

46. We use Bernoulli's equation:

$$p_2 - p_i = \rho gh + \frac{1}{2}\rho (v_1^2 - v_2^2)$$

where $\rho = 1000 \text{ kg/m}^3$, $h = 180 \text{ m}$, $v_1 = 0.40 \text{ m/s}$ and $v_2 = 9.5 \text{ m/s}$. Therefore, we find $\Delta p = 1.7 \times 10^6 \text{ Pa}$, or 1.7 MPa . The SI unit for pressure is the Pascal (Pa) and is equivalent to N/m^2 .