

⑤

10.0 m ↑

$V = 0.50 \frac{m}{s}$

$m_T = 400. \text{ Kg}$

$V_m = 1,200. \text{ L}$

$P_T = 2.50 \text{ atm}$

$P_g = 1.00 \text{ atm}$

$W = ?$

$I \ d = 0.0400 \text{ m}$

0.0600 m

$$W = \int_0^{10} F(s) ds$$

$$\frac{dV}{dt} = \frac{\Delta P \pi r^4}{8 \eta L}$$

volume \downarrow Δ pressure \downarrow r radius
 viscosity \leftarrow L length

$\eta_m = 10.0 \text{ Pa}\cdot\text{s}$
 $\rho_m = 1425 \text{ kg}/\text{m}^3$
 $1 \text{ atm} = 101325 \text{ Pa}$

$$\frac{\cancel{\text{Pa}} \cdot \text{m}^{4/3}}{\cancel{\text{Pa}} \cdot \text{s} \cdot \cancel{\text{m}}} \rightarrow \frac{\text{m}^3}{\text{s}}$$

- ① find $\frac{\text{kg}}{\text{m}}$ of molasses lost
- ② write a function $\rightarrow F(s)$
- ③ integrate !!
😊

