TOPIC
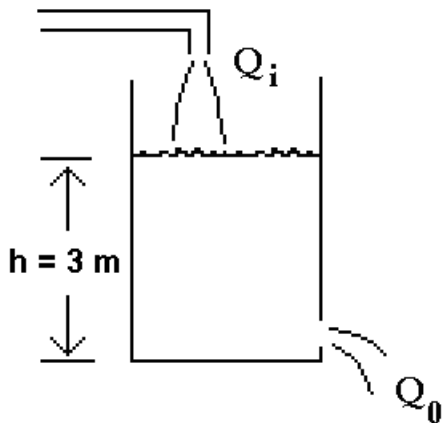Fluids – Section X – Question 5

QUESTION
Consider the water storage tank shown below. Q_i and Q_0 are the volumetric flow rates at the inlet and outlet, respectively and h is the liquid level height in the tank. The orifice at the bottom of the tank is sharp edged and has a diameter of 2 cm. The inlet flow rate Q_i required to maintain a constant liquid level of 3 m is (in m³/s) most nearly is

(A) 0.0015
(B) 0.0024
(C) 0.0058
(D) 0.0096

HINTS
- To maintain a constant liquid level, Q_i must equal Q_0.
- Q_0 can be related to the liquid level height h.

CONTRIBUTOR
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