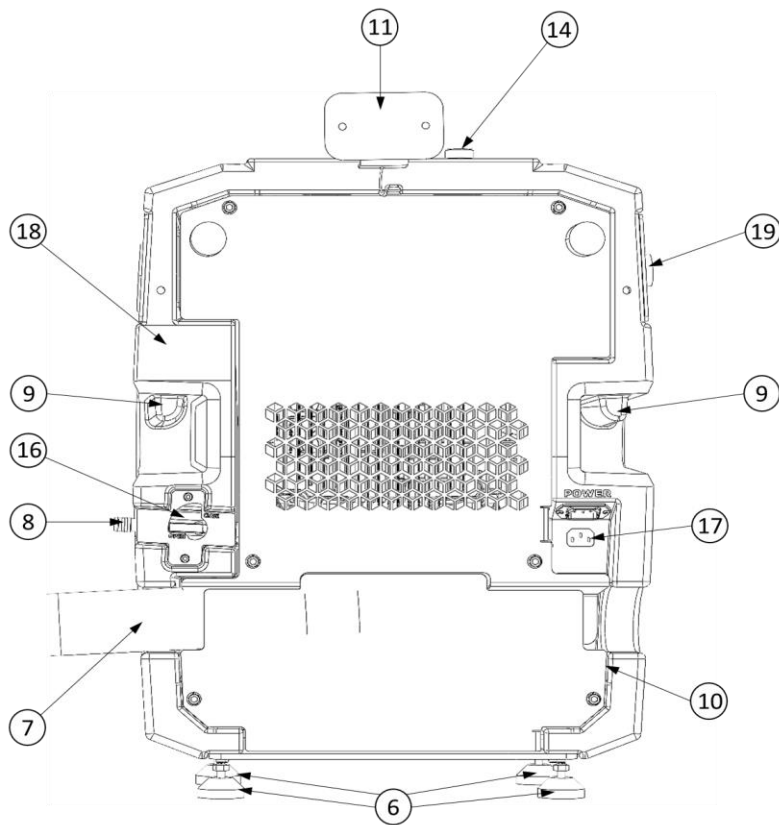
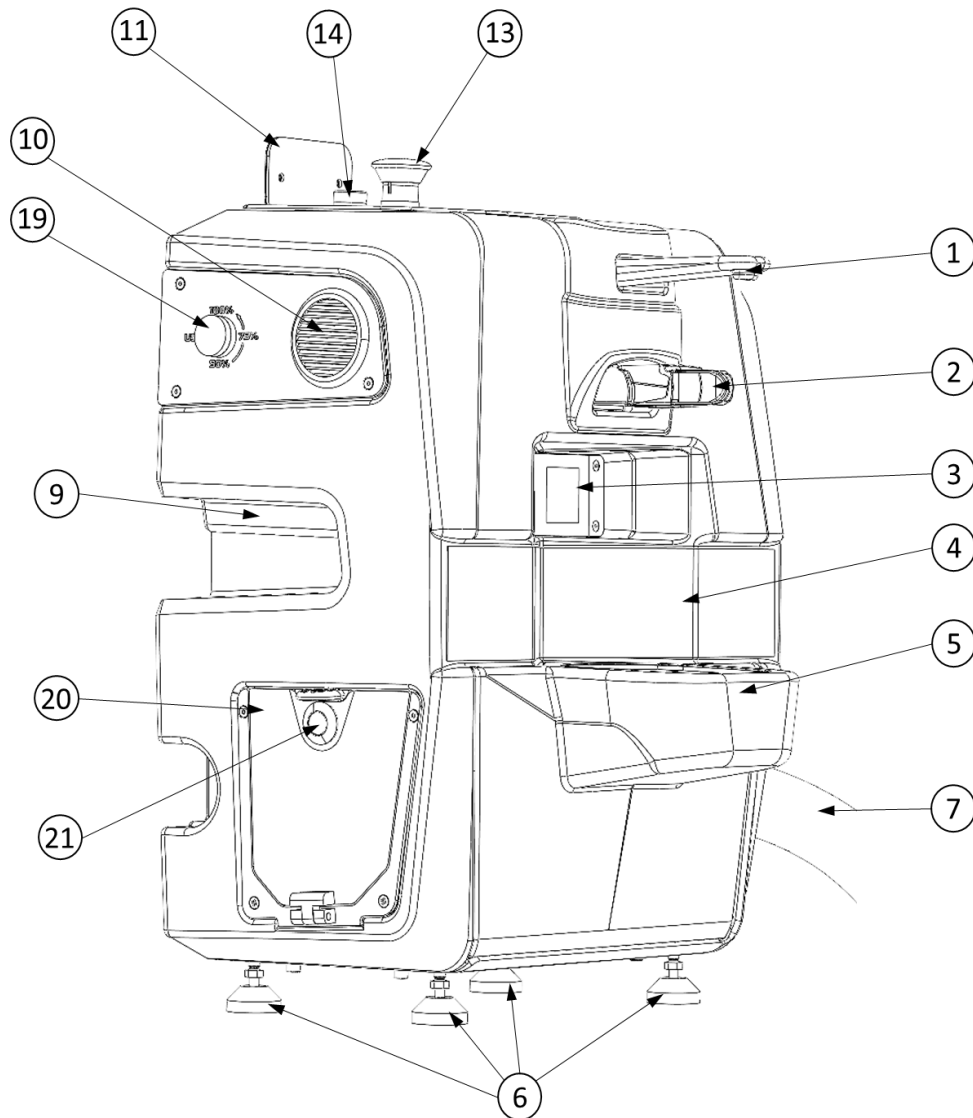
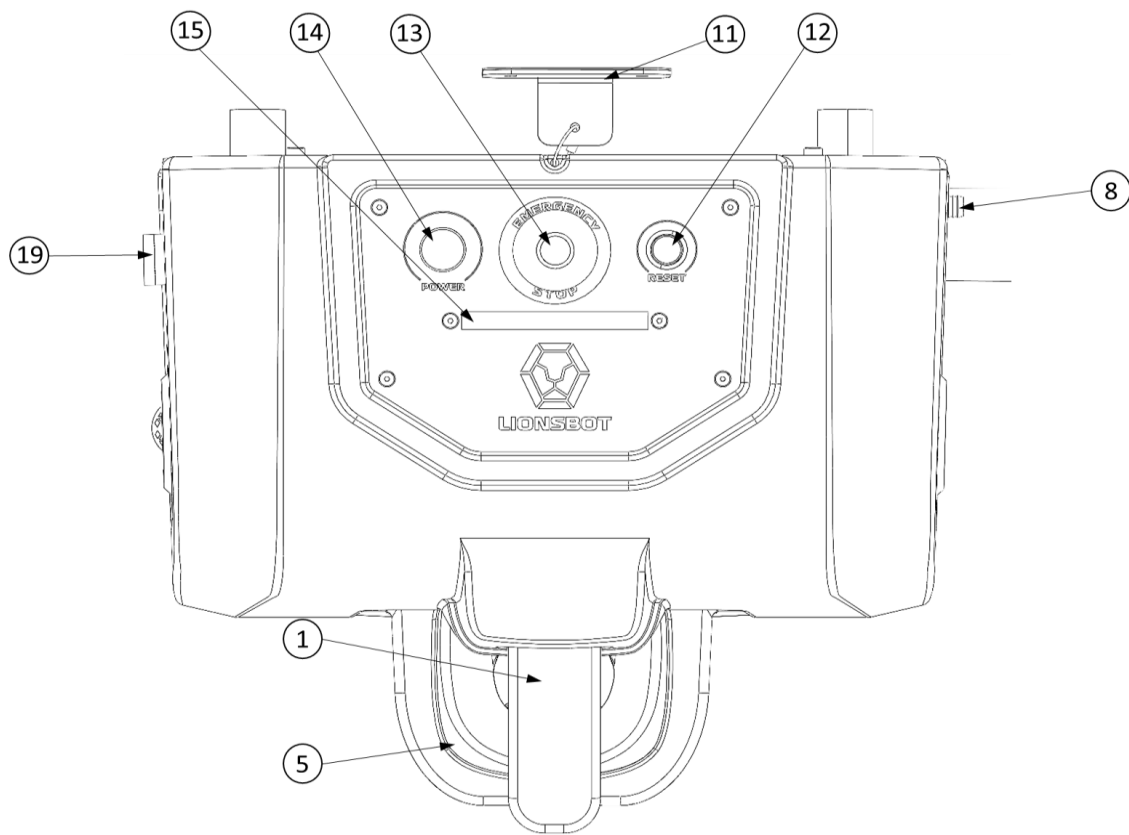
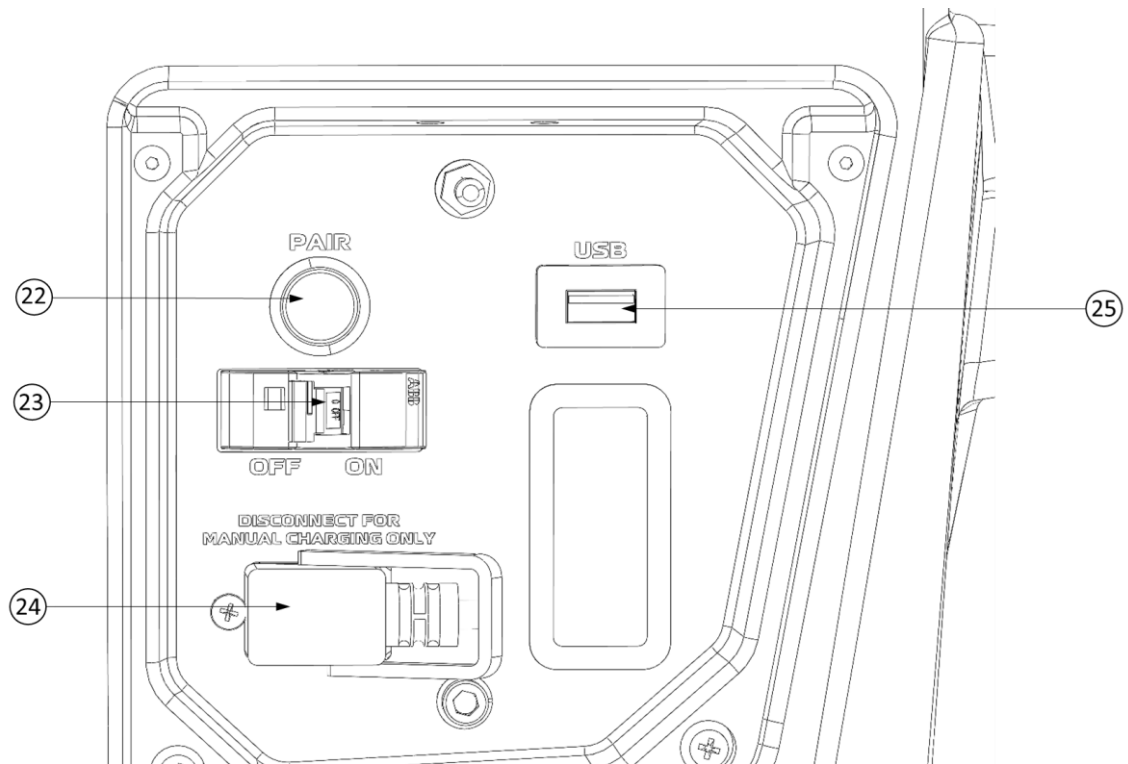


