

MuLö

$$\boxed{4} \text{ a) } \frac{p_i}{\rho} + g \cdot H = \frac{v_1^2}{2} + g \cdot h_1 + \frac{p_0}{\rho} \quad (1)$$

$$\frac{v_1^2}{2} = g \cdot (H - h_1) + \frac{1}{\rho} (p_i - p_0)$$

$$v_1 = \sqrt{2g(H - h_1) + \frac{1}{\rho} \cdot 10 \rho_0} \quad (1)$$

$$(1) \text{ ebenso } v_2 = \sqrt{2g(H - (h_1 + h_2)) + \frac{10}{\rho} \rho_0} \quad (1)$$

$$(1) v_3 = \sqrt{2g(H - (h_1 + h_2 + h_3)) + \frac{10}{\rho} \rho_0} \quad (1)$$

$$b) \rho v_1 F_1 = \dot{M} = \rho v_2 F_2$$

$$F_2 = F_1 \cdot \frac{v_1}{v_2} = \text{einsetzen} \quad (1)$$

$$F_3 = F_1 \cdot \frac{v_1}{v_3} = \text{einsetzen} \quad (1)$$

$$c) \frac{p_i}{\rho} + g \cdot H = 0 + g \cdot z_{\max} + \frac{p_0}{\rho} \quad (1)$$

$$g \cdot z_{\max} = g \cdot H + \frac{p_i - p_0}{\rho}$$

$$= g \cdot H + \frac{5 \rho_0}{\rho}$$

$$z_{\max} = H + \frac{5 \rho_0}{\rho \cdot g} \quad (1)$$

$$\frac{N \cdot m^3 \cdot s^2}{m^3 \cdot kg \cdot m} = \frac{kg \cdot m \cdot s^2}{s^2 \cdot kg}$$