

Experimental determination of friction factor

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1 Introduction

An experiment is conducted to determine the friction factor of a straight PVC pipe. The apparatus is an Armfield flow bench instrumented for measuring pressure and flow rate. The experiment findings are compared to published values in a Moody chart. Results within 30% of expected values are considered successful.

2 Apparatus

The apparatus, illustrated in Figure 1, is an Armfield flow bench. Water in the reservoir is pumped through the piping system and drains back into the reservoir. The pump speed is adjustable. A flow meter is used to measure flow rate. Two manometers 20 cm apart are used to determine the pressure difference between the two points at steady flow.

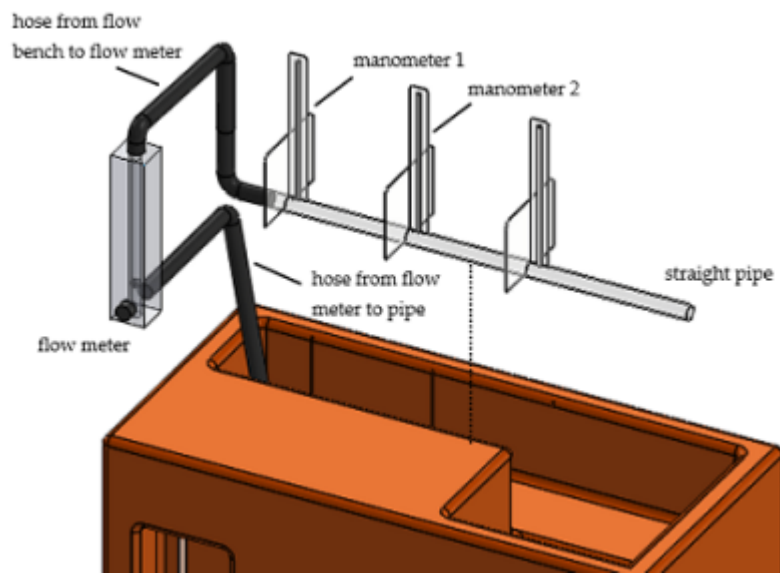


Figure 1: Configuration of the flow bench