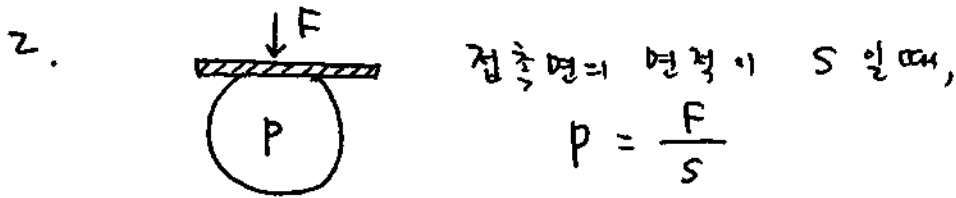


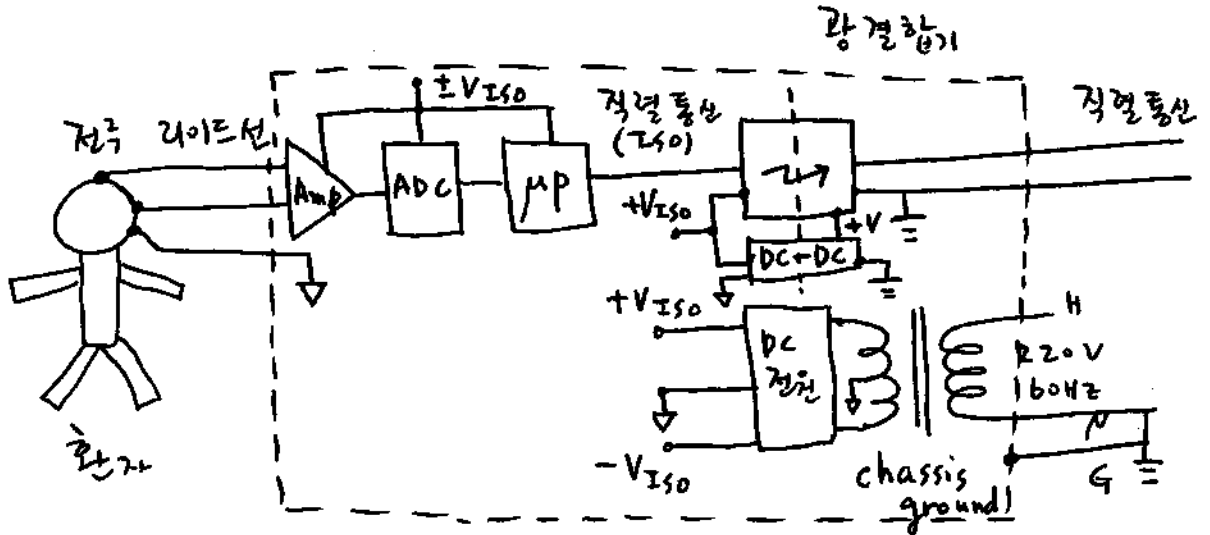
# 2001년 2학기 의용계측 기말사

1. 근재 측정

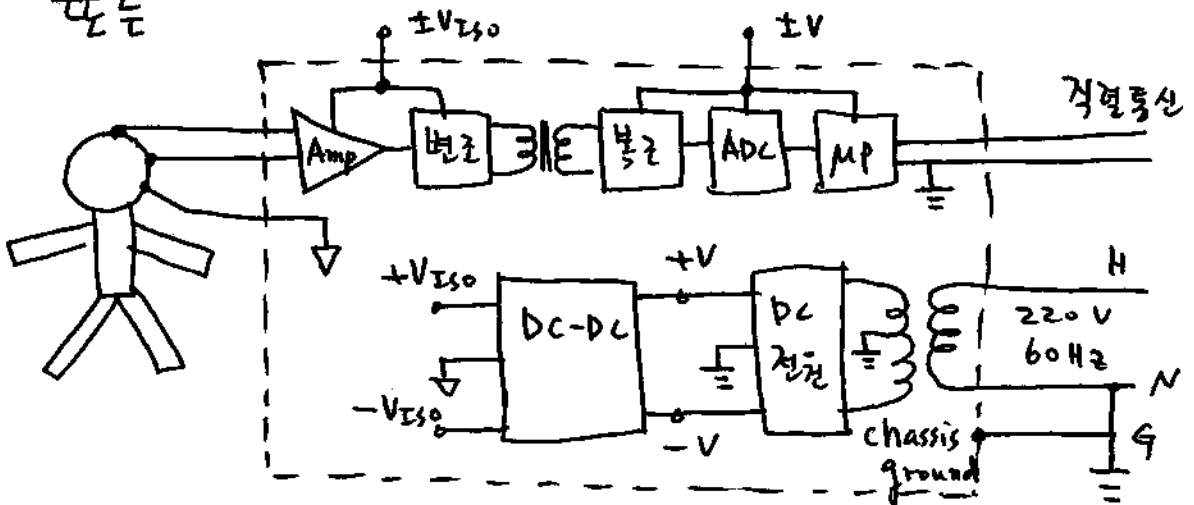


안압 측정 방법은 근재 측정.

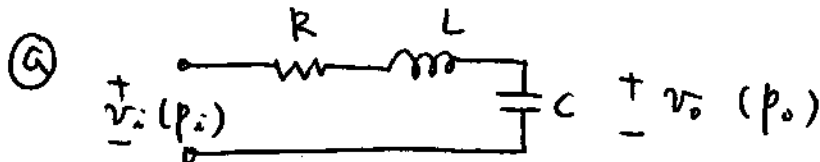
3.



판논



4.

