

TCDC Power Consumption Characteristics

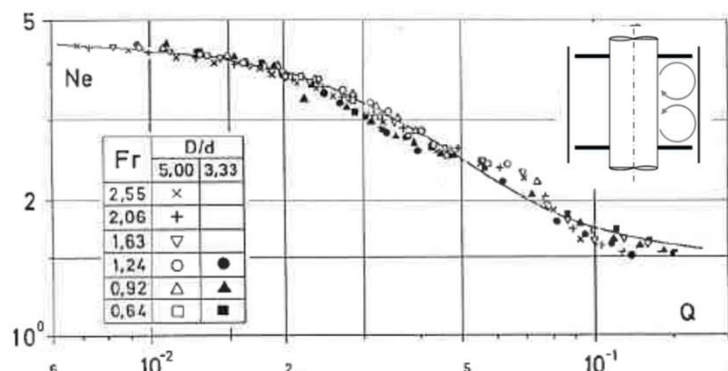
Topic suitable for Bachelor Thesis / Plant Design



The Taylor-Couette Disc Contactor (TCDC) is a novel extraction device developed at the institute that can be used for a variety of separation tasks comprising various phases. To improve comparability with conventional devices and scale-up, several bachelor theses / plant design exercises are scheduled to systematically investigate the TCDC's power consumption.

Following on from previous studies [1], the aim is to determine the power consumption for, e.g., different speeds, fluid viscosities and operating modes like ungasged / gasged.

This includes planning trials using the Design of Experiments (DoE) methodology, carrying out the experiments in the lab, combining the experimental results into dimensionless relationships based on similarity theory and comparing the latter with that of conventional devices of comparable functionality, e.g., stirred tanks [2].



Literature:

- [1] Grafschafter A, Siebenhofer M: <https://doi.org/10.1002/cite.201600142>
 [2] Zlokarnik M: Rührtechnik. Theorie und Praxis. Springer 1999

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