

Answer on Question #54849, Physics

A manometer of cross-section 0.012 and contains liquid weighing 8000 N/m³. Gas supply causes the liquid difference to be 0.25 m. Calculate the weight of the liquid

Solution

The weight of the liquid is given by Eq.(1).

$$P = S \cdot h \cdot D = 0.012m^2 \cdot 0.25m \cdot 8000N / m^3 = 24N \quad (1)$$

where S is the cross-sectional area; h is the height of liquid column; D is the specific weight.

Answer: 24N.