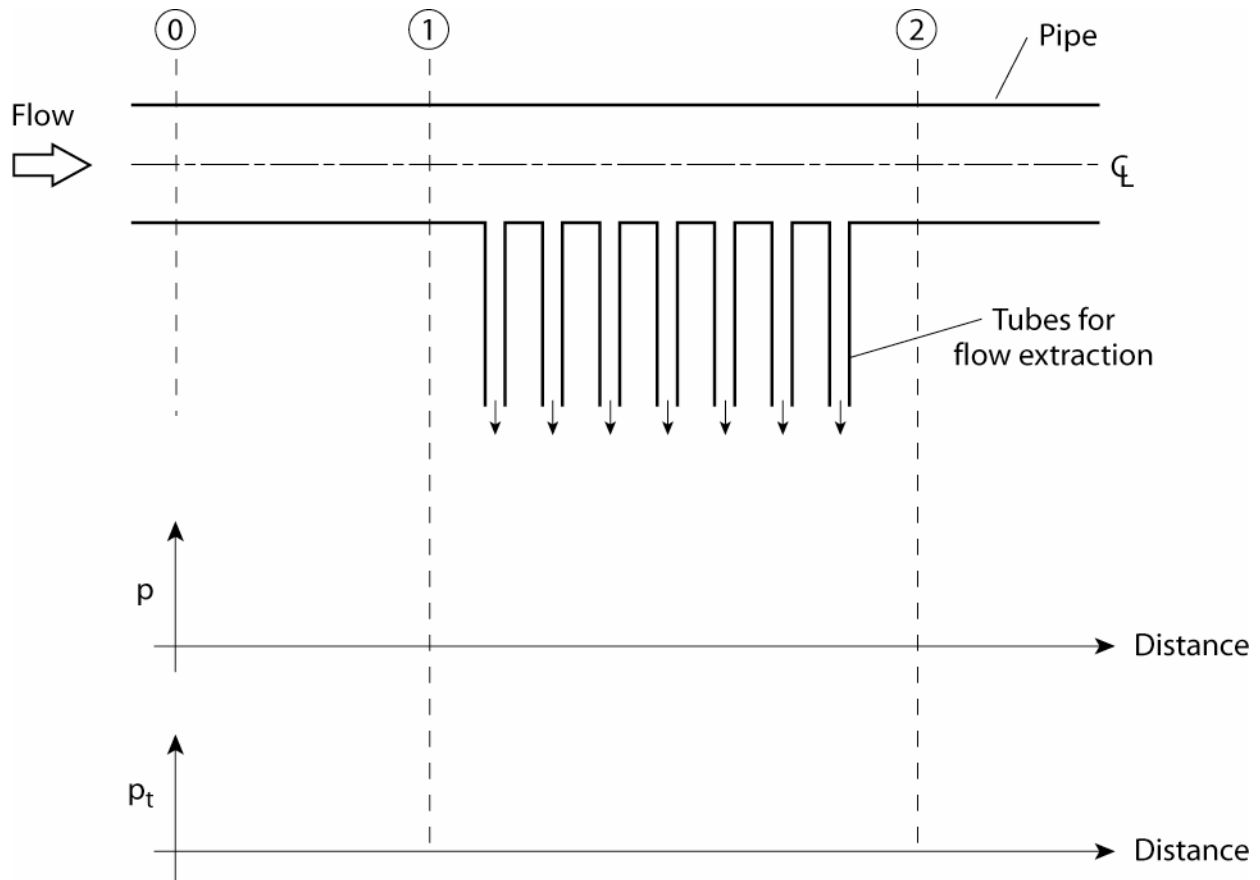


**Concept Quiz #1**

An incompressible fluid is in steady flow through a pipe, which is connected with a manifold that consists of a number of smaller tubes (see below). A small amount of fluid, say 2-3% of the upstream volume flow, is extracted through each tube.



- 1) Sketch the stagnation pressure along the centerline of the pipe using the axes given. What is the rationale for your drawing?
- 2) Sketch the static pressure along the centerline of the pipe using the axes given. What is the rationale for your drawing?

NOTE: A sketch is required for both the static and the stagnation pressures along with an explanation (two or three sentences, perhaps an equation or two) supporting the sketched shape of the distribution for each. No credit will be given if the explanation is not present.