



Company Spec Sheet

Company Specs:

Company name: Mosasaurus
School name: Macau Pui Ching Middle School
Home state: Macau SAR, China
Distance traveled:
To World Championship: 12,133.24 km
Returning Team: participated in the MATE competition twice



Front Row (L~R): Queenie(PR), Helios(Team Manager, CEO),
Hayden(Frame, Payload), Rianna(Float)
Back Row (L~R): Patrick(Program), Ryan(Pilot),
Kenny(Tetherman, Electrical), Bosco(Tether), Nathan(Float)

Team Specs:

Grade	Name	Role	Status
9	Helios Chow	CEO, Project Manager	Returning
9	Kenny Hong	CFO, Chief Electrical and Electronic Engineer	Returning
9	Hayden Ho	Chief Mechanical Engineer	Returning
9	Ryan Leong	Pilot / Mechanical Engineer	Returning
9	Quennie Sio	Collaboration Lead / Software Engineer	Returning
9	Patrick Lu	Chief Software Engineer	Returning
9	Rianna Lei	Float Engineer / Safety Manager	Returning
9	Nathan Leong	Chief Propulsion Engineer	New
9	Bosco Tang	Electrical and Electronic Engineer	New
/	Thomas Lao	Mentor	/
/	Marco Lou	Mentor	/

ROV Specs:

ROV name: Manta Ray
Total Cost: 1544.5 USD
Dimension: 400×640×330 mm³
Weight: 8.6 kg
Total student-hours to design and build: 252 Hours



Fig 2. Photo of ROV

Safety Features:

- Anderson Connector: The 12V DC MATE power supply connects to the main power cable via the Anderson power pole connector, about 11 cm from the main connection point.
- Propellers: Thrusters secured with 3D printed shrouds that meet IP-20 standards.
- Sharp or Dangerous Components: Manta Ray's edges have been filleted and chamfered to remove sharp edges.

Special Features:

- Customized camera connection PCB (≈30% reduction in wiring volume);
- Modular endurance control box
- Newton Gripper with 360° rotational gear ring (eliminates ≈15s repositioning time per retrieval);
- Quick Release Payload Slot
- One-way gate structure for payloads
- YoLo v11 for detecting the invasive crab
- Iceberg hazard evaluating program