CHARACTERIZATION OF THE ARL PROBATIVE TUBE

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The US Army ARL Probative Tube is being characterized to determine the relationship between initial conditions in the simulator and flow parameters during a test.' Operating procedures and control hardware for the facility are also being experimentally tested during characterization.

The ARL Probative Tube, described in a MABS-12 paper, is made up of a 2.44 meter diameter expansion tunnel and a high pressure 0.91 meter diameter driver tube. The gas is supplied by system composed of an LN2 tank, a cryogenic pump, and pebble bed heater. A computer controlled rarefaction wave eliminator (RWE) will be used to extend the duration of blast simulations in the facility.

This paper provides a detailed description of the electrical and pneumatic control systems used in the gas supply and driver systems of the ART. Probative Tube. The paper also describes the operating procedure for the ARL Probative Tube and the results of early testing.