Football 1:1

Summary

Junior Soccer 1:1 is the version of soccer played at the Dutch National Championships. It is played on the same field as in previous years, with a new surface. Matches last two 7-minute halves with a 5-minute break. A pulsed/official ball is used. Only one robot is permitted, each weighing a maximum of 2.4 kg. Construction and programming of the robots is done exclusively by the team members themselves. The team that scores the most goals wins.

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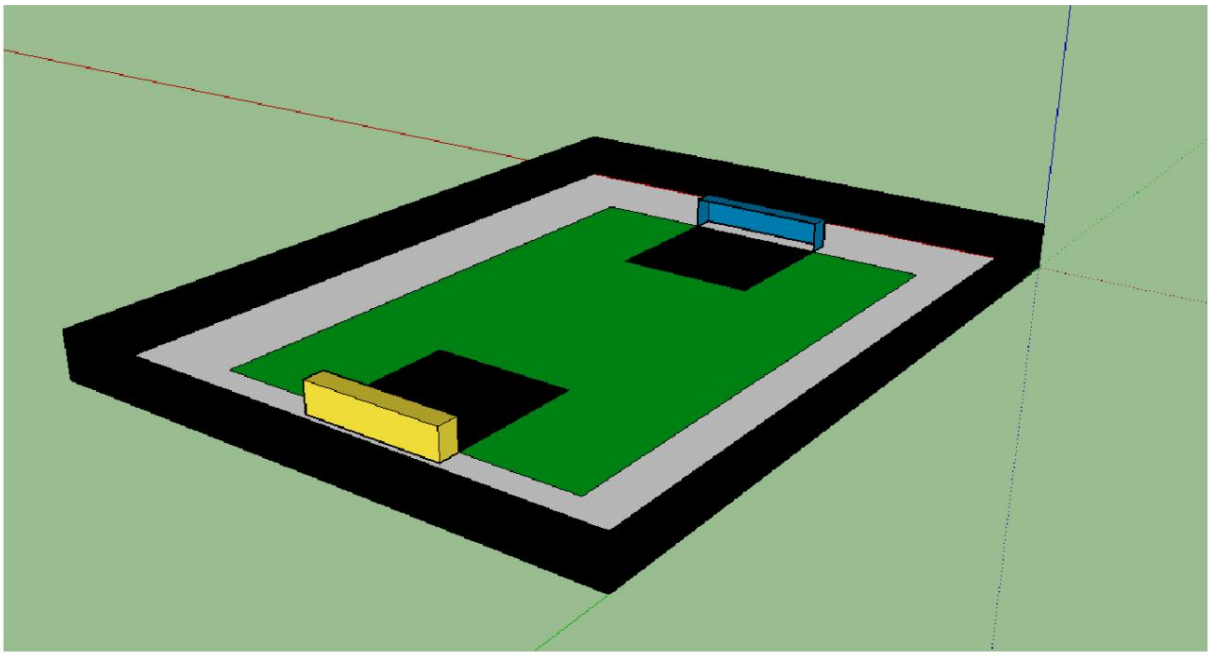
1. Playing Field and Ball

1.1 Field

1.1.1 The field for Junior Soccer is 2430mm by 1820mm. Within this area the
The playing field is defined as 300mm from the edge (1830x1220mm), the color of which is green (RAL 6038). The goal is located on the short side, 85mm from the edge of the playing field. This means the goal is 450mm wide.
In front of the goal is a penalty kick that extends 450mm into the field from the goal line. Its color is black (RAL 9005).



1.2 Walls

1.2.1 There is a 150mm high wall around the field (NOT the playing field).

1.2.2 The internal height of the walls (from ground to top of wall) is between 10 and 11 cm.

1.3 Objectives

1.3.1 The goals are 450mm wide, 100mm high, and 75mm deep. (Internal dimensions)

1.3.2 One target is blue (RAL 5015), the other yellow (RAL 1016).

1.3.3 Each goal has a crossbar to prevent a robot from entering the goal.
can drive

1.4 Neutral Zones

1.4.1 There are 5 neutral zones, 1 at each corner of the penalty area and there is also a neutral area at the centre spot of the pitch.

