RLC-KRINGBANE

$P = V \times I \times \cos\theta$

$X_L = 2\pi fL$

$X_C = \frac{1}{2\pi fC}$

$F_r = \frac{1}{2\pi\sqrt{LC}}$

$BW = \frac{f_r}{Q}$

SERIE

$V_R = I.R$

$V_L = I.X_L$

$V_C = I.X_C$

$I_T = \frac{V_T}{Z}$ **OF** $I_T = I_R = I_C = I_L$

$Z = \sqrt{R^2 + (X_L - X_C)^2}$

$V_T = \sqrt{V_R{}^2 + (V_L - V_C)^2}$ **OF** $V_T = IZ$

$\cos\theta = \frac{R}{Z}$ **OF** $\cos\theta = \frac{V_R}{V_T}$

$Q = \frac{X_L}{Z} = \frac{X_C}{Z} = \frac{V_L}{V_T} = \frac{V_C}{V_T} = \frac{1}{R}\sqrt{\frac{L}{C}}$

PARALLEL

$V_T = V_R = V_C = V_L$

$I_R = \frac{V_R}{R}$

$I_C = \frac{V_T}{X_C}$

$I_L = \frac{V_T}{X_L}$

$I_T = \sqrt{I_R{}^2 + (I_L - I_C)^2}$

$Z = \frac{V_T}{I_T}$

$\cos\theta = \frac{I_R}{I_T}$

$Q = \frac{X_L}{Z} = \frac{X_C}{Z} = \frac{V_L}{V_T} = \frac{V_C}{V_T} = \frac{1}{R}\sqrt{\frac{L}{C}}$

DRIEFASE-WS-OPWEKKING

STER

$V_L = \sqrt{3}\,V_F$

$V_F = I_F \times Z_F$

$I_L = I_F$

DELTA

$V_L = V_F$

$V_F = I_F \times Z_F$

$I_L = \sqrt{3}\,I_F$

DRYWING

$S(P_{skyn}) = \sqrt{3} \times V_L \times I_L$

$Q(P_r) = \sqrt{3} \times V_L \times I_L \times \sin\theta$

$P = \sqrt{3} \times V_L \times I_L \times \cos\theta$

$\cos\theta = \frac{P}{S}$

RENDEMENT

$\eta = \frac{\text{uitsetdrywing}}{\text{insetdrywing}} \times 100\%$

TWEEWATTMETERMETODE

$P_T = P_1 + P_2$

$\tan\theta = \sqrt{3}\left(\frac{P_1 - P_2}{P_1 + P_2}\right)$

DRIEWATTMETERMETODE

$P_T = P_1 + P_2 + P_3$

DRIEFASETRANSFORMATORS

STER

$V_L = \sqrt{3}\,V_F$ en $I_L = I_F$

DELTA

$I_L = \sqrt{3}\,I_F$ en $V_L = V_F$

DRYWING

$S(P_{skyn}) = \sqrt{3} \times V_L \times I_L$

$Q(P_r) = \sqrt{3} \times V_L \times I_L \times \sin\theta$

$P = \sqrt{3} \times V_L \times I_L \times \cos\theta$

$\cos\theta = \frac{P}{S}$

$\frac{V_{f(p)}}{V_{f(s)}} = \frac{N_p}{N_s} = \frac{I_{f(s)}}{I_{f(p)}}$

Transformatorverhouding (TR)

$TR = \frac{N_p}{N_s}$

DRIEFASEMOTORS EN -AANSITTERS

STER

$V_L = \sqrt{3}\,V_F$ en $I_L = I_F$

DELTA

$I_L = \sqrt{3}\,I_F$ en $V_L = V_F$

DRYWING

$S(P_{skyn}) = \sqrt{3} \times V_L \times I_L$

$Q(P_r) = \sqrt{3} \times V_L \times I_L \times \sin\theta$

$P = \sqrt{3} \times V_L \times I_L \times \cos\theta$

$\cos\theta = \frac{P}{S}$

RENDEMENT

$\eta = \frac{\text{uitsetdrywing}}{\text{insetdrywing}} \times 100\%$

$n_s = \frac{60 \times f}{p}$

$\%\,\text{glip} = \frac{n_s - n_r}{n_s} \times 100$

Per Eenheid Glip = $\frac{n_s - n_r}{n_s}$

Glip = $n_s - n_r$