



OPERATING INSTRUCTIONS

31043 Venturi Meter Demonstrator

1 Introduction

The Venturi tube is used to measure the quantity or velocity of a fluid (gas or liquid) flowing through a pipe line, or to utilize decreased pressure to operate certain devices. It makes use of Bernoulli's Principle, a restatement of the law of Conservation of Energy as applied to fluid flow, and is often used as an illustration of this principle. This demonstrator is made of glass and has three side tubes for attaching an included manometer, showing the relative pressures at significant points of the tube when gas is flowing through it.

2. Assembly

Fill the W-shaped tubes about half way with water. You can add dye or ink to improve the visibility of the water. Cut a piece of 3/16-inch tubing into 3 equal lengths. Join the W-shaped glass piece to the three tubulatures on the Venturi Tube with these pieces of tubing. Attach a piece of 1/4-inch tubing to one end of the Venturi Tube.

3. Operation

Blow into the tubing or connect the tube to a compressed air source. The water column depresses in the tube nearest the source, rises in the center tube, and depresses in the third tube. Because of the constriction of the tube, the pressure is reduced as the velocity of air increases in the narrow portions according to Bernoulli's Principle. Although the diameter of the Venturi Tube is the same on both sides of the constriction, the water column is not depressed as much on the air-exit side because of a loss in velocity caused by friction, turbulence, and the effect of the exit orifice.

4. Maintenance

The Venturi Meter Demonstrator needs no special maintenance. If given reasonable care, it should provide years of satisfactory service. Should any difficulty occur that can not be corrected, contact Central Scientific Company. So that we may serve you best, please do not return the apparatus or any of its parts before receiving authorization from Scientific Company.

5. Recommended Accessories

<u>Description</u>	<u>CENCO Cat. No.</u>
3/16" ID Tygon Tubing, per foot	18294-02
1/4" ID Tygon Tubing, per foot	18294-03



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