1.4.2 These are used at the start of a race or if there is a “lack of "Progress" is called. This is to allow for a neutral reset of the game. See the rules in sections 4.6 and 4.8.

1.5 Light and Magnetic Conditions

1.5.1 Teams must calibrate their robots based on the lighting conditions and magnetic properties of the match venue. Organizers strive to keep IR light levels as low as possible and keep the pitches away from magnetic sources. However, this isn't always possible. Teams are advised to design their robots to accommodate varying light levels and magnetic conditions, as these can vary from venue to venue. See section 4.1 for the rules regarding preparation for these situations before a match.

2. Bal

2.1 Specification

2.1.1 The ball used is the EC RoboSoccer RCJ-05 ball in pulsed mode A.

3. Of Robot

3.1 Diameter

3.1.1 The robot must fit within a cylinder of 220mm diameter.

3.1.2 The robot is measured upright in its normal competition position.

3.1.3 All movable parts of the robot must be fully extended during the inspection.

3.2 Height

3.2.1 The robot may be a maximum of 220mm high.

3.3 Control

3.3.1 The robot must be autonomous and not be externally controlled. Remote controls are prohibited.

3.3.2 The robot must be started by one team member at the instruction of the referee.

3.3.3 See point 6, Inspection, for the rules surrounding this inspection.

3.4 Construction

3.4.1 Robots must have a handle so the referee can easily lift them. The handle does not count towards the robot's height measurement, meaning that no sensors (above 220mm) may be placed on the handle.

3.5 Program

3.5.1 Robots must operate fully autonomously.

3.5.2 Robots shall be capable of being started and stopped manually.

3.6 Color

3.6.1 Participants must mark their robots to give them their own team identity. This can be done, for example, with a sticker or colored tape. This is to distinguish robots with identical construction individually from each other.

can distinguish. However, these markings must not affect other robots.

3.6.2 The color of the robots or lights on the robot must not affect the sensors of other robots

3.7 Balvanger

3.7.1 A ball catcher is a construction that ensures that the ball stays close to the robot can stay while dribbling.

3.7.2 This recess may not be deeper than 3 cm from the front of the robot, so if a straight line is drawn in front of the robot, the distance to the deepest point of the recess in the round/concave outer surface may not exceed 3 cm. The robot may not trap or grab the ball, as it must remain accessible to other robots at all times.

3.8 Kicker

3.8.1 A kicker is a device that can kick the ball forward. The kicker

The robot must have a maximum force required to launch an RCJ-05 ball onto a ramp. This ramp is 20 degrees and 220mm along its slanted side. The robot must not shoot the ball higher than the apex of this triangle. The image is attached.

4. Competition

4.1 Preparation

4.1.1 The organizers will allow access to the playing fields for calibration and testing before the start of the matches. These times will be included in the match schedule.

4.1.2 The organizers will make every effort to allow at least 5 minutes of setup time before the start of the race.

4.2 Duration of the competition

4.2.1 A match lasts two times 7 minutes.

4.2.2 There is a 5-minute break between the two halves.

4.2.3 The clock shall continue to count throughout the match without stopping except for the Referee's Time-out in section 4.9.4.

4.3 Start of the match

4.3.1 At the start of the first half of the match the referee

A coin toss. The team named first calls heads or tails as the coin is flipped. The winner of the toss chooses whether they want to kick off first or which side will kick off. The loser of the toss chooses the remaining option. The team that does not kick off in the first half of the game will kick off in the second half. The teams also switch sides in the second half.

4.4 Kick-off

4.4.1 Each half of the match begins with a kickoff. The robots must be out of or in the standby mode. The referee places the ball on the center spot. The robot of the team that kicks off may stand against the ball. The robot of the

The team that doesn't kick off must remain in its own penalty area. At the referee's instruction, the robot is manually started by the team captain, and the match is started or restarted with a whistle.

