

## LAMPIRAN II PERHITUNGAN

### A. Mencari Laju Alir Massa Udara

$$\begin{aligned}v_{\text{udara}} &= 6.8 \text{ m/s} \\ \rho_{\text{udara}} &= 1.2 \text{ kg/m}^3 \\ D_{\text{pipa}} &= 0.5 \text{ Inch} = 0.0127 \text{ m}\end{aligned}$$

$$\begin{aligned}V_{\text{udara}} &= v_{\text{udara}} \times A \\ &= 6.8 \text{ m/s} \times \frac{1}{4} \times \pi \times D^2 \\ &= 6.8 \times 0.000126613 \text{ m}^2 \\ &= 0.00086 \text{ m}^3/\text{s}\end{aligned}$$

$$\begin{aligned}\dot{m}_{\text{udara}} &= \rho_{\text{udara}} \times V_{\text{udara}} \\ &= 1.2 \text{ kg/m}^3 \times 0.00086 \text{ m}^3/\text{s} \\ &= 0.001033 \text{ kg/s}\end{aligned}$$

### B. Mencari Laju Alir Massa Bahan Baku

$$\begin{aligned}bb &= 9.4 \text{ kg} / 2 \text{ jam} \\ &= 4.7 \text{ kg/jam} \\ &= \frac{4.7 \text{ kg} \mid 1 \text{ jam}}{\text{jam} \mid 3600 \text{ s}} \\ &= 0.0013056 \text{ kg/s}\end{aligned}$$

$$\begin{aligned}AFR &= \frac{\dot{m}_{\text{udara}}}{bb} \\ &= \frac{0.001033 \text{ kg/s}}{0.001306 \text{ kg/s}} \\ &= 0.79\end{aligned}$$

Dengan cara yang sama, pada kecepatan udara 7.4 : 9.3 : 10.5 : 11.2 m/s ditabulasi pada tabel dibawah ini.

$v_{\text{udara}}$ (m/s)	$\dot{m}_{\text{bb}}$ (kg/s)	$AFR$
6.8	0.001306	0.79
7.4	0.001306	0.86
9.3	0.001306	1.08
10.5	0.001306	1.22
11.2	0.001306	1.30



