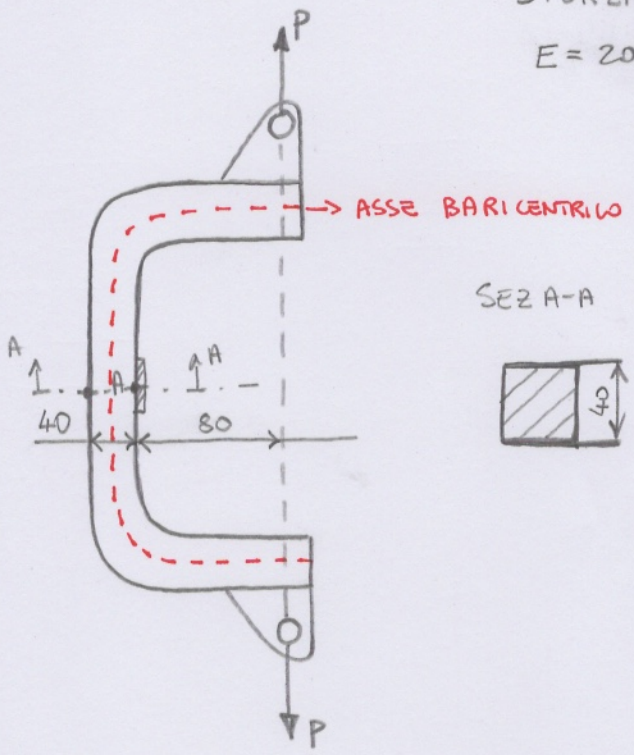
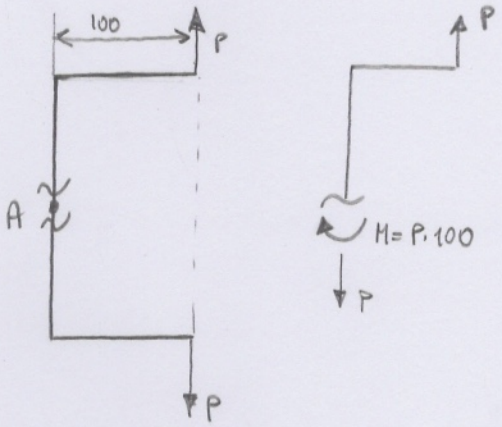
SFORZI - DEFORMAZIONI DINAMOMETRO

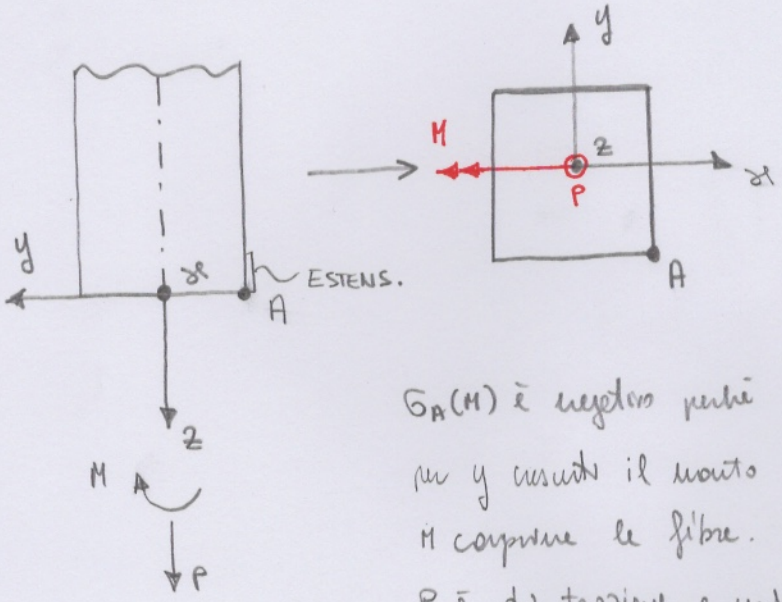
$E = 200\ GPa \quad \varepsilon = 450\ \mu\varepsilon = 450e{-}6\ \varepsilon$



SEZ A-A

SCHEMA STATICO (ASSE BARIC.)





$\sigma_A(M)$ è negativo perché per y crescenti il momento M comprime le fibre.
P è di trazione e agisce su tutta la sezione

$$\sigma_A = -\frac{M\,y}{J} + \frac{P}{A}$$

$$\sigma_A = -\frac{P\cdot 100\cdot(-20)}{\frac{40^4}{12}} + \frac{P}{40^2}$$

$$\sigma_A = P\left(\frac{100\cdot 20}{\frac{40^4}{12}} + \frac{1}{40^2}\right)$$

$$\sigma_A = E\,\varepsilon_A \quad \text{(NOTO)}$$

$$P\left(\frac{100\cdot 20\cdot 12}{40^4} + \frac{1}{40^2}\right) = E\cdot 450e{-}6$$

$$P = \frac{200e3\cdot 450e{-}6}{\frac{100\cdot 20\cdot 12}{40^4} + \frac{1}{40^2}} = 9000\ N$$