

# DIERS Testing

Fauske & Associates, LLC was the principal research contractor for the Design Institute for Emergency Relief Systems (DIERS), an extensive R&D program sponsored by 29 companies under the auspices of AIChE and completed in 1985. A primary purpose of that effort was evaluation of emergency relief vent requirements, including energy and gas release rates for systems under upset conditions, and the effect of two phase flow on the emergency discharge process.

The DIERS program resulted in the development of a bench scale low thermal inertia adiabatic calorimeter, which was first commercialized as the Vent Sizing Package (VSP). Later improvements led to the VSP2. The Reactive System Screening Tool (RSST) was introduced by FAI in 1989 to provide an easy, inexpensive approach to the DIERS testing method. Recent enhancements led to the Advanced RSST (ARSST) in 1999. FAI uses the DIERS-based VSP2 and ARSST calorimeters to characterize chemical systems and design emergency pressure relief systems. Both instruments provide vent sizing data that are directly applicable to process scale.



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