modu®

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AUTOMATION CONTROL

ROBOTICS > DRIVES > SYSTEMS

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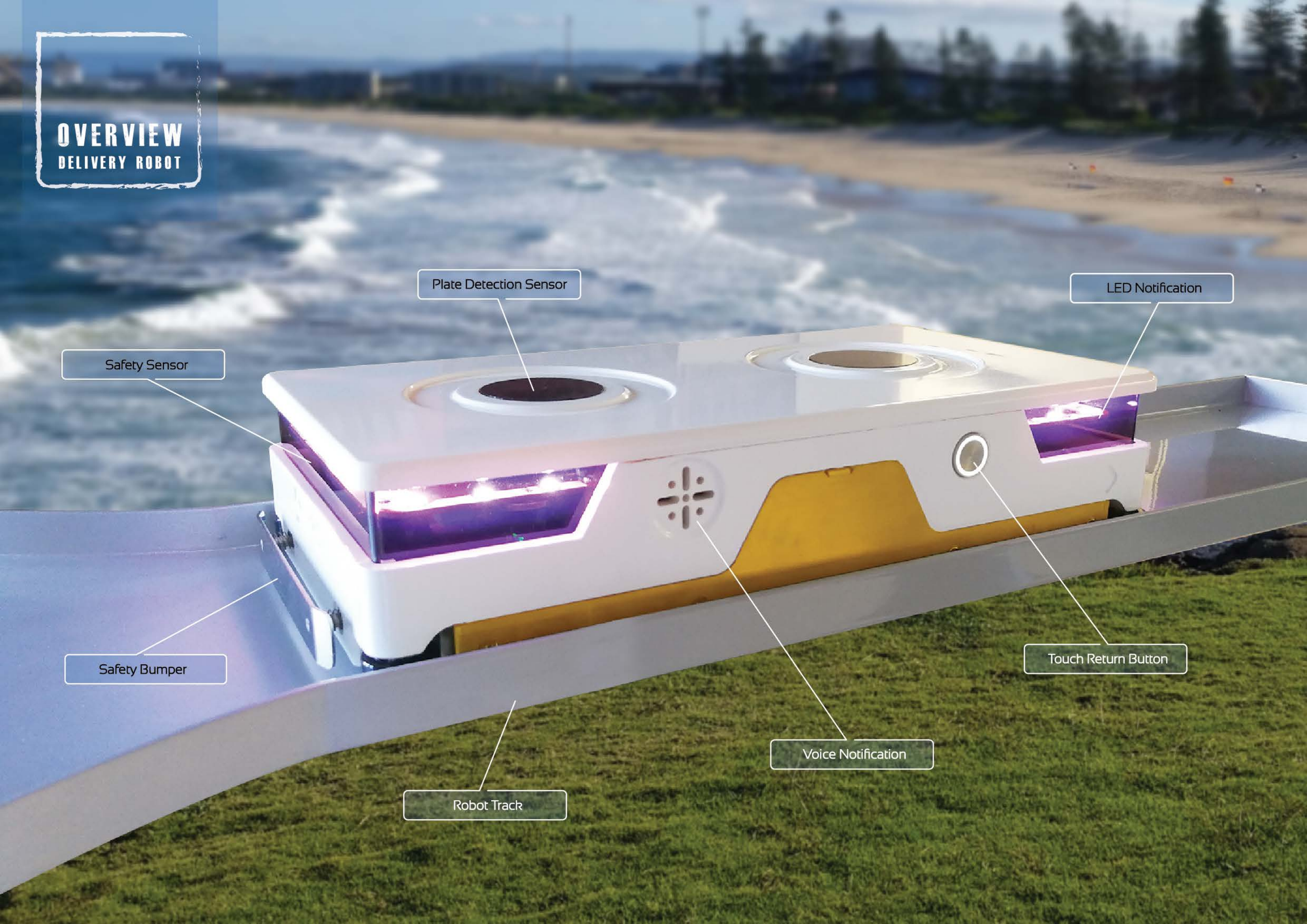
modu®

Simplicity · Solutions

FOOD DELIVERY ROBOT

flexibility in delivery

OVERVIEW
DELIVERY ROBOT



FEATURE — DELIVERY ROBOT

FOOD INDUSTRY

With creative innovation, **Food Delivery Robot** is not only used in Kaiten Sushi Restaurants, but it can also be use in vast variety of restaurants that need automation to deliver food to their customers. **Food Delivery Robot** is so flexible that it is customizable to your needs.