FIGURE 1-1

KNOW YOUR REFUEL STATION**FIGURE 1-2**

KNOW YOUR REFUEL STATION**FIGURE 1-3**

KNOW YOUR REFUEL STATION**FIGURE 1-4**

CONTROL PANEL**FIGURE 1-5**

SAFETY FEATURES OF THE R3 SCRUB PRO REFUEL STATION

The R3 SCRUB PRO REFUEL STATION is outfitted with two vital safety components:

1. **Circuit Breaker (23)** (Refer to Fig. 1-7): This component serves as a safeguard against potential hazards. In the event of an overcurrent/overload, the circuit breaker will trip. This action is designed to protect the electrical circuit.
2. **Emergency Stop (13)** (See Fig. 1-6): The emergency stop feature is intended for use exclusively during critical situations. Activating the emergency stop will instantly halt power supply to the charger and valves. Additionally, it will abruptly terminate the docking refuel sequence between the robot and the station.

It's important to only engage the emergency stop when faced with imminent danger or hazards.

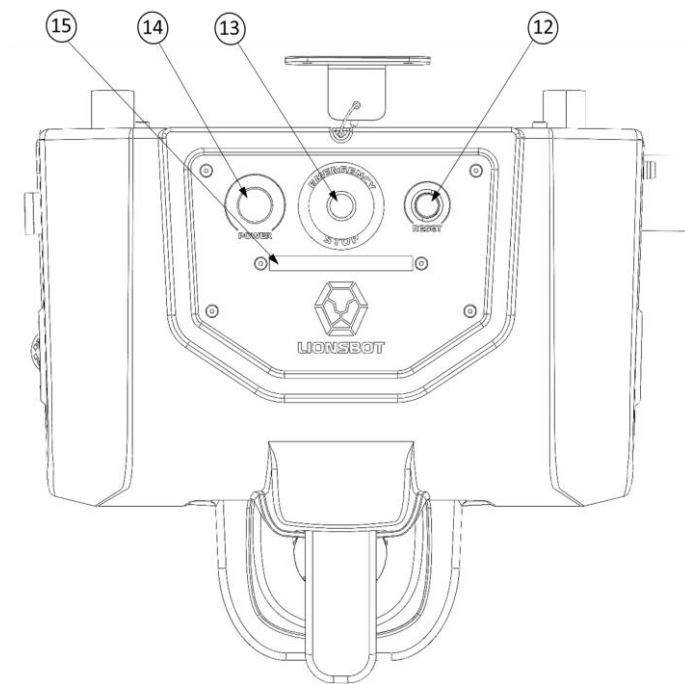


FIGURE 1-6

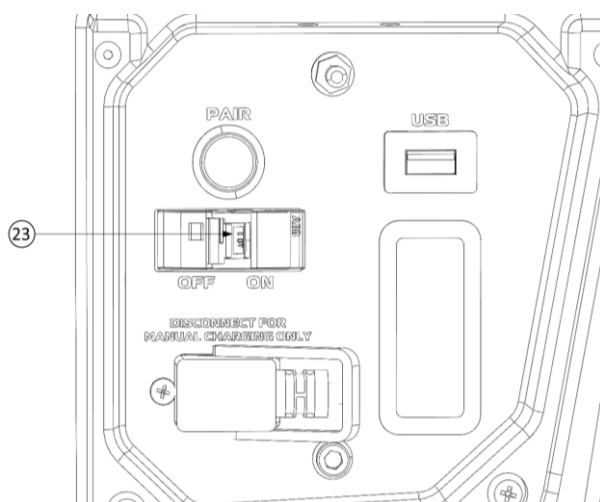


FIGURE 1-7

EARTH LEAKAGE CIRCUIT BREAKER

If a fault occurs in the socket outlet, the building's Earth Leakage Circuit Breaker (ELCB) will automatically trip. This action serves to safeguard users against the risk of electrical shock and prevents potential damage to the station. In situations where the building's ELCB is malfunctioning or as an added safety precaution, users have the option to install their own ELCB plug (Refer to Fig. 1-8).

NOTE: The ELCB is not Included with the R3 Scrub Pro Refuel Station.



FIGURE 1-8

PREPARE THE REFUEL STATION FOR USE

RECEIVING AND PREPARING THE REFUEL STATION

The R3 SCRUB PRO Refuel Station is shipped with the power cable and hose clip detached from the body.

HANDLING THE PACKAGED REFUEL STATION

The Refuel Station's overall packaged weight is 21kg.

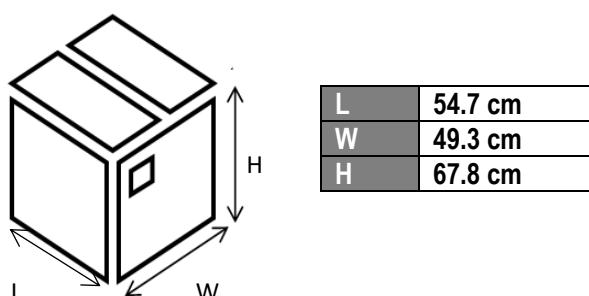


FIGURE 2-1

It is recommended to keep the packaging components for future transportation needs.

UNPACKING THE REFUEL STATION

1. Open the crate and remove protective packaging material around the Refuel Station.
2. Verify the package contents against the Crating Checklist provided inside the crate.
3. Hold the Refuel Station from the grip handles **(9)**, lift it and move it away from the crate and place it down.

SETTING UP THE REFUEL STATION

Follow the following checklist when selecting a place to set up the station:

- ✓ Level floor
- ✓ Near clean water supply
- ✓ Near drainage
- ✓ Available power outlet

Place the Refuel Station at the identified location and adjust all four adjustable feet (Fig. 2-2) if necessary to level the station (clockwise = up, anti-clockwise = down).

Make sure to check the following table to get the necessary items for installation:

Items needed to set up the station	
Hose clip (12/20)	Included
½" diameter pvc hose	Not included
Clean water supply to ½" hose adapter	Not included
Items recommended to set up the station	
1 ¼" diameter elbow connector or pipe	Not included
Hose clip (50/70)	Not included



WARNING!

The station charging contacts must be aligned with the robot charging contacts. Manually push the robot to dock and adjust the adjustable foot until the charging contacts are aligned (Fig. 2-2, 2-3 & 2-4).

NOTE: Avoid placing the Refuel Station:

- At pantries, near lifts, stairs, or cluttered area.
- In the middle of hallway with heavy human traffic or dynamic obstacles.

