

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

$$Z = \frac{V_Z}{I_Z}$$

$$P = V_Z \times I_Z \times \cos \phi$$

$$P = I_R^2 \times R$$

$$P = \frac{V_R^2}{R}$$

$$S = V_Z \times I_Z$$

$$Q = \sqrt{(S^2 - P^2)}$$

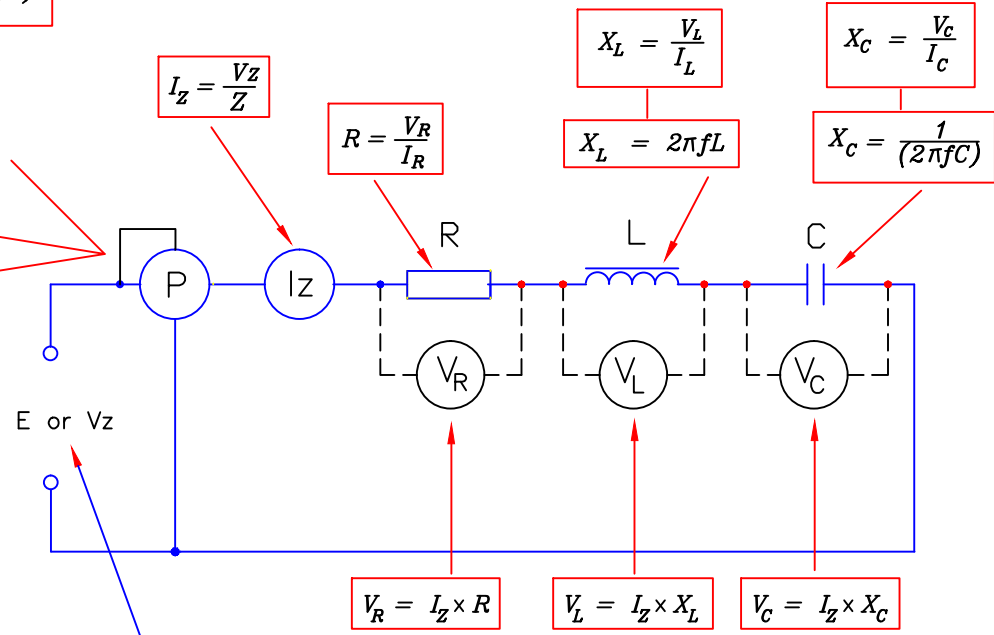
$$\cos \phi = \frac{R}{Z}$$

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

$$\cos \phi = \frac{V_R}{V_Z}$$

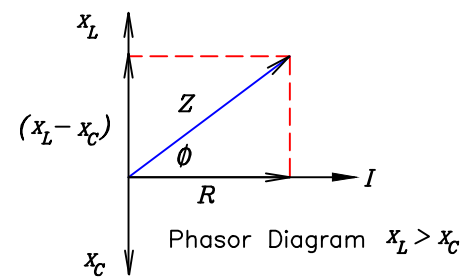
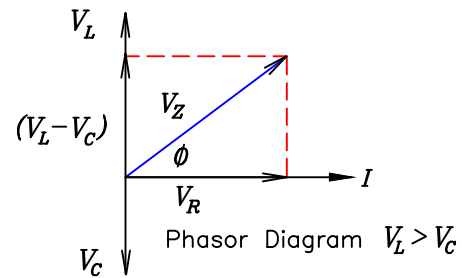
$$V_Z = \sqrt{(V_R^2 + (V_L - V_C)^2)}$$