4.5 Score

4.5.1 A goal is scored when the ball passes entirely over the goal line comes. This is equivalent to touching the back of the target. The referee blows the whistle when a goal is scored.

4.5.2 After a goal is scored, a new kick-off will take place. The team that has not scored takes the kick-off.

4.5.3 Own-goal goals are treated as goals for the opposing team.

4.6 Lack of Progress

4.6.1 Lack of Progress occurs when the ball is stuck between two or more robots for a reasonable time and there is no prospect of the ball being released. The referee immediately calls "Lack of Progress." In the case of Lack of Progress, the ball is first placed on the nearest neutral spot. If the situation repeats, the ball is placed on the center spot.

4.6.2 If the referee removes the ball too slowly and a goal is scored by forcing the ball, the goal will be disallowed and the ball will be placed at the nearest neutral point.

4.6.4 When Lack of Progress is called, stuck robots are Freed by the referee with minimal movement, or by the team captain if the referee requests it. Stuck robots may not be freed at any other time.

4.7 Robot Defect

4.7.1 If a robot stops moving or reacting to the ball, it is considered defective by the referee. Rule 4.7.4 applies. 4.7.2 If a robot remains in the goal area or is stuck against a wall for more than 20 seconds and there is no indication that the robot will return to the playing field, it is considered defective by the referee. Rule 4.7.4 applies.

4.7.3 The referee or team members may remove a defective robot from the playing field.

remove (only with the referee's permission).

4.7.4 A defective robot must remain outside the field for at least half a minute or until a goal is scored.

4.7.5 A defective robot must be repaired and may be repaired with the permission of the The referee returns to the playing field at the neutral point closest to the defending goal, without favoring the robot. (So, not directly opposite the ball.)

4.7.6 The match continues during the removal of the defective robot and during its repair and replacement. The referee may stop or interrupt the match if the robot malfunctions as a result of a collision with an opposing robot.

4.7.7 If a robot falls over due to its own actions, it is considered a A defective robot will be removed from the field. If a robot falls over as a result of a collision with another robot, the referee may right it and the match will resume.

4.8 Ball out of bounds

4.8.1 The ball is considered out of bounds if it goes outside the playing field. After this he is moved to the nearest neutral spot.

4.8.2 The robot is not allowed to follow the ball, if this happens and the entire robot is outside the field, the robot will be suspended for 30 seconds.

4.9 Out of Bounds

4.9.1 If the entire robot goes outside the white line of the field, it is declared "Out of Bounds." In this situation, the robot receives a half-minute penalty, and the team is asked to remove the robot from the field. The game itself is not interrupted. The robot may return if a kickoff occurs before the penalty expires.

4.9.2 The half-minute penalty begins when the robot is taken out of play. Furthermore, any goal scored by the penalized team while the penalized robot is on the field will not be awarded. "Out of Bounded" robots can be repaired if the team needs to, as described in section 4.7, Broken Robots.

4.9.3 After the penalty time has expired, with the permission of the The referee returns the robot to the neutral point closest to the defensive goal, without giving the robot any advantage. (So, not directly opposite the ball.)

4.9.4 A referee may waive the penalty if the robot is accidentally pushed out of bounds by an opposing robot. In such a case, the referee may need to gently push the robot back onto the court.

4.9.5 The ball may leave the playing field and rebound. The referee will call "Out of reach" and place the ball on the nearest unoccupied neutral spot if any of the following conditions apply:

1. The ball remains out of the playing field too long, and is still out of the playing field after a visual (on the fingers) and loud count to 3.
2. None of the robots are able to bring the ball back into the playing field (without the entire robot leaving the playing field).
3. The referee decides that the ball does not return to the field of play.