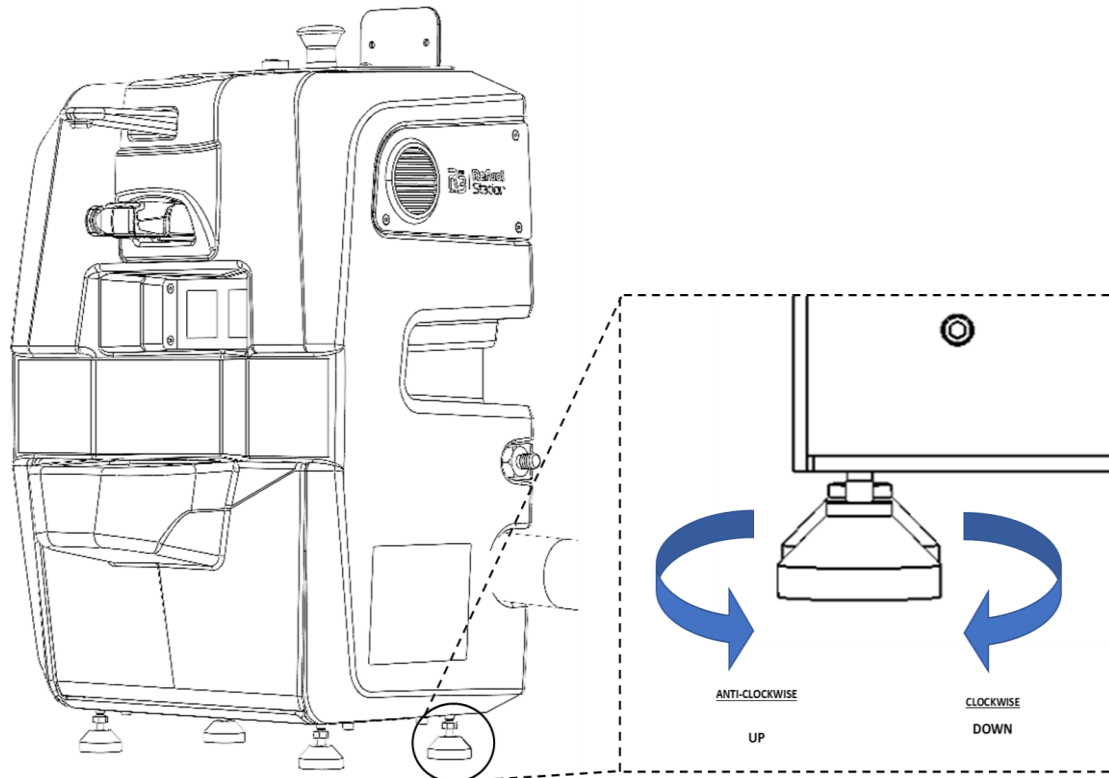


FIGURE 2-2

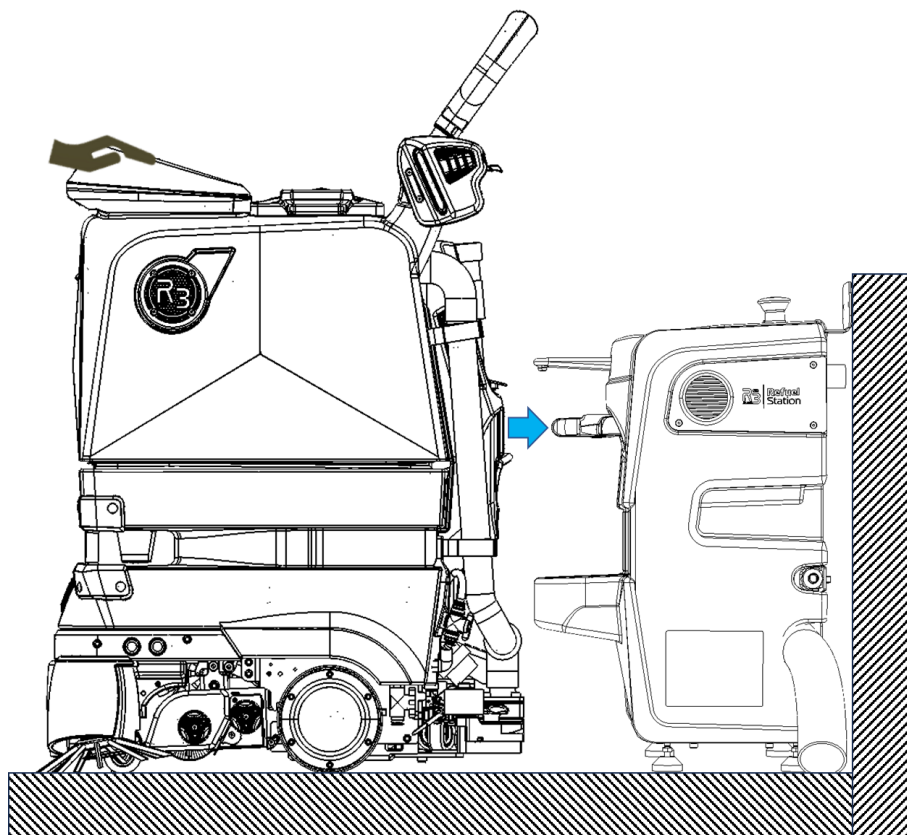


FIGURE 2-3

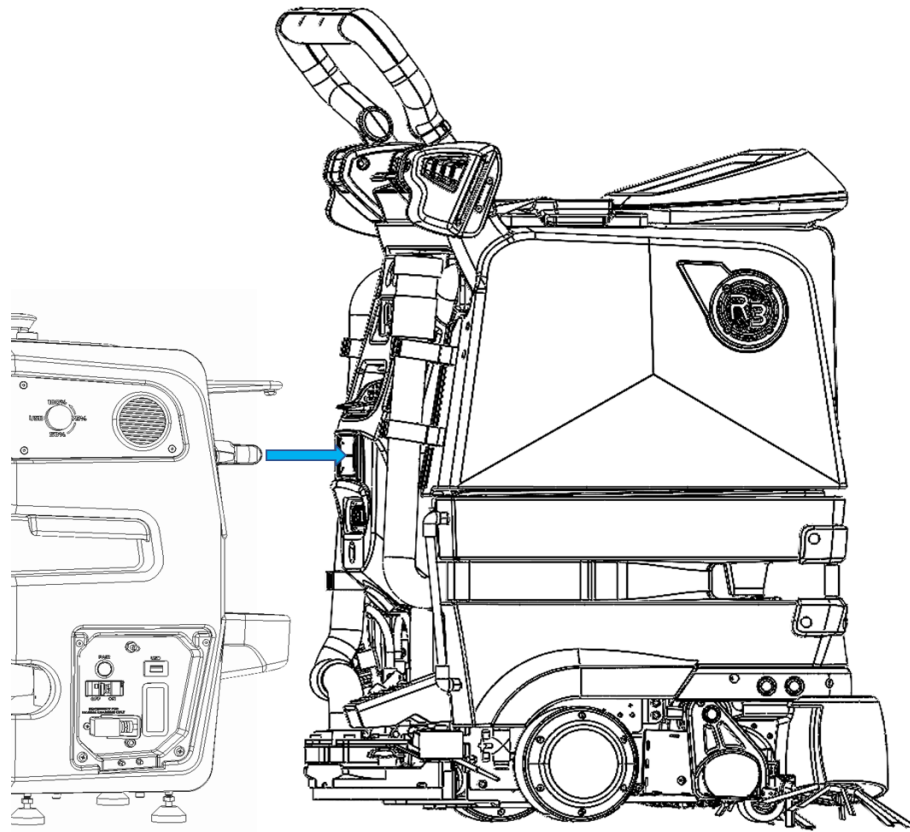


FIGURE 2-4

**WARNING!**

Keep a clear width of:

- On the sides of the Station: 0.5 m (~20 in) and
- In front of the Station: 1.5 m (~ 59 in) OR from the back of the Station: 2 m (~ 79 in) area of 1 m² free of obstructions around the station.

CONNECTING THE CLEAN WATER SUPPLY

1. Prepare a $\frac{1}{2}$ " hose for the clean water inlet.
2. Attach the hose to a tap, push the hose over the tap (Fig. 2-5).
3. Attach the other end of the hose to the clean water inlet and tighten the hose clip fully (Fig. 2- 6).
4. Turn on both the water tap (Fig. 2-5) and the water valve (Fig. 2 – 6).

NOTE: The $\frac{1}{2}$ inch hose is not included. It is recommended to open the water valve $\frac{1}{3}$ of the maximum. Adjust valve as necessary to prevent spillage.

