



www.pneudrive.co.za

Rules of the Competition

1. This is a design competition.
2. Assignment guidelines for 2010 Competition:
 - The theme for the 2010 competition is "Motion in Sport".
 - Groups may choose any type of sport and show how the SEW Eurodrive and Festo products can be used to create and control motion.
 - It must be an application which creates interest and shows the accuracy of the products.
 - Consider elements like speed, positioning, accuracy, acceleration and deceleration, repeatability and cycle time.
 - Consider energy efficiency in your design. Include an energy efficiency calculation in your project.
 - A project template for submissions will be supplied to entrants. All presentations must be done in this format to ensure uniformity of entries.
 - All entrants need to register on the website www.pneudrive.co.za in order to receive timeous information. This website should be checked regularly for tips, information and deadlines during the course of the competition.
3. Designs should use a combination of SEW Eurodrive and Festo products.
4. **Bonus points** will be added for groups who correctly use the SEW Movitans and / or the Festo Servo Pneumatic Rotary Positioning unit(DSMI).

Remember The DSMI product needs to be used in conjunction with the CMPX (controller) from Festo.
5. **Additional Bonus points** can be earned by groups who provide proof of successful connecting, programming, operating and testing of issued products (e.g. software programmes, video clips, etc.).

Important It will not be required to connect any of the 3 phase voltage products for this exercise! It is necessary to adhere to ALL the safety requirements of these products as detailed in the user documentation and operating instructions!
6. Any of the products from the SEW Eurodrive and Festo range may be used in the design. See the respective company websites for options on the various products, or send an enquiry to the technical support email address. Also see the PneuDrive website for details of previous entrants' submissions and the products they used. This can provide valuable information!

7. All submissions must be in an electronic format which includes drawings and a comprehensive and detailed presentation according to a template which we will provide you with. Information needs to include the following:

- Introduction.
- Description of the design.
- List and clear description of products used, for example:

Description	Component	Catalogue number
SEW Translational motor	Servo Motor	PSKC521CFM71L/KY/SM1/AS1H
Festo Distributor	Rotary distributor	GF-1/4-1/4

- Rationale for the design.
- Unique features of the design.
- Project Management Plan (which makes allowance for a timeline and a detailed project plan).
- Energy efficiency report.
- Detailed budget proposal. Please ensure you consider all costs.

An example of the winning submission for 2009 from Stellenbosch University is available on the website. A complete copy of the submission may be requested from us via the website or by contacting rose@sew.co.za.

8. Group entries of between 3-4 students per group are welcomed (a maximum of four people per group will be allowed). We recommend group entries as these have proven to be more successful than individual entries. Individual group entries which are not submitted via the Engineering Faculty of a University, must have their entries pre-approved by the PneuDrive Team.
9. Third and / or fourth year students at **South African Universities** who are studying in the engineering faculties of mechanical engineering, electronic engineering or mechatronics are allowed to enter.
10. Students can form partnerships with other engineering departments and work together in this way - e.g. you could for example have synergy between mechanical and electrical departments to come up with a project.
11. To the university lecturers, we strongly suggest that the competition form part of the design curriculum so that more students may participate. This is however not a requirement.
12. The competition will be run during the first semester of 2010.
13. University or technikon who enter will submit only one final entry for judging.
14. The final entry to the competition is at the discretion of the university.
15. Designs will become the property of Festo and SEW Eurodrive.
16. Copies of the 5 top projects from each institution to be submitted to Festo and SEW Eurodrive for research purposes.
17. Institutions who enter a minimum of 3 groups for the competition qualify to receive products for their university. A motivation will be required and upon approval thereof, equipment to the value of R 60 000 can be selected from SEW Eurodrive and Festo (R 30 000 from each company.) However, once the products have been received by your institution, you need to guarantee at least one entry which has to be submitted for judging. Failing this, the products will need to be returned, unused in its original packaging.
18. As far as possible, SEW Eurodrive and Festo will provide literature and software on their products via the website. Universities may also contact their local company representatives for more information, demonstrations or documentation.



19. Once the teams have identified their application, they should set up a meeting with the PneuDrive representatives. A personal meeting will be scheduled to provide training and information on the products. This will be of value to the students as they will be able to interact on a small scale with industry leaders and technical assistance can be provided. (This replaces the roadshows we held in the past).
20. Channels of communication:
 - a. Queries to be submitted electronically to the email addresses below or via the website.
21. Final submissions need to reach us by no later than 30 June 2010.
22. The final submissions may have to be presented to the panel of judges by a team representative at a time and place specified by the sponsors.
23. Winners will be announced by 6 August 2010.
24. Winners must agree to photographs and press coverage at the discretion of Festo and SEW Eurodrive.
25. Winners must be in the possession of a valid passport.
26. The winning team (maximum of 4 people) and one representative from the institution, will be sent to Germany for an all expenses paid trip for a period of 10 days.
27. The winning institution will receive Festo and SEW Eurodrive equipment to the value of R 100 000.
28. The following criteria will be used during the judging process:
 - Creativity
 - Business Acumen
 - Presentation
 - Technical accuracy
 - Level of difficulty
 - Level of practicality
 - Budgeting and project planning
 - Overall impression
 - Use of products (correct application of products used and efficiency of product sizing and selection)
29. The following two additional criteria for judging will be added this year:
 - Bonus points for the additional use of SEW Eurodrive Movitrans and Festo Servo Pneumatic Rotary Positioning unit (DSMI)
 - Energy efficiency of the application.

Refer to the judging sheet from last year's competition for more insight into the judging.



SEW Eurodrive
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Good luck! We look forward to seeing your projects!



Festo
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