Sensores elásticos de fuerza

$$\frac{X(s)}{F(s)} = \frac{\frac{1}{K}\frac{K}{M}}{s^2 + s\frac{B}{M} + \frac{K}{M}}$$

$$\Rightarrow$$

$$X(s)\left[s^2 + s\frac{B}{M} + \frac{K}{M}\right] = F(s)\left[\frac{1}{K}\frac{K}{M}\right]$$

$$s^2 X(s) + s\frac{B}{M}X(s) + \frac{K}{M}X(s) = F(s)\left[\frac{1}{K}\frac{K}{M}\right]$$

$$\frac{d^2x(t)}{dt^2} + \frac{B}{M}\frac{dx(t)}{dt} + \frac{K}{M}x(t) = F(t)\left[\frac{1}{K}\frac{K}{M}\right]$$

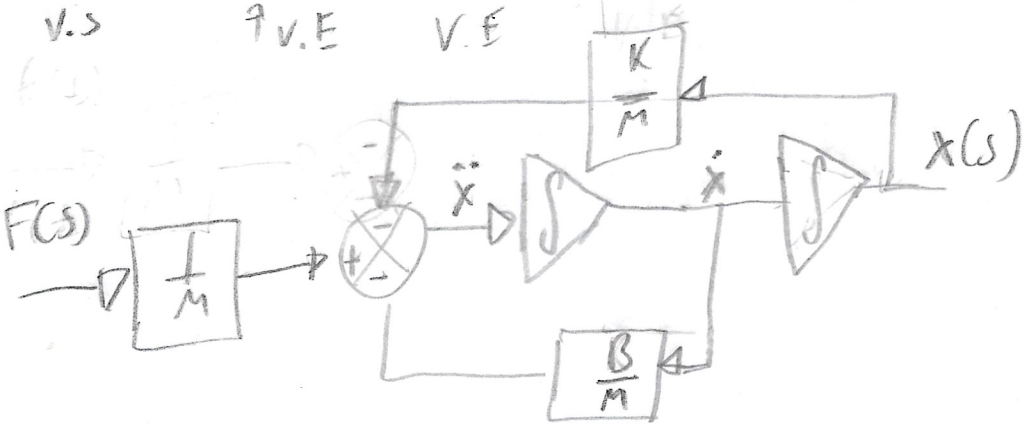
$$\ddot{x} + \frac{B}{M}\dot{x} + \frac{K}{M}x = F(t)\left[\frac{1}{K}\frac{K}{M}\right]$$

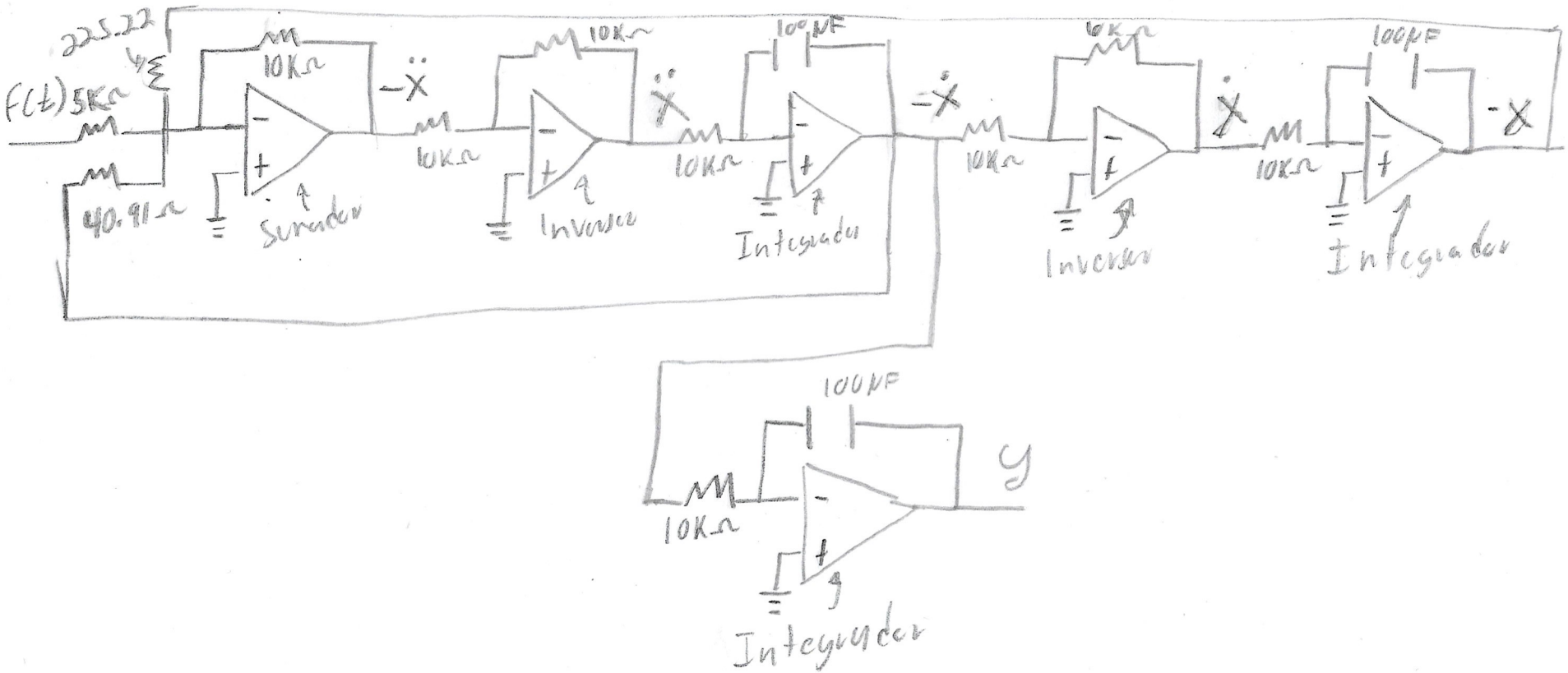
$$M\ddot{x} + B\dot{x} + Kx = F(t) \ldots \text{ecuación diferencial}$$

despejamos la variable de mayor orden

$$\ddot{x} = -\frac{B}{M}\dot{x} - \frac{K}{M}x + \frac{1}{M}F(s)$$

V.S 1 V.E V.E




225.22
F(t)
5KΩ
10KΩ
40.91Ω
Sumador
10KΩ
Inversor
10KΩ
100μF
Integrador
10KΩ
Inversor
10KΩ
100μF
Integrador
10KΩ
100μF
y
Integrador