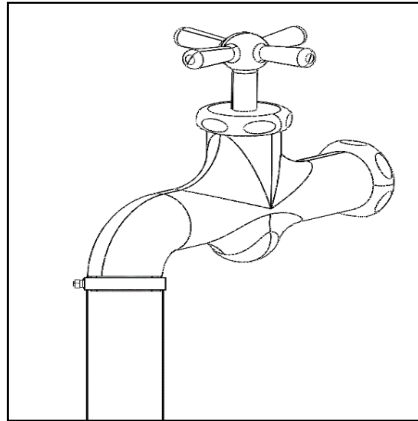


FIGURE 2-5

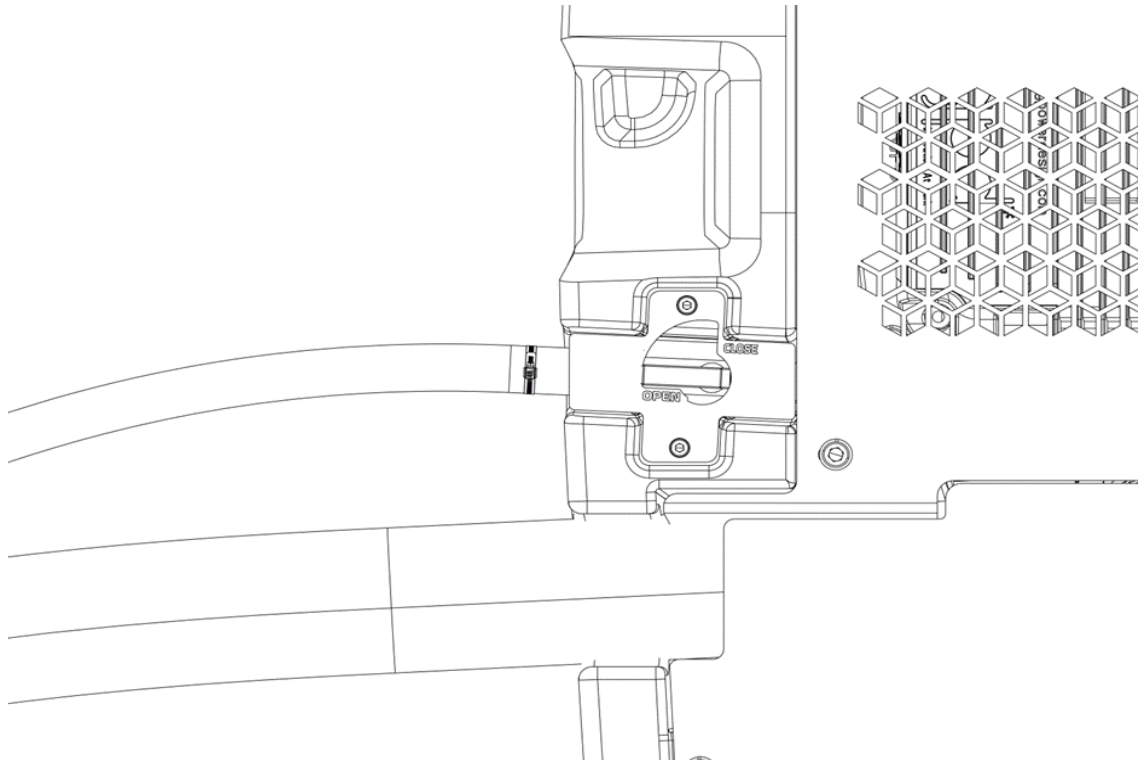


FIGURE 2-6

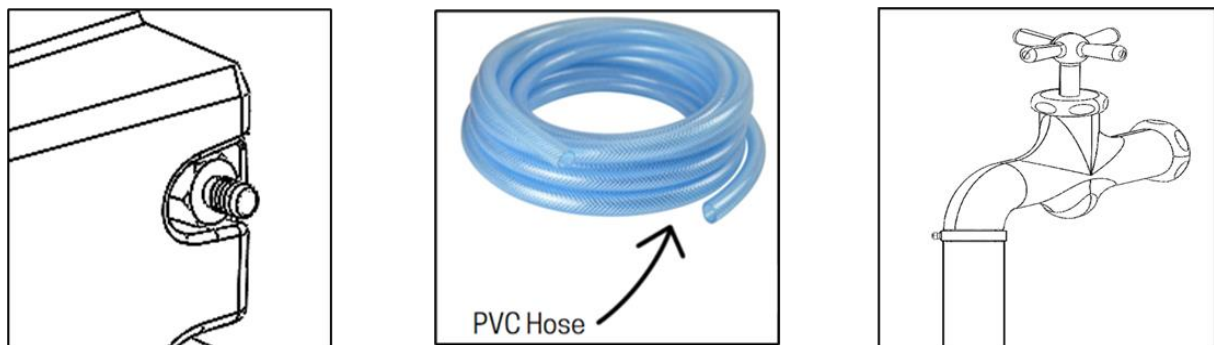


FIGURE 2-7

**WARNING!**

Check all fluid fittings and hoses for leaks before using the station. Do not use faulty hoses or damaged fittings.

CHANGE SIDE OF THE WASTE WATER HOSE

1. Use a 5mm Allen key to remove the M6 screws and washers shown in Fig. 2-8 and remove the back plate.

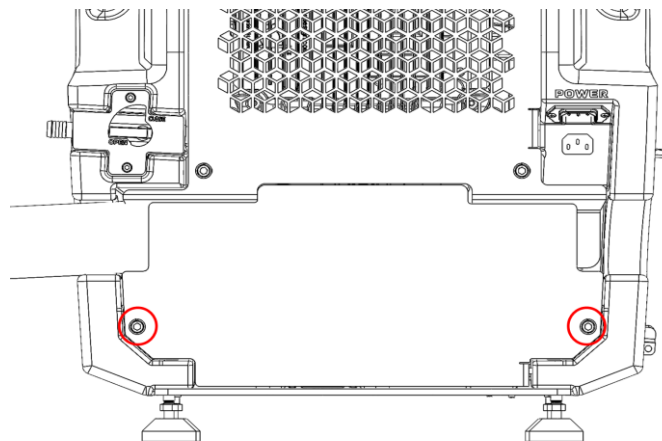


FIGURE 2-8

2. Loosen the hose clip as shown in Fig. 2-9.

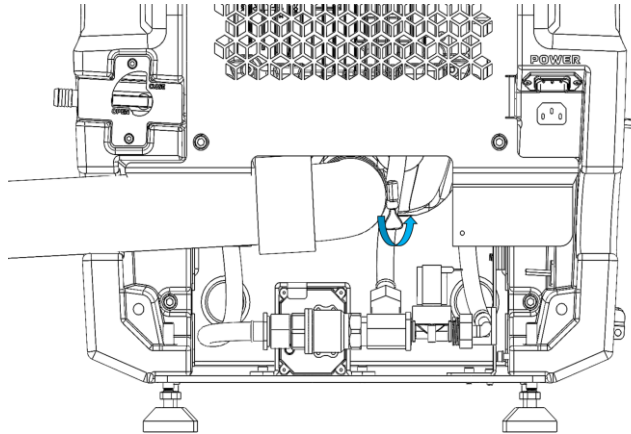


FIGURE 2-9

3. Turn the hose to the other side (Fig. 2-10).

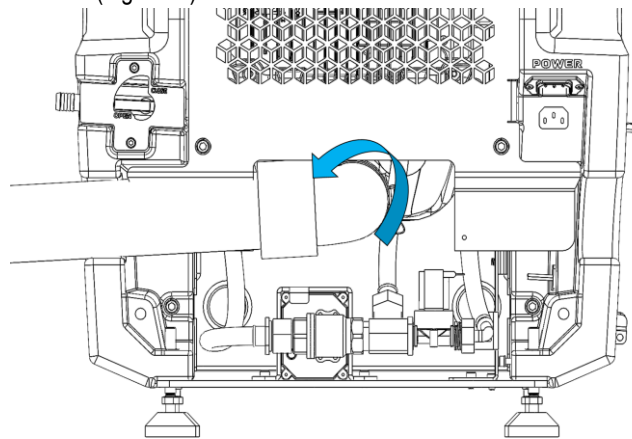


FIGURE 2-10

4. Tighten the hose clip (Fig. 2-11).

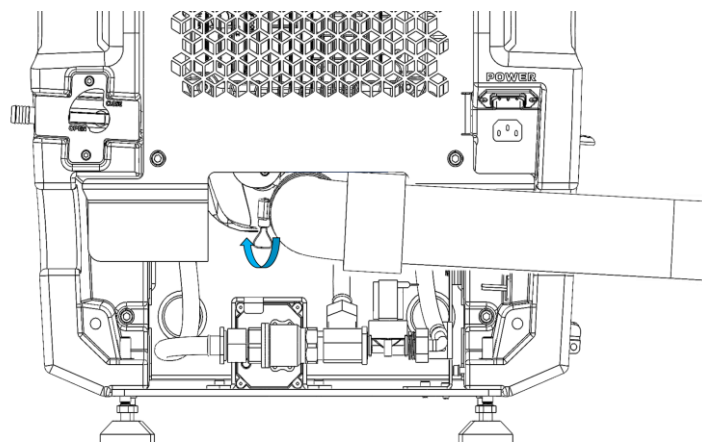


FIGURE 2-11

5. Mount the back plate and place the screws and washers into position with the 5 mm Allen key (Fig. 2-12).

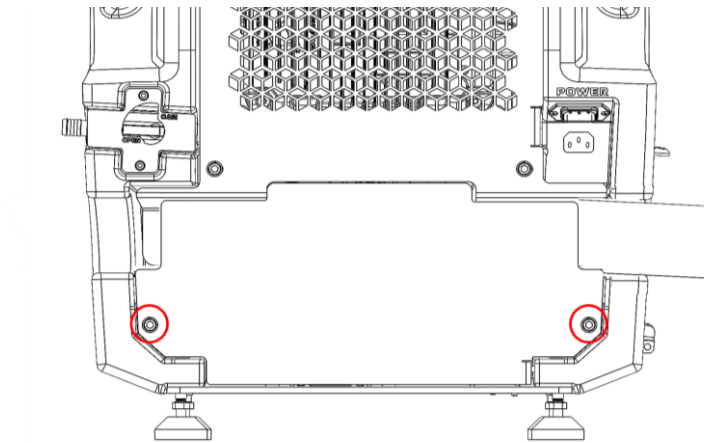


FIGURE 2-12

CONNECTING THE WASTEWATER DRAINAGE

1. Connect the hose to the drain (Fig. 2-13).

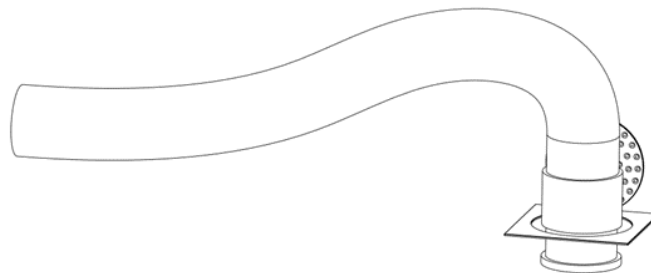


FIGURE 2-13

NOTE: The drain hose can be adjusted to point in the desired direction as shown in Fig. 2-14.

