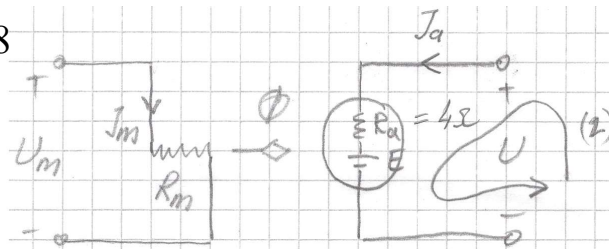


A5.18



$$P_z = K_{\text{FLÄKT}} \cdot n^2 \dots (1)$$

$$E_I = ? \quad P_{zI} = ?$$

FALL I $n_I = 2000 \text{ RPM} \quad U_I = 200 \text{ V} \quad J_{aI} = 10 \text{ A}$

FALL II $n_{II} = 1500 \text{ RPM} \quad U_{II} = ? \quad J_{aII} = ?$
 $E_{II} = ? \quad P_{zII} = ?$

$$+U - R_a J_a - E = 0 \dots (2)$$

FALL I $\Rightarrow +200 - 4 \cdot 10 - E_I = 0 \Rightarrow E_I = 160 \text{ V}$

$$P_z = M \cdot \omega = M \cdot \frac{2\pi n}{60} \dots (3)$$

$$P_z = E J_a \dots (4)$$

FALL I $\Rightarrow P_{zI} = 160 \cdot 10 = 1600 \text{ W}$

Estimation $P_{zII} = ?$

$$(1) \Rightarrow \frac{P_{zI}}{P_{zII}} = \frac{K_{\text{FLÄKT}} n_I^2}{K_{\text{FLÄKT}} n_{II}^2} \Rightarrow \frac{1600}{P_{zII}} = \frac{2000^2}{1500^2}$$

$$\Rightarrow P_{zII} = 900 \text{ W}$$

JFR EKV. (1) MED EKV. (3) \Rightarrow

$$\Rightarrow k_{\text{FLAKT}} \cdot n^2 = M \cdot \frac{2\pi n}{60} \Rightarrow M = \frac{60}{2\pi} \cdot k_{\text{FLAKT}} \cdot n$$

$$M = k_2 \Phi J_a \rightarrow$$

$$\frac{k_2 \Phi J_{aI}}{k_2 \Phi J_{aII}} = \frac{k N_I}{k N_{II}} \Rightarrow \frac{10}{J_{aII}} = \frac{2000}{1500} \Rightarrow$$

$$J_{aII} = 7,5 \text{ A}$$

$$E = k_1 \Phi n \rightarrow$$

$$\frac{E_I}{E_{II}} = \frac{k_1 \Phi n_I}{k_1 \Phi n_{II}} \Rightarrow \frac{160}{E_{II}} = \frac{2000}{1500} \Rightarrow E_{II} = 120 \text{ V}$$

$$\text{FALL II INS 1 (2)} \Rightarrow$$

$$+ U_{II} - 4 \cdot 7,5 - 120 - 0 \Rightarrow U_{II} = 150 \text{ V}$$