VORTEX
COMPANY SPEC SHEET

VORTEX ACADEMY
THE ART OF THINKING

MATE ROV COMPETITION

COMPANY INFO

Company Name: Vortex
City: Alexandria, Egypt
Organization: Vortex Academy
Distance traveled to the competition: 10,460 km
Participation: since 2018
Range of Grade: From 7th grade to 11th grade

ROV SPECS

ROV Name: Kratos
Size: 50.4cm x 46.5cm x 47cm
Materials: PMMA, HDPE, PLA, Aluminum, and Stainless steel 304
Total Cost: $ 5623
Total Mass in Air: 11.5 kg
Total student-hours to design and build: About 1200 hours

SPECIAL FEATURES

- Six thrusters that provide all necessary degrees of freedom.
- Compact Size and light weight.
- Electro-pneumatically actuated rotational gripper.
- Five cameras for the vision system.
- PID Controller and flight modes.
- Autonomous Transplanting.
- Generation of 3D modeling

SAFETY FEATURES

- Smooth edges ensure safety, with exposed bolts secured using cap nuts.
- Fuses are positioned within 30 cm of the power supply.
- IP20-compliant shrouds cover each thruster.
- The compressor's pressure relief valve is set to 10 bar (10^6 Pa).
- Inside the electronics enclosure, power and signal transmission wires are color-coded.
- The ROV should have warning labels to inform anyone handling it of potential risks.

MENTORS

Abdulrahman Abuklila
Asmaa Bahaa
Abdelaziz Yousry
Mohamed Salem

Aya Esam
Mai Allam
Mahmoud Reda

COMPANY MEMBERS

Ali Ahmed	Middle School	Software Leader
Zeyad Khaer	Middle School	Software
Rodina Mohamed	Middle School	Software
Mennatullah Mohamed	High School	Software
Selim Tarek	Middle School	Software
Omar Karim	Middle School	Software
Anas Karim	Middle School	Software
Eyad Ahmed	Middle School	Software
Mennutallah Hisham	High School	Software
Mohamed Ashraf	High School	Software	CEO
Adam Mohamed	Middle School	Software
Youssef Mohamed	Middle School	Software
Yahia Mohamed	Middle School	Software
Retaj Tamer	High School	Mechanical Leader
Hour Ahmed	High School	Mechanical
Fares Hossam	Middle School	Electrical
Diyala Tamer	Middle School	Electrical
Retal Khaer	Middle School	Electrical
Haneen Ali	Middle School	Electrical
Raphael Gerges	Middle School	Electrical
Aya Elsayed	Middle School	Electrical
Emanuel Ayman	Middle School	Electrical
Adham Al-Hakem	Middle School	Electrical Leader
Yassin Elhamad	Middle School	Mechanical

Vortex academy
Alexandria,Egypt

MATE