



ESTECO DESIGN COMPETITION

RULES AND REGULATIONS

Introduction

ESTECO and illycaffè are pleased to invite teams of undergraduate and graduate students attending the Faculties of - including but not limited to - Engineering, Physics and Chemistry in universities around the world, to submit a project and compete in the ESTECO | illycaffè design competition.

The competition challenge consists in the design of a system for the production of pressurized hot water to be used in an automated espresso coffee machine, using principles of engineering to find the best solution respecting the constraints outlined in the presentation attached (Article 2). The submitted work should be innovative and should demonstrate the use of the modeFRONTIER optimization platform; the jury will favor designs providing significant improvements in energy usage and sustainability.

The most successful entries will be those that leverage advanced or novel engineering applications while adding creativity to the entire design process. The objective of the competition is to draw students to prototyping, design and device manufacturing stages; the scope of the design problem is intentionally broad so as to foster creative thought and produce innovative devices.

All intellectual property (IP) generated during the competition will be wholly owned by the inventors. ESTECO and illycaffè will not claim a stake in the students' IP as a result of their participation in the ESTECO | illycaffè Design Competition.

ARTICLE 1: PARTICIPATION REQUIREMENTS

Participants can be individuals or teams up to 3 people currently enrolled in a postgraduate or undergraduate university course. Each member of the team must be able to prove their student status by means of a current enrollment certification.

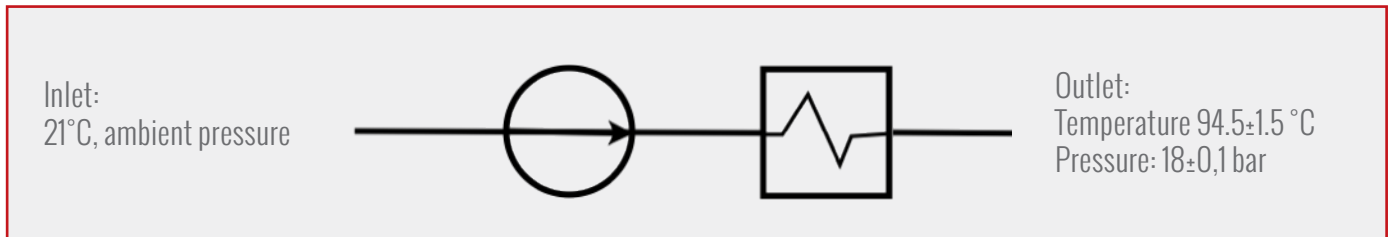
ARTICLE 2: GENERAL DESIGN REQUIREMENTS

The projects submitted by each individual/team may address both the whole pressurized water production system or a single component (pump, heat exchanger, control system).

In order for the espresso machine to work properly, the conditions below must be respected:

- Outlet temperature (just on top of capsules) between 93 °C and 96 °C
- Flow rate on (Red) Espresso Capsules at 1ml/s on average
- Flow rate on (Blue) Espresso "Lungo" Capsules at 3ml/s on average
- Maximum nominal pump pressure 18bar
- Water should be stored and should flow through food-compatible materials.

Approximate Pump Characteristics:



ARTICLE 3: DESIGN SOLUTION DOCUMENTATION

Submissions will be judged on the basis of a technical report (maximum 20 pages) integrated by a PPT presentation (maximum 20 slides) with project strengths and the motivations behind the proposed design solution. The technical report should clearly identify the assumptions made and the eventual limitations of the simulation model used. Engineering choices not verified by a quantitative analysis should be justified with other means.

ARTICLE 4: PROJECT EVALUATION PROCESS

The jury of the competition will include two members from ESTECO, two members from illycaffè and one external member from the University of Trieste. The jury's decision is final.

ARTICLE 5: DEADLINES

REGISTRATION DEADLINE **15/10/2014**
SUBMISSION DEADLINE **01/03/2015 h. 00.00**
WINNER ANNOUNCEMENT **31/03/2015**

ARTICLE 6: REGISTRATION AND REPORT SUBMISSION

To participate in the competition, individuals/teams must register by filling in this form found at: www.esteco.com/illycompetition. Templates for both the technical report and the PPT will soon be available on the same page.

All submissions must be sent to illycompetition@esteco.com

ARTICLE 7: PRIZES

1st Prize: One weekend in Milan during EXPO2015, one-to-three (depending on the number of team members) 1-Year Licenses of modeFRONTIER, 1 ILLY IPERESPRESSO X7.1 machine

2nd Prize: Two 1-Year Licenses of modeFRONTIER, 1 ILLY IPERESPRESSO X7.1 machine

3rd Prize: One 1-Year License of modeFRONTIER, 1 ILLY IPERESPRESSO X7.1 machine