

**SEATTLE CHEMICAL INDUSTRIES
ENGINEERING DEVELOPMENT LABORATORY
SEATTLE, WA 98195**

To: Team B
From: Engineering Management
Subject: Orifice characteristics

We often use orifice meters to measure liquid flow rate, and would like to check the accuracy of such measurements. We have a lab setup in which one of several circular and rectangular orifices can be tested. It is also possible to measure the orifice pressure drop at different tap locations.

Please use this setup to measure the discharge coefficient, C , as defined in Perry's 7th Edition for all of the available orifice plates. Use the radius taps for all experiments. Report C and its uncertainty at the maximum possible flow rate, and at 60% and 80% of maximum. Also report the Reynolds number at each condition (based on the characteristic length and velocity for the orifice, not the pipe).

Comment on any significant deviations from published results.