

Robo Sumo

The engineering challenges are for the bot to find its opponent and to push it out of the flat arena. A bot should also avoid leaving the arena.

Task

A match is fought between two teams, each team having one or more contestants. Only one team member may approach the ring; other team members must watch from the audience. In accordance with the game rules each team competes on a sumo ring with a robot that they have constructed themselves to the specifications. The match starts at the Coordinators' command and continues until a contestant earns two knockout points. The Coordinator determines the winner of the match.

Team Specification

1. Any team can participate in Robo Sumo. A team may consist of 1 to 4 members participate. These participants can be from same or different institutions.
2. Each team must specify their team representatives (leader) at the time of registration on (website/spot).
3. All important communication between organizers and the registered team will be done through team representative only.
4. A team will be disqualified if it is not present with its bot on the allotted time.
5. The team will be disqualified if its bot fails to fulfill the given bot specification.
6. The decision of coordinators will be final and binding on all.
7. Teams misbehaving with any coordinator/volunteer will be disqualified and in the case of any dispute decision of event head will be final.
8. The bot gets a number for registration purposes. Display this number on your robot to allow spectators and officials to identify your robot.

Bot Specification

1. Maximum allowable dimensions (**35cmx35cmx35cm**) as per (LxBxH).
2. The bot can either be wired or wireless (if tie preference will be given to wireless).
3. Battery can be in hand or on board.
4. The weight of bot should not exceed 5kg. The total mass of a robot at the start of a match must be under the designated weight.
5. If wired the length of wire between bot and controller should be minimum 1.5 meter.
6. Teams are allowed to use their own power supply provided that the voltage between two points should not exceed 24v.
7. AC source is not allowed.
8. Use of I.C. engine is strictly prohibited in any form.
9. The bot must not expand during the match at any condition.
10. A bot must fit within a square tube of the appropriate dimensions for the given class.
11. Pneumatic/Hydraulic/Cutter/Projectile/Entanglement mechanisms are NOT allowed that harms opponent bot. Parts that could break or damage the ring are not allowed. Do not use parts that are intended to damage the opponent's bot or its operator. Normal pushes and bangs are not considered intent to damage.
12. Sticky substances to improve traction are not allowed. Tires and other components of the robot in contact with the ring must not be able to pick up and hold a standard A4 paper (80 g/m²) for more than two seconds.
13. Devices to increase down force, such as a vacuum pumps and magnets are NOT allowed.

Game Play

1. One match shall consist of 3 rounds, within a total time of 3 minutes, unless extended by the coordinators.
2. The team who wins two rounds or receives two "knockout" points first, within the time limit, shall win the match. A team receives a "knockout" point when they win a round. If the time limit is reached before one team can get two "knockout" points, and one of the teams has received one knockout point, the team with one knockout point shall win.
3. When the match is not won by either team within the time limit, an extended match may be fought, during which the team who receives the first knockout point shall win. Alternatively, the winner/loser of the match may be decided by coordinators, by means of lots, or by a rematch.
4. One knockout point shall be given to the winner when the coordinators' decision was called for or lots were employed.
5. Participants try to push opponent bot out of a ring of 75cm radius.

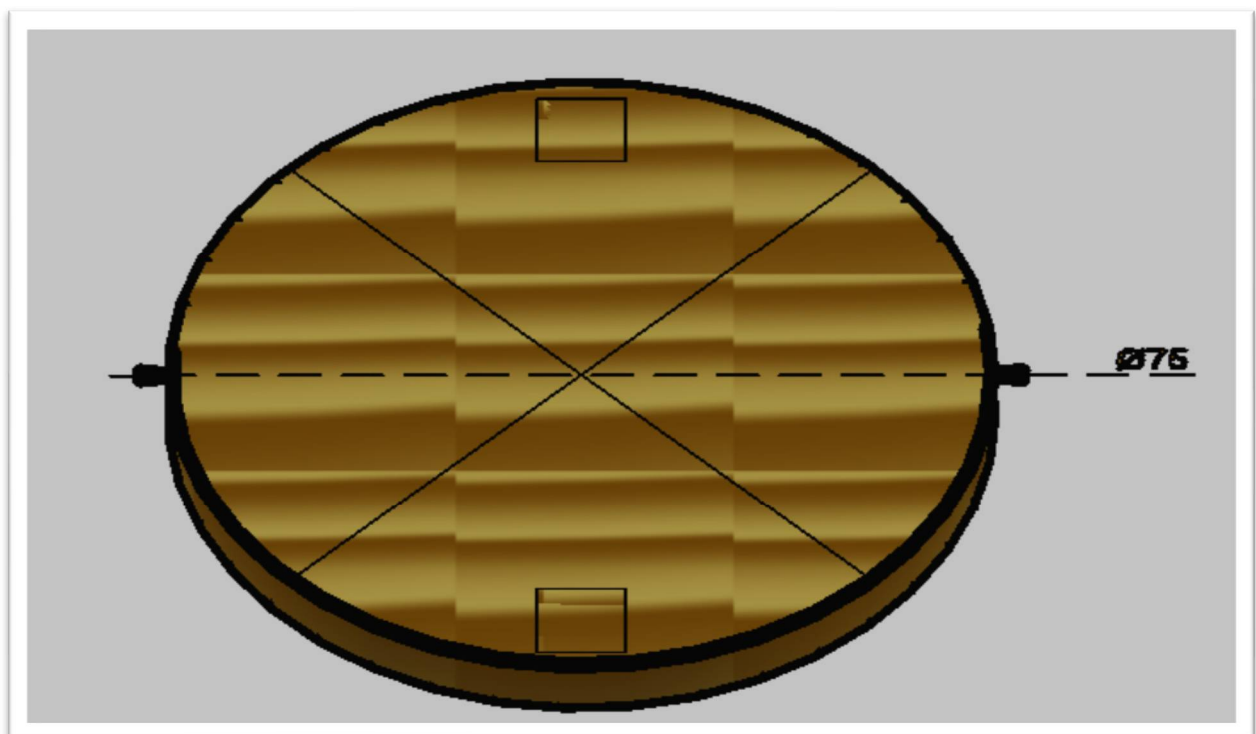
Requirements for the Sumo Ring

1. Sumo ring Interior the sumo ring interior is defined as the playing surface surrounded by and including the border line. Anywhere outside this area is called the sumo ring exterior.

2. Sumo ring Specifications

The ring shall be circular in shape and of the appropriate dimensions for the given size. The border line is marked as a white circular ring of a width appropriate for the given class on the outer edge of the playing surface. The ring area extends to the outside edge of this circular line.

For all given sumo ring dimensions, a tolerance of 5% applies.



Declaring Objections

1. No objections shall be declared against the coordinators' decisions.
2. The lead person of a team can present objections to the Committee, before the match is over, if there are any doubts in the exercising of these rules. If there are no Committee members present, the objection can be presented to the judge before the match is over.

Flexibility of Rules

As long as the concept and fundamentals of the rules are observed, these rules shall be flexible enough to encompass the changes in the number of players and of the contents of matches. Modifications or abolition of the rules can be made by the local event organizers as long as they are published prior to the event, and are consistently maintained throughout the event.

Liability

1. Participating teams are always responsible for the safety of their robots and are liable for any accidents caused by their team members or their robots.
2. The Automaton organization and the organizing team members will never be held responsible nor liable for any incidents and / or accidents caused by participating teams or their equipment.

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