



$$P_{a1} = 1111,1W$$

$$P_{a2} = 2343,75W$$

$$P_{a3} = 526,31W$$

$$P_{a1} = \frac{1000 \cdot 1}{0,9} = 1111,1W$$

$$Z_1 \Rightarrow \cos \varphi_1 = 0,98$$

LUCE  $P_{N1} = 1kW$

$$\eta_1 = 0,9$$

$$Z_3 \Rightarrow \cos \varphi_3 = 0,98$$

LUCE  $P_{N3} = 0,5kW$   $K_U = 1$   $P_{a3} = \frac{500 \cdot 1}{0,95} =$

$$\eta_3 = 0,95$$

$$Z_2 \Rightarrow \cos \varphi_2 = 0,87$$

MOTORE  $P_{N2} = 2,5kW$

$$\eta_2 = 0,8$$

$$K_U = 0,75$$

$$P_{a2} = \frac{2500 \cdot 0,75}{0,8} = 2343,75W$$

$$\begin{aligned}
 P_{a1} &= 7417,4 \text{ W} \\
 P_{a2} &= 2343,75 \text{ W} \\
 P_{a3} &= 526,31 \text{ W}
 \end{aligned}
 \quad
 \begin{aligned}
 \varphi_1 &= \cos^{-1} 0,98 = 11^\circ \\
 \varphi_2 &= \cos^{-1} 0,87 = 29^\circ \\
 \varphi_3 &= \cos^{-1} 0,98 = 11^\circ
 \end{aligned}$$

$$Q_1 = P_{a1} \cdot \tan \varphi_1 = 7417,4 \cdot 0,19 = 211,1 \text{ VAR}$$

$$Q_2 = 2343,75 \cdot 0,55 = 1289,06 \text{ VAR}$$

$$Q_3 = 526,31 \cdot 0,19 = 99,99 \text{ VAR}$$

$$\begin{aligned}
 S_{TOT} &= \sqrt{(Pa_1 + Pa_2 + Pa_3)^2 + (Q_1 + Q_2 + Q_3)^2} = \\
 &= \sqrt{(1111,1 + 2343,75 + 526,3)^2 + (-211 + 1289 + 99,99)^2} = \\
 &= \sqrt{15849634 + 2559968} = 4290 \text{ VA}
 \end{aligned}$$

$$I_B = \frac{S_{TOT}}{\sqrt{3} \cdot V} = \frac{4290}{1,7 \cdot 380} = 6,64 \text{ A}$$

$$I_B = 6,64 \text{ A}$$

$$L = 150 \text{ km}$$

$$S = 2,5 \text{ km}^2 \quad R_{F1L0} = \rho_{70^\circ} \frac{L}{S} = 0,0212 \frac{150}{2,5} = 1,3 \Omega$$

MAX 24 A

$$\Delta V_{MAX} = 3\%$$

47,4V

$$\Delta V = 1,3 \cdot 6,64 = 8,48 \text{ V}$$

$$I_B < I_m < I_z \quad D46$$