37.) $U_{eff} = 108\,V$ L, C és r (tekercs ellenállása) f változik

$f_1 = 25\,Hz$ $I_{eff1} = 8\,A$ $\frac{P_v}{P_{ö}} = ?$

$f_2 = 55\,Hz$ $I_{eff2} = 24\,A$ maximális!

$L, C = ?$ $r = ?$

$f_r = \frac{1}{2\pi\sqrt{LC}}$ $\omega = 2\pi f$ $Z = \frac{U_{eff}}{I_{eff}}$ $Z = \sqrt{R^2 + (L\omega - \frac{1}{\omega C})^2}$

Mivel I_{eff2} maximális → rezonancia

$$f_2 = f_r = \frac{1}{2\pi\sqrt{LC}} \rightarrow (1)\ 4\pi^2 f_2^2 L = \frac{1}{C}$$

$Z_2 = Z_r = r$ (rezonancia!) $Z_2 = r = \frac{U_{eff}}{I_{eff2}} = \dots$

$$Z_1 = \frac{U_{eff}}{I_{eff1}} = \sqrt{r^2 + (L\omega - \frac{1}{\omega C})^2}$$

$$\Downarrow$$

$$L$$

$$\downarrow$$

$$C = \frac{1}{4\pi^2 f_2^2 L} = \dots$$

$$\frac{P_v}{P_{ö}} = \frac{I_{eff1}^2 \cdot r}{I_{eff1} \cdot U_{eff}} = \frac{I_{eff1} \cdot r}{U_{eff}} = \frac{I_{eff1} \cdot r}{I_{eff1} \cdot Z_1} = \frac{r}{Z_1} = \dots$$