

89. The density of oxygen gas is

$$\rho = \frac{0.0320 \text{ kg}}{0.0224 \text{ m}^3} = 1.43 \text{ kg/m}^3 .$$

From $v = \sqrt{B/\rho}$ we find

$$B = v^2 \rho = (317 \text{ m/s})^2 (1.43 \text{ kg/m}^3) = 1.44 \times 10^5 \text{ Pa} .$$