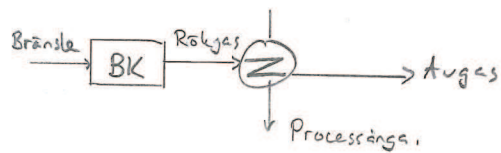


(För-3) Olja,  $H_i = 40,5 \text{ MJ/kg}$ ,  $\text{CO}_2$ -halt 14%,  $T_{\text{avgas}} = 180^\circ\text{C}$ ,  $T_{\text{luft}} = 40^\circ\text{C}$



Energiförlust genom avgaser: avgasförlust  $\epsilon$ ,

$$\frac{f_a}{f_a} = \frac{g_v (h_g - h_{g,25^\circ\text{C}}) - l_v (h_{l,25^\circ\text{C}})}{H_i}$$

$$l_v = m l_0, \quad m \text{ luftfaktor}$$

$$g_v = g_0 + (m-1)l_0$$

$$m \approx \frac{(\text{CO}_2)_{\text{ot}}}{(\text{CO}_2)_t}$$

Diagram DoD s. 25

$$H_i = 40,5 \text{ MJ/kg} \Rightarrow \left\{ \begin{array}{l} g_0 = 11,35 \text{ m}^3/\text{kg} \\ l_{0t} = 10,75 \text{ m}^3/\text{kg} \\ g_{0t} = 10,1 \text{ m}^3/\text{kg} \\ (\text{CO}_2)_{0t} = 16,1\% \end{array} \right\} \Rightarrow m \approx \frac{16,1}{14} = 1,15$$

$$l_v = 1,15 \cdot 10,75 = 12,36 \text{ m}^3/\text{kg}$$

$$g_v = 11,35 + (1,15 - 1) \cdot 10,75 = 12,96 \text{ m}^3/\text{kg}$$

Behöver nu entalpierna för rökgaserna  $\Rightarrow$  DoD s 32-33

$$T_{\text{avgas}} = 180^\circ\text{C} \Rightarrow h_{g,180^\circ} = 245 \text{ kJ/m}^3, \quad h_{g,25^\circ\text{C}} = 30 \text{ kJ/m}^3$$

$$T_{\text{luft}} = 40^\circ\text{C} \Rightarrow h_{l,40^\circ} = 50 \text{ kJ/m}^3, \quad h_{l,25^\circ\text{C}} = 30 \text{ kJ/m}^3$$

$$\Rightarrow \frac{f_a}{f_a} = \frac{12,96(245 - 30) - 12,36(50 - 30)}{40,5 \cdot 10^3} = 0,0627$$

$\therefore$  Avgasförlusten är 6,3%