

7.341

Vanndamp $T = 100^\circ\text{C}$

damp

250 g melk

$\Delta T = 80^\circ\text{C} - 5^\circ\text{C} = 75\text{ K}$

Q

Kondenseringsvarme $L_d = 2,259 \cdot 10^6 \frac{\text{J}}{\text{kg}}$

Varmekapasiteten $C_v = 4,18 \cdot 10^3 \frac{\text{J}}{\text{kg} \cdot \text{K}}$

Nødvendig varme for å varme opp melken

- Kondensering varme: $\frac{\text{Damp}}{100^\circ\text{C}} - \frac{\text{Vann}}{100^\circ\text{C}}$
- Vannet, på 100°C , avgir varme da den går ned til 80°C

6.301 Massetettthet: $\rho = \frac{m}{V}$

$$V = 8,4 \cdot 12,5 \cdot 5,2 \text{ cm}^3 = 546 \text{ cm}^3$$

$$\text{cm}^3 = (0,01)^3 \text{ m}^3 = (10^{-2})^3 \text{ m}^3 = 10^{-6} \text{ m}^3$$

$$g = 10^3 \text{ kg}$$

$$\rho = \frac{354 \cdot 10^3 \text{ kg}}{546 \cdot 10^{-6} \text{ m}^3} = \frac{354}{546} \cdot 10^3 \frac{\text{kg}}{\text{m}^3} = 0,648 \cdot 10^3 \frac{\text{kg}}{\text{m}^3}$$

6.302

$$\rho = \frac{280 \text{ g}}{40 \text{ cm}^3} = 7,0 \frac{\text{g}}{\text{cm}^3}$$

$$\rho = \frac{280 \cdot 10^{-3} \text{ kg}}{40 \cdot 10^{-6} \text{ m}^3} = 7,0 \cdot 10^3 \frac{\text{kg}}{\text{m}^3}$$

6.304 snøre 100 m langt = h



$$d = 0,50 \text{ mm} \Rightarrow r = \frac{d}{2} = 0,25 \text{ mm}$$

$$\begin{aligned} m &= V \cdot \rho = \pi r^2 \cdot h \cdot 950 \\ &= \pi \cdot (0,25 \cdot 10^{-3})^2 [\text{m}^2] \cdot 100 [\text{m}] \cdot 950 \left[\frac{\text{kg}}{\text{m}^3} \right] \\ &= 0,0186 [\text{kg}] = 19 [\text{g}] \end{aligned}$$

6.312

$$p = \frac{F}{A} = \frac{m \cdot g}{2 \cdot 4,0 \cdot (0,01)^2 \text{ [m}^2\text{]}} = \frac{70 \text{ [kg]} \cdot 9,81 \text{ [m/s}^2\text{]}}{8,0 \cdot 10^{-4} \text{ [m}^2\text{]}}$$

↑
2 stk st, hver

$$= 858375 \text{ [Pa]} = 0,86 \text{ [MPa]}$$

6.314

$$A = 3,0 \text{ cm} \cdot 0,1 \text{ cm} = 0,3 \text{ cm}^2$$

$$p = \frac{F}{A} = \frac{m \cdot g}{0,3 (0,01)^2 \text{ [m}^2\text{]}} = \frac{75 \text{ [kg]} \cdot 9,81 \text{ [m/s}^2\text{]}}{0,3 (0,01)^2 \text{ [m}^2\text{]}}$$
$$= 24,5 \text{ [MPa]} = 25 \text{ [MPa]}$$

