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# PROBLEM 11-8N QUESTION

## HEM Pressure Loss Problem

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Consider a 3 meter long vertical water channel of circular cross-sectional area  $1.5 \times 10^{-4} \text{m}^2$  operating at the following conditions:

$$\dot{m} = 0.29 \text{ kg/s}$$

$$p = 7.2 \text{ MPa}$$

Compute the pressure loss under homogeneous equilibrium assumptions for the following additional conditions:

- a. Adiabatic channel with inlet flow quality of 0.15.
- b. Uniform axial heat flux of sufficient magnitude to heat the entering saturated coolant to an exit quality of 0.15.

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MIT OpenCourseWare (<http://ocw.mit.edu/>), Massachusetts Institute of Technology. Downloaded on [DD Month YYYY].