

$$29.1 \quad f = 50 \text{ Hz}$$

$$n = 1450 \frac{1}{\text{min}}$$

$$n = \frac{f \cdot 60}{p} \Rightarrow$$

$$p = \frac{f \cdot 60}{n} = \frac{50 \cdot 60}{1450} = 2,068$$

$\Rightarrow$  2 Polpaare  
4 Pole

$$s = \frac{n_s - n}{n_s} \cdot 100\% =$$

$$= \frac{1500 - 1450}{1500} \cdot 100\% = 3,3\%$$

$$29.3 \quad n = 960 \frac{1}{\text{min}} \quad f = 50 \text{ Hz}$$

$$p = \frac{f \cdot 60}{n} = \frac{50 \cdot 60}{960} = 3, \dots \Rightarrow 3$$

6 Pole

$$n_s = \frac{f \cdot 60}{p} = \frac{50 \cdot 60}{3} = 1000 \frac{1}{\text{min}}$$

→ Synchrondrehzahl

a) Stillstand  $\Rightarrow n = 0$

$$s = \frac{n_s - n}{n_s} \cdot 100\% =$$

$$= \frac{1000 - 0}{1000} \cdot 100\% = 100\%$$

$$n_{\text{Schlupf}} = n_s - n = 1000 - 0 =$$
$$= 1000 \frac{1}{\text{min}}$$

$$f_2 = n_{\text{Schl.}} \cdot p = 1000 \frac{1}{\text{min}} \cdot 3 = 3000 \frac{1}{\text{min}}$$
$$= 50 \text{ Hz}$$

$$b) \quad s = \frac{n_s - n}{n_s} \cdot 100\% \\ = \frac{1000 - 960}{1000} \cdot 100\% = 4\%$$

$$n_{\text{Schlupf}} = n_s - n = 1000 - 960 = \\ = 40 \frac{1}{\text{min}}$$

$$f_2 = n_{\text{Schlupf}} \cdot p = 40 \cdot 3 = 120 \frac{1}{\text{min}} \\ = 2 \frac{1}{\text{s}} = 2 \text{ Hz}$$