- Cost-effective solution for automating food delivery to your customer. We keep in mind these following criteria when considering cost-effectiveness.

  Technology – With minimal customization to the available technology, MODU Food Delivery Robot can deliver food to your customer accurately. It can adapt to any shop layout without major capital investment.

  Labour – Reducing the number of waiters / waitresses required to perform the same task. Food Delivery Robot also helps in reducing errors or accidents during food delivery.

  Operation Space – Floor space value optimization is essential to every restaurant. Keeping that in mind, MODU has designed the Food Delivery Robot. With it's compact body design, it requires less space to operate. It can be easily placed either on an existing conveyor or on the floor stand.

- With the 3R concept (Relocate, Replace, and Reconfigure), you can renovate your restaurant from time-to-time to keep up with market trend without worrying about Food Delivery Robot. Hence, table configuration can be set from time to time.

- Different sizes of plates can be used to carry food to your customer with customized tray attached to the robot.

- Food Delivery Robot is operated by touch screen tablet. The tablet operating system can be Android, iOS or Windows. With such flexibilities, integrating with Point-of-Sales (POS) and Ordering System can be done easily.

- Food Delivery Robot is built with Remote Assistance Technology. If the Food Delivery Robot is having issues with software or needs upgrading of firmware, simply connect it to our server and we will handle the rest.

EXAMPLE

- Ethnic Dining
- Family Dining
- Buffet
- Barbecue & Hotpot
- Café & Bistro
- Fast Casual
- Casual Dining
- Pizzeria
- Dim Sum

Advantages

EASY TO MAINTAIN

With simple build technology, Food Delivery Robot is easy to maintain. Parts like batteries or Main Board can easily be replaced if the unit is faulty.

NO CHAIN / MOVING COMPONENTS

There are no hidden moving components beneath the track. So, there are no issues with elongation or breakage of chain.
The installation of system is fast as the Food Delivery Robot does not use any sensors or electrical wiring along the delivery path.

NO LIMITATION ON LENGTH & DESIGN

Food Delivery Robot can go through different junctions or bends with ease. The length of operation is not a limitation. However, longer track would result in longer waiting time to deliver as each delivery track is dedicated to a single robot. It is advisable to keep the length as optimum as possible.

ATTRACT AUDIENCE

Innovative & highly versatile Delivery Robot captivates audience and will draw the crowd towards your restaurant.

Simplicity • Solutions

- Food Delivery Robot will automatically stop when an obstacle is detected like hand / bowl / any item that comes to it's range.
- The robot will display red LED light with buzzer sound to alert the person.
- There are no moving component beneath the track that can be hazardous to children or adult.

Safety Sensor

SAFETY FEATURES

Safety Bumper

CUSTOMISED COLOUR

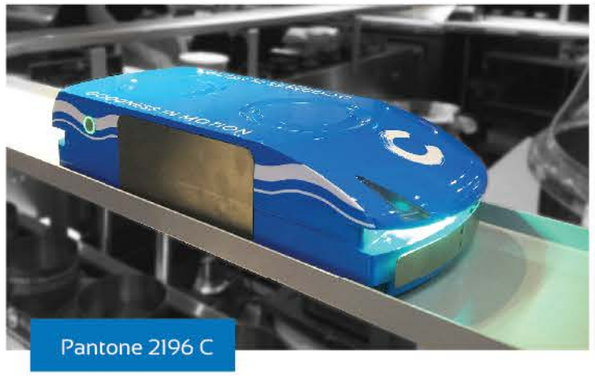
CHOOSE YOUR COLOUR STYLE !!

Customer can choose any colour from the pantone code colour range. We would try our best to keep the colour as close to the requested pantone code. The robot body is sprayed using automotive paint by skillful personnel.

Standard Delivery Robot body comes with gloss white colour. The decal on the car is to be arranged by the customer.

Gloss White

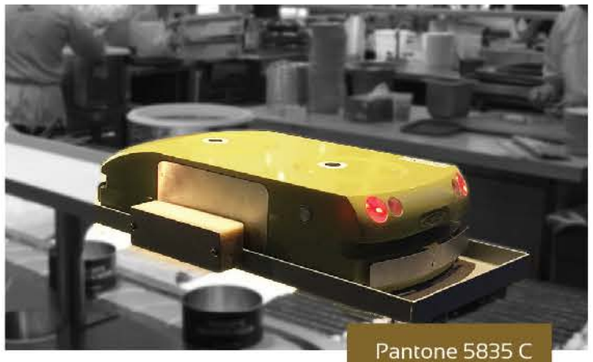
Sample colour by our customers



Pantone 2196 C

Pantone 360 C

Pantone 7578 C



Pantone 5835 C

* Other colours are available upon request from customer. MODU would try to follow to the closest colour requested. However, colour sprayed colour may differ on actual.

