



COLLOQUIUM

Conform artikel 4.6.8 van het SSNS-wb.

Vakgroep: Technische Stromingsleer

In het kader van zijn doctoraalopdracht zal

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een voordracht houden getiteld:

Analysis of Senseo pump performance

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Summary:

In 2001 the Senseo was introduced in the Netherlands by Philips in collaboration with Douwe Egberts. The Senseo is a coffee machine that is characterized by the use of coffee pads. The Senseo appliance is sold in Europe, Australia and the United States.

After introduction of the Senseo, research and development continued. This is focused on possible cost reductions in the production and in the development of new functions. Cost reductions increase profit and developing new functions will keep customers interested.

Previous research showed that the pumping performance of the Senseo is very sensitive to the configuration of the system of pump, tubing and boiler. Pumping performance is judged by looking at the filling of a cup in a certain amount of time and the pressure at which the coffee is brewed. Pressure and pumped volume of the Senseo are very important for the taste of the coffee and the appearance of a creamy layer on top of the coffee.

It is necessary to study and optimize pump - system interaction to determine any sensitivity of the pump, for future developments and changes in the Senseo appliance. This thesis aims at a better understanding of the behavior of the Senseo and focuses on the valve dynamics of the linear displacement pump and the interaction with the system due to the pulsating flow through tubing and boiler.

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