ΤΥΠΟΛΟΓΙΟ

ΗΛΕΚΤΡΙΚΕΣ ΜΗΧΑΝΕΣ ΙΙ

ΜΗΧΑΝΕΣ ΣΥΝΕΧΟΥΣ ΡΕΥΜΑΤΟΣ

$$VR = \frac{V_{NL} - V_{FL}}{V_{FL}} \times 100\% \qquad SR = \frac{\omega_{NL} - \omega_{FL}}{\omega_{FL}} \times 100\%$$

$$P_{in} = P_{out} + P_{cu} + P_{core} + P_{brush} + P_{mech} + P_{stray}$$

$$E_A = K\phi\omega = K'\phi n$$

$$\tau_{IND} = K\Phi I$$

$$\tau_{IND} = K\phi I_A \Rightarrow \tau_{IND} = KCI_A^2 \quad \text{(ΚΙΝΗΤΗΡΑΣ ΔΙΕΓΕΡΣΗΣ ΣΕΙΡΑΣ)}$$

$$\omega = \frac{V_T}{\sqrt{KC}} \frac{1}{\sqrt{\tau_{IND}}} - \frac{R_A + R_S}{KC}$$

$$\omega = \frac{V_T}{K\phi} - \frac{R_A}{(K\phi)^2} \tau_{ind}$$

$$P_{conv} = \tau_{ind}\omega_m = E_A I_A$$

$$P_{out} = \tau_{load}\omega_m$$

ΜΟΝΟΦΑΣΙΚΕΣ ΜΗΧΑΝΕΣ

$$n_{slip} = n_{sync} - n_m$$

$$s = \frac{n_{slip}}{n_{sync}} \times 100\%$$

$$n_m = (1 - s) \cdot n_{sync}$$

$$f_r = \frac{P}{120} \cdot (n_{sync} - n_m) = s \cdot f_e$$

$$P_{AG} = P_{AGF} - P_{AGB} = I_1^2 R_F - I_1^2 R_B$$

$$P_{conv} = P_{AG} - P_{RCL} = (1 - s) \cdot P_{AG}$$

$$P_{RCL} = s \cdot P_{AG}$$

$$\tau_{ind} = \frac{P_{conv}}{\omega_m} = \frac{P_{AG}}{\omega_S}$$