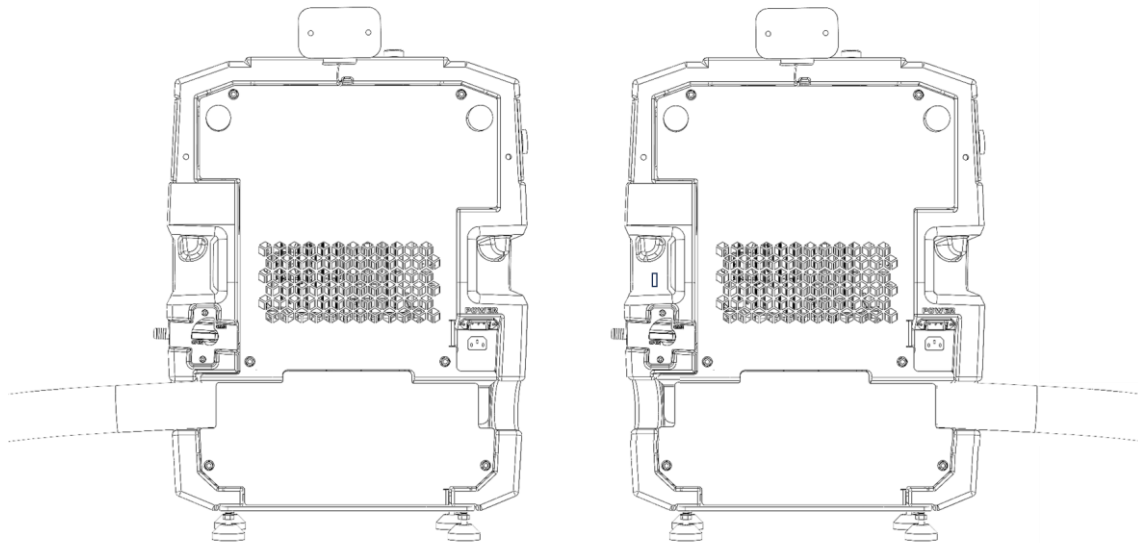


FIGURE 2-14

NOTE: To ensure smooth water flow and prevent the drain basin from overflowing:

- Keep the hose as straight as possible; avoid bending or tangling (Fig 2-15).

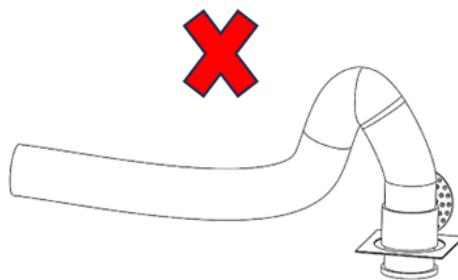


FIGURE 2-15

NOTE: It is recommended to use an elbow connector or pipe (1 ¼" diameter) to direct water flow into the drain (Fig 2-16 & 2-17). The elbow connector and the pipe are not included with this product.

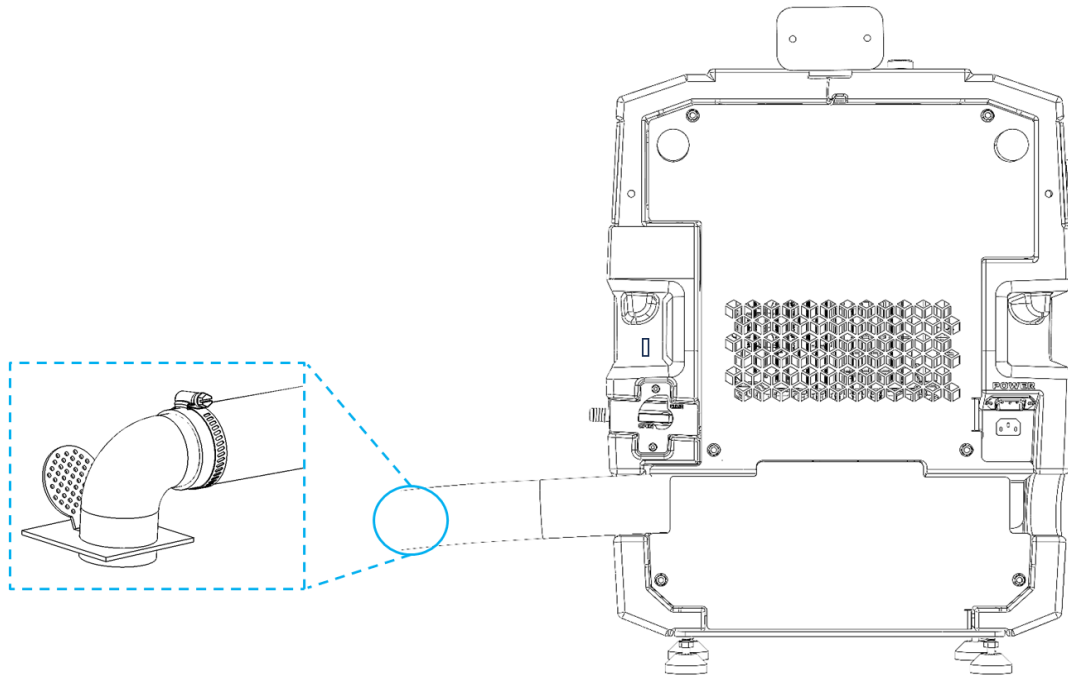


FIGURE 2-16

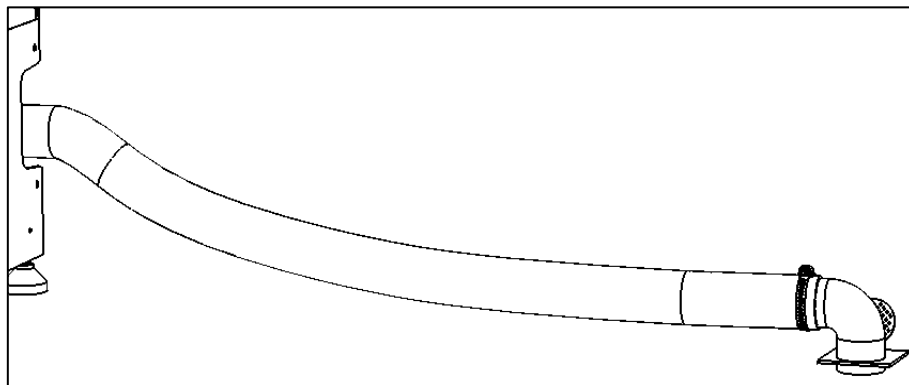


FIGURE 2-17

INSTALLING THE ANTI-TIPPING TAB

1. Position the Refuel Station against a wall, ensuring the rubber stoppers (**A**) (see Fig. 2-18) are touching the wall.
2. Stick it to the wall by removing the liner on the back of the anti-tipping tab OR attach the anti-tipping tab (**B**) (see Fig. 2-18) to the wall and secure it using M6 screws (see Fig. 2-19).

NOTE: The M6 screws are not included with the R3 Scrub Pro Refuel Station.

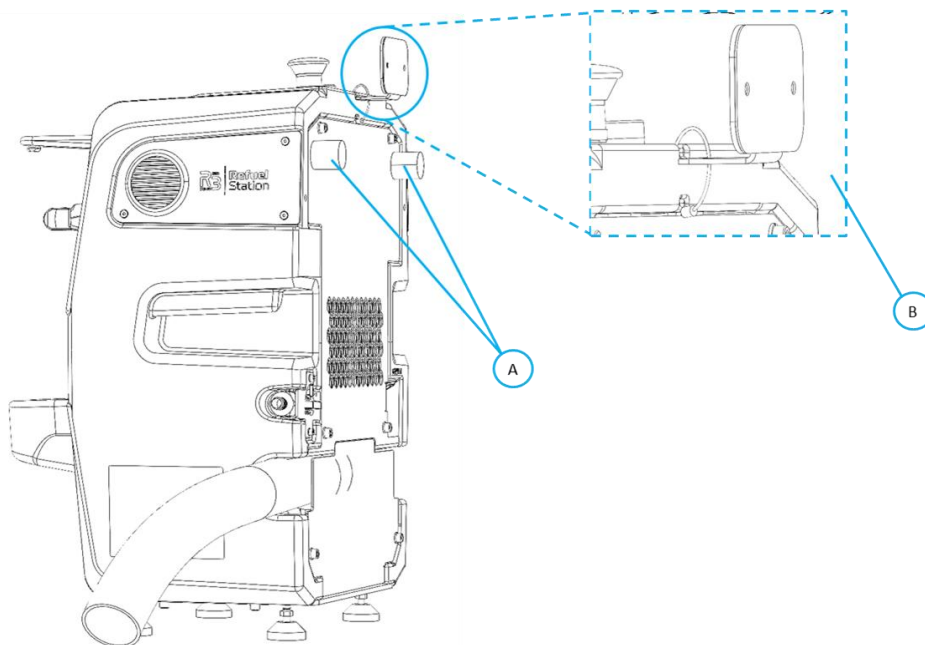


FIGURE 2-18

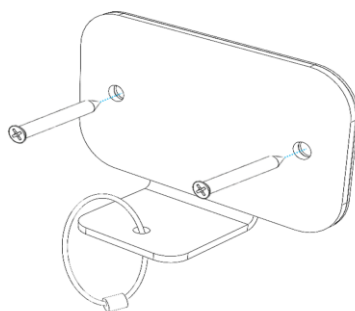


FIGURE 2-19



WARNING!

Install anti-tipping tab on wooden panels or concrete walls. Do not secure tab to dry wall.