4.10 Interruption of the match

4.10.1 The situations as indicated in sections 4.6-4.8 can be transferred to a The match is interrupted. Usually, the ball is then placed on the nearest neutral spot, after which play resumes.

4.10.2 The game may also be interrupted by a whistle from the The referee, however, continues to run the clock. All robots are then immediately stopped and returned to their positions at the time of the whistle.

4.10.3 After the match has been stopped, the match will be restarted at a The referee's whistle blows and all the robots start again simultaneously.

4.10.4 A referee may call a "Referee's Time-Out" to make repairs to the court or the ball, or when the referee is called to explain the rules. The referee may decide whether to stop the clock if the game is stopped for an extended period.

4.11 Team Members

4.11.1 Movement of robots by humans is not permitted.

4.11.2 Team members may only move the robots when directed by the referee.

4.11.3 Before the start of each match, each team must designate someone as

"Captain", who is allowed to move his own team's robot according to the referee's instructions and based on the rules of the game.

5. Conflicts

5.1 Referee

5.1.1. During the match, the referee's decisions are final. Arguing with the referee will result in a yellow card. If arguments continue, the referee will issue a red card, resulting in an immediate suspension for the duration of the match.

5.1.2 If the team captains agree with the result of the match, they sign the score sheet at the end of the match.

5.1.3 Protests can only be lodged after the match if
The score is believed to be incorrect or the course of the match is in doubt.
If the score sheet is signed, no protest can be filed.

5.2 Explanation of the rules

5.2.1 Explanation of the rules can only be done by members of the RoboCupJunior organization or the head referee and at the initiative of the referee.

5.2.2 If an explanation of the rules is necessary, the referee shall immediately stop the match, call a "Referee Time-out," stop the clock, and consult the head referee or a member of the organizing committee before restarting the match.

5.3. Special Circumstances

5.3.1 Specific adjustments to the rules as a result of special Circumstances, such as unforeseen problems and/or capabilities of a team's robots, can be agreed upon during a competition, provided the majority of teams agree.

6. Inspection

6.1 Technical assessment

6.1.1 All robots must be inspected by referees. The team is here responsible for doing this before the first match.

6.1.2 All hardware modifications after a previous technical assessment must be re-inspected.

6.2 Robot Construction

6.2.1 Construction and programming of robots may only be done by the team members themselves.

6.2.2 Team members may be asked to explain the operation of their robot to assess whether the construction and programming of the robot is their own work.

6.2.3 An interview will be conducted about the robot's construction and software. Attention will be paid to the use of AI, collaboration, and software or hardware reuse.

6.2.4 If excessive assistance has been given by mentors or teachers, or if the work on the robot is apparently not done entirely by team members themselves, the team will be disqualified from the competition.

6.2.5 The use of AI is permitted, provided that it is trained itself.

7 Code of Conduct

7.1 Fair Play

7.1.1 Robots deliberately hindering other robots or causing damage to the field or the hitting the ball will be disqualified.

7.1.2 Persons who intentionally obstruct robots or damage the field or the ball will be disqualified.

7.1.3 It is assumed that the goal of all teams is to have a fair Play soccer 1:1 match.

7.2 Behavior

7.2.1 All participants must behave in a calm and controlled manner during competitions.

7.2.2 Participants should not enter the preparation area of

other competitions or other teams, unless specifically invited to do so by team members.

