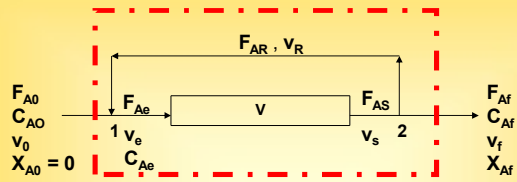
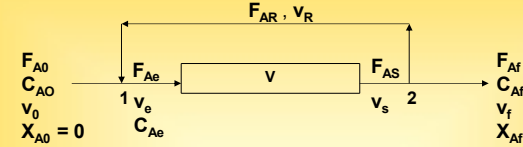


FLUIDO INCOMPRESIBLE



$$R \equiv \frac{F_{AR}}{F_{Af}} = \frac{(C_{Af} \cdot v_R)}{(C_{Af} \cdot v_f)} = \frac{v_R}{v_f}$$

RTFP CON RECICLO FLUIDO INCOMPRESIBLE



$$R \equiv \frac{F_{AR}}{F_{Af}} = \frac{(C_{Af} \cdot v_R)}{(C_{Af} \cdot v_f)} = \frac{v_R}{v_f}$$

$$F_{Af} = v_f \cdot C_{Af}$$

$$F_{AR} = R \cdot F_{Af} = R \cdot v_f \cdot C_{Af}$$

$$\rho = \text{cte} \implies v_e = v_s, v_0 = v_f$$

B. M. en 2: $F_{AS} = F_{Af} + F_{AR}$
 $v_s = v_f + v_R$

B. M. en 1: $F_{Ae} = F_{A0} + F_{AR}$
 $v_e \cdot C_{Ae} = v_0 \cdot C_{A0} + v_R \cdot C_{Af}$
 $v_e = v_0 + v_R$

$$v_0 = v_f \implies v_R = R \cdot v_0$$

$$v_e = v_s = R \cdot v_0 + v_0 = (R + 1) \cdot v_0$$

$$v_e \cdot C_{Ae} = v_0 \cdot C_{A0} + v_0 \cdot R \cdot C_{Af} \implies C_{Ae} = \frac{C_{A0} + R \cdot C_{Af}}{R + 1}$$

Balance en reactor TFP:

$$-dFA = r \cdot dV$$

$$\tau = \frac{C_{A0} \cdot V}{F_{A0}} = -(R+1) \cdot \int_{C_{A0}}^{C_{Af}} \frac{dC_A}{\frac{C_{A0} + R \cdot C_{Af}}{1+R} \cdot r_A}$$

Reacción de primer orden