POWERING ON/OFF THE REFUEL STATION

1. Connect the power cable to the Refuel Station power port (Fig. 2-20).

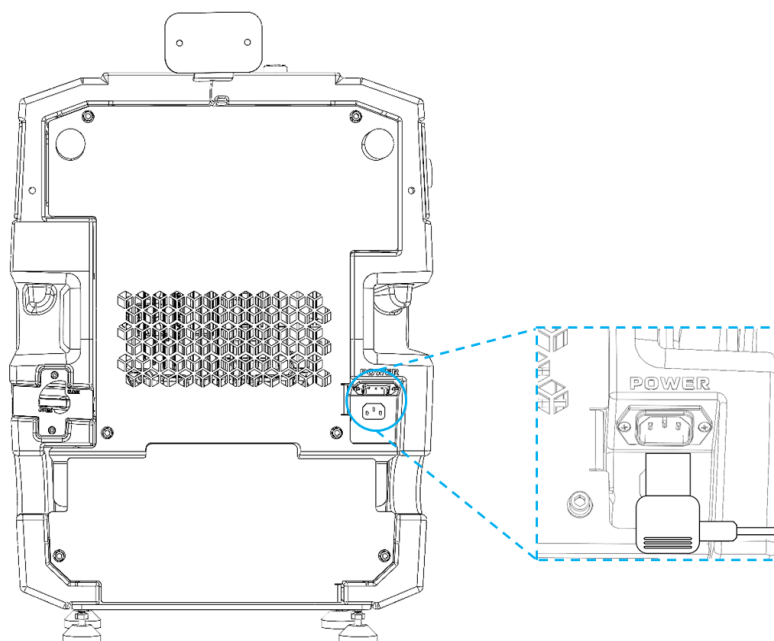


FIGURE 2-20

2. To power on: Flip the ON/OFF switch to the right (**A**) (Fig. 2 – 21).
3. To power off: Flip the ON/OFF switch to the left (**A**) (Fig. 2 – 21).

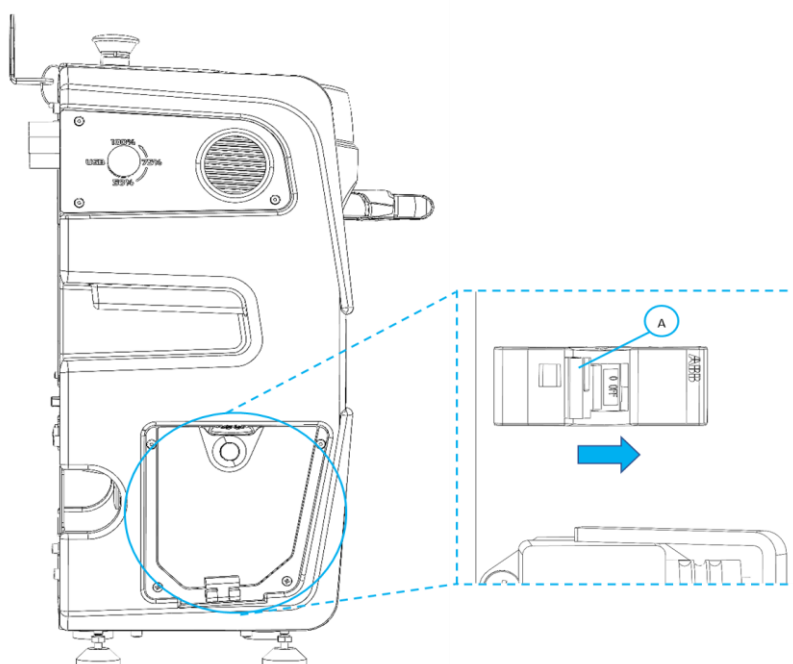


FIGURE 2-21

OPERATING THE R3 SCRUB PRO REFUEL STATION

REFUEL STATION TOUCHSCREEN SETUP

The following section describes the setup procedure for the REFUEL STATION using the LCD screen on the R3 SCRUB PRO. The LCD screen uses the LionsClean app.

The LionsClean app is used to communicate to and work with the REFUEL STATION. Each R3 SCRUB PRO user is assigned a unique user id and password for use with the app. Only account administrators and technicians can setup the REFUEL STATION. All users can operate the station.

This section provides an overview of the REFUEL STATION setup process. Before station setup up ensure the R3 SCRUB PRO has the correct map loaded and is localized.



FIGURE 3-1 (Home Page)

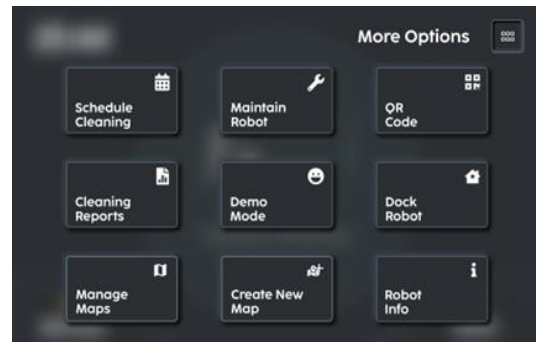


FIGURE 3-2 (Options Menu)

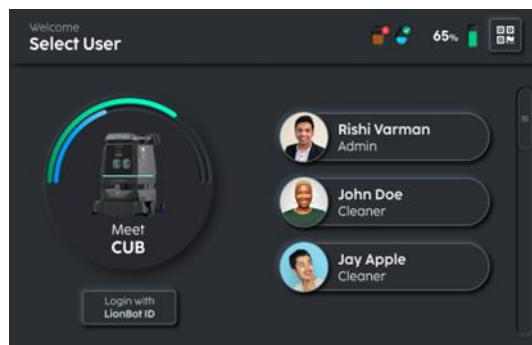


FIGURE 3-3 (User Profile)

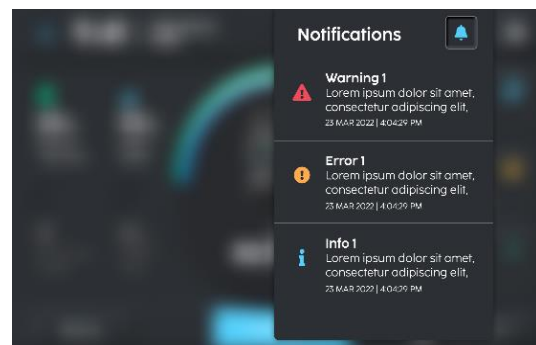


FIGURE 3-4 (Notifications)

INITIAL SETUP

The following section describes the station setup procedure by using the LCD touch screen on the R3 SCRUB PRO.

NOTE: Ensure that the R3 SCRUB PRO has been set up, before setting up the Refuel Station.

1. Turn on the R3 SCRUB PRO and login to an administrative or technician account (Fig 3-5).
2. Plug in and turn on the Refuel Station by flipping the circuit breaker “ON”. (Fig 3-6).
3. Select the map to add the Refuel Station to (Fig 3-7).
4. Select the ‘Edit Map’, then select ‘Landmarks’ (Fig 3-8).

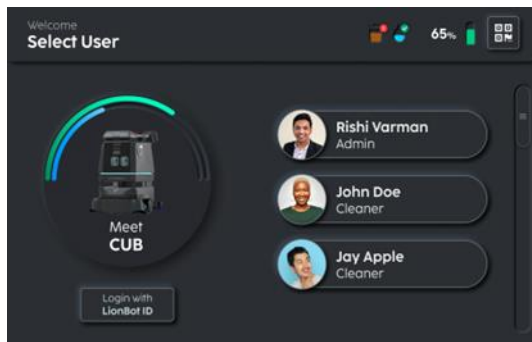


FIGURE 3-5



FIGURE 3-6

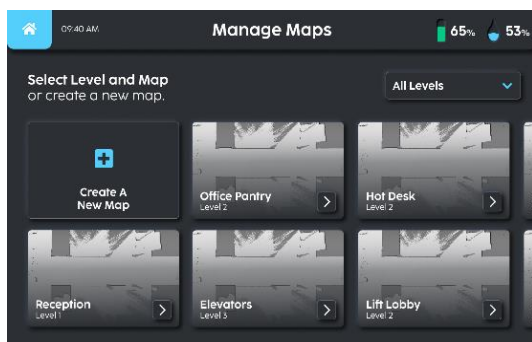


FIGURE 3-7

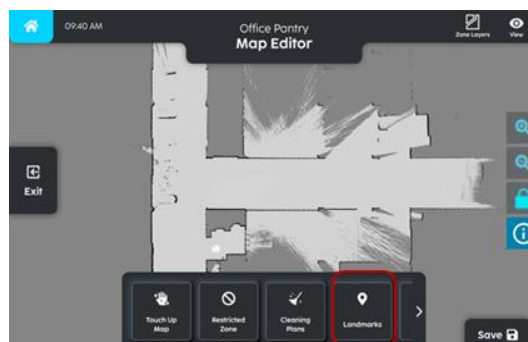


FIGURE 3-8

5. Select 'Docking Station' icon shown (Fig 3-9).
6. The robot will start searching for nearby Refuel Stations or Charge Only Stations. (Fig 3-10). If robot is not localised, you will be prompted to localise first. (Refer to R3 Scrub Pro manual on localising robot)



FIGURE 3-9



FIGURE 3-10

7. Once detected, choose to setup station for 'Charging Only' or 'Charging & Water' (Fig 3-11). Note that clean water inlet and waste water drainage pipes are installed properly if 'Charging & Water' is selected as robot will auto refill clean water and drain waste water at the Refuel Station.
8. Install Refuel Station against a flat wall on a flat ground and follow the on-screen instructions. Push robot to face the Refuel Station and wait for robot to connect to Refuel Station. (Fig. 3-12). If it is taking too long to connect, try pushing the robot closer to the Refuel Station.

