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$$\textcircled{2} D_y 11 \quad 300 \text{ kVA} \quad 20000/400 \text{ V}, 50 \text{ Hz} \quad u_{cc} = 4\%$$

$$D_y 11 \quad (300 \text{ kVA} \quad (20000/400 \text{ V}, 50 \text{ Hz} \quad u_{cc} = 4.5\%$$

$$\text{Carga total, } S_T = 450 \text{ kVA}$$

$$1) N_{1f} (B_{\max} = 1.2 \text{ T}), N_{2f} (B_{\max} = 1.2 \text{ T})?$$

$$2) I_{L2}, I_{L1} (\beta = 1)?$$

$$3) I_{L2}, I_{L1} (\beta = 1)?$$

$$4) I_{L1}, I_{L2} (\beta = 3/4)?$$

$$5) S_{cc}?$$

$$6) \text{Potência correta para suministrar a carga? Verificar}$$

$$U_{1f} = 4.44 \cdot N_{1f} \phi_{\max} f \Rightarrow N_{1f} = \frac{U_{1f}}{4.44 \cdot \phi_{\max} \cdot f}$$

$$\phi_{\max} = B_{\max} \cdot S_m = 1.2 \cdot 316 \cdot 10^{-4} = 38 \text{ mWb}$$

$$S_m = \sqrt{S_{mf}} = \sqrt{100 \cdot 10^3} = 316 \text{ cm}^2$$

$$S_{mf} = S_m/3 = 100 \text{ kVA}$$

$$D \Rightarrow U_{1f} = U_{1c} = 20000 \text{ V}$$

$$N_{1f} = \frac{20000}{4.44 \cdot 38 \cdot 10^{-3} \cdot 50} = 2371 \text{ espiras}$$

$$N_{2f} = \frac{400}{4.44 \cdot 38 \cdot 10^{-3} \cdot 50} = 48 \text{ espiras}$$

$$\hookrightarrow I_{L2} = S/\sqrt{3} U_{L2} = 300/(\sqrt{3} \cdot 40) = 433 \text{ A}$$

$$I_{L2} \Delta \Rightarrow I_{L1} = \underline{I_{L2} = 433 \text{ A}}$$

$$3) I_{L1} = S/\sqrt{3} U_{L1} = 300/(\sqrt{3} \cdot 20) = 866 \text{ A}$$

$$I_{L1} \Delta \Rightarrow I_{L1} = \underline{\frac{I_{L2}}{\sqrt{3}} = 500 \text{ A}}$$

$$4) S(\beta = \frac{3}{4}) = \frac{3}{4} S = \frac{3}{4} \cdot 300 = 225 \text{ KVA}$$

$$I_{L1} = \frac{225}{\sqrt{3} \cdot 20} = \underline{\underline{6.5 \text{ A}}}$$

$$I_{L1} \Delta \Rightarrow I_{L1} = I_{L1} / \sqrt{3} = \underline{\underline{3.75 \text{ A}}}$$

$$5) S_{cc} = S_m / U_{cc} \cdot 100 = \frac{300 \cdot 100}{4} = \underline{\underline{7.5 \text{ MVA}}}$$

$$S_m \rightarrow U_{cc}$$

$$S_{cc} \rightarrow 100$$

6) Norma potencia, $\neq U_{cc}$

$$\frac{S_1}{S_2} = \frac{V/U_{cc1}}{V/U_{cc2}} = \frac{V/4}{V/4.5} \Rightarrow 4S_1 = 4.5S_2 \Rightarrow$$

$$S_1 = \frac{4.5}{4} S_2$$

$$S_1 + S_2 = 450$$

$$\frac{4.5}{4} S_2 + S_2 = 450 \Rightarrow \frac{8.5}{4} S_2 = 450$$

$$S_2 = 450 \cdot \frac{4}{8.5} = 212 \text{ KVA} < 300 \text{ KVA} \underline{\underline{OK}}$$

$$S_1 = \frac{4.5}{4} S_2 = 238.5 \text{ KVA} < 300 \text{ KVA} \underline{\underline{OK}}$$

Se os podemos conectar para suministrar 300 KVA
 xa que Ambos traballan por baixo da súa potencia
 nominal.