7.2.3 These rules shall be enforced by the referees, the organizers and the organizing committee.

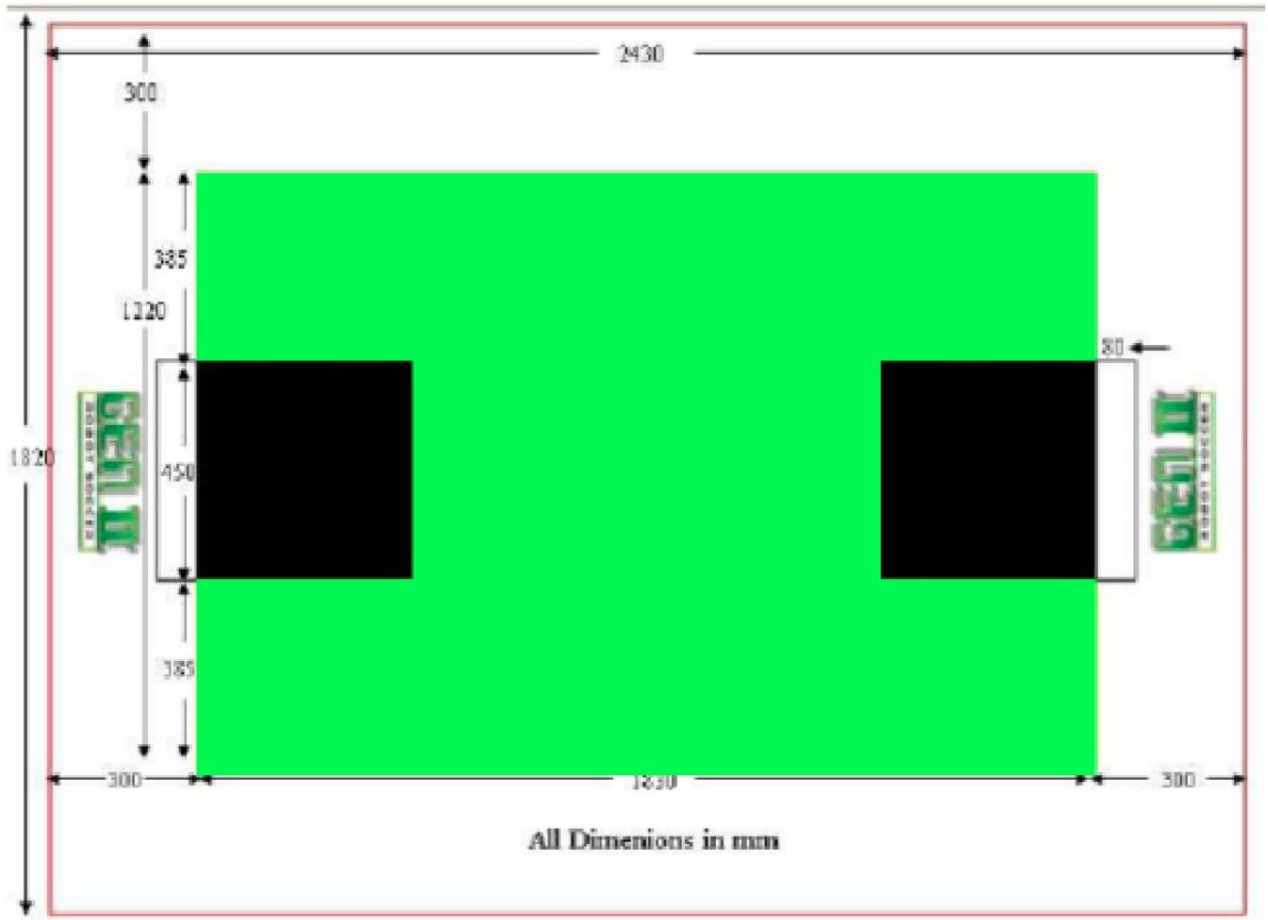
8. Final statement

If any of these rules prove to be incorrect or unworkable (before or during the event), the organizing committee reserves the right to amend them. These amendments will be announced before each competition.

