$$I_{z1} = I_{n1} \cdot \frac{100}{\varepsilon} = 6{,}928 \cdot \frac{100}{6{,}396} = 108{,}3128 \text{ A}$$

$I_{z1} = 108{,}3128$ A

$$I_{z2} = I_{n2} \cdot \frac{100}{\varepsilon} = 54{,}696 \cdot \frac{100}{6{,}396} = 855{,}1 \text{ A}$$

$I_{z2} = 855{,}1$ A

e) $$\frac{S_A}{S_B} = \frac{\varepsilon_B}{\varepsilon_A} \cdot \frac{S_{An}}{S_{Bn}} = \frac{4{,}5}{6{,}396} \cdot \frac{36}{64} = 0{,}3957$$

$$S_B = \frac{80}{1{,}3957} = 57{,}318 \text{ kV·A}$$

$S_B = 57{,}318$ kV·A

$$S = S_A + S_B = 0{,}3957 \cdot S_B + S_B = 1{,}3957 \cdot S_B = 80$$

$$S_A = 0{,}3957 \cdot S_B = 0{,}3957 \cdot 57{,}318 = 22{,}68 \text{ kV·A}$$

$S_A = 22{,}68$ kV·A

f) $$I_{1A} = \frac{S_A}{\sqrt{3} \cdot U_{1nv}} = \frac{22{,}68 \cdot 10^3}{\sqrt{3} \cdot 3 \cdot 10^3} = 4{,}365 \text{ A}$$

$I_{1A} = 4{,}365$ A

$$\Delta U_{Af} = I_{1A} \cdot (R \cdot \cos\varphi + X_s \cdot \sin\varphi) =$$

$$= 4{,}365 \cdot (8{,}874 \cdot 0{,}64 + 13{,}303 \cdot 0{,}768) = 69{,}408 \text{ V}$$

$$\sin\varphi = \sqrt{1 - \cos^2\varphi} = \sqrt{1 - 0{,}64^2} = 0{,}7684$$

$$\Delta U_{Av} = \sqrt{3} \cdot \Delta U_{Af} = \sqrt{3} \cdot 69{,}408 = 120{,}219 \text{ V}$$

$$U_2' = U_{1nv} - \Delta U_{Av} = 3000 - 120{,}219 = 2879{,}78 \text{ V}$$

$U_2' = 2879{,}78$ V

g) $$U_2 = \frac{U_2'}{a} = \frac{2879{,}78}{7{,}895} = 364{,}75 \text{ V} \qquad S_{Bm} = 64 \text{ kV·A}$$

$U_2 = 364{,}75$ V

h) $$S_{Am} = 0{,}3957 \cdot S_{Bm} = 0{,}3957 \cdot 64 = 25{,}325 \text{ kV·A}$$

$$S_{\ddot{o}max} = S_{Am} + S_{Bm} = 25{,}325 + 64 = 89{,}325 \text{ kV·A}$$

$S_{\ddot{o}max} = 89{,}325$ kV·A

2.2.16. feladat

a) $$I_{1n} = \frac{S}{U_1} = \frac{10^6}{2 \cdot 10^4} = 50 \text{ A}$$

$I_{1n} = 50$ A

$$I_{2n} = \frac{S}{U_2} = \frac{10^6}{4 \cdot 10^2} = 2500 \text{ A}$$

$I_{2n} = 2500$ A

$$I_{1f} = \frac{I_{1n}}{\sqrt{3}} = \frac{50}{\sqrt{3}} = 28{,}87 \text{ A}$$

$I_{1f} = 28{,}87$ A

$$I_{2f} = I_{2n} = 2500 \text{ A}$$

$I_{2f} = 2500$ A