

Aszinkron motorok

5.1.45. feladat

$$I_0 = 15 \text{ A}$$

$$\cos \varphi_0 = 0,1116$$

$$I_z = 121,6 \text{ A}$$

$$\cos \varphi_z = 0,3251$$

$$I_1 = 43 \text{ A}$$

$$P_1 = 28268,2 \text{ W}$$

$$P_2 = 21694,2 \text{ W}$$

$$\eta = 76,74 \%$$

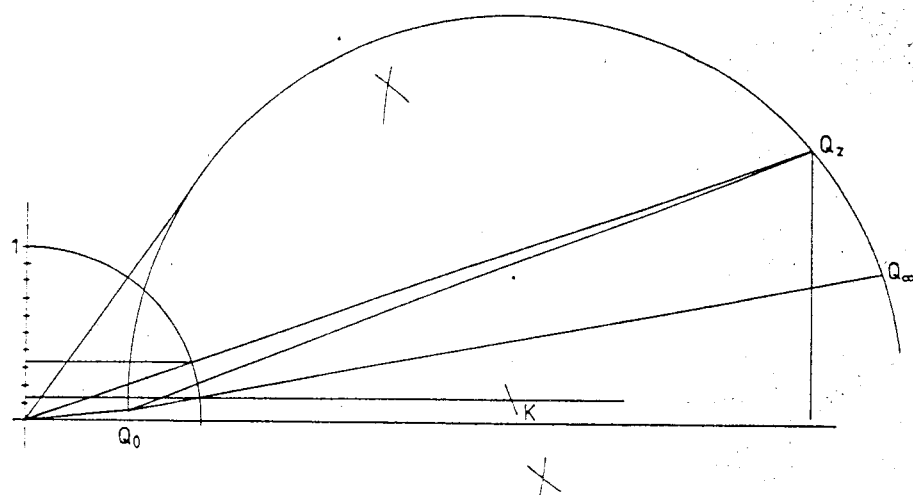
5. ASZINKRON GÉPEK

5.1. Háromfázisú aszinkron motorok

A gép fordulatszáma:

$$n = \frac{60 \cdot f}{p} \cdot (1 - s) = \frac{60 \cdot 50}{4} \cdot (1 - 0,063) = 702,75 \text{ 1/min}$$

$$n = 702,75 \text{ 1/min}$$



a) $\tau_p = \frac{Z}{2 \cdot p} = \frac{36}{6} = 6 \quad y_1 = 1$

$$y = \tau_p - y_1 = 5$$

$$q = \frac{Z}{2 \cdot p \cdot m} = \frac{36}{6 \cdot 3} = 2$$

b) $\xi = \xi_e \cdot \xi_1$

$$\xi_e = \frac{\sin \left(q \cdot \frac{\alpha}{2} \right)}{q \cdot \sin \frac{\alpha}{2}} = \frac{\sin (2 \cdot 15^\circ)}{2 \cdot \sin 15^\circ} = 0,966$$

$$\alpha = \frac{360^\circ}{Z} \cdot p = \frac{360^\circ}{36} \cdot 3 = 30^\circ$$

$$\xi_1 = \sin \left(90^\circ \cdot \frac{y}{\tau_p} \right) = \sin \left(90^\circ \cdot \frac{5}{6} \right) = \sin 75^\circ = 0,966$$

$$\xi = 0,966 \cdot 0,966 = 0,933$$

5.1.46. feladat

$$y = 5$$

$$q = 2$$

$$\xi = 0,933$$