WORK FLOW

01 Prepare the Food

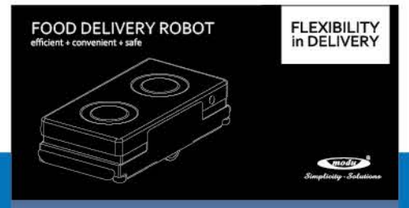
02 Place on Delivery Robot

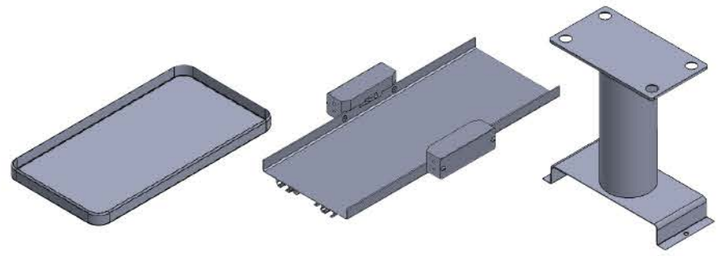
03 Select Table

04 Deliver

ACCESSORIES

To order the support bracket, please inform us regarding the total height required from conveyor top to Food Delivery Robot bottom track.





Optional Tray Attachment
Material: ABS

Charging Station
One Per System

Typical Support Bracket
Material: Stainless Steel

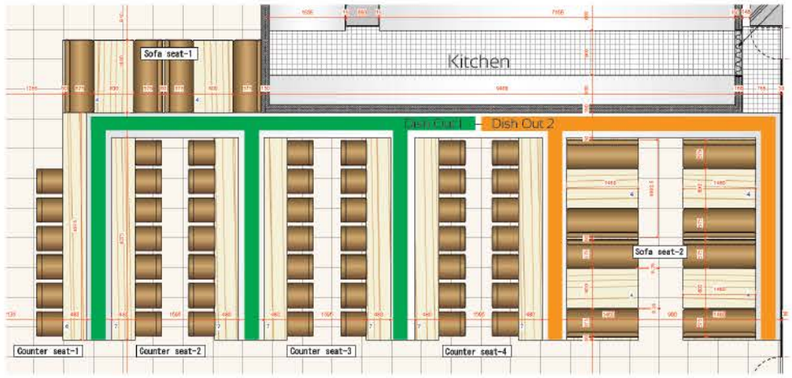
Tablet

Tablet Bracket

Charging

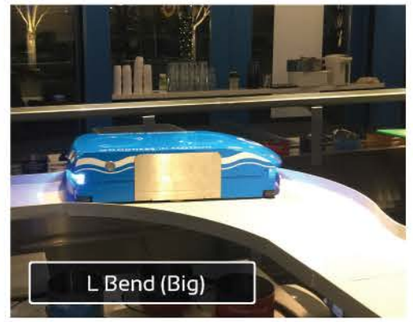
WiFi Router

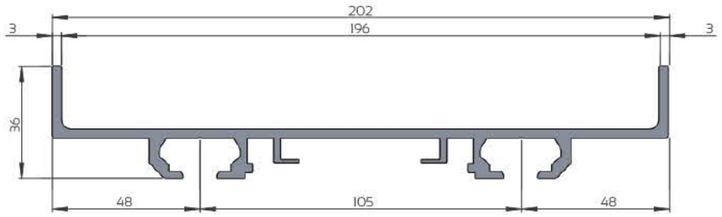
TRACK CONFIGURATION



Track 1 Track 2

The flexibility of Delivery Robot movement allows customers to design the track based on their creativity

