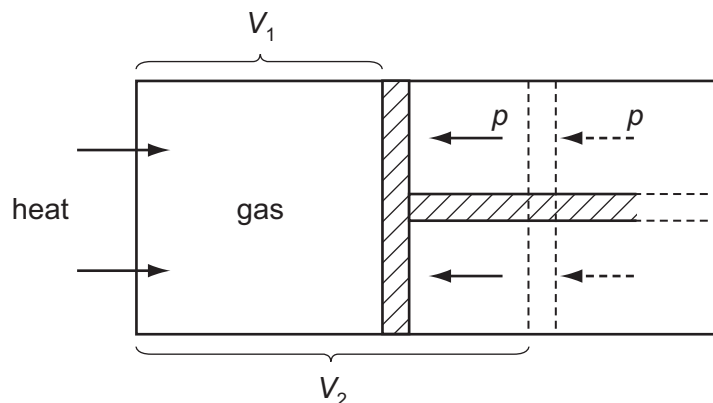


18 A gas is enclosed inside a cylinder which is fitted with a frictionless piston.



Initially, the gas has a volume  $V_1$  and is in equilibrium with an external pressure  $p$ . The gas is then heated slowly so that it expands, pushing the piston back until the volume of the gas has increased to  $V_2$ .

How much work is done by the gas during this expansion?

- A**  $p(V_2 - V_1)$       **B**  $\frac{1}{2}p(V_2 - V_1)$       **C**  $p(V_2 + V_1)$       **D**  $\frac{1}{2}p(V_2 + V_1)$

**Space for working**