

CALCULATION OF VENTURI NOZZLES DIAMETER FOR NASAL BREATHING EVALUATION DEVICE

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ABSTRACT

Nozzles and Venturi nozzles are devices that are inserted in circular cross-section conduit to create pressure difference of static pressure. Based on that pressure difference, flow rate of flowing fluid can be calculated. Methodology results of Venturi nozzle diameter calculating device to determine the pressure drop/flow rate characteristics of the human nasal airways are described. The results of our method offer high-stability performance and compact construction. The standard studying and metrological verification pointed on a possibility of obtaining sufficiently reliable measurement results when using a flow meter based on a Venturi nozzle. This method can be considered as a respect to improvement information-measurement technology alternative control and technical diagnostics. In combination with a computer interface, these devices provide a high level of mobility and open up entirely new perspectives for rhinological research and practice, especially in human physiology and environmental studies.

KEYWORDS: Rhinomanometry, Pneumotachography, Flow Meters, Pressure Sensors, Venturi Nozzle, Pressure Drop and Flow Rate