

CO  $T = 313 \text{ K}$   $\langle v \rangle = ?$

$$\langle v \rangle = \sqrt{\frac{3k_B T}{m}}$$

$$= \sqrt{\frac{3 \cdot 1,381 \cdot 10^{-23} \cdot 313}{28,01 \cdot 1,6605 \cdot 10^{-27}}} \quad \frac{m}{s} \approx 528 \frac{m}{s}$$

$m_e = 12,01 \text{ u}$

$m_o = 16 \text{ u}$

$m = m_e + m_o = 28,01 \text{ u}$   
 $= 28,01 \cdot 1,6605 \cdot 10^{-27} \text{ kg}$

n 142 Gas Perfetto

$V_A = 36 \text{ dm}^3 = 0,036 \text{ m}^3$   
 $P_A = 1,8 \text{ bar} = 1,8 \cdot 10^5 \text{ Pa}$   
 $T_A = 300 \text{ K}$

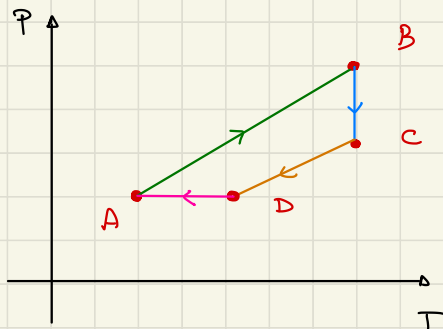
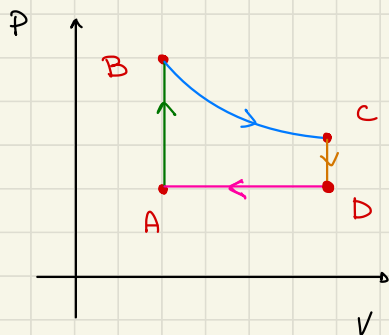


$\rightsquigarrow$  Trasn. isocore  $\rightsquigarrow T_B = 650 \text{ K}$  AB

$\rightsquigarrow$  Trasn. isoterma  $\rightsquigarrow$  Volume da non conoscere  $V_C$  BC

$\rightsquigarrow$  Trasn. isocore  $\rightsquigarrow T_D = 500 \text{ K}$  CD

$\rightsquigarrow$  Trasn. isobare  $\rightsquigarrow$  Si torna allo stato A DA (Bravo Mattia)



$PV = nRT$  se  $V$  costante  $\Rightarrow \frac{T}{P} = \frac{V}{nR}$  costante

$(P_A, V_A, T_A)$

$$\frac{P_A}{T_A} = \frac{P_B}{T_B}$$

$$P_B = \frac{T_B}{T_A} \cdot P_A$$

$\leadsto$  Ho tutto  $(P_B, V_B, T_B)$   
 $V_A$

Per trovare tutto in D

$$\begin{aligned} P_D &= P_A \\ T_D &\text{ ce l'ho } \end{aligned}$$

$$\frac{V_D}{T_D} = \frac{V_A}{T_A} \leadsto$$

$$V_D = \frac{T_D}{T_A} \cdot V_A$$

Ho tutto in D.

Per trovare le cose in C:

$$\begin{aligned} V_C &= V_D \\ T_C &= T_D \end{aligned}$$

$$P_B V_B = P_C V_C \Rightarrow P_C = P_B \frac{V_B}{V_C}$$