Pag 394 n 144

$m = 3{,}5\,g \qquad O_2$

$V = 90\,cm^3 = 90 \cdot 10^{-6}\,m^3$

$P = 28{,}4 \cdot 10^5\,Pa$

T_p come se fosse gas perfetto ?

T_r usando Van der Waals ?

$\frac{[T_p - T_r]}{T_r}$ errore relativo

quanto mi sono sbagliato

T_r → reale

$\mu_{O_2} = 32\,\frac{g}{mol}$

$\mu_{O_2} = \frac{m}{n} \rightsquigarrow n = \frac{m}{\mu_{O_2}} = \dots$

▷ $PV = nRT \rightsquigarrow T_p = \frac{PV}{nR} = \frac{PV\,\mu_{O_2}}{Rm} \simeq 281\,k$

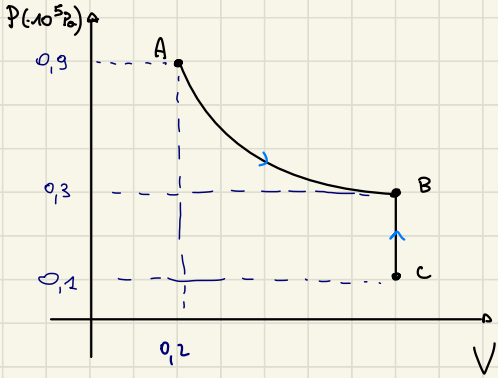
▷ $a = 1{,}346 \cdot 10^2\,\frac{m^5}{kg \cdot s^2} \qquad b = 9{,}94\,10^{-4}\,\frac{m^3}{kg}$] Pag 378

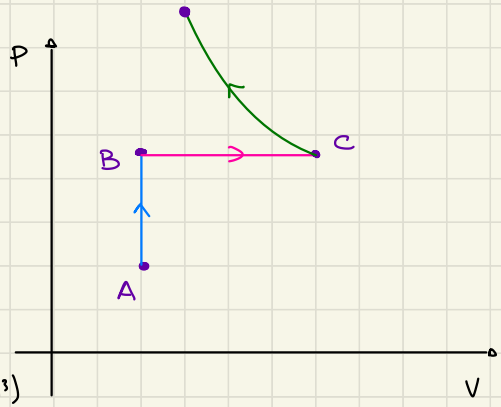
$\left(P + \frac{a}{V_s^2}\right)\left(V_s - b\right) = \frac{R}{\mu_{O_2}}\,T \qquad V_s = \frac{V}{m}$

$T_r = \frac{\mu_{O_2}}{R}\left(P + \frac{a}{V^2}m^2\right)\left(\frac{V}{m} - b\right) \simeq 290\,k$

▷ $\frac{T_r - T_p}{T_r} = \frac{290\,k - 281\,k}{290\,k} \simeq 0{,}03 \qquad e_{\%} = 0{,}03 \cdot 100\,\% = 3\,\%$

Pag 396 n 127 (e simile)





$T_A = 330\,k$ $\quad A \to B$ isoterma

	A	B	C
$P(\cdot 10^5 Pa)$	0,9	0,3	0,1
$V(\cdot 10^{-3} m^3)$	0,2	0,6	0,6
T(k)	330	330	110

$P_A V_A = P_B V_B \qquad V_B = \frac{P_A}{P_B} \cdot V_A$

$= 3 \cdot 0{,}2 \cdot 10^{-3} m^3$

$= 0{,}6 \cdot 10^{-3} m^3$

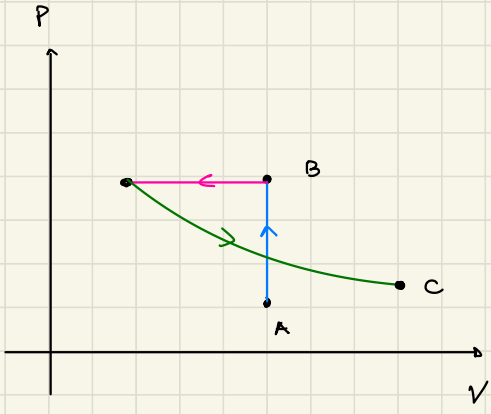
$\frac{P_B}{T_B} = \frac{P_C}{T_C} \qquad T_C = \frac{P_C}{P_B} \cdot T_B \simeq 110k$

$A \to B$ isocora (sale pressione) /

$B \to C$ isobara (sale volume) /

$C \to D$ isoterma (diminuisce volume) /

Warning: Occhio ai dati perché sono quelli che vi dicono quando e come cresce



$A \to B$ isocora (sale pressione) /

$B \to C$ isobara (din volume) /

$C \to D$ isoterma (Aumenta volume) /

$N_V = 3,0 \cdot 10^{23} \frac{\text{molecole}}{m^3}$

Se ho un volume V $\boxed{N = N_V \cdot V}$ $V = \frac{N}{N_V}$

$P = 0,92\ kPa$

$T = ?$ $PV = nRT$ $T = \frac{PV}{nR} = \frac{PV}{\frac{N}{N_A} \cdot R} = \frac{P \frac{N}{N_V}}{\frac{N}{N_A} \cdot R} =$