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ABSTRACT



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Each of two flow tubes assumes an arcuate shape consisting of a central arcuate segment and two linear segments located on opposite sides of the central arcuate segment. The inside diameter of the flow tubes and the linear distance between end points of each of the flow tubes are determined on the basis of a target pressure loss arising from passage of a fluid to be measured through a manifold and the flow tube at the maximum flow rate, a target time phase difference between sine wave outputs from vibration sensors at the maximum flow rate, and a target natural frequency of the flow tubes. The length of the linear segments is selected so as to reduce thermal stress induced from an abrupt change in the temperature of the fluid to be measured, and the shape of the flow tubes is determined such that, even when the length of the linear segments is varied, the vertical height of the flow tubes remains low, so long as the length of the linear segments is varied within a range in which thermal stress is substantially constant. Thus, the shape of the flow tubes is determined in such a manner as to suppress, to a predetermined low value, stress arising upon abrupt change in the temperature of the fluid to be measured and as to be most compact.