

STUDY OF A VENTURI

REFERENCE : H5N



Non contractual photo

SERVICE :

Most industrial flow rate systems are based on the Venturi phenomenon. The H5N device allows the observation of this phenomenon by measuring the variation of the static pressure through a Venturi tube. It is the perfect application of Bernoulli's theorem.

Educational Objectives :

- Observation and measurement of the distribution of the static pressure along a venturi tube
- Application of Bernoulli's theorem and comparison of experimental results with theoretical ones.
- Influence of the Reynolds number on the flow coefficient

The fluid flows in a circular pipe, passes into a convergent, then into a divergent lower slope, before passing through a flow control valve. Eleven pressure taps, connected to a multi-manometer, measure the static pressure variation within the venturi tube. The speed distribution and the flow coefficient are deduced from these measurements. The comparison of the experimental values ??with the theoretical values ??shows that this coefficient varies slightly with the flow rate, due to the pressure drops.

The pressure tubes are connected to a manifold equipped with a valve for adjusting the back pressure of air. The water level in the tubes is regulated by a hand pump connected to this valve.