$$\phi = \cos^{-1} \text{Power Factor}$$

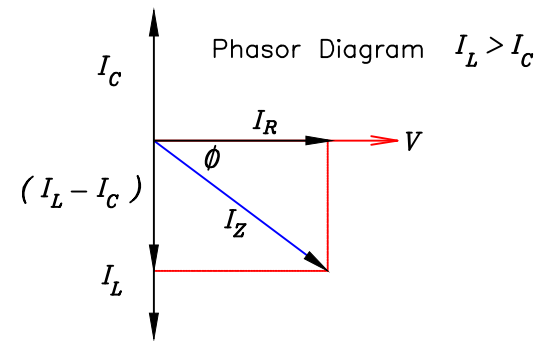
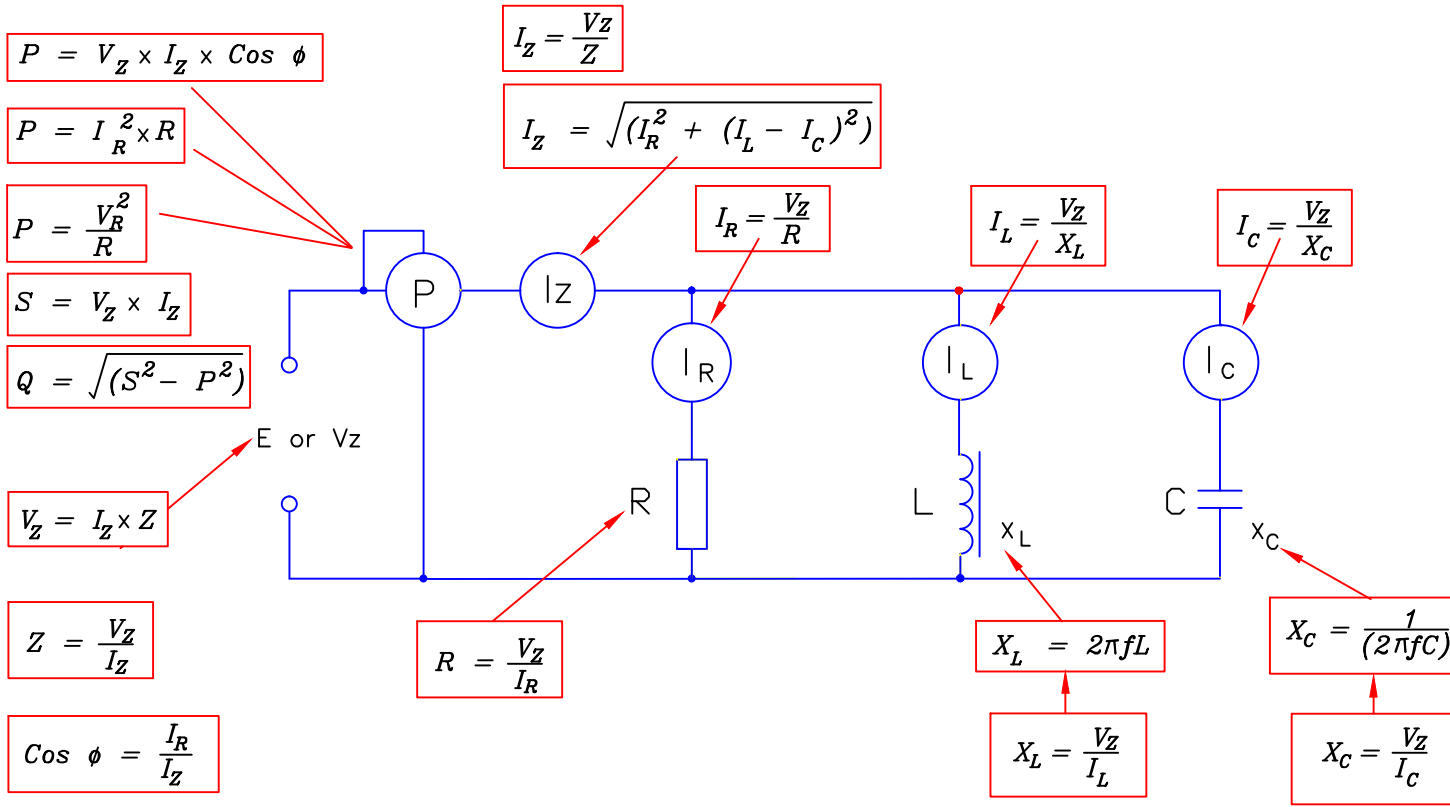


$$f = \frac{1}{t}$$

$$t = \frac{1}{f}$$



RLC in Series on AC



RLC in Parallel on AC