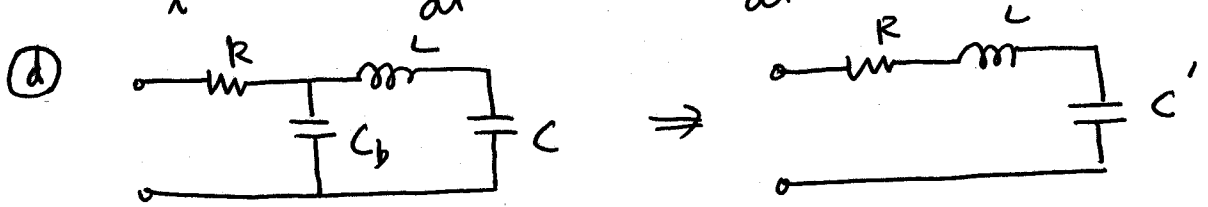


- R : catheter 의 liquid resistance
- L : " inertance
- C : diaphragm 의 compliance

⑥  $R = \frac{P}{F}$  ,  $L = \frac{P}{\frac{dF}{dt}}$  ,  $C = \frac{V}{P}$   
 ( P : pressure, F : flow, V : Volume )

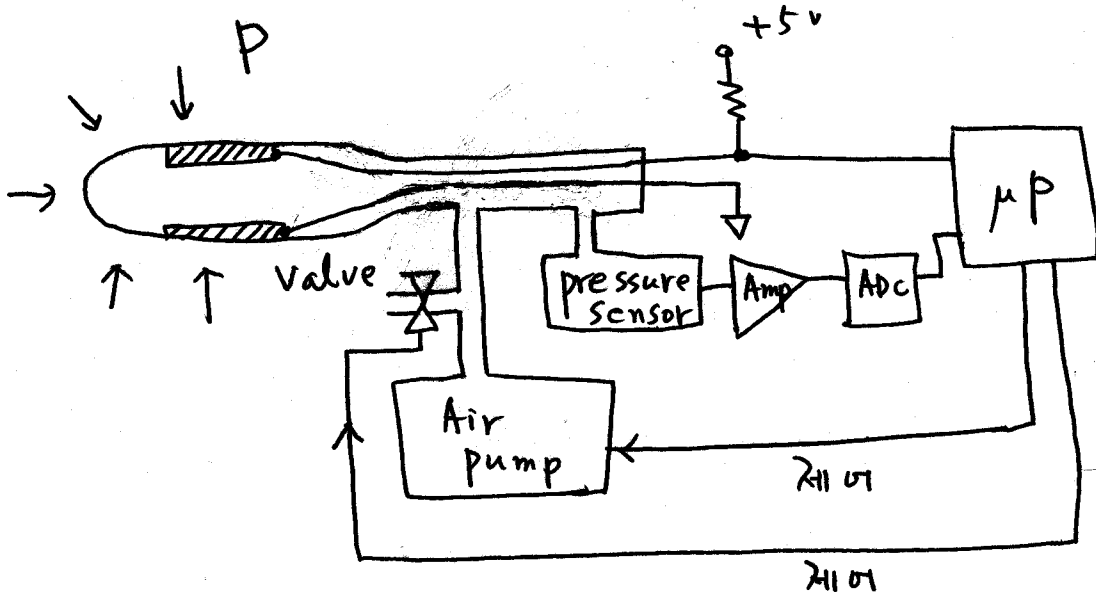
⑦  $V_i = R i + L \frac{di}{dt} + v_0$  } 니시  
 $i = C \frac{dv_0}{dt}$

$V_i = LC \frac{d^2v_0}{dt^2} + RC \frac{dv_0}{dt} + v_0$



damping ratio  $\frac{\gamma}{\omega_n}$  }  $\Rightarrow \frac{\gamma}{\omega_n} < 1$  대역이  $\frac{\gamma}{\omega_n} = 1$   
 natural freq.  $\frac{\omega_n}{2\pi}$

5.



스위치가 ON/OFF 를 반복 하든, 풍선 내부의 압력을 pump 와 valve 이 의해 설정 한다. 이때의 압력을 압력 센서로 측정 한다.

6.

$$C_1 = \frac{\epsilon A}{x_0 + \alpha(p_1 - p_2)}, \quad C_2 = \frac{\epsilon A}{x_0 - \alpha(p_1 - p_2)}$$

$$\begin{aligned} \text{(a)} \quad V_i &= \left( \frac{1}{2} - \frac{C_1}{C_1 + C_2} \right) V_s \\ &= \left\{ \frac{1}{2} - \frac{x_0 - \alpha(p_1 - p_2)}{x_0 + \alpha(p_1 - p_2) + x_0 - \alpha(p_1 - p_2)} \right\} V_s \\ &= \frac{\alpha}{2x_0} (p_1 - p_2) V_s \end{aligned}$$

$$\text{(b)} \quad V_s = 1 \angle 0^\circ \text{ [V]}, \quad x_0 = 100 \text{ [\mu m]}, \quad \alpha = 2 \text{ [\mu m/mmHg]}$$

$$V_i = \frac{p_1 - p_2}{100} \angle 0^\circ \text{ [V]}, \quad (p_1 - p_2) \text{ 는 [mmHg].}$$

$$p_1 - p_2 = 1 \text{ [mmHg]} \text{ 이면 } V_i = 0.01 \angle 0^\circ \text{ 이고}$$

$$\text{이때 } V_o = A_v V_i = 0.1 \angle 0^\circ \text{ 이므로 하므로,}$$

$$A_v = 10.$$