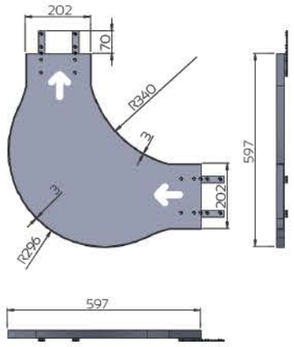




Straight Section

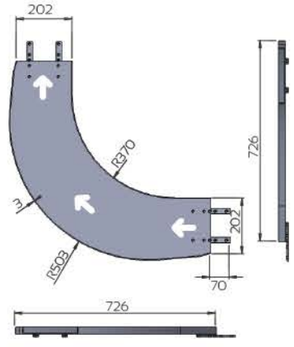
Item Code	: SGC-SS3M
Material	: Aluminium
Colour	: RAL 9006
Finishing	: Powder Coat
Max. Speed	: 50m/min
Supply	: 1 unit

L BEND



Small

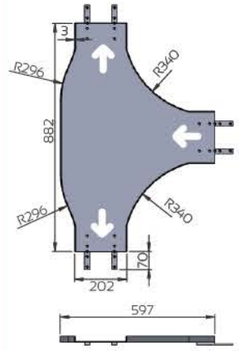
Item Code	: SGC-90R300
Material	: Zinc
Colour	: RAL 9006
Finishing	: Powder Coat
Average Speed	: 17m/min
Supply	: 1 unit



Big

Item Code	: SGC-90R400
Material	: Zinc
Colour	: RAL 9006
Finishing	: Powder Coat
Average Speed	: 23m/min
Supply	: 1 unit

T BEND



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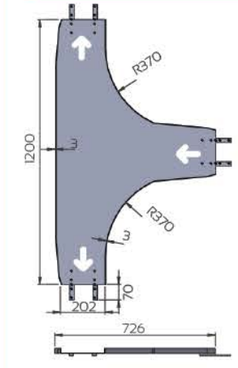
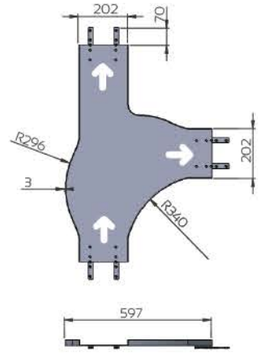
Item Code	: SGC-TBR300
Material	: Zinc
Colour	: RAL 9006
Finishing	: Powder Coat
Average Speed	: 17m/min
Supply	: 1 unit



Big

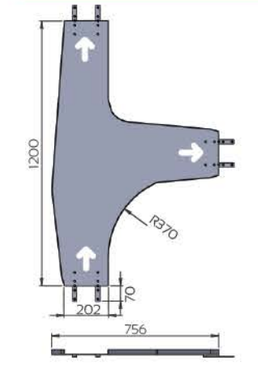
Item Code	: SGC-TBR400
Material	: Zinc
Colour	: RAL 9006
Finishing	: Powder Coat
Average Speed	: 23m/min
Supply	: 1 unit

R BEND RIGHT



Small

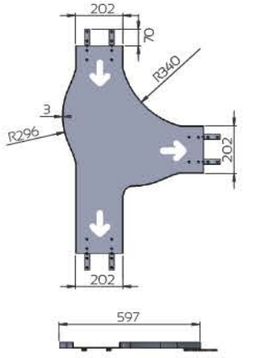
Item Code	: SGC-RBR300
Material	: Zinc
Colour	: RAL 9006
Finishing	: Powder Coat
Average Speed	: 17m/min
Supply	: 1 unit



Big

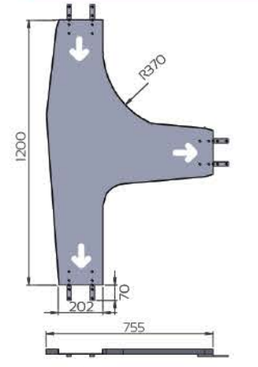
Item Code	: SGC-RBR400
Material	: Zinc
Colour	: RAL 9006
Finishing	: Powder Coat
Average Speed	: 23m/min
Supply	: 1 unit

R BEND LEFT



Small

Item Code	: SGC-LBR300
Material	: Zinc
Colour	: RAL 9006
Finishing	: Powder Coat
Average Speed	: 17m/min
Supply	: 1 unit



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Item Code	: SGC-LBR400
Material	: Zinc
Colour	: RAL 9006
Finishing	: Powder Coat
Average Speed	: 23m/min
Supply	: 1 unit

