



Production Equipment > Flow Critical Flow Prover

The critical flow prover (CFP), uses principles of critical, adiabatic, frictionless compressible flow to provide means to determine flow rate by measuring only upstream pressure and temperature. The rugged design of the Hawkeye Industries critical flow prover ensures accurate, repeatable results.

Design

The critical flow prover consists of a cylindrical body with a honed 2.00in. ID. The upstream end has a 2 NPT male connection, and the outlet end has a sealed recess suitable for a 0.25 in. thick orifice plate, which is retained with a knurled end cap. The critical flow prover comes complete with two taps, a 1/4 NPT and a 1/2 NPT, approximately one-diameter upstream of the orifice. For operation and technical information, please refer to the Critical Flow Prover Technical Bulletin, document TB-0607-CFP.

Construction

The body and cap of the critical flow prover are manufactured from carbon steel, plated with zinc dichromate for corrosion resistance. Standard viton seals in the orifice plate recess ensure leak-free operation and are suitable for use in a wide array of gaseous environments.

Flexibility

The critical flow prover provides meaningful results over a wide range of upstream / downstream pressure ratios. Empirically, the flow of natural gas exiting the orifice will be critical when the exit pressure is 56% (or less) of the upstream pressure, and the orifice diameter is 60% (or less) of the upstream diameter.

Technical Information

Please refer to the following technical bulletins, available on our website, for usage information regarding the critical flow prover.

► TB-0607-CFP — Critical Flow Prover

Ordering Information

1.) Specify orifice size.



Above: Critical Flow Prover with end cap, and orifice plate installed. Note the 1/4 and 1/2 NPT Taps on the prover body.