

ROBO WARS Guidelines

1. General Rules:

- **Robot Design:** Build and operate a remote-controlled robot designed for one-on-one combat in a tournament-style competition.
- **Dimensions:** Robots must not exceed dimensions of 550x550x550mm (LxBxH), including any attachments.
- **Weight Limit:** The robot, including batteries, pneumatic systems, tanks, and transmitter, must weigh no more than **60kg**.
- **On-board Power Supply:** All robots must have on-board power. No external power sources are allowed during matches.
- **Remote Control System:** Each team must use a dual-frequency wireless remote-control system to prevent signal interference. Pre-built toy remote systems are permitted. **Voltage:** The DC power supply between any two points must not exceed 24 volts.
- **Victory Conditions:** A robot wins if it immobilizes its opponent.

2. Safety and Disqualification Rules:

- **Battery Safety:** Teams must ensure battery terminals are protected from short circuits and potential fire hazards.

Failure to comply will result in disqualification.

- **No Battery Replacement:** Battery changes are not permitted during matches.
- **Immobility:** A robot will be declared immobile if it cannot move at least one inch within 30 seconds. However, if one side of the robot's drivetrain is disabled but it can still show some movement, it will not be disqualified.
- **Pneumatics:** Pressurized non-flammable gases are allowed for actuating pneumatic devices.

The maximum nozzle pressure allowed is 50 bars.

Storage tanks and pressure regulators must be certified, and teams are required to present Safety and Security documents at registration.

- **Pressure Monitoring:** Robots must have an onboard gauge to indicate pneumatic pressure, with provisions to check cylinder pressure.
- **On-board Systems Only:** All pneumatic and hydraulic systems must be onboard.

No external input from outside the arena is allowed.

3. Match Regulations:

- **Unsafe Robot:** If a robot is deemed unsafe during a match, it will be disqualified and the opponent declared the winner.
- **Arena Boundaries:** If a robot is ejected from the arena, the match ends immediately, and the remaining robot wins.
- **Pinning and Lifting:** Pinning or lifting the opponent is allowed for up to 20 seconds. After that, the attacking robot must release its opponent or risk disqualification.

If robots become entangled or trapped, the match will be stopped, and the robots separated.

4. Weapon Systems:

- **Allowed Weapons:** Robots can use a variety of weapons including magnetic devices, cutters, flippers, saws, spinning hammers, and lifting devices.
- **Prohibited Weapons:**

Liquid projectiles (e.g., foam, liquefied gases)

Flammable liquids

Weapons causing invisible damage (e.g., electrical or RF-jamming weapons)

Weapons designed to entangle opponents' weapons (e.g., chains, ropes, loose fabrics)

5. Specific Weapon Guidelines:

- **Spinning Weapons:** These must stop completely within 60 seconds of power being removed using a built-in braking system.
- **Spring-loaded & Flywheels:** Large springs must never be loaded outside of the arena or testing area. These devices must revert to a safe position if radio contact or power is lost.
- **Flame-Based Weapons:**

Subject to venue safety regulations.

Fuel must exit the robot as gas, not as liquid or gel. Only propane and butane are allowed, with a maximum of 16 fl oz (473 ml).

The ignition system must have a remote shut-off feature operated via the robot's radio control.

6. Judging and Decisions: Final Decision: The judges' decisions are final and binding on all participants.

7. Team Composition: • Each team can have a maximum of 1-3 members.