

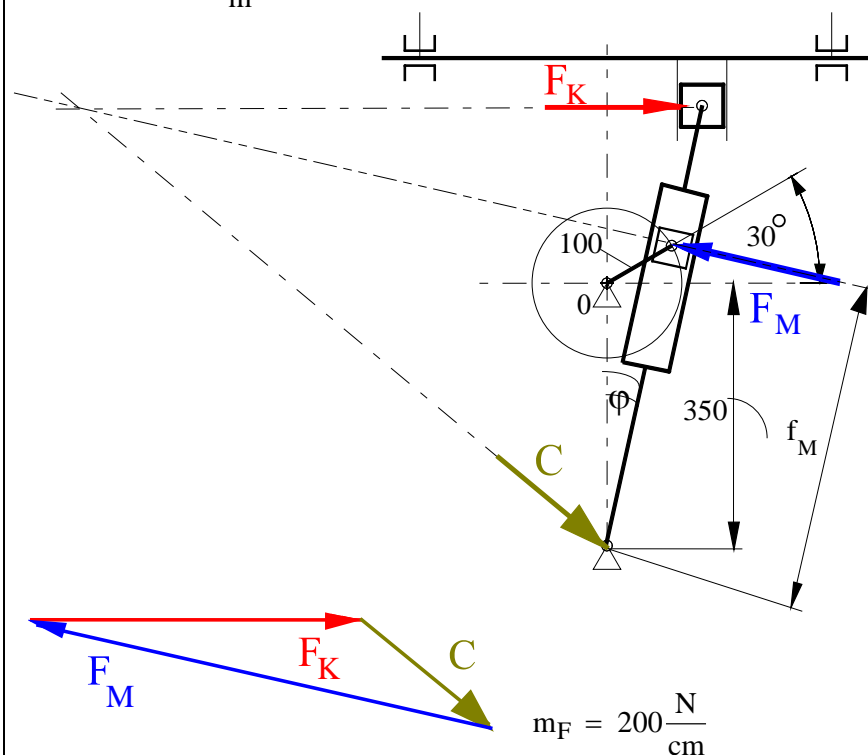
$$m_L = 200 \frac{\text{N}}{\text{m}}$$

Teil I: Kurbel  $\sum M_{i,0} = 0:$

$$M = \underbrace{F_M \cdot \cos \varphi}_{F_{MX}} \cdot 100 \text{ mm} \cdot \sin 30^\circ + \underbrace{F_M \cdot \sin \varphi}_{F_{MY}} \cdot 100 \text{ mm} \cdot \cos 30^\circ$$

$$F_M = \frac{M}{100 \text{ mm} (\cos \varphi \cdot \sin 30^\circ + \sin \varphi \cdot \cos 30^\circ)} = 1785,9 \text{ N}$$

$$\tan \varphi = \frac{100 \cdot \cos 30^\circ}{350 + 100 \cdot \sin 30^\circ} = 0,22 \quad \varphi = 12,2^\circ$$



Teil II:

$$f_M = \frac{350 + 100 \cdot \sin 30^\circ}{\cos \varphi}$$

$$f_M = 409,27 \text{ mm}$$

$$\sum M_{i,C} = 0:$$

$$F_K \cdot 600 \cdot \cos \varphi = F_M \cdot f_M$$

$$F_K = F = 1246,41 \text{ N}$$

$$\sum F_{i,x} = 0:$$

$$C_x = F_M \cdot \cos \varphi - F_K$$

$$C_x = 499 \text{ N}$$

$$\sum F_{i,y} = 0:$$

$$C_y = F_M \cdot \sin \varphi = 378 \text{ N}$$

$$C = \sqrt{C_x^2 + C_y^2} = 626 \text{ N}$$

Teil III: Werkzeugschlitten

$$\sum M_{i,B} = 0:$$

$$A \cdot 550 = F_K (650 - 600 \cdot \cos \varphi)$$

$$A = B = 144,1 \text{ N}$$

$$m_F = 200 \text{ N/cm}$$