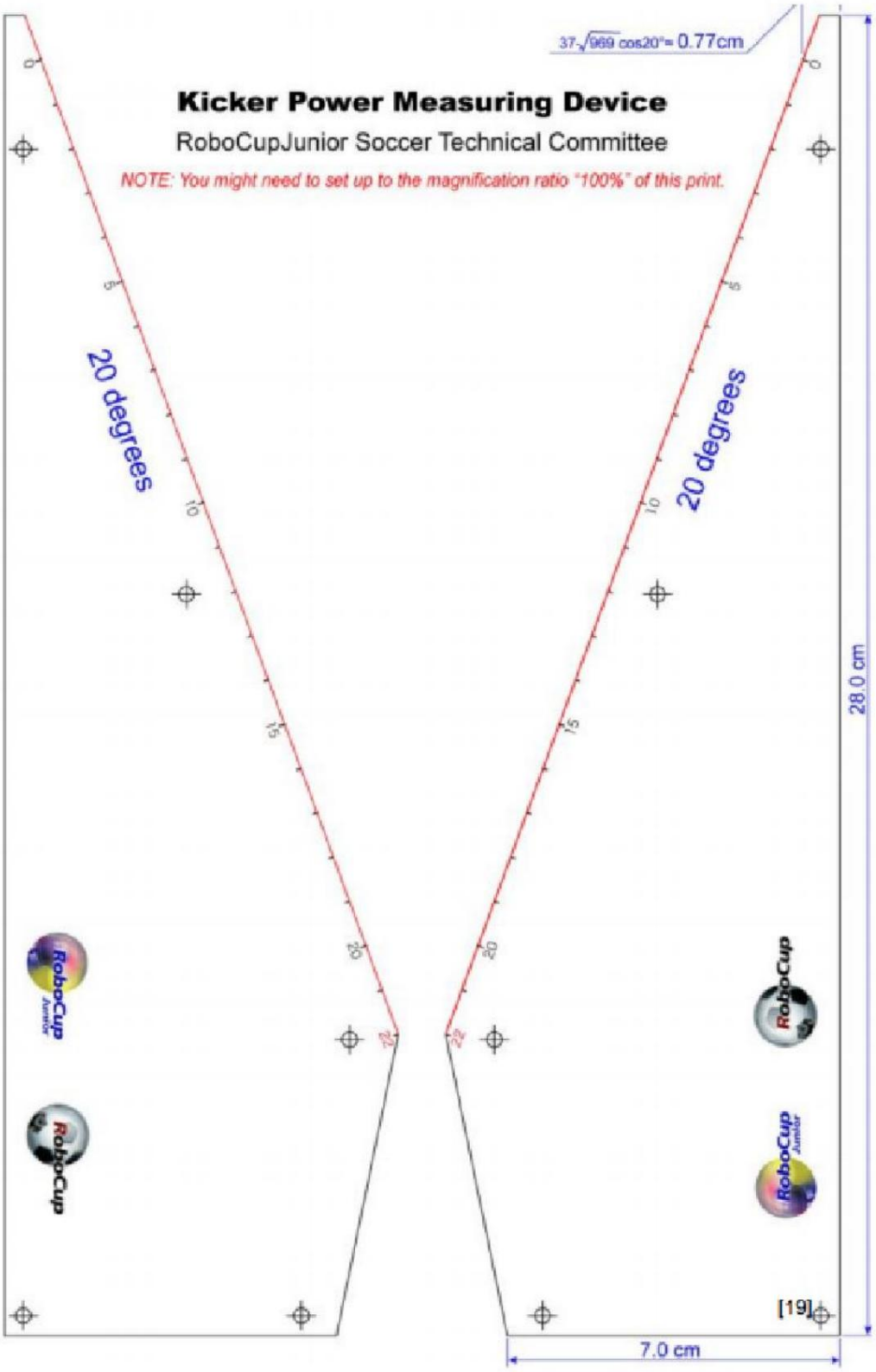
If you find any errors or ambiguities: Please email Regels@robocupjunior.nl or to info@robocupjunior.nl for these football rules.

9. Appendices

9.1 Playing field



9.2 Kicker tester



10. Rule changes compared to last year

Almost every year, regulations are amended or clarified. These amendments are highlighted in blue in the text. This year, the amendments are primarily aimed at making the regulations clearer. Here are the amendments to regulations from 23 to 25:

1. **Back to NK rules**
2. **Interview added**
3. **AI rules added**