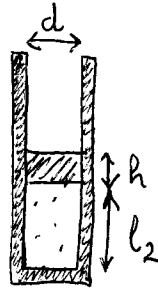
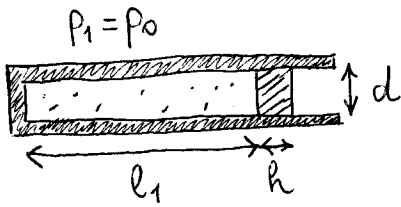


32.) $d = 1\text{cm}$ $h = 10\text{cm}$ $l_1 = 1\text{m}$ $p_0 = 1\text{bar}$

$\rho_H = 13,6 \text{ g/cm}^3$ $T = \text{all}$

$W = ?$



$$pV = nRT$$

$$\delta W = -pdV$$

$$p_H = \rho_H g h$$

$$A = \left(\frac{d}{2}\right)^2 \pi$$

$$V_1 = A \cdot l_1$$

$$\underline{\underline{p_2 = p_1 + \rho_H g h}}$$

$$pV = nRT \rightarrow p_1 V_1 = p_2 V_2$$

$$\underline{\underline{V_2 = \frac{p_1 V_1}{p_2}}}$$

$$\delta W = -pdV \leftarrow p = \frac{nRT}{V} = \frac{p_1 V_1}{V}$$

$$\delta W = -\frac{p_1 V_1}{V} dV$$

$$W = -p_1 V_1 \int_{V_1}^{V_2} \frac{dV}{V} = -p_1 V_1 [\ln V]_{V_1}^{V_2} = p_1 V_1 (\ln V_1 - \ln V_2) = \dots$$