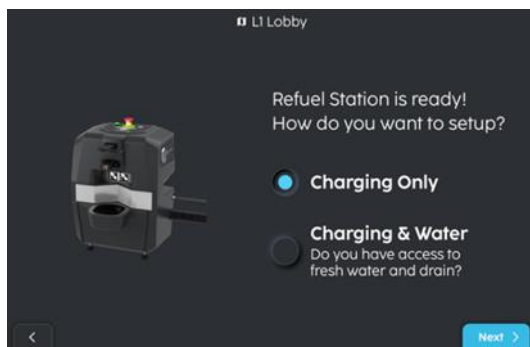


FIGURE 3-11

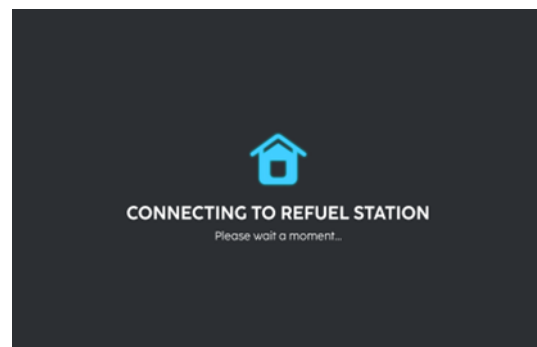


FIGURE 3-12

9. If you choose Charging Only, the point will be saved as robot's home after connecting successfully. (Fig.3-13)
10. If you choose 'Charging & Water', there is an extra step to press 'Pair' to save it as robot home. (Fig. 3-14)



FIGURE 3-13



FIGURE 3-14

HUMAN REFUEL STATION INTERFACE - OPERATION SIGNALS

Machine State	Status LED (15)
Emergency Stop	Red - Solid
Charge contacts over temperature	
Water tank full	
*Fuse error	Red Blink - Fast
Manual charging	Blue Blink
*Firmware Version Conflict	Pink Blink - Fast
XBee not Detected	
Broadcast mode	Pink slow blink 3 times
Idle	Sky blue
Charging	Lite Green
Docking in progress	Yellow
Control from Robot	Other Colour
*Please contact the nearest LionsBot Authorized Distributor	

Machine State	Charging Indicator (4)
100% Charged	100% indicator: ON 75% indicator: ON 50% indicator: ON USB indicator: OFF
≥75% Charged	100% indicator: FLASH 75% indicator: ON 50% indicator: ON USB indicator: OFF
≥50% Charged	100% indicator: OFF 75% indicator: FLASH 50% indicator: ON USB indicator: OFF
<50% Charged	100% indicator: OFF 75% indicator: OFF 50% indicator: FLASH USB indicator: OFF
Error*	100% indicator: BLINK 75% indicator: BLINK 50% indicator: BLINK USB indicator: OFF
*Please contact the nearest LionsBot Authorized Distributor	

CHARGING THE R3 SCRUB PRO



CAUTION!

- The R3 Scrub Pro Refuel Station should not share an AC plug point with any other devices.
- Refer to disposal information for Refuel Station disposal.



WARNING!

Charge batteries in a well-ventilated area.

NOTE: A typical full charge cycle takes about 2.5 hours. Charge the battery daily after usage to prevent over-drainage of the battery.

CHARGING WITH REFUEL STATION

NOTE: Refuel Station needs to be registered on the robot map for automated charging feature to work. For setup instruction refer to the R3 SCRUB PRO Operation Manual.

NOTE: Robot handle bar needs to be in the down position and localized.

1. To charge robot with a Refuel Station select 'More Options' on the Home Page.
2. Select 'Dock Robot' (Fig. 3-15).
3. Select the means of docking robot via Automatic or Manual Mode (Fig. 3-16).

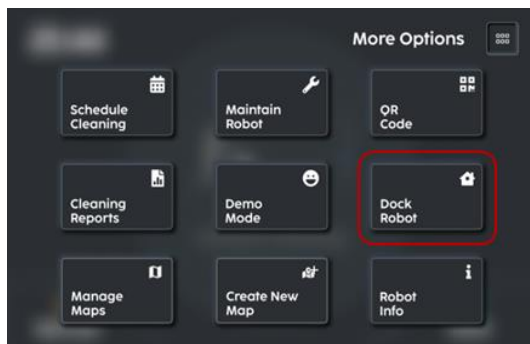


FIGURE 3-15

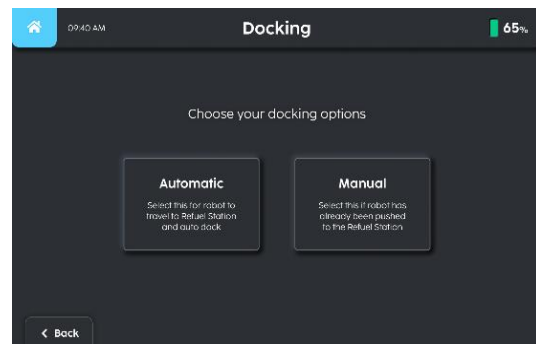


FIGURE 3-16

AUTOMATIC DOCKING

1. If robot is not localized, select a point closest to the robot to initiate localization process (Fig. 3-17).
2. Once Robot is localized select the Refuel Station for docking (Fig. 3-18).

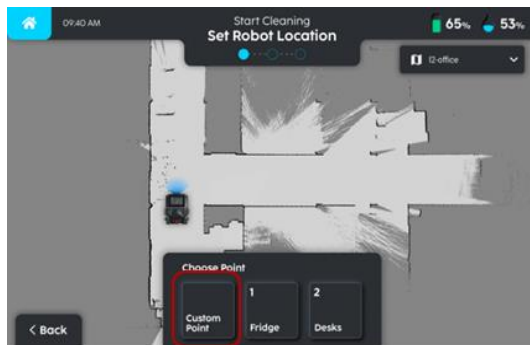


FIGURE 3-17

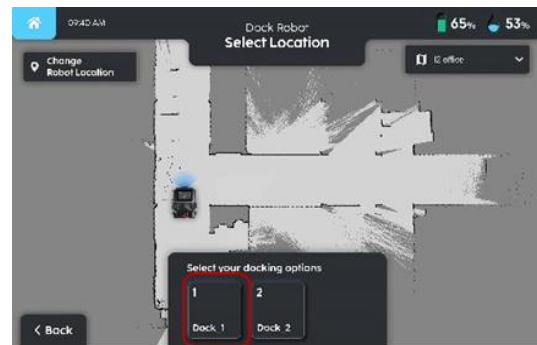


FIGURE 3-18

Press 'Start' (Fig. 3-19). If the handlebar is not yet down, place it down as prompted (Fig. 3-20) and docking will begin.

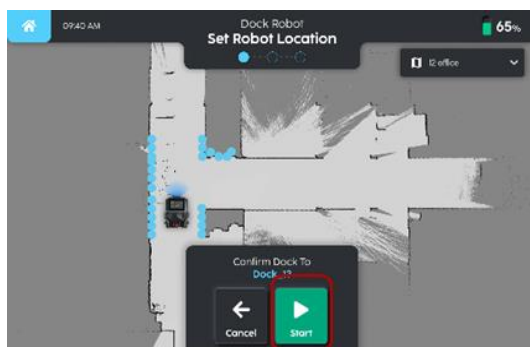


FIGURE 3-19

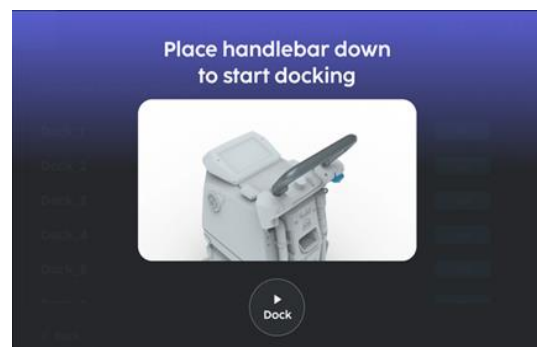


FIGURE 3-20

3. Once the Docking process is completed the screen will turn green to reflect battery charge status (Fig. 3-21). To undock the robot from the station, select the blue 'Undock' button (Fig. 3-21) and undocking will begin (Fig 3-22). Once undocking is done, the home screen will be displayed.

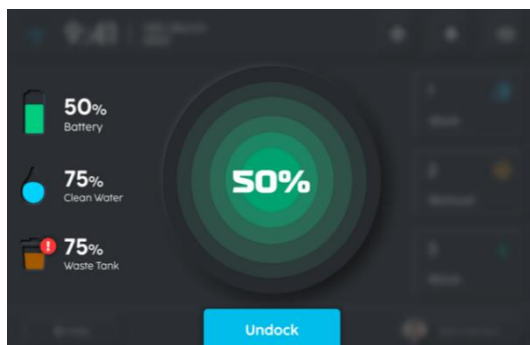


FIGURE 3-21



FIGURE 3-22

MANUAL DOCKING

1. Push the robot into the Refuel Station and ensure the charging contacts are aligned to the robot charging contacts.
2. On the touch screen select 'Dock Robot' (Fig. 3-15).
3. Select the means of docking robot as 'Manual Mode' (Fig. 3-16).
4. Select 'Refuel Station' (Fig. 3-23)
5. Choose the Refuel Station that you want to manually dock the robot to (Fig. 3-24).
6. Select 'Dock' to proceed (Fig. 3-25)
7. A loading screen is displayed followed by a prompt to place handle bar down to start charging (Fig. 3-20).
8. To undock the robot from the station, select the blue 'Undock' (Fig. 3-21 and 3-22).
9. The robot touchscreen will return to the 'Home Page' once undocking is complete (Fig. 3-1).

