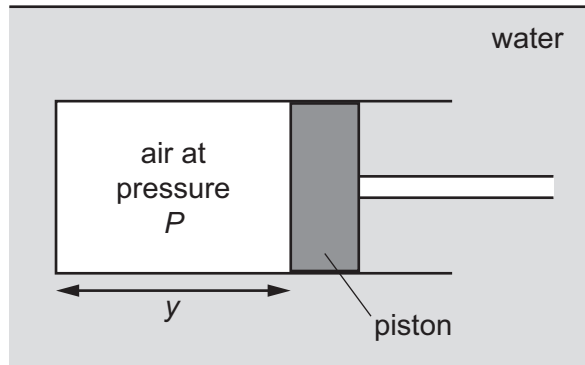
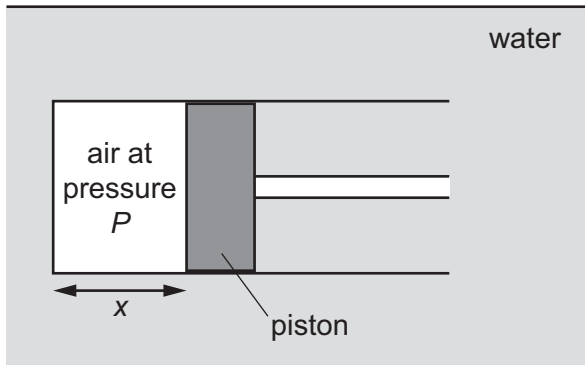


- 17 A horizontal cylinder of cross-sectional area  $A$  is fitted with a frictionless piston and contains air at pressure  $P$ . It is immersed in hot water and the length of the air column increases from  $x$  to  $y$ . The pressure  $P$  is constant.



Which equation represents the work done by the trapped air during this process?

**A**  $PAy$

**B**  $-PAy$

**C**  $PA(y - x)$

**D**  $-PA(y - x)$