Nama : Dibyo Prasetyo Utomo

NIM : 20521020

No.: Date:

1 Diketahui : $V = 0{,}5\ ft^3$ $R = 10{,}73\ \frac{ft^3 . Psia}{lbmol . {}^\circ R}$

$m_{O_2} = 1\ lbm$

$T = (120 + 459{,}67)\ {}^\circ F$

$= 579{,}67\ {}^\circ R$

$Mr\ O_2 = \frac{32\ g}{g\text{-}mol} \cdot \frac{1\ g\text{-}mol}{0{,}0022\ lbmol} \cdot \frac{0{,}0022\ lb}{1\ g}$

$= 32\ lb/lbmol$

Ditanya : P ?

Jawab : $n = \frac{m}{Mr} = \frac{1}{32} = 0{,}03125\ lbmol$

$P = \frac{n . R . T}{V} = \frac{1/32\ lbmol . 10{,}73 \frac{ft^3 . Psia}{lbmol . {}^\circ R} . 579{,}67\ {}^\circ R}{0{,}5\ ft^3}$

$= 388{,}74\ Psia$

$1\ atm = 14{,}7\ Psi$

$P = 388{,}74 - 14{,}7$

$= 374{,}04\ Psig$ //