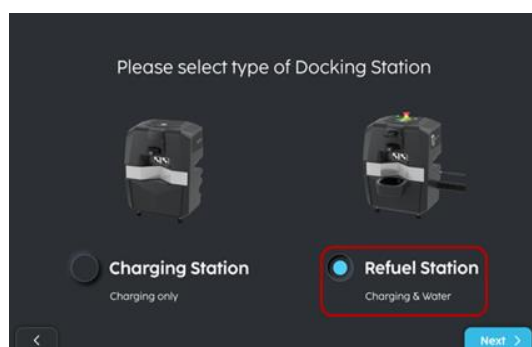


FIGURE 3-23

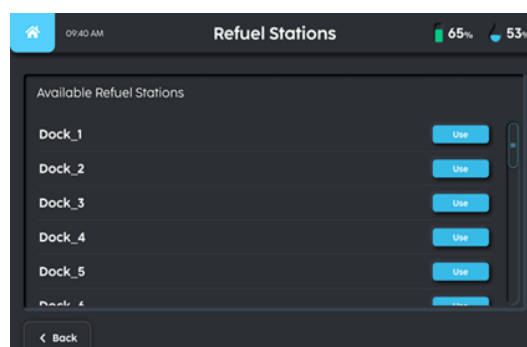


FIGURE 3-24

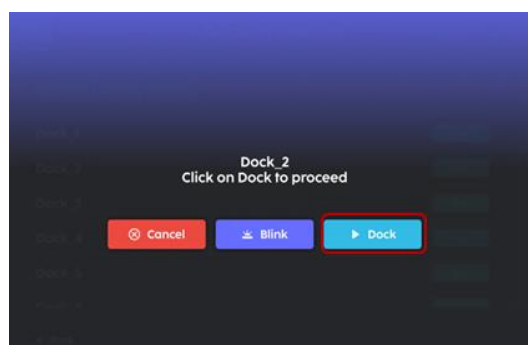


FIGURE 3-25

MANUAL CHARGE

1. Lift the cover on the R3 Scrub Pro manual charging port (Fig. 3-26 & 3-27).



FIGURE 3-26



FIGURE 3-27



FIGURE 3-28

2. Open the Access Panel **(20)** by unlocking the Access Panel Lock **(21)**
3. Pull out the Manual Charging Power Cord **(24)** (3-28) and plug it into the R3 Scrub Pro charging port. The cable should fit snugly; it requires some force to be inserted.
4. The screen will turn green to reflect battery charge status (Fig. 3-21).

MAINTENANCE SCHEDULE



CAUTION!

1. Switch off the Refuel Station before performing any form of periodic maintenance.
2. If any water leakage is seen from the Refuel Station, contact the authorized distributor immediately.

RECOMMENDED MAINTENANCE SCHEDULE

OPERATION	AFTER EACH USE	DAILY	WEEKLY	MONTHLY	ANNUALLY
Rinse the drain basin					
Wipe down the Refuel Station					
Inspect hoses for tear/leaks					
Retighten hose clips			(1)		

(1): Use a 6.5mm flat head screw driver

NOTE: If any defects or damages are observed please contact the nearest LionsBot Authorized Distributor.

RINSING THE DRAIN BASIN

1. Check the drain basin (5) (Fig. 5 – 1) (A) for debris.
2. Flush the basin with water and unclog if necessary.

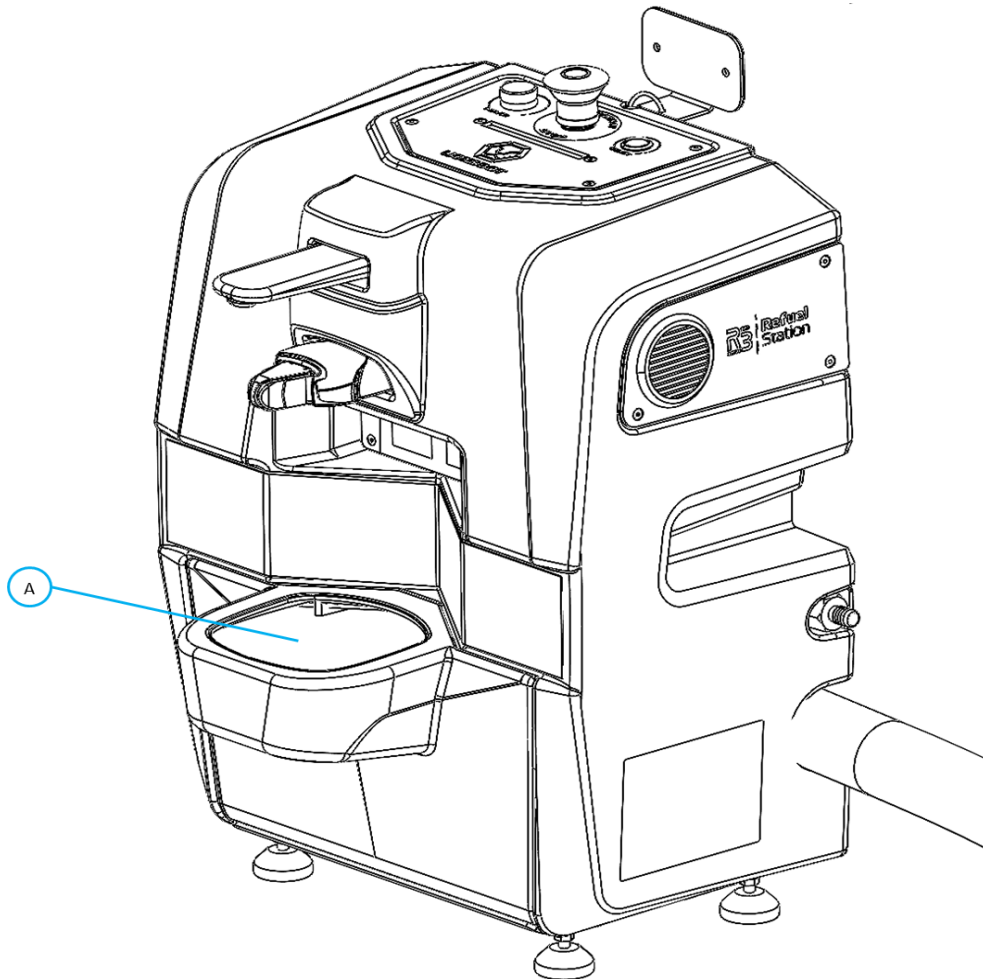


FIGURE 4-1

WIPING DOWN THE REFUEL STATION



DANGER!

Do not wipe the charging contacts with a wet cloth.

1. Power off the station.
2. Wipe down the outer skin and charging contacts of the station using dry cloth.

NOTE: Do not hose down or spray water on the Refuel Station.

TROUBLESHOOTING

The table below lists some useful troubleshooting tips for simple issues that may arise with the robot. If preliminary troubleshooting is unsuccessful, please contact an authorized distributor for assistance.

PROBLEM	POSSIBLE CAUSE	SOLUTION
THE REFUEL STATION DOES NOT START	The power cable is not connected properly.	Re-insert the power cable.
	Circuit breaker is not flipped to ON.	Flip the Circuit breaker to ON position.
THE STATUS LED (15) IS RED	E-Stop is triggered.	Release the E-stop and press the reset button
THE STATUS LED (15) IS BLINKING RED	Fuse blown	Contact authorized local distributor immediately.
THE STATUS LED (15) IS FLASHING PINK	Station is in broadcast mode	Restart device if there is no change, contact authorized local distributor immediately.
ROBOT IS NOT DOCKING	Robot is in manual mode	Bring down handle bar.
THE ROBOT DOES NOT CHARGE	The charging contacts are misaligned.	Re-dock the robot. Contact authorized local distributor if problem persist.
	The charger inside the Refuel Station is faulty.	Contact authorized local distributor immediately.
THE DRAIN BASIN IS OVERFLOWING	The drain basin/hose is clogged.	Press the e-stop immediately. Unclogged the basin/hose before restarting the refuel process.
	The drain hose is not straight	Straighten/untangle the hose
ROBOT IS NOT DOCKING STRAIGHT	V-profile reflector is loose or dirty	Clean the reflector. If the reflector is loose, contact your local distributor.
ROBOT IS NOT POWERING ON	Robot battery is drained	Contact authorized local distributor immediately.

STORAGE

When the Refuel Station is used in environments where frosting may occur, the Refuel Station hoses shall be emptied of fluid, to avoid cracking, bursting, and clogging of hoses caused by freezing.
The Refuel Station shall be stored in a dry and warm place.

SPECIFICATIONS

TECHNICAL SPECIFICATIONS (AS INSTALLED AND TESTED ON THE UNIT)

Model		R3 Scrub Pro Refuel Station
Electrical Characteristics		
Rated Power	W	1560
Voltage In	V _{ac} / Hz	110-240 / 50-60
Voltage Out	V _{dc}	24
Cable Length	m	3
Max Charging Current	A	20
Mechanical Characteristics		
Station Weight	kg	18
Robot dimensions (length – width - height)	mm	620(H) x 455(L) x 410(W)
Water Inlet Hose Fitting Standard	in	1/2" BSP Fitting
Water Inlet Hose Diameter	in	1/2
Maximum water pressure	MPa	0.4
Drain Hose Fitting Standard	in	1 1/4
Drain Hose Outer Diameter	mm	51
Drain Hose Length	mm	112
Ventilation Fans	-	2
IP Rating	-	IPX3
Maximum Altitude	m	<2000

CONTACT INFORMATION

Original Equipment Manufacturer for R3 Scrub Pro Refuel Station:

LionsBot International Pte Ltd

**Kranji Green, 28 Kranji Loop,
#03-05/06 Singapore 739571**

Email: hello@lionsbot.com

T: +65 6595 4565 | DID: +65 6595 4552