

## Abstract Details

**Title:** Experimental analysis of the low reynolds number behaviour of 2-hole offset probes

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**Abstract:** Two-hole offset probe (s-type probe) is used to determine the stack gas velocity and volumetric flow rate for stack or dusty environment. During the calibration of s-shaped pitot tubes in wind tunnel, it was observed that the calibration constant has a slight dip over a reynolds number range from 650 to 4000 (corresponding velocity range 3m/s to 14 m/s). For higher reynolds numbers the calibration constant displays almost a constant value. The objective of this work is to analyze this variation in the value of the calibration constant. To conduct the analysis s-shaped pitot tubes of diameters ranging from 1.23mm to 9.54mm was fabricated, which were then calibrated against the standard pitot tube (l-shaped). S-shaped pitot tubes showed very scattered values of probe coefficient in the velocity range from 3 to 14 m/s, and displayed almost constant values after that.

**Keywords:** s-type probe, l-type probe, reynolds number.