

Answer on Question #60097-Physics-Other

A 10.0 cm³ bubble of an ideal gas is formed on the sea bed where it is at a pressure of 2020 kPa. Just below the sea surface the pressure is 101kPa and the temperature is the same as the sea bed.

What is the volume of the bubble when it rises to just below the sea surface?

A 10.0cm³ B 20.2cm³ C 200cm³ D 2 020 000cm³

Solution

$$T = \text{const} \rightarrow pV = \text{const}$$

$$V_2 = \frac{p_1}{p_2} V_1 = \frac{2020}{101} 10.0 = 200 \text{ cm}^3$$

Answer: C 200cm³.