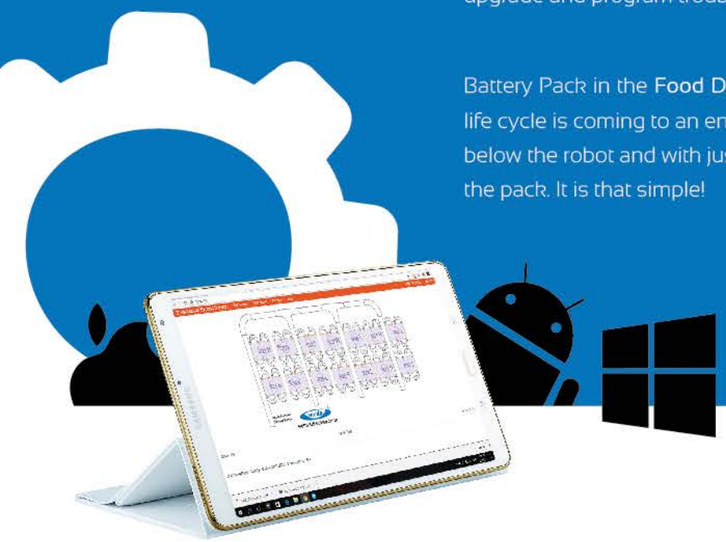
* All dimensions are in mm

MAINTENANCE
REMOTE ACCESS

WE ARE CONNECTED

We have a cost-effective technology that allows our technicians to service your **Food Delivery Robot** from our remote center. This way, our technicians do not need to be at site to troubleshoot the Robot. Internet connection must be available to the router for the maintenance. Firmware upgrade and program troubleshooting can be done remotely.

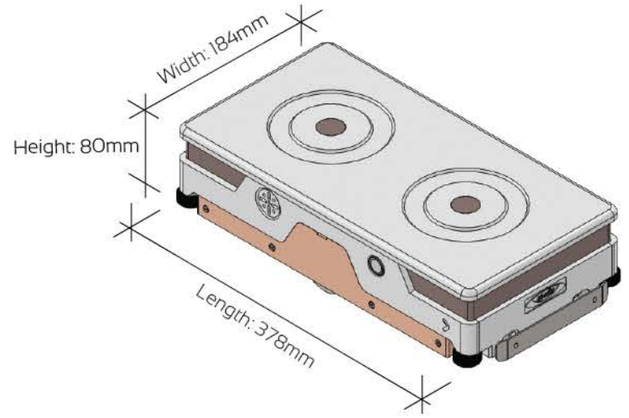
Battery Pack in the **Food Delivery Robot** can easily be replaced once the life cycle is coming to an end. Battery pack maintenance access is located below the robot and with just a few screws to open, you can easily replace the pack. It is that simple!



Android & iOS

The System can be used on Windows, Android & iOS Platform. Therefore, you can use any tablet / smartphone / laptop to operate.
It's Simple & Easy

TECHNICAL
SPECIFICATION



Dimension Overview

ROBOT

Battery	: Rechargeable LiFePO4 - Lithium Iron Phosphate
Battery Capacity	: 6000mA hours
Power Consumption	: Average 10 W (Charging time: approximately 4 hours when the battery starts charging from the empty state)
Dimension	: Width: 184mm x Length: 378mm x Height: 80mm
Weight	: 5 kgs
Build Material	: ABS plastic
Work Load	: 5 kgs
Working Speed	: Up to 50m/min
Motor Type	: 14W, 2 units servo motor
Motor Origin	: Switzerland
Guidance	: Magnetic markers
Charging Availability	: Automatic charging / manual charging
Return	: Soft touch button / automatic detection by plate sensor

CONTROL SYSTEM

Main Board	: Single PCB assembly
Type	: Raspberry pi compute module 3 BCM2837 processor at up to 1.2GHz with 1GByte RAM

SAFETY

Sensors	: Front & Back Safety Sensors for obstacle detection
Bumpers	: Front & Back Mechanical safety bumpers

CHARGING STATION

Input	: AC 110V - 240V 50Hz - 60Hz
Output	: 24V 2.0A
Indicator	: Red LED light for charging indication

WIFI

Technology	: 802.11n wireless technology
Security	: WPA2 encryption
Band	: 2.4GHz

NOTIFICATION

LED	: LED light illuminate on side of delivery
Voice	: WAV

LED INDICATOR

Red	: Alert
White	: Moving forward / backward
Orange	: Notification of food arrival

INTERNAL PCB BOARD

SERVO MOTOR

COMPUTE MODULE

CHARGER ADAPTOR

SAFETY SENSOR