

## **Choked Flow Orifice**

Fall 2009

TO: Engineering Development Branch

FROM: Engineering Division

SUBJECT: Evaluating Our Line of Choked-Flow Gas Orifice Meters

As you know, our company manufactures several lines of choked-flow gas orifice meters to meet specific requirements for a number of customers. Due to manufacturing imprecision, the meters do not always perform exactly as predicted from theoretical relationships.

One of our customers has approached us to supply orifices that will choke at an air flow rate above  $6 \times 10^{-4}$  kg/s with an upstream pressure of 40 psig. We believe that our line of 1-mm orifices will satisfy this requirement. Please use the system that you develop to make a recommendation regarding whether we should sign a contract with this customer.

By the way, relationships for flow through square-edged orifices (like ours) are available in Perry